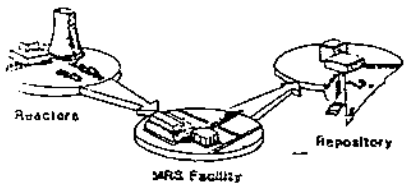

CLINCH RIVER MRS TASK FORCE

ROANE COUNTY/CITY OF OAK RIDGE , TENNESSEE

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Clinch River MRS Task Force

POSITION ON THE PROPOSED MONITORED RETRIEVABLE STORAGE FACILITY

ABSTRACT: The Clinch River MRS Task Force was appointed in July 1985 by the Roane County Executive and the Oak Ridge City Council to evaluate the Monitored Retrievable Storage (MRS) facility proposed by the Department of Energy to be constructed in the Roane County portion of Oak Ridge. After several months of study, numerous public meetings, site visits to relevant facilities, and careful evaluation of the integrated MRS concept, it is the considered opinion of the Task Force that the facility could be safely built and operated in Roane County/Oak Ridge. However, an MRS facility constructed in the Roane County portion of Oak Ridge would not be generally perceived as being safe by the citizens of Roane County and Oak Ridge unless the recommendations of the Task Force are prescribed to be implemented by the MRS authorizing legislation. Moreover, unless the listed concerns are addressed and impacts mitigated, the MRS would not be seen as providing net economic benefit to the local communities, region, and state. Provided DOE is required by Congress to comply with stringent, but reasonable, conditions recommended by the Task Force, the group finds that the MRS facility could be made acceptable to the communities of Roane County and Oak Ridge. The Roane County Commission, Oak Ridge City Council, State of Tennessee, United States Department of Energy, and Congress of the United States are requested to adopt the recommendations of the Clinch River MRS Task Force.

Monitored Retrievable Storage

The Nuclear Waste Policy Act of 1982 requires the Department of Energy (DOE) to provide for the development of deep, geologic repositories for the disposal of spent nuclear fuel and other high-level radioactive wastes and to submit for Congress' consideration a proposal on the need for one or more Monitored Retrievable Storage (MRS) facilities. Although the MRS was initially considered as a backup for a repository, DOE determined that the facility would perform a more effective role as a receiving, packaging, and lag storage center handling fuel assemblies en route to the repository. The MRS proposed by DOE and evaluated by the Task Force is often referred to as an Integral Monitored Retrievable Storage or I-MRS facility.

The Clinch River MRS Task Force

Following the Department of Energy's announcement in April 1985 that three Tennessee sites were to be considered for the Monitored Retrievable Storage facility, Governor Lamar Alexander initiated a review of the proposal to be coordinated by his Safe Growth Team. Roane County and the City of Oak Ridge, the local governments sharing jurisdiction over DOE's primary and secondary sites, were invited to participate in the state's review of the MRS proposal. A similar invitation was provided to local governments in the Hartsville area, location of the third alternative MRS site. The Clinch River MRS Task Force was devised as a means of accomplishing a local evaluation of the Oak Ridge sites. To defray expenses incurred by the Task Force, a $100,000 grant was awarded by the Tennessee Department of Health and Environment from $1.4 million provided by DOE to fund the state's review of the MRS proposal.

Many issues related to the proposed MRS are being considered by the Governor's Safe Growth Team. The primary objective of the Clinch River MRS Task Force has been to determine whether the proposed Monitored Retrievable Storage facility should be accepted by the local governments, and if so, under what conditions. The Task Force has not addressed the question of need for the MRS or the rationale employed by DOE in recommending that it be constructed in Tennessee. It is the belief of the Task Force that these are issues to be resolved by Congress, not by the local communities.

The 31-member Task Force is composed of an equal number of appointees from the County and City, with staff support provided by the City of Oak Ridge. The Clinch River MRS Task Force is organized into an Executive Committee cochaired by the Roane County Executive and Mayor of Oak Ridge and three Study Groups focusing on environmental (including health and safety), socioeconomic, and transportation issues. Each eight-person Study Group is composed of an elected County Commissioner and City Councilman, three citizens appointed by the County, and three citizens appointed by the City. Each Study Group is supported by a City staff person. Additional support is provided as needed by the two local governments, interns, and consultants.

Task Force members have contributed considerable time in evaluating the MRS proposal. The Task Force as a whole has conducted monthly work sessions and business meetings since its establishment. Study Groups have typically held weekly work sessions. In addition, the Task Force and its Study Groups have sponsored several special events designed to involve the entire community in the evaluation process. All meetings have been open to the public. To supplement the series of public meetings, Task Force members have visited relevant federal and private facilities. Sites visited have included a fuel handling facility at Morris, Illinois, operated by General Electric; low-level radioactive waste facilities in Barnwell, South Carolina, operated by Chem-Nuclear; fuel handling and storage facilities at DOE's Idaho National Engineering

Laboratory and DOE's Nevada Test Site; and cask testing facilities operated for DOE by Sandia National Laboratory at Albuquerque, New Mexico. Cask testing and reactor fuel handling sites at the Oak Ridge National Laboratory were also visited, as was the Radiation Emergency Assistance Center/Training Site operated by Oak Ridge Associated Universities.

The Department of Energy is scheduled to present its recommendations on the MRS facility to Congress in mid-January of 1986. At the time of its inception, the Clinch River MRS Task Force determined that its initial position on the proposal to place the MRS facility in Oak Ridge should be completed in time to be of use to DOE in the preparation of those recommendations. Consequently, it has been necessary for the Task Force to complete its evaluation within a very limited time frame. The Department of Energy has not yet issued its environmental assessment of the proposed facility, and a full environmental impact statement (EIS) is not required until the MRS is authorized by Congress. The Clinch River MRS Task Force and the local government it represents, anticipating full participation in the review of these and other important forthcoming documents, reserve the right to modify positions taken based on information yet to be presented.

The Nuclear Waste Policy Act establishes a unique process of consultation between DOE and state and local governments. This is a welcome step in the improvement of intergovernmental relations. In its prompt response to written and verbal questions and requests for available information, the Department of Energy has been most cooperative in assisting the Clinch River MRS Task Force to complete its initial review. DOE and contractor personnel have been available at most, if not all, Task Force meetings to answer questions.

Summary of Findings

Based on its review of the proposed MRS facility and its expectation that Congress and the state will adopt the conditions recommended below, the Clinch River MRS Task Force concludes the following:

1. Spent nuclear fuel and other high-level radioactive wastes can be safely transported.

   - Spent nuclear fuel is highly radioactive, and exposure to even low levels of radiation over sufficiently long periods of time can cause harmful health effects. However, spent nuclear fuel is not explosive. Nor is there risk of a self-sustaining nuclear reaction within a shipping cask.

   - Spent fuel shipping casks are heavily shielded and constructed so as to protect the public from any significant radiation levels.

- The NRC-licensed casks designed for shipment of spent nuclear fuel provide for containment of their contents in the event of accidents. Extensive testing has proven that such casks can provide for safe shipment of fuel assemblies to and from the proposed MRS. Any future casks will be subject to the stringent regulations required of current casks.

- The federal government and nuclear industry have safely transported nuclear waste materials for nearly 30 years, including ~~hun~~dreds of spent nuclear fuel shipments through Tennessee. There has never been an accidental release of radioactive material in the transport of spent nuclear fuel.

- The state would determine by which Tennessee routes spent fuel will be shipped to and from the proposed MRS facility. The rail line upgrades and roadway upgrades and improvements for State Routes 58 and 95 recommended by the Task Force would support safe travel from the main rail line and interstate to the proposed MRS sites.

- Shipments of spent nuclear fuel are already strictly regulated for safety and security purposes and provide an adequate margin of safety. If the escort and inspection procedures recommended by the Task Force are adopted, the margin of transportation safety would be enhanced.

- The emergency response planning procedures and DOE-provided first responder training program recommended by the Clinch River MRS Task Force would prepare the state and local governments to deal with any accident involving the transport of spent nuclear fuel.

2. Based on the best information currently available to the Task Force, either the preferred Clinch River site or the secondary DOE Reservation site could accommodate the proposed MRS facility from an environmental viewpoint.

- Ecosystem damage does not appear so significant as to be an overriding factor in determining location of the proposed MRS facility at either Roane County/Oak Ridge site. Mitigation of ecological and scenic impacts would be possible following the recommendations of the Task Force.

- Site design of the proposed MRS seems to assure that its component facilities would be properly placed relative to natural features. This region is not prone to significant earthquakes, the proposed sites are located will above flood levels, and the underlying rock formations will support the MRS receiving and handling facility.

3. The proposed MRS facility can be safely constructed and operated.

- The MRS facility would be fully licensed by the Nuclear Regulatory Commission (NRC), which would regulate its construction and operation.

- In addition to NRC regulations, the construction of the proposed MRS would be subject to numerous federal, state, and local codes, as well as industry standards.

- The construction methods and operating technologies of the proposed MRS are already largely proven.

- All fuel assemblies would be remotely handled in "hot cells" to protect workers and the surrounding population. The facility would be constantly monitored to detect radiation levels, and sufficient redundancy in environmental control and monitoring systems would assure that performance standards are met.

- Compared to a conventional factory or processing plant, the MRS would be a relatively "clean" facility. NRC regulations control any liquid, solid, or gaseous escapes, and limit such releases to the outside environment.

- Radiation monitors located inside and outside the MRS facility would ensure detection and warning of accident conditions.

- Typical background radiation levels from natural and medical sources are between 100 and 200 millirem per year in the East Tennessee area. Operational radiation exposure to a person living near the proposed MRS facility is stated to be less than an additional millirem per year.

- Adoption of Task Force recommendations regarding establishment of an MRS Environment, Safety, and Health Review Board and the implementation of a Community Environmental Monitoring Program would ensure local oversight of regulatory activities. Such oversite would provide the population surrounding the proposed MRS increased understanding and thus increased confidence in the environmental release data.

4. The proposed MRS facility could benefit the economies of the local communities, the region, and the State of Tennessee.

- The proposed MRS facility would employ approximately 750 contractor and DOE personnel. Annual operating costs, including payroll expenditures, would be approximately $50 million.

- Construction of the MRS facility itself would cost approximately $1 billion. Costs for on-site storage casks would eventually

amount to approximately $300 million. Research and development activities associated with transportation issues could cost more than $200 million. Expenditures associated with transportation cask production and transport could total $3 billion. With adoption of Task Force recommendations to encourage the procurement of goods and services from Tennessee vendors, a portion of this business would stay in the state.

- Potential support and satellite activities associated with the MRS would include training, transportation, metals technology, waste packaging, laser cutting, and robotics.

- As recommended by the Task Force, annual impact assistance payments equivalent to tax revenue on a $1 billion industrial facility would be made to state and local governments from authorization of the MRS until its operation, and again from cessation of operations until its complete decommissioning.

- Assuming adoption of Task Force recommendations, during operations the MRS would pay grants equivalent to all state and local taxes, annually generating several million dollars in much needed public revenue.

Summary of Concerns, Anticipated Impacts, and Recommended Mitigations

Even assuming the proposed MRS facility would contribute to resolution of the nation's spent fuel disposal problems, an MRS constructed in Oak Ridge would neither be acceptable nor provide net economic benefit to the local communities, region, and state unless certain critical concerns are addressed and impacts mitigated. The most important issues identified by the Clinch River MRS Task Force are enumerated below, along with recommended mitigating actions. Because the process of MRS authorization and construction would be a long one, it is important that mitigative measures be agreed to early and formalized in binding agreements. However, it should be noted that the Task Force is at this point most interested in making clear its objectives, not necessarily in dictating the specific means for achieving them.

1. Without diligent adherence to rules, regulations, and safety procedures, the MRS could adversely impact the surrounding population and local environment. Monitored Retrievable Storage health and safety issues are considered by the Clinch River MRS Task Force to be of primary importance. It is critical that the following recommendations be adopted:

   1.1. A citizen MRS Environment, Safety, and Health Review Board should be established to represent the communities' interests

during construction, operation, and decommissioning of the proposed MRS facility. The Board would be characterized as follows:

1.1.1. An equal number of Board members would be appointed by Roane County, the City of Oak Ridge, and the state.

1.1.2. The Board would operate under formal arrangements with responsible federal agencies. It would not supplant regulatory agencies responsible for activities at the proposed MRS and, to the greatest extent possible, would make use of data collected by those agencies. However, the Board should have the authority to conduct its own inspections and collect additional data as needed.

1.1.3. The Board should participate in the development of environment, health, and safety performance standards and criteria for the MRS facility and have access to all information on the condition of shipments arriving at the MRS, effluents released to the outside environment, radiation exposure to workers and the surrounding population, accidents, and incidents as classified by the NRC.

1.1.4. Procedures should be developed whereby the Board could cause a suspension of operations if releases at the MRS are above action levels jointly preestablished with DOE and regulatory agencies.

1.2. Management of plant operations should be designed to limit the potential for harm to workers and the surrounding population. Such procedures should incorporate the following:

1.2.1. Local environmental and demographic parameters should be used to evaluate the consequences of air or liquid releases. Performance standards and graded action levels should be developed for evaluating and responding to releases.

1.2.2. Performance standards should require a vigorous "As Low As Reasonably Achievable" (ALARA) program to control radiation exposures, and sufficient redundancy of control and monitoring systems should be utilized to assure that standards are met.

1.2.3. All information on radiation releases and accidents should be made available to the proposed MRS Environment, Safety, and Health Review Board as well as to the general public.

1.2.4. A Community Environmental Monitoring Program similar to the one operated by EPA at DOE's Nevada Test Site should be established well in advance of MRS operations.

1.3. Research, development, and rigorous testing should continue on prototypes of spent fuel transportation and storage casks so that those models put into service in conjunction with the proposed MRS facility are proven to effectively withstand accident conditions and contain radioactive materials.

1.4. Transportation safety should be enhanced by means of "gold star" inspections performed at the originating point of each spent fuel shipment and again at the MRS facility. Shipments out of the MRS to the permanent repositories should be subject to identical inspections. These inspections, conducted by personnel independent of DOE, should guarantee compliance with rigid standards relating to radiological, vehicle, and personnel safety. Those conducting such inspections should have authority to detain noncomplying outgoing shipments and to levy stiff penalties for noncompliance with applicable standards.

1.5. For purposes of assuring continuing communications and rapid response to emergencies, each spent fuel shipment to and from the MRS should be accompanied by a single vehicle escort.

1.6. As the NRC licensee for the MRS facility, DOE should assume the lead role in developing emergency response procedures to be followed by local and state public safety personnel in the event of an accident involving spent nuclear fuel. First responders from local and state agencies should be trained and equipped by the federal government with associated costs, including partial operations funding, borne by the Nuclear Waste Fund.

1.7. The local governments in the MRS site area (e.g., those in Anderson, Knox, Loudon, and Roane Counties) would experience the greatest transportation impacts from operation of the facility. Formal opportunities should be granted for local governments in this area to address with DOE such transportation issues as routes, travel speeds, and operating procedures. The Task Force at this time specifically recommends the following:

1.7.1. Both state roads 95 and 58 should be designated as preferred routes for transport of spent nuclear fuel from the interstates to the proposed MRS. Use of other existing routes should be prohibited except in the case of emergencies.

1.7.2. Costs for necessary improvements to state and local routes used for transport of spent fuel to and from the MRS should be borne by the federal government outside the normal allocation of highway funds to the State of Tennessee.

1.7.3. Spent fuel should be transported on railroad tracks in Tennessee that meet Class IV structural standards. The rail links between main lines and the MRS facility should meet these standards.

1.8. To mitgate the adverse construction impacts on private property surrounding the proposed MRS facility, the Task Force recommends establishment of a heavily landscaped buffer around the selected site and adherence to state and local noise, blasting, erosion, and other development codes.

1.9. The secondary radioactive waste generated at the proposed MRS (i.e., assembly fittings, contaminated gloves and protective clothing, etc.) should be disposed of outside Tennessee.

1.10. To address concerns regarding long-term site conditions, a plan should be established before operations at the MRS begin outlining how the facility would eventually be fully decommissioned and decontaminated so that the site can be made available for unrestricted use at the earliest possible date.

2. The proposed MRS facility could delay construction of the geologic repository and become a de facto site for permanent spent fuel storage. Despite clearly stated national policy to the contrary, there are legitimate concerns that once in operation, the MRS would relieve pressure on DOE and the Congress to follow through on plans to construct a permanent repository. The Task Force recommends that MRS-authorizing legislation specify the following:

2.1. No more than 300 metric tons of spent fuel should be received by the MRS facility before a construction license is granted for the permanent repository.

2.2. No more than 10,000 metric tons of spent fuel should be received before the out-shipments of consolidated fuel rods begin to the permanent repository.

2.3. Any proposed extension of the MRS storage capacity beyond the 15,000 metric tons currently envisioned should be subject to the same review and notice of disapproval procedures followed to initially authorize the MRS.

2.4. Any spent fuel stored at the MRS longer than 15 years should be subject to a significant "overdue-removal penalty" levied by the state.

3. The MRS facility could hinder the communities' efforts to diversify and expand their commercial/industrial base. There is concern that the MRS, if handled as just another federal facility, would significantly impede the local communities' efforts to achieve a strong and more diversified economic base. In addressing this concern, the Clinch River MRS Task Force recommends the following:

   3.1. With regard to permanent repositories, Section 116(c) of the Nuclear Waste Policy Act directs that host jurisdictions receive grants equal to taxes that would be paid were the facilities privately owned. Authorizing legislation should ensure these or equivalent provisions apply to the MRS as well. Such authorization should additionally provide for:

   — Coverage for all local and state taxes, including real and personal property taxes; and

   — Specification of how tax equivalency will be administered, including valuation formulas, and for an arbitration board or alternative means for settling disputes.

   3.2. Annual impact assistance payments commensurate to grants equal to taxes paid on a $1 billion facility should be provided to the state, Roane County, and the City of Oak Ridge beginning with the date of Congressional authorization of the MRS and continuing until grants equivalent to taxes are made on the constructed facility. Such impact assistance payments should again be made from cessation of operations at the facility until it is completely decommissioned.

   3.3. The management of MRS design, construction, and operation, as well as management of transportation for the entire civilian radioactive waste program, should be relocated to DOE's Oak Ridge Operations office.

   3.4. Proximity to Oak Ridge should be established as a significantly weighted selection criterion for MRS procurement so that, to the fullest extent possible, all related research, development, goods, and services are acquired from within the communities, region, or state.

   3.5. To the greatest extent possible, all MRS related activities should be conducted in the private sector and on privately owned facilities.

   3.6. A significantly weighted criterion for selection of major contractors to construct, operate, and provide services to the proposed MRS facility should be the commitment of those firms to the diversification of the communities' economic base. All contractors selected should be expected to bring non-DOE business into the communities.

3.7. Programs necessary for MRS and transportation system employee training should be provided through local educational institutions.

3.8. To assist in the communities' continued industrial development activities, DOE should make available for purchase at full market value an industrial site in the Roane County portion of Oak Ridge which is equivalent to the Clinch River site.

4. Public trust in DOE has seriously eroded. Environmental problems, long-standing debates on issues of taxation, and DOE's historically poor relations with the communities and state leave many skeptical that DOE's assurances regarding the MRS will be fulfilled.

4.1. Section 117(c) of the Nuclear Waste Policy Act provides for "consultation and cooperation" (C & C) agreements between DOE and the state. The MRS-authorizing legislation should provide for C & C agreements directly betweeen DOE and units of local government as well as between DOE and the state.

4.2. In its authorization of the MRS, Congress should specify DOE's compliance with Task Force recommendations contained herein, whether through C & C agreements or other means. The C & C agreements must be completed before the state's right to issue a notice of disapproval expires. In authorizing the MRS, Congress should provide that the right to issue a notice of disapproval expires at the end of the 60-day period specified by the Nuclear Waste Policy Act or six months after commencement of C & C negotiations with state and local governments, whichever is later.

4.3. The local governments should be granted preferred status in continuing interactions with the state, DOE, and NRC regarding the MRS. The communities' future recommendations should be given full consideration and, when appropriate, incorporated into C & C agreements.

4.4. A schedule for bringing all DOE Oak Rige Operations facilities into compliance with state and federal environmental regulations should be established prior to Congressional authorization of the MRS, and clean-up programs should be implemented to the satisfaction of regulatory agencies prior to commencement of MRS operations.

4.5. Establishment of the aforementioned MRS Environment, Safety, and Health Review Board and Community Environmental Monitoring Program should be implemented as means toward ensuring public confidence in the safe operation of the proposed MRS facility.

4.6. A simple and inexpensive procedure to guarantee private property values surrounding the MRS site and along the railroad spur serving the MRS facility should be implemented by DOE.

5. The MRS may be perceived as a "nuclear waste dump." DOE's environmental record has adversely impacted the regional and national image of Oak Ridge. Although the "waste dump" label already given the proposed MRS by many throughout the state can be proven erroneous, it exacerbates the problems Oak Ridge now experiences in maintaining its image as a high quality community. In accepting the proposed MRS facility, the local governments should be assured that DOE will accept the following recommendations:

5.1. DOE should finance a significant preoperational public education program, beginning upon authorization of the MRS, conducted by the County and City to highlight progress being made by DOE in resolving environmental problems and to promote the communities' favorable quality of life.

5.2. Upon authorization of the MRS, DOE should construct, support, and promote new exhibits in the American Museum of Science and Energy and provide adequate funding for programs explaining MRS and its role in the integrated nuclear waste system. An aggressive program should also be mounted to better explain existing DOE Oak Ridge facilities.

5.3. The MRS facility itself should be well designed and landscaped so as to be aesthetically pleasing.

5.4. As part of the MRS, DOE should construct, staff, operate, and promote a visitor's center for the purpose of explaining MRS and its role in the integrated nuclear waste system.