

**THE MRS TASK FORCE: ECONOMIC AND NON-ECONOMIC  
INCENTIVES FOR LOCAL PUBLIC ACCEPTANCE OF A  
PROPOSED NUCLEAR WASTE PACKAGING AND STORAGE FACILITY**

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ABSTRACT

A joint Oak Ridge - Roane County citizen task force (TF) evaluated the Department of Energy's (DOE) proposal to site a Monitored Retrievable Storage facility in Tennessee in terms of environmental, transportation and socioeconomic impacts. The case study examines how the TF used mitigation, compensation and incentives (economic and non-economic) to address the problem of distrust of DOE and to change the net local impact balance from negative to positive. Intensive group interaction during their investigations and development of trust within the TF led to consensus decisions on safety and conditional acceptance. DOE accepted most of the TF conditions after informal negotiations. The siting process was stopped by extensive state-wide opposition resulting in legal challenge by the state and vetoes by the governor and state legislature.

INTRODUCTION AND OVERVIEW

The innovative institutional arrangements and possibilities for state and local benefits permitted in the Nuclear Waste Policy Act of 1982 (NWPA) have never been fully implemented. This paper presents one example of an effort to site a high level waste facility which opened new ground in public acceptance through citizen evaluation and mechanisms to deal with unacceptable impacts. We describe a case study of a local siting process including negotiation between a potential host area and the Department of Energy (DOE) over a proposed Monitored Retrievable Storage (MRS) facility in the Roane County portion of Oak Ridge, Tennessee in 1985-1986.

The study focuses upon the intensive process by which a local task force (TF) made the decision about safety, evaluated impacts upon the city and county, and specified conditions needed to change the net benefit balance from negative to positive. Unprecedented positive relationships with the local DOE office permitted productive (though uncompleted) negotiations over the conditions which the TF felt were necessary for local acceptance. The effects of participation upon the TF as well as the DOE response to the TF proposals for conditional acceptance of the MRS are examined.

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But local acceptance does not a siting make; widespread public and political opposition to the proposed siting developed quickly in the rest of the state, leading to eventual rejection of the MRS proposal by the governor and legislature of Tennessee prior to submission of the MRS proposal to Congress. The favorable local climate contrasted with negative reactions to the MRS and the TF report outside the local area. This is a brief version of a longer study and concentrates upon findings and conclusions. For more details and analysis, see the full case study (1). Other perspectives on the MRS siting and its significance include King (2), and Sigmon(3).

The effort to site the MRS is, of course, related to the intense national NIMBY situation with permanent geological repositories. Vigorous efforts by half the states seek to avoid selection, as DOE attempts to fulfill NWPA mandates and site one or two high level nuclear waste repositories. The MRS episode is incomplete, halted by legal challenge in Tennessee and probably significantly altered by political maneuvering over the DOE postponement of second round repository siting efforts. Arguments over the need for the MRS and whether it is a disguised substitute for a repository continue unabated.

As proposed by the DOE in early 1985, a Monitored Retrievable Storage facility would be an integral part of the national radioactive waste management and disposal system. An MRS would receive, re-package, consolidate and temporarily store spent fuel from civilian reactors prior to shipment to a permanent repository, introducing desired flexibility into the waste management system (4).

## OVERVIEW OF TASK FORCE ACTIVITIES

The MRS Task Force was a citizen evaluation group jointly appointed by the City of Oak Ridge and Roane County in Tennessee. Members included local political and community leaders and both technical (including 3 technical "insiders" with specific rad waste and transportation expertise) and non-technical citizens. Funded for \$100,000 by DOE through the State of Tennessee, the task force(TF) organized itself into 3 study groups - environmental, transportation, and socioeconomic - and undertook an intensive three month evaluation of the proposed MRS and its impacts upon the local area. Restricting itself to local concerns and impacts, the TF did not consider the question of need for the MRS (5) which was roundly debated everywhere else in the state. The task force concluded that as another untaxable federal project, an MRS would have unacceptable impacts, but that these might be made acceptable if DOE and Congress would agree to numerous conditions designed to mitigate impacts and compensate and reward the area for the role of host. The TF report was unanimously adopted by both local governments and aggressively communicated to political leaders at the state and national level.

Important characteristics of the TF process included open meetings with minutes widely distributed to any who requested. Intense discussion and questioning by both the technical and non-technical members left few questions unasked and were the key to the consensus achieved by the TF. They focused first upon the safety and then the acceptability of MRS operational and transportation impacts upon the social and economic structures of the city and county. Their strategy was to

develop conditions under which an MRS would be acceptable, by mitigating and compensating all negative impacts until the benefit balance was positive. DOE was open, responsive and interactive, which led to continuing informal negotiation between DOE and the TF.

### SAFETY CONSENSUS DEVELOPED FROM GROUP PROCESS

The task force viewed safety as a non-negotiable precondition to any other arrangements or agreements on the MRS. Two of the TF subgroups were given responsibility for making the judgment on safety (environmental and transportation groups) while the third (socioeconomic) dealt with possible socioeconomic impacts and the conditions that would mitigate or compensate such impacts. The open and intensive questioning by all members and investigations undertaken by the TF strongly influenced group thinking and development of a group consensus. Trips by TF to DOE labs and host areas were highly influential in the decision that the MRS technology *could* be operated safely. TF concerns were thus focused toward institutional undertainties and management inflexibility which might affect safe operation of the MRS over its lifetime. The TF wanted guarantees of DOE and government accountability over the long haul. They developed independent safety-related conditions involving local input and control. The group process thus changed the initial skepticism or opposition of some members by raising questions in a no-holds-barred manner, by aggressively seeking information, formulating questions and evaluating answers, and dealing with concerns in an open manner. Interaction and the development of trust between technical and non-technical members (roughly half each) was particularly important in enabling non-technical members to make the decision on safety. Actuarial assessments of risk or quantative risk assessment thus played a minimal role in the final consensus about safety.

### DEALING WITH DISTRUST OF DOE AND GOVERNMENTS

One of the TF's major concerns was how to deal with distrust of DOE, viewed as a principal major impediment to acceptance of the proposed facility. Since media revelations about extensive past pollution of the DOE reservation and DOE's past record of indifference to local concerns were part of the local context, the TF sought to build local trust through performance requirements upon DOE. This included tying the MRS schedule to cleanup of the DOE reservation. Since the long-term reliability and interest of other federal and state agencies was also in doubt, the TF devised various local control measures to assure that those most concerned with the continuing viability of MRS arrangements would be directly responsible for them. These guarantees and safeguards included the citizen oversight board with citizen input to performance standards for the facility and power to shut down the facility if these were violated. In its report (6), the TF also asked Congress to specify how DOE would comply with TF recommendations.

The TF also asked for DOE assistance to help change adverse public perceptions of Oak Ridge as an "environmental disaster" caused by negative publicity about DOE's past record. This included funds for public information about the MRS' true role (**not** a nuclear dump), DOE's progress in reservation cleanup, and the nature of other DOE activities in Oak Ridge.

## TASK FORCE CONDITIONS FOR MRS SITING

The numerous conditions placed upon MRS acceptance by the task force entailed both economic and non-economic conditions, including all the standard socioeconomic mitigations mentioned by the NWPB but going well beyond these (6). Most of the TF's attention was focused upon non-standard impacts of long term management and accountability. Economic mitigations and compensations included tax equivalency of the facility as if it were privately owned from time of *authorization* (not just construction), property value insurance for homeowners living close to the site, railway and highway upgrading, replacement of the CRBR (MRS) site by an equivalent industrial site, and compensation for loss of industrial diversification possibilities, among others. Equally important to the TF were the non-economic conditions such as additional independent safety requirements, local control issues such as a citizen oversight board and local environmental monitoring, assurances that the MRS would not become a *de facto* permanent repository in the event of delays in licensing a geological underground repository, and measures to rebuild trust in the performance and trustworthiness of DOE. These and other major incentives and compensations are listed in Table I in the next section along with the DOE response to the TF conditions.

## DOE INTERACTIONS WITH TASK FORCE AND RESPONSE TO TF REPORT

Task force members expressed surprise over DOE's responsiveness to TF questions and interests, since this was unlike past local dealings with DOE. But DOE officials early and repeatedly said they would agree to tax equivalency payments and deal constructively with TF concerns. TF members retained a certain skepticism, however, waiting to see how lasting the DOE attitude change would be and how verbal commitments would be translated into guaranteed arrangements. Extensive personal contact and active discussion between the new local MRS office and TF members developed into an informal negotiation process. The MRS manager forthrightly discussed DOE's problems and limitations in responding to TF ideas and requests. In interactive and informal fashion, the TF proposal as well as DOE responses were shaped. Thus there were no surprises in the TF recommendations and conditions.

The acid test would be DOE's formal response to the TF report, in the TF's view. A draft of this proposal was reviewed by the TF before formal submission to Congress. It revealed DOE's acceptance in some form of most of the major conditions of the TF (7). Significant differences between the two involved the composition and power of the citizen review board, property value insurance and a linkage of DOE reservation cleanup schedules with MRS construction schedules. Significant agreements included tax equivalency payments beginning with authorization of the MRS, the transportation mitigations, limiting MRS storage capacity, and precluding acceptance of any waste by the MRS prior to NRC construction authorization for the first repository. Many DOE proposals, however, require state agreement for full implementation. This concerned local leaders who

do not share DOE's assumption that vital local conditions will be adequately fulfilled through a consultation and cooperation (C&C) agreement between the state and DOE. A comparison of TF conditions and DOE responses is shown in Table 1.

This iterative negotiation process ceased in January, 1986, when legal action by the State of Tennessee enjoined DOE from presenting the MRS proposal to Congress until the adequacy of DOE's siting process is reviewed.

## FINDINGS

### Effect of Participation upon Task Force Members

The effect of the intensive participation and study upon members included changing the opinions of a significant fraction of TF members, developing a sense of pride about their participation and achievements, and achieving consensus not only about safety but also about the conditions of acceptability of the proposed MRS facility. The TF developed its own identity, assuming a life of its own independent of its creators. Initial opinions of those interviewed (13 of 31) about the safety and feasibility of the MRS fell into roughly equal groups of opponents (4), proponents (4) and skeptics or undecided (5). In the end, all voted to approve the report and said their concerns about safety had been resolved. Six months later, one initial opponent would now vote "no", largely because of recurring doubts about DOE's ability to fulfill its commitments.

### Operation of the Task Force

- An official citizen task force can be a successful mechanism for lay people to evaluate information and reach local consensus on safety and acceptability of a complex proposed facility. It is an alternative to the increasing but unsatisfactory reliance upon advocacy science.
- A citizen task force is expensive in time, resources and skills requirements. It requires citizen commitment, intensive interaction, and staff support.
- Developer (DOE) funds were critical to task force operation. Though TF members were all volunteers, they could not have completed this demanding operation without in-depth staff and administrative support and travel funds.
- The intensive nature of TF operations was vital to the outcome. A more relaxed operation might not have developed the consensus and group identity needed.

### Relations with DOE

- The informal negotiation process throughout the life of the TF led to the development of many conditions acceptable to both sides.
- DOE deserves plaudits for its flexibility and responsiveness in dealing with local concerns.
- The task force and the city negotiated the nature of the TF relationship with DOE as well as the specific conditions.

- Task force conditions aimed at changing the institutional relationship between DOE and local governments.
- A basic problem inhibiting completion of negotiations is already apparent: DOE's inability to commit future Congresses or other parts of DOE, or to execute direct contracts with local governments.

### Siting Process

- Standard socioeconomic impact analysis was irrelevant to the major concerns of the TF which were mostly non-standard assessment issues such as long term management and accountability.
- Legitimacy of a local task force can be enhanced by inclusion of interest group representatives, balanced composition between technical and non-technical members, restraint in use of technical insiders, restricting advance pro or con statements by local authorities or others, and avoiding use of the TF in a promotional role.
- Making the decision on safety requires a minimum level of trust to permit agreement on usable information and thus to enable negotiation.
- Transferable components of this experience may include use of the citizen TF for evaluation and negotiation, the TF's "condition" strategy, the extra safety measures, some of the process components and the handling of distrust of DOE. Unique aspects and resources of the Oak Ridge area which may limit transferability are a generally supportive local climate, familiarity with large federal nuclear projects, availability of in-house technical resources and expertise, and TF self confidence in its own conclusions and in dealing with DOE.

### Problems Shown by State Rejection of the MRS

- MRS siting effort did not meet the criterion that all stakeholders must see some benefit. ( 8)
- DOE used different siting strategies for the state and for the local area. For site location at the state level, it was the old decide-announce-defend (9) approach. For impacts at local level, they used negotiation.
- Regional and state interest groups did not participate in any joint evaluation and negotiation process as did Oak Ridge and Roane County.
- No local task force, no matter how competent or thorough, can speak for other interests.
- TF insiders improved TF legitimacy with DOE at the expense of legitimacy with the state and region which assumed that the TF was dominated by DOE views.

### The MRS and the Nuclear Waste Policy Act

- More attention must be given to local control and power sharing if local acceptance of N-waste facilities is to be achieved.
- Local acceptance is but one part of a complex set of arrangements in a successful siting.

- The NWPA needs revision to allow local negotiation and direct local-DOE contracts. Negotiation by the state on behalf of local interests is unconvincing to local leaders.
- After the state rejected the Roane County site, an adjacent county expressed interest in having the MRS with all the TF conditions plus its own conditions. This development provides unexpected validation of the TF success in changing the net local benefit balance from negative to positive.
- The MRS experience shows we are closer to a viable siting process for controversial facilities, but not there yet.
- Local nuclear waste siting acceptance is doubtful anywhere except in existing nuclear host areas or areas needing the economic benefits.

### CONCLUSIONS

The citizen task force process and the conditions required by the MRS TF are a landmark in the nuclear waste siting effort. They provide a new floor to the debate and the arrangements likely to be required by host entities in the future. The TF provided a real world test of the value of compensation and incentive mechanisms in crafting a package of arrangements acceptable to a particular public(10,11,12). The MRS siting effort also revealed limits to DOE's power to conclude satisfactory negotiations with local governments.

Much more attention must be devoted to local control and power sharing issues. If Oak Ridge and Roane County, an area long familiar with nuclear R&D activities and their management, set such conditions to overcome distrust, will any other locale be satisfied with less?

But the MRS chapter raises more questions than it answers. Acceptance was achieved only in the local area, while intense opposition arose elsewhere in the state and region. Why did negotiation not occur between DOE and the state? Did DOE try hard enough to negotiate with state authorities? Why did DOE not negotiate the MRS site location as it did local site acceptance? And how should DOE have structured its interaction with state and regional groups?

In the matter of public trust and distrust, how do we get on the road to maybe, as happened in Roane County and Oak Ridge, rather than on the polarized yes-no track followed by the state and the other Tennessee site.

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TABLE I

COMPARISON OF MRS TASK FORCE CONDITIONS  
AND DEPARTMENT OF ENERGY RESPONSE

<u>Task Force Conditions</u>	<u>DOE Response</u>
Tax equivalency payments beginning with authorization of MRS.	Accepted. Binding conditions in C&C agreement on valuation formulas, mediation board for disputes.
Local citizen oversight/review board with power to stop accepting waste if pre-agreed standards are not met.	State-level Steering Committee (2 local and 7 other state, public, industry and DOE representatives.) Powers limited to review and suggestion. Chair named by DOE in consultation with governor.
C&C agreements between DOE and local governments in MRS authorizing legislation.	Only state-DOE consultation and cooperation (C&C) agreements discussed
Property value insurance for nearby residents	Not proposed
Mitigate economic development impacts by payments, contractor proximity, location of related private sector activities, and training programs in local educational institutions. Local procurement requirement.	Mitigation payments. Related activities in private sector. Contractor proximity to be selection factor. Training programs through state and local educational institutions. Existing federal procurement provisions.
Diversification of local industrial base.	Will take appropriate actions to encourage diversification.
Location of ancillary DOE and MRS support activities in Oak Ridge.	Place civilian radwaste transportation system management & new transp. operations & research center at Oak Ridge.
Replace loss of CRBR industrial site	If land becomes excess to DOE needs.
Public education program on MRS facility, existing DOE programs, and DOE cleanup.	Mitigation payments (MRS only). American Museum of Science and Energy exhibits and information (MRS only).
Highway improvements.	To be addressed in C&C agreement. DOE to work with state and local representatives to identify other improvements needed.

Task Force Conditions

DOE Response

Emergency response training and funding.

Assistance to state for adequate capability, equipment & training. DOE to work with state to develop training standards, will ensure comprehensive training program.

"Gold Star" transportation inspections. Other transportation issues - escorts, methods, intermodal transportation, speeds, preferred routes.

Funding for comprehensive state inspections of spent fuel shipments arriving and leaving. Other issues to be addressed in C&C agreement and in nationwide consultation.

Linkage of DOE cleanup schedule for Oak Ridge reservation with MRS construction schedule.

No commitment made. Explanation of status, plans of current joint cleanup task force (DOE, EPA, state). DOE committed to cleanup as soon as funding & agreement on techniques available.

Complete decontamination and decommissioning of site for unrestricted use at end of life.

Accepted.

Preventing a permanent MRS: Only 300 T. accepted before repository licensed.

No waste accepted until NRC construction license for repository.

Limit storage capacity to 15,000 T.

Accepted.

Overdue storage penalty.

Not mentioned.

Limit storage to 10,000 T. before outshipments begin.

Not mentioned.

Low level waste shipped out of state.

Low level waste shipped off site.

Tourism impacts

Mitigation payments.

Esthetic appearance of MRS.

Accepted.

Visitor center at facility.

Accepted.