

TWO-WAY COMMUNICATION: A CASE STUDY IN IMPROVING PUBLIC INTERACTIONS

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ABSTRACT

Successful public interaction requires several key elements. They include: a non-intimidating forum for exchanging information, two-way communication, advance preparation to identify what each party wants to learn, and feedback. There is no single approach that guarantees success. Factors such as technical complexity of the issue, level of support by the public, and trust and confidence among the parties all play a role in determining the most workable approach for any particular situation.

By focusing on a specific case involving the communication of nuclear waste issues in Nevada, this paper illustrates lessons learned by the U.S. Department of Energy (DOE) in communicating controversial issues to the public. In particular, this case study traces the last three years of utilizing various communication approaches with Nevada citizens and identifies an approach that appears to be effective for DOE.

STARTING THE COMMUNICATION PROCESS

Upon passage of the Nuclear Waste Policy Amendments Act of 1987, the Yucca Mountain site in southern Nevada was selected as the site to characterize for potential development as a geologic repository for high-level radioactive waste. Public hearings on the Site Characterization Plan and other decision documents in the late 1980s indicated that the public was greatly concerned about the risks of transporting and disposing of nuclear wastes in their state. It was clear that much of the public associated transportation and disposal of spent nuclear fuel with negative images, such as widespread contamination, nuclear leaks, spills and explosions, deadly poison, and the like. Improving public education and outreach became a major priority for DOE in the state of Nevada.

Since 1988, DOE has held 28 public update meetings in the state. About every six months, DOE hosts these meetings at three different locations around the state. The update meetings have served as one of many outreach forums to communicate the program to the public and to solicit the public's concerns. Among other topics, radiation, regulatory requirements, safety measures, waste isolation, new work activities, and transportation of high-level waste to the Yucca Mountain site are key topics of discussion. To complement the public update meetings, DOE also began offering monthly tours of the site in early 1991, which provides citizens the opportunity to see the site for themselves and talk one-on-one with Project scientists and engineers. To date, over four thousand citizens have visited the site, and over ten thousand citizens have visited the three Yucca Mountain Information Offices, which are located in Las Vegas, Beatty and Pahrump. Other outreach mechanisms include traveling exhibits, a Speakers' Bureau, and participation in education programs in public schools.

It has taken over three years of experience with the public update meetings, site tours, and other outreach mechanisms to find an effective approach in interacting with the public.

For example, the first public update meetings were conducted not too differently from the formal public hearings held in the mid 1980s and often associated with major federal programs. Ads were run in local newspapers and looked very bureaucratic (See Fig. 1). They were held in local schools or civic halls and began with formal presentations by top management. Following the formal presentations, the public had an opportunity to ask questions or provide comments. At the end of the meetings, attendees could visit exhibits placed around the room and talk one-on-one with Project personnel. As with formal public hearings, however, the atmosphere at the update meetings was often antagonistic because of the strong anti-repository sentiments. In many instances, meetings were disrupted by protesters or dominated by certain irate individuals.

Early in DOE's conduct of the update meetings, DOE conducted informal telephone surveys prior to the meetings to find out what people wanted to know. These telephone surveys helped shape the scope of each meeting. Following the meetings, telephone surveys were conducted again to obtain feedback on the effectiveness of the meetings. Our experience in the first year of the public update meetings told us that people were frustrated by the meetings, and many failed to come to the next round of meetings because of the following reasons:

- The DOE presentations illustrated DOE's "decide-announce-defend" policy.
- The public comment portion of the meetings was dominated by a few "grandstanders."
- There was not enough time in an evening for everyone to participate.
- Some people were uncomfortable in expressing their views before large audiences.
- There was not enough time to view the exhibits and talk one-on-one with the scientists and engineers.

The Public is Invited
to Attend a
**Yucca Mountain Repository Project
Update Meeting**

7:00 p.m.
Tuesday, June 7, 1988
Aladdin Hotel, Las Vegas, NV

7:00 p.m.	INTRODUCTIONS General Public Question and Answer Session	DOE/State of Nevada
7:45 p.m.	TRANSPORTATION PRESENTATION Public Question and Answer Session	DOE/State of Nevada
8:30 p.m.	EARTH SCIENCES PRESENTATION Public Question and Answer Session	DOE/State of Nevada
9:05 p.m.	SOCIOECONOMICS PRESENTATION Public Question and Answer Session	DOE/State of Nevada

DOE and State of Nevada technical staff will be available after the presentations for individual questions and discussion.

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Fig. 1. Yucca Mountain Site Characterization Project public update meetings-June 1988.

- During this time we tried to make our advertising more "friendly" (See Fig. 2).

HOW THE PROCESS EVOLVED TO A MORE "USER-FRIENDLY" ENVIRONMENT

Based on our feedback, we began looking at numerous ways to make the public meetings and site tours more interactive and less formal. With the public meetings, we dispensed with the formal "state of the project" presentations by Project management altogether and focused more on specific topics presented by Project personnel that the telephone surveys indicated were of interest. Appendix A lists the specific topics of interest to people in three areas of Nevada, Amargosa Valley, Las Vegas, and Reno. We allowed more time for questions and for viewing exhibits. We adopted an even more informal approach that appears to be working. We now start our public update meetings with an hour-and-a-half open session for the public to view the exhibits at their own pace and talk one-on-one with Project participants. We then open the floor for the public to ask questions or provide comments in a group setting. This approach results in more focused atmosphere. We also provide the opportunity for meeting attendees to provide written comments and to request any information they desire.

This year we even drastically changed our advertising look (See Fig. 3). I think our new ads speak for themselves. On the public tours, we follow a similar approach of direct contact between the public and the Project personnel. Project personnel volunteer their own time on Saturdays to accompany the public to the site and guide them through each stop



**YUCCA MOUNTAIN PROJECT
UPDATE MEETINGS**

SPONSORED BY THE U.S. DEPARTMENT OF ENERGY

Thursday March 29	Elks Lodge 93 West Center Street Fallon, Nevada
Monday April 2	Tonopah Convention Center 301 Brougner Street Tonopah, Nevada
Tuesday April 3	Cashman Field Center Rooms 103-106 840 N. Las Vegas Boulevard Las Vegas, Nevada

All Meetings will begin at 7 p.m.

Fig. 2. Yucca Mountain Site Characterization Project public update meetings-March/April 1990.

along the way. Project personnel provide informal narratives of geologic features; and they are located at the various facilities and exhibits to explain the various study efforts underway and other aspects of the Project. Feedback from informal surveys following the tours indicate that the opportunity to talk with the scientists is top among the features that people like best about the tour. Many commenters have indicated they wished they had more time at any one of the stops to learn more.

ARE WE SUCCESSFUL YET?

Judging the success of communicating controversial issues such as nuclear waste disposal and transportation of wastes is difficult to measure. However, the following observations have given DOE a basis to conclude that communications have improved over the past three years.

- The public update meetings are less disruptive and antagonistic than they were three years ago, even though opposing viewpoints are still expressed.
- The comments and questions appear to be less emotional and fear-ridden and are more focused. The viewing of exhibits and one-on-one discussions taking place before the group discussions may have contributed to this change.
- Follow-up telephone surveys indicate more positive feedback than the earlier meetings.
- Informal surveys following the public tours indicate that over 90 percent of the visitors agree that DOE should be allowed to study the suitability of Yucca Mountain. Of those, 30 percent have indicated a

**We've changed!
Come back and see us again...**



The format for the Public Update Meetings on studies at Yucca Mountain has changed. What's different is that there's time for one-to-one talks separate from the time for the group question-and-answer sessions with the scientists and staff.

- One-to-one questions with staff and scientists 6:30-8 p.m.
- General group questions and answers 8-9 p.m.

There will also be exhibits explaining the work done during the last year. The State of Nevada has been invited to participate. These meetings are sponsored by the U.S. Department of Energy.

November 9
Amargosa Valley Community Center
Amargosa Valley, Nevada

November 10
Cushman Field, rooms 103-106
Las Vegas, Nevada

November 12
Lawlor Events Center, Hall of Fame room
Reno, Nevada

YUCCA MOUNTAIN PROJECT
Studies

Fig. 3. Yucca Mountain Site Characterization Project public update meetings-November 1992.

change in view because of the site tour and discussions with Project personnel.

- A more general observation is that press coverage appears to be less antagonistic than it was three years ago. In fact, articles are now being written by reporters who have taken the site tour and those articles often encourage the public to get out and see the site for themselves.

CONCLUSION -- LESSONS LEARNED

After three years of experience in applying formal and informal approaches to the Yucca Mountain outreach program, we found that an informal, interactive, one-on-one approach with the public has been more effective than the more formal approaches. The informal way makes people more comfortable in learning and in expressing their views. Allowing people to talk directly with Project scientists and engineers, to see the site for themselves, and to view exhibits at their own pace can more effectively reach people than the formal public hearing approach. Informal surveys prior to and after meetings and tours provide valuable information on how each successive meeting and tour can be improved. Repeating the update meetings at the same location each year also provides familiarity with the issues and with the DOE staff, which can go a long way in gaining trust. As recently stated by an advisor on the Secretary of Energy's Advisory Board (SEAB) Task Force on Public Trust and Confidence:

"One way to build up trust is to have people exposed to the professionalism of the people who work there."
(Quote by John Landis, July 10, 1992, SEAB Task Force Meeting, Las Vegas, Nevada)

APPENDIX A

NOVEMBER 1992 PUBLIC UPDATE MEETING QUESTIONS

Specific Topics Mentioned by Amargosa Valley

Interviewees:

- Science museum: what is the U.S. Department of Energy's (DOE's) connection to it, how is it funded, what is its purpose, will it be built?
- Earthquakes - what effects on the construction would an earthquake have (I think they are asking whether a major earthquake would stop the project); is there any earthquake activity out there on the mountain?
- Faults - if they find a major fault close to the mountain, will that stop the Project? There are faults shown on the emergency maps - comment on their significance.
- How secure is the Yucca Mountain Site Characterization Project (YMP)? Will it go ahead? Is there money to build it? Will the Nevada Test Site (NTS) moratorium affect it? Will a Clinton win affect it? Amargosa Valley needs as much advance notice as possible, either way; people must make decisions about whether to upgrade their property, put trailers on it, whether to encourage establishment of businesses to provide services to a growing population of staff who move in for site characterization activities and construction activities.
- Population growth: Will the Project bring people to Amargosa Valley, instead of providing busing for workers? Will DOE limit busing from Las Vegas?
- Will DOE provide local housing for personnel? Will DOE help meet needs in Amargosa Valley (for improved roads, access to fresh groceries, improvements in emergency services) or will DOE leave it to results of growth induced by the YMP? We project that federal funding for things like health care will depend on increases in gas tax. We (and people who move in to work on the YMP) will be disproportionately affected by such taxes. Will DOE help?
- Jobs: How many people are working now? How many people will be working in next few years? How many rigs? Will the YMP absorb NTS workers who lose jobs?
- Schedule: What actual work is going on now? What can you project? Tell us what you know, e.g., "It looks like it will be this long until we bring in this many people." Do some critical path projections: "We'll do this and if we find that then we'll do thus-and-such."
- Tax equivalent money: When will DOE pay, how much will county get?
- What has Nye County gotten from money they've received so far? (DOE should have a list, or arrange to have someone from the County program prepared to discuss this.)
- What's happening with the Monitored Retrievable Storage; possible location in Nevada?

- Groundwater - do tests show contamination moving from NTS? How much? How is monitoring done? Is DOE testing wells in Amargosa Valley?
- Will railroad come through Amargosa Valley instead of Las Vegas?
- What will a real cask look like? The cask on tour was ridiculously small - we know you'll be carrying multiple fuel assemblies.
- Worst-case scenarios: what are the two worst events that could occur that would affect residents of Amargosa Valley?
- It appears that much money has been spent writing reports, much less digging holes. Any comment?

Specific Topics Mentioned by Las Vegas Interviewees:

Major questions from Las Vegas interviewees revolved around earthquakes, Environmental Protection Agency (EPA) standards, and the testing moratorium. These were mentioned independently by at least four people. Other questions below were mentioned by only a single interviewee.

- Earthquakes - What about the June one? What magnitude of quake would be too big for a repository to handle? Who should we believe - we hear different stories from the State and DOE after the June quake? Can DOE be credible? (No matter what they say, people won't believe it) There were standards (I think the interviewee meant, "selection criteria") that said DOE would stop YMP if such an earthquake were to happen - now DOE says it's okay. Why?
- Standards: What about trying to change EPA standards? What are the new standards? What were the old ones? What do the standards do? Is EPA backsliding on standards? How many added deaths from C14 emissions would result from the new standard.
- Testing moratorium at NTS: What does it mean for jobs; can there be a transfer to YMP, to cleanup? If NTS closes, what does that mean for Yucca Mountain? If NTS is converted to alternate uses, how much of the area can be used (i.e., will contamination cause a lot to be closed?); would Yucca Mountain need to be used in conjunction with some of the alternate uses? Would that make it unsuitable for a repository?
- There's reportedly a shear zone around the Ghost Dance Fault. What does that mean?
- Expenditures: How much money was spent to rent the cask and pay the staff who stayed with it while it

was on tour? What was the purpose of this expenditure?

- Explain the \$100 million in Department of Defense (DOD) funds going to the YMP; what is the relationship of DOE and DOD?
- What's going on regarding the cleanup at the NTS and other DOE facilities?
- Nuclear Waste News says DOE has only answered half of the Nuclear Regulatory Commission's (NRC's) questions/comments on the Site Characterization Plan. Why?
- The American Nuclear Energy Council ads imply that engineered barriers are what makes the repository earthquake safe. Hasn't the NRC said it's not okay to overcome Yucca Mountain deficiencies with engineering?
- If Clinton is elected, is the YMP to be reconsidered?

Specific Topics Mentioned by Reno Interviewees

It was most difficult to find interested interviewees here. The top four questions (earthquake, EPA standards, NTS moratorium, new energy policy) were each mentioned by two people, others by only a single person.

- Earthquake: People are suspicious of DOE's "happy spin." Consider quakes while waste is being emplaced: give some scenarios: "what if" there is seismic activity - what threats does it pose; in what circumstances do we need to worry?
- EPA standards: Comment on the EPA standards as they are finally handled in the energy policy as it emerges from Congress.
- NTS moratorium: Jobs - will YMP absorb NTS workers?
- What's the latest from Congress regarding the new energy policy? Give us information on the energy policy, we don't know what it says. What is justification for continued use of nuclear power (not just "the energy policy says so"). How do the policy makers justify it?
- What changes anticipated after Watkins/Bartlett leave? Who do you predict as the new Energy Secretary?
- If Clinton wins - what changes are anticipated at YMP?
- NTS cleanup - what's happening?