PUBLIC CONFIDENCE IN RADIOACTIVE WASTE DISPOSAL

J. Bennett Easterling
Policy & Institutional Planning Division
United States Department of Energy
Washington, D.C. 20585

ABSTRACT

World scientific advances have convinced government authorities that the basic disposal technology is available to permanently and safety dispose of nuclear high-level solid waste in deep geologic formations. However, the public is not convinced. Broader citizen involvement and confidence in nuclear waste disposal plans and programs is needed if the nation is to be successful in permanent isolation of such waste. This paper explores ways to improve public information, education, and participation in order to enhance public confidence.

PUBLIC CONFIDENCE IN NUCLEAR RADIOACTIVE WASTE DISPOSAL

It may be enlightening to begin by defining terms. What groups constitutes "the public" in terms of nuclear waste disposal? Is it the hundreds or thousands here at WM-87? Is it the Governor or Tribal Chairman? Is it DOE or its contractors? Is it the Congress? Is it the letter-writers protesting sites near Canyonlands National Park or Sebago Lake or the City of Richton, or the Columbia River? Indeed, we are all members of the public. However, "special interest" groups may or may not reflect broader societal attitudes. Thus, my remarks today will be directed toward the broader public--the 99.9% of the populace whose main interest is to see that the problem is resolved.

Several years ago, historian of the former U.S. Atomic Energy Commission, Mr. Richard G. Hewlett, observed that in the past nuclear waste disposal had been considered by the U.S. Government to be primarily a technical problem. He went on to observe that the "technical problem" had gone unresolved since the Second World War. Historian Hewlett laid the blame squarely at the Government's doorstep. Those in charge, said Hewlett, had failed to understand the problem in its broadest dimensions. Disposal of nuclear waste, he believed, has become one of the paramount public policy issues of our time.

Those who blame the Congress for the national debt, for destroying the tax code and for all manner of other evils--indeed all of us--owe an enormous debt to Congress for finally realizing that public perceptions are important when it comes to nuclear waste. In the preamble to the Nuclear Waste Policy Act of 1982 (NWPA) appeared a national recognition that this "technical problem" which evaded us for four decades has ramifications reaching beyond the engineer's slide rule or the architect's drawing board. This is not to denigrate for a moment the absolute requirement for technical excellence. Rather, Congress understood (perhaps after observing 40 years of false starts) that technical excellence must have a partner. This partner is public understanding.

"State and public participation in the planning and development of (geologic) repositories is essential in order to promote public confidence in the safety of disposal of such waste and spent fuel" reads NWPA Section 111(a). In other words, public participation in the decision-making process was envisioned. The most basic of all social considerations regarding nuclear waste may be the issue of where to put it. The answer to that tough question, Congress decided, would be determined by sound technical factors coupled with proper consideration of social implications.

The public's right to help shape future waste disposal decisions is a hallmark of the 1982 mandate. This legislation was deliberately crafted to encourage constructive dialogue among parties having a legitimate interest in safe, timely, effective and efficient handling of a growing national problem. In the minds of a weary and leery public, this country had finally crossed a significant milestone toward resolving a problem that has vexed and troubled society since the fissioning of the atom first created atomic wastes.

A central direction had been established: Nuclear waste must be permanently isolated and the public must be an integral partner in the decision-making process. With foresight, national lawmakers were making a clear and unequivocal statement: "The safety of the public and the protection of the environment is essentially a creative partnership". In a democratic society where public perceptions shape public policy, waste disposal programs, if not fully understood, may be construed as actually threatening those they are intended to serve.

By reviewing the history of nuclear enterprise, one can appreciate the emphasis Congress placed upon public understanding, participation and support. Few issues have excited the mass media as much as nuclear related activities. Cartoonists have had a field day exploiting it. A classic case in point was the Three Mile Island incident. Though not one person was killed or even injured by radioactive releases, this event dominated world television and press coverage for months. This is not to *contend that* nuclear activities are failsafe. Indeed, they are not. The point is that public perception of comparative risk is also important. Public confidence in the safety of U.S. nuclear waste disposal depends in no small measure upon an accurate media portrayal and earnest efforts to enhance public understanding. Congress concluded that the best way to promote understanding is to promote participation. This was sage advice. I trust that all of us agree with the concept-if not the specific techniques-that a broad base of citizen involvement is desirable to create a climate of mutual respect, understanding and confidence. If we fail to build trust and credibility, we can be sure that history will repeat itself. Forty years

of procrastination could become fifty, and the best of technical solutions could be eclipsed.

Now, we approach another difficult challenge: the time has arrived to move from philosophy to application. To meet the needs of the future, shall we keep in mind the lessons of history? What guiding principles are germane as we move toward a five-year, multi-billion dollar field testing of laboratory precepts--the site characterization program for the first repository site? The balance of this paper explores approaches to involve everyday citizens, civic leaders, State legislative and executive bodies, Indian tribal representatives, professional societies and others in nuclear waste disposal planning activities in order to promote confidence.

Public education offers possibly the greatest opportunity for broader citizen involvement. It is encouraging that some good educational programs on nuclear waste disposal including audio-visual materials, teacher kits, lectures and other means, are being developed by State and Tribal governments with Federal support. Adult education, university courses, and the introduction of nuclear waste disposal concepts into traditional classrooms can help the public better understand radioactive waste, the need for its isolation, and safe, environmentally sound disposal methods. Within our governmental system of checks and balances, education has traditionally been reserved to the States with the Federal Government in a supportive role. This relationship should work especially well for nuclear waste education programs. States, Indian Tribes and local school officials are more familiar with their local needs than is the Federal Government. They can better identify needs and initiate development of appropriate educational programs. The Federal Government has been authorized under NWPA to support such programs initiated at the community, State, or regional levels.

Another valuable educational tool, especially effective where large facilities are involved, is the guided tour. Public officials, especially, appreciate an opportunity to personally inspect sites or complex facilities and be briefed by technical experts.

As field work for site characterization commences, opportunities for on-the-job inspection will also increase. At the Waste Isolation Pilot Plant in New Mexico, hundreds of international, national, State, Tribal and community visitors have personally descended in the "bucket" to conduct their own repository inspection 2200 feet underground. Many of you have made this inspection and may agree that nothing compares in providing first-hand knowledge of research, safety precautions, environmental safeguards and quality assurance measures being employed on-site.

A third means of improving public understanding and confidence is to engage in dialogue with professional and technical societies. Professionals in these groups are community leaders and their opinions are respected. Their knowledge and attitude toward a major technological project has considerable influence. They are usually willing to learn more about nuclear waste--our national policy and planned solutions. The National Conference of Radiation Control Program Directors and the American *Health Physics Society* are typical nuclear-related groups. Non-nuclear professional groups, including the many engineering societies, the American Medical Association, American Bar Association and numerous teacher's associations could also be helpful in educational efforts, if they understand the national nuclear waste disposal problem and our planned solutions. We need to keep these groups informed and work in collaboration with them. Briefings, panel discussions, cooperative agreements and other opportunities for dialogue are available. Earning the good will and cooperation of such groups is important to creating a climate of public confidence at the grassroots level.

Another important factor affecting public confidence is the role of the Nuclear Regulatory Commission. In May 1983, the Nuclear Regulatory Commission made a formal determination that technically feasible methods are available to dispose of high-level nuclear waste and spent reactor fuel. In addition, NRC determined, with reasonable assurance, that one or more repositories would be available in the 2007-2009 timeframe and that high-level waste and spent fuel can and will be safely managed in the interim. This was an important milestone. A number of electric utilities with nuclear power plants at the time were mired in legal and regulatory proceeding. After five years of intensive study, the Nation's nuclear safety agency expressed confidence in the safety of the U.S. waste disposal program. Step one, the certification of technical sufficiency, had been established. Step two would be to translate this confidence of the scientific community into public confidence. Since then, a number of steps have been taken to instill confidence in the repository site selection process, including review by the National Academy of Sciences of DOE's selection methodology. In the future, even more attention must and will be devoted to the crucial matter of public confidence. If the Nation is seriously committed to translating national policy into a national solution, public support will get the job done. On the other hand, if we expect sound solutions to be widely understood and popularly accepted merely because they are technologically sound, then we have not learned from past missteps. The sound technical case must also be explained in understandable terms. Choice of translators is important. Sending a Ph.D. scientist to speak to a rancher may frustrate both parties. Local community leaders, educators, and professionals can usually be expected to communicate with local people better than outsiders could do. Encouraging key community leaders to become knowledgeable and involved in order to insure and vouch for the safety of local facility operations is both sound policy and good public relations. On the study report for a Monitored Retrievable Storage facility which DOE expects to submit to Congress soon, the Department included local leaders on a board of directors with shutdown authority.

The technique that Congress actually wrote into the law to encourage Federal-State-Tribal unity is the Consultation & Cooperation Agreement (C&C). C&C must begin even earlier than the signing ceremony, however, early Federal/State/Tribal collaboration on major program decisions is, of course, crucial. Nothing frustrates the spirit of consultation more than being invited to advise on matters after a decision has been made. This will not be permitted. States and Tribes will be treated as Senior Partners when important decisions must be made that will affect the local areas. Rather than DOE reaching tentative Departmental agreements, then presenting them for ratification--affected parties understandably want to be a part of shaping and conceptualizing ideas...before positions harden. This was the reason for DOE's recent announcement that all the coordinating work groups will be open to State and Tribal participation.

A relatively new technique for the Federal Government, but one that has been successfully employed in numerous local land use disputes, is a process called

consensus negotiation. Industry, local and State groups have reached accord on controversial issues including siting of several treatment plants. The idea is to avoid win/lose confrontations, to separate real needs from perceived needs, and to craft a consensus that is responsive to all genuine concerns. EPA has experimented successfully with the process, NRC is planning a negotiated rulemaking for the repository licensing information system. DOE announced in the recent Draft Mission Plan Amendment that the use of third party negotiations may be useful in resolving tough C&C issues.

International and foreign waste disposal activities appear to enjoy a relative high confidence by the American public. A British film on crash-testing of shipping containers has been well received. A recent proposal to station teams of international experts on-site to observe U.S. repository site testing could, if otherwise feasible, have a positive impact on public confidence. In any event, a concentrated effort to enhance international cooperation on both technological and sociological aspects of waste disposal tends to reassure the public that the best approaches developed anywhere in the world are being employed in U.S. facilities.

Personal interchanges between Federal, State, Tribal and local professional staff could foster technology transfer and at the same time build mutual understanding and confidence. At the Federal level, Department of Energy, Environmental Protection Agency, Nuclear Regulatory Commission, Department of Transportation, and the Department of Interior could initiate such exchanges or respond to requests for technical assistance by making Federal experts available for training State and Tribal personnel to assist them via temporary assignments.

Public confidence is influenced both by the degree of risk entailed in an activity and by the perceived risk. Let's look at a recent example. When a Soviet submarine sank in the high seas off Bermuda last October, a State legislator received a worried call from one of his colleagues. His concern: whether it would be safe in the future to eat fish caught in the Atlantic Ocean. Cartoons of a nuclear mushroom cloud engulfing a repository, and of high-level wastes pouring from overturned trucks are familiar ones. Does the public understand that depleted fuel rods cannot explode like an atomic bomb? --or that it would be against NRC safety regulations and Federal practices to ship liquid high-level waste over U.S. highways? Unfortunately, we have failed to communicate even basic information to citizens which, if understood, could relieve them of clearly unfounded fears. After 40 years, many elementary facts about nuclear physics have not been conveyed to the general public. As we accelerate risk assessment studies, it is compelling that better ways be found to communicate our findings to the layman.

Finally, is there any basis for public confidence in the ultimate success of this program? I would argue that there is because:

> Every American citizen is the beneficiary of nuclear generated electricity, and national defense programs. Public safety and environmental protection require that we successfully isolate these wastes. The national interest must ultimately prevail over parochial interests. It can be done safely. Congress established incredibly tough standards and testing programs which will be followed to demonstrate safety.
>
> Lastly, the do nothing scenario is not acceptable to anyone--the citizen, consumer, environmentalist. When we are honest with ourselves, we know it must be done.

The Nation acting through its elected representatives established a nuclear high-level waste isolation program. This program is being implemented. Public involvement will earn confidence if confidence is deserved.

In summary, the long accepted adage "build a better mousetrap and the world will beat a path to your door" may not hold for this endeavor. If I fear the trap more than I fear the mice, I may choose to coexist with the infestation. Congress had a better idea. They suggested that we build the mousetrap together, at the same, building confidence in its efficacy. It just may be the best idea since DECON.