

STEPPING BEYOND PUBLIC COMMUNICATIONS

Robert B. Pojasek, Ph.D.
Chas. T. Main, Inc.
Prudential Center
Boston, Massachusetts 02199

Merle Lefkoff, Ph.D.
Conflict Management Consultant
535 Cordova Rd., Suite 4d
Santa Fe, New Mexico 87501

ABSTRACT

Previous attempts to interact and "communicate" with the public during the waste management siting process have left much to be desired. An effective means must be found to get the public truly involved in this process and not simply responding defensively to various developer initiatives. Typically siting materials are prepared by "the experts" and presented to the public for their comments. This traditional approach has done little to lessen conflicts in the siting process.

The authors were involved in a unique public input process under contract to the Massachusetts Executive Office of Environmental Affairs. Four public input sessions were scheduled across the state to develop siting criteria for low level radioactive waste management facilities.

A facilitator ensured adequate opportunity to discuss each item raised by the public meeting attendees. All comments were recorded by the facilitator on a flip chart and displayed on the walls as they were completed throughout the meeting. Typed verbatim transcripts were produced and mailed to each participant to verify their completeness. They were also included in the report. Additional comments were welcomed, but kept apart from the transcripts. No attempt was made to reach consensus. Areas of disagreement were noted. These sessions received favorable reviews from the participants.

A group of experts then went through each comment received, carefully comparing it to NRC criteria and other applicable siting literature. We found most public concerns to be covered in NRC regulatory supporting documentation. The existence of the documents is not widely known by the public.

INTRODUCTION

Derivation of siting criteria is the first step in a long and involved siting process. There is an extensive literature on the topic of siting public undesirable facilities. Although this paper focuses on low level radioactive waste (LLRW) management facilities, this topic is certainly germane to high level radioactive waste management facilities as well as prisons, chemical plants, halfway houses, power plants, and landfills.

Siting of LLRW facilities is regulated by the Nuclear Regulatory Commission. It has issued a number of reports to guide this siting process (Table I). These reports are in the "NUREG" series and can be readily obtained from the NRC/GPO Sales Program, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

A number of states have felt that national siting criteria did not include features and issues which are important in their locales. These states issued their own siting criteria for LLRW facilities. These efforts made other states reconsider the "blind" adherence to the federal standards. A great need has been felt to have a unique set of siting criteria.

Each of these siting criteria development efforts has suffered from several major shortcomings as follows:

- o Public rarely has direct input in derivation of siting criteria - typically only involved in public comment period

- o Incomplete literature searches due to diversity of literature involved in the different social science, scientific, political, and engineering fields which are involved as well as the different types of facilities which were to be the focus
- o Confusion over terminology used in the literature (e.g., criteria, factors, elements, suitability requirements, etc.) and the difficulties of using the jargon of various disciplines involved in the siting process as well as confusion over the siting process itself

Each of these concerns must be addressed before the siting criteria can be developed for a particular state or other jurisdiction.

Information in this report was assembled under contract^a to the Massachusetts Health Research Institute, Inc. under the guidance of the Massachusetts Executive Office of Environmental Affairs (EOEA). The final report is entitled "Siting Criteria Development for Low-Level Radioactive Waste Facilities" (March 30, 1984).

PUBLIC INPUT PROCESS

The Commonwealth of Massachusetts sought to maximize public involvement in developing siting criteria for a potential LLRW facility. The project team designed and implemented a method for input which reached further than simply soliciting public comments on consultant-derived criteria. By utilizing

^aContract provided to principal author serving as Project Director for Roy F. Weston, Inc., Burlington, MA.

professionally facilitated small group sessions, criteria development could be discussed interactively by the public representing all sides of this siting issue. The recorded "group memory" could then be used to help formulate and verify the criteria.

Because the contract imposed severe time constraints, only four sessions could be scheduled. The locations were selected to maximize geographical input. Four meetings were scheduled for three days. The meetings were held as follows:

- | | |
|----------------------|----------------|
| o Pittsfield | March 19, 1984 |
| o Amherst | March 20, 1984 |
| o Boston (Afternoon) | March 21, 1984 |
| o Boston (Evening) | March 21, 1984 |

It would have been desirable to schedule additional meetings in Worcester, southeastern and northeastern Massachusetts. However, the fast-track approach specified in the contract made this impossible. Still, participants from those areas were attracted to the Boston meetings.

The composition and size of the group is important to the effectiveness of this approach. Because the facilitated groups must be kept small in size (i.e., generally 12 people or less), the mailing list has to be kept small. Individuals who have been active in following this issue and representing all the various interests were those who were invited. An active network existed which was tapped to generate candidates. Invitations were sent approximately three weeks prior to the session with a RSVP request. Extensive telephone follow-up activity was utilized to insure active participation and group balance of interest.

An independent professional facilitator conducted the sessions in order to encourage a sense of equity for the process. The facilitator's neutrality allowed the project team to participate in each group without the burden of "leading" the meeting and reacting to hostile questions. The facilitator controlled the incipient conflict by controlling the process, nor the content of the meetings.

Each participant was mailed the transcript of the session they attended. They were asked to examine it and share it with their colleagues. Those people who could not attend a session were mailed the transcript of the session that they would have attended. They were provided with the same opportunity to comment. All the transcripts were appended to the final report.

LITERATURE SEARCH

In an effort parallel to the development of the public input process, an extensive literature search was conducted on the topic of siting criteria. This literature falls into one of the three general categories:

- o Nuclear Regulatory Commission literature
- o State LLRW facility siting literature
- o General literature on LLRW, hazardous waste, and other facility siting.

The literature was searched in a variety of ways. The project director and members of the project team had been previously involved in the development of siting criteria. Literature was secured from their personal libraries as well as from the company library. Members of the public who participated in the unique public input process were asked if they

had any further literature inputs. Finally, a computerized literature search was conducted to make sure that no important documents were overlooked.

Of the hundreds of documents identified in this extensive literature search, only those documents in Tables I and II were utilized as primary information sources. These reports represent the regulatory process, local concerns, and the specific focus of the LLRW facility siting problem.

TABLE I

Primary References for the NCR Literature

Site Suitability Selection and Characterization, Branch Technical Position - Low-Level Waste Licensing Branch, NUREG 0902, NRC, April 1982.

Proceedings of the Symposium on Low-Level Waste Disposal - Site Suitability Requirements, NUREG/CP 0028, CONF-811218, Volume 1, December 1981.

Draft EIS on 10 CFR, Part 61 - Licensing Requirements for Land Disposal of Radioactive Waste, NUREG 0782, September 1981.

10 CFR Part 61 Regulations of NRC, Federal Register, 47(248) 57446ff, December 27, 1982.

"Parameters for Characterizing Sites for Disposal of Low-Level Radioactive Waste", by USAE Waterways Experiment Station, NUREG/CR-2700.

"Tests for Evaluating Sites for Disposal of Low-Level Radioactive Wastes", USAE Waterways Experiment Station, NUREG/CR-3038.

ISSUE OF CONFUSION

As a result of the public input process, several serious areas of confusion became apparent. Three major sources of confusion are as follows:

- o Terminology and language
- o Overlapping of related processes which state and federal regulators have chosen to treat separately (e.g., siting, design alternatives, operations, closure monitoring, etc.)
- o Status of the siting process in Massachusetts

Each of these items will be discussed below.

The siting process has derived its own very specialized language. This language, which is specific to each of the many technical disciplines involved, serves an important function in that it allows precise communication among practitioners. Even when used in the manner for which it was created, the very nature of this language serves to confuse the general public. The result is often that there is no common language. Consensus based on mutual understanding is nearly impossible to attain.

An example of poor communication can be found in the award of "1979 Doublespeak Award" to the Nuclear Regulatory Commission (NRC) for its explanations during the Three Mile Island incident (Fig. 1). These examples confuse the public and further erode the credibility of the people who use them. The language of the NRC siting regulation (10 CFR Part 61.50) may not be quite as bad, but certainly it leads to further confusion with terms used interchangeably in the siting literature. Terms utilized

TABLE II

Primary References from the General Literature

- A Process for Locating Shallow Land Burial Sites for Low-Level Radioactive Waste, DOE-EG&G Publication, LLW-16T, March 1983.
- Study of Siting Criteria for Development of a Low-Level Radioactive Waste Facility, Wisconsin Geological and Natural History Survey, University of Wisconsin, November 1981.
- Phase I Summary, Low-Level Radioactive Waste Disposal Siting Study, Dames and Moore, EIS-NUREG 0945, Volume 3, May 1983.
- The Siting Book: A Guidebook for Siting Hazardous Waste Facilities in Massachusetts (Draft), Urban Systems Research and Engineering for DEM, April 1983.
- A Handbook for Low-Level Radioactive Waste Disposal Facilities, EPRI Report NP-2488LD (Interim), Rogers and Associates, September 1982.
- Evaluation of Alternative Methods for the Disposal of Low-Level Radioactive Wastes, NUREG/CR 0680, FBDO-209-03, July 1979.
- Managing Low-Level Radioactive Waste in Massachusetts, Massachusetts Department of Public Health, Radiation Control Program, December 1983.
- Low-Level Radioactive Waste Management in Massachusetts, Massachusetts Advisory Council on Radiation Protection, November 1980.
- Low-Level Radioactive Waste Disposal Options for Maine, Maine Low-Level Radioactive Waste Siting Commission, February 1984.
- Low-Level Radioactive Waste Disposal Siting Study, Texas Low-Level Radioactive Waste Disposal Authority, May 1983.
- Low-Level Radioactive Waste Overview, Institute for Research on Land and Water Resources, Pennsylvania State University, January 1984.
- Lower-Level Radioactive Waste Management for Vermont: An Analysis of Alternatives, Vermont Agency of Human Services, November 1983.
- "Siting a Near-Surface Disposal Facility for Low-Level Radioactive Wastes," by D. Siefken and E. Hawkins, Proceedings of the 1983 National ASCE Conference on Environmental Engineering, Boulder, Colorado, July 6-8, 1983.

include the following: criteria, factors, characteristics, elements, technical requirements, suitability requirements and features.

A criterion is defined by Webster's as "a standard on which a judgment or decision may be based." Criteria are conceptual rather than operational since a criterion states that an item must be examined but does not state how it should be examined. In order to use the siting criteria, a means must be used to assign units to each criterion that can be effectively measured and eventually weighed against one another. Each criterion can be constructed with

Explosion = energetic disassembly

Fire = rapid oxidation

Accident = normal aberration of plant transient

The reactor vessel is contaminated with plutonium = Plutonium has taken up residence in the reactor vessel.

Fig. 1. NRC "Doublespeak".

different pieces of information which can be called "factors." Factors do not answer any questions about the site. For example, ten permeability readings do not in themselves tell whether the site is hydrogeologically "secure." Any particular factor may be used to help measure several separate criteria and may serve in a positive mode in one instance and a negative mode in another instance.

Certainly the type of facility selected for LLRW management will profoundly influence the type of siting criteria which are used in the siting process. There may be "a chicken and the egg" philosophy involved in whether one chooses a very good site, then selects the technology or whether one chooses the technology, then a very good site to accommodate it. The discussion of alternative technologies is presently taking place outside this contract and, to some extent, without significant public input.

Most of the LLRW siting criteria have been derived for shallow land burial. On the one hand, one might argue that this represents a worst case and, generically, the criteria would depict a valid means for dealing with any LLRW facility type. On the other hand, there is very serious public opposition to shallow land burial in Massachusetts, and this opposition resents any mention of this terminology, even for such a scenario. Many of the facilitated group meetings had difficulty separating the development of siting criteria from discussion of design information. The neat and convenient technical separation of siting design in the NRC literature is not viewed comfortably by the public. They feel that these issues need to be addressed with meaningful public input into the decision-making process at a very early stage. Small group facilitated meetings may provide the best means of accomplishing this input.

Finally, there is some confusion in the public's mind as to how the siting process will proceed in Massachusetts. Certainly the development of siting criteria and the selection of a favored LLRW technology are the very first steps in the process. The EOE has established an extensive state-wide public preparation program. Numerous and frequent meetings with groups from all over the state on this issue have been held and more are planned. As this process progresses and the Governor decides how Massachusetts will proceed, this confusion may be significantly reduced.

DISCUSSION

Facility siting is an area which is fraught with emotional and political overtones. "Not in my backyard" is a phrase often utilized to describe this situation. Managing conflicts in the siting process does not have an effective track record, especially when the siting process only allows the public to comment defensively on existing documents.

Regulations appearing in the Federal Register are often difficult for the public to read and comprehend. The NRC has sufficient backup documentation in the case of the LLRW program. However, few people are aware of its availability.

The use of facilitated public input groups demonstrated that the NRC has accommodated many of the public's concerns in the LLRW siting area. Inadequacies can be identified and discussed. Using this public input procedure throughout the facilities development process will bring the groups along through the development of licensing procedures, performance objectives, and establishment of minimum technical requirements (e.g., planning, environmental monitoring, waste classification, waste characteristics and labeling, land ownership and institutional contracts).

Through this public input process, wording of regulatory-derived documents can be altered somewhat to become both easier to understand and more specific to the chosen design and conditions as they may exist in a particular jurisdiction. While the regulatory criteria information may offer a start in the search for a basis upon which to screen potential regions, there are certainly other concerns that may need to be addressed.

Although separation of criteria and factors is technically possible, it may not be desirable from a public point of view. Some other distinction may be possible and some of the factors may be developed into criteria. Also, the public did not wish to discuss their concerns for design and operation issues separately from the siting criteria issues. The interrelationship is a very strong one in the public's mind and cannot be easily separated in a "technical" manner such as the NRC chose to do in its literature.

When actual siting decisions are made, this process will not stop opposition. However, it will

encourage those who have participated in the public input process to transfer information to opposition groups, even while official dialog is checked by confrontational meetings. The process might even help reduce these confrontational aspects.

CONCLUSIONS

Some outcomes of this process are as follows:

- o The public really appreciated the opportunity to be included at such an early stage in the process
- o Generators often expressed a desire for more stringent siting criteria than did the public
- o The process evoked some earnest discussion on the relevancy of the criteria by divergent interest without the conflict level encountered in traditional "public communications" programs.

Potential drawbacks in this public input process are as follows:

- o Initial unfamiliarity with the "facilitated" process has people (especially generators) reluctant to attend. Significant follow-up activity was required to entice participants to the opening session
- o The state or developer also must have a commitment to follow-up work using this process. Successful dialogs such as those created in these groups raised the expectations of further meaningful input into the process

This public input process can be utilized on any siting process.