

# **BUILDING CONFIDENCE IN NUCLEAR WASTE REGULATION: How NRC is Adapting in Response to Stakeholder Concerns**

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## *Abstract*

*Increasing public confidence in the U.S. Nuclear Regulatory Commission as an effective and independent regulator is an explicit goal of the Agency. When developing new, site-specific regulations for the proposed geologic repository at Yucca Mountain, Nevada, NRC sought to improve its efforts to inform and involve the public in NRC's decision-making process. To this end, NRC has made, and continues to make significant organizational, process and policy changes. NRC successfully applied these changes as it completed final regulations for Yucca Mountain, when introducing a draft license review plan for public comment, and when responding to public requests for information on NRC's licensing and hearing process. It should be understood, however, that these changes emerged, and continue to be applied, in the context of evolving agency concern for increasing stakeholder confidence reflected in institutional changes within the agency as a whole.*

## **I. INTRODUCTION**

From its start, in 2000, the Forum on Stakeholder Confidence (FSC) has recognized that, because of changing expectations in the broader society, waste management institutions are challenged to engage in new forms of dialogue and decision making processes that address the views of a broad range of interested stakeholders. A new dynamic of dialogue and decision making process has been observed by the FSC as representing a shift from the traditional "*decide, announce and defend*" model, focused only on technical content, to one of "*engage, interact and cooperate*," for which both technical content and quality of the process are of comparable importance to a productive outcome. In this climate, scientific and engineering aspects of waste management safety are no longer exclusively important. Ability of organizations, and regulators in particular, to communicate and to adapt to this new context are now accepted as critical contributors to public confidence. Technical competence, while still essential, must be viewed as necessary, but no longer sufficient. Stakeholder confidence and trust in regulatory and implementing institutions are seen as key conditions for a successful societal decision-making process for radioactive waste

management. To be fully effective in carrying out their mission, regulators need not only be independent, competent and reliable, but should also strive to achieve the confidence and earn the trust of stakeholders and the public at large (1).

The U. S. Nuclear Regulatory Commission (NRC) strives to serve the public interest as a reliable, objective, open, and efficient regulator. NRC identifies increased public confidence as an explicit goal of the Agency (2). NRC long ago established mechanisms and procedures to afford the public access to major regulatory decisions. Recently, the NRC has again examined ways to enhance public involvement and foster confidence in NRC's actions as an effective and independent regulator. NRC has grown in its appreciation of the value of dialogue with stakeholders and is seeking to expand still further the opportunities for stakeholder interaction and participation in its regulatory process. For meaningful interaction, the public must have access to clear and understandable information about both NRC's regulatory process and the decisions reached through that process. Improved confidence in NRC as a regulator will depend on stakeholder confidence in NRC's organization and people, confidence in the process NRC uses to make regulatory decisions, and confidence in the decisions themselves and their outcomes. NRC, as an institution, and the people who represent it, must exhibit not only technical competence, but also institutional and individual integrity, and dedication to the greater good, namely, protection of public health and safety. NRC's decision-making processes must be seen as fair, open and capable of change in the face of new information. Confidence in the decisions that result from these processes depends on the extent to which such decisions result in outcomes that are protective, technically sound and, which can be corroborated and subjected to further monitoring.

## **II. CASE STUDY: INVOLVING THE PUBLIC IN DEVELOPING NEW REGULATIONS FOR YUCCA MOUNTAIN**

In 1999, NRC proposed new regulations for the potential repository at Yucca Mountain, Nevada (3). These proposed regulations represented a significant change from prescriptive, generic criteria, developed in the late 1970s, to a more risk-informed rulemaking framework that incorporated insights about repository risks and performance that have emerged over the past twenty years. Staff members of NRC's Division of Waste Management held public meetings in Nevada, near the site of the potential repository, as well as in Las Vegas, to obtain public comments on the proposed criteria. Scientists and engineers who had drafted the Commission's proposed regulations went to Nevada to discuss the timing and technical content of NRC's proposal, to answer questions, and to invite the public to comment.

The speakers were knowledgeable about the technical bases for the proposed requirements, and experienced with presenting to scientific and technical audiences, the

many difficult technical and policy issues associated with the proposal. The speakers were not prepared, however, for the range and intensity of questions and comments from the audience. Many participants had questions about issues that were not directly applicable to the proposed regulations, but which reflected deep interest and concern.

Over the course of the meetings, the questions and comments from the audience clearly showed that the speakers had not succeeded in communicating the reasons behind, and safety of, NRC's proposed regulations. It was obvious that these meetings had not contributed to public confidence in either the NRC staff or the Commission's proposal. These observations were confirmed by written comments received after the meetings. The staff's observations and the public feedback convinced NRC staff members of the need to improve its approach to future interactions and involvement with the public.

### **III. NEED FOR A NEW APPROACH**

Reflecting on this experience, the staff sought specific ways it might improve. The task was to design future interactions with the public that would better communicate NRC's primary mission of protecting public health and safety and the environment. Future interactions would also need to convey better NRC's duty and commitment to be open and receptive to public input, and to act in ways that enhance public confidence in the Agency. To improve the quality of interactions with stakeholders interested in Yucca Mountain, NRC's staff made many significant changes-- organizational changes, process changes, and, eventually, policy changes, all of which reflect, to greater or lesser degrees, NRC's commitment to improve stakeholder confidence. They also reflect a conscious change in expectations of interactions with stakeholders. The intent is to improve common understanding of technical and policy issues to foster a more meaningful dialogue. Most important came the realization that greater respect for stakeholders and their role compels NRC staff to both listen and explain effectively, but avoid attempts to persuade.

### **IV. SPECIFIC CHANGES MADE**

Simple organizational changes, identified immediately, included: (a) identifying lessons learned in earlier meetings; (b) allowing staff more time and resources to prepare for stakeholder interactions; (c) assigning a project manager for each public meeting who is not also a speaker at the meeting; and (d) providing expert coaching for all speakers in risk communication techniques. Although NRC's scientists and engineers may be effective communicators among their peers, they are accustomed to interacting with other technically trained specialists who insist on precise and complex explanations of technical and policy issues. They are not, generally speaking, familiar

with risk communication nor are they trained public affairs specialists. As a result, NRC staff members often use technical jargon and acronyms in their presentations, rather than the more direct, plain language explanations the public seeks and has a right to expect. To address these communication challenges, NRC staff obtained expert training in risk communication, and continues to increase the number of staff members receiving training before conducting public meetings. All presentations are now reviewed for clarity and plain language.

Next, the staff adapted its processes for interacting with stakeholders. Many attendees at public meetings on the proposed regulations complained that the public comment period on the proposed regulations was too short. In response, NRC extended the allotted time, to allow for broader public involvement, and to allow enough time for the public to understand and evaluate the technical information and policy implications (4). Besides showing that NRC had heard the public's concern, and had responded affirmatively to the extension request, extending the time available for comment also allowed the staff more time to review transcripts of the earlier meetings. The staff then was able to catalog the comments and questions raised at the meeting, and subsequently, to provide personalized answers to certain specific questions asked, but not answered adequately, at these meetings.

Working with a trained facilitator, the staff restructured the format used for public meetings. For instance, formal presentations, if needed at all, are much shorter, and are punctuated with multiple opportunities for questions and dialogue. Other formats, such as public round-table discussions, poster sessions, open houses, and displays at technical conferences, are also used to advantage. Whichever format is selected, NRC makes greater efforts, when scheduling interactions, to recognize that stakeholders interested in Yucca Mountain have multiple demands on their time, and attention. Many attendees at NRC's public meetings have complained of schedule conflicts with public meetings conducted by the U.S. Department of Energy, State and local governments, as well as by multiple other review or oversight bodies.

To coordinate and carry out a more ambitious approach to public interaction, still more organizational changes were needed. NRC established a High-level Waste (HLW) public outreach team of technical and support professionals from various disciplines and offices within NRC, including members from NRC's Spent Fuel Project Office, NRC's Office of Public Affairs, and NRC's contractors at the Center for Nuclear Waste Regulatory Analyses. Among its many responsibilities, this team developed, and subsequently updated, a Communications Plan for NRC's HLW regulatory program. This team has enabled better coordination with other agency offices and divisions, and its members have represented NRC at international forums, such as FSC, on issues involving stakeholder interactions. Eventually, senior technical staff were assigned

responsibility for HLW regulatory communications, and staff excellence in interacting with stakeholders about NRC's HLW regulatory program are consistently recognized and rewarded.

It is important to keep in mind that these improvements, as significant as they are, did not occur in isolation. As NRC's HLW regulatory program pursued greater effectiveness in engaging stakeholders, the NRC as a whole was coming to grips with the need to improve the quality of its interactions with stakeholders and to place greater importance on inspiring their confidence and trust.

Communications plans are now required for all major program initiatives. In June of 2003, the Chairman of the NRC chartered a task force on external communications, headed by an NRC Commissioner. The task force issued its findings and recommendations in a public report later that summer (5). Coincident with the release of this report, the Chairman announced his intent to appoint an agency Director of Communications who would report directly to the Chairman and provide policy and guidance for communications activities across the agency. The new Director assumed his position in April of this year. In January, NRC issued guidelines for agency staff for interacting with stakeholders (6) and, as a separate document, published the technical basis for the NRC's guidelines (7). Both documents are available to the public. In recent weeks, the Commission has directed its staff to publicize the results of research projects in understandable terms, particularly those results involving conservative bounding analyses, using plain language, and in a manner that fosters understanding of the context and limitations of NRC's research findings. In addition, in response to Commission direction, the NRC added a "For the Record" section to its Web site to provide NRC responses to inaccurate, misleading or false information in print, on television and radio, to provide the public with accurate and truthful information. This represents a significant departure from the agency's past hesitancy, or at times, reluctance, to correct misrepresentations and false assertions about NRC's regulatory policies and actions made in print and broadcast media.

## **V. RESULTS**

NRC's HLW outreach team has applied this new approach at more than thirty public meetings, during the past five years. In response to specific public requests, NRC held workshops and meetings to explain NRC's licensing, inspection, and hearing processes. The outreach team has also responded to requests from local government officials in Nevada to conduct meetings in local communities where residents can hear and ask questions about NRC's licensing and oversight role for the potential repository. NRC also conducted meetings in Nevada to introduce a draft of its license application review plan and to invite public comment before issuing the final plan last year (8).

Management and organizational commitment, intensive staff preparation, training and rehearsal by all speakers, and actively anticipating questions and discussing suitable answers in advance, have all helped to foster more constructive interactions with citizens in Nevada. Follow-up meetings on proposed NRC regulations, as well as information workshops, meetings, and displays on NRC's regulatory process, hearing process, and draft licensing guide, have generated many high-quality, constructive comments from a wide array of stakeholders. NRC has received positive feedback from meeting attendees and local government officials, and has received invitations to conduct more meetings, from other communities within Nevada. In general, media coverage of NRC's actions with respect to Yucca Mountain has been more accurate and balanced. These are all positive signs that NRC's efforts to improve its communications with the public are on the right track and are making progress.

That being said, however, it is important to note that better communications with stakeholders do not, in and of themselves, lead to greater confidence in NRC's policies and practices. Stakeholders invariably ask "What changes, if any, has NRC made to its policies or process in response to input from stakeholders?" Stakeholders want to know that the time and effort they put forth to interact with government institutions has some reasonable chance of having a meaningful impact.

Nevada stakeholders concerned with the development of NRC regulations for Yucca Mountain had both process and policy concerns. The overwhelming majority of comments NRC received during its Yucca Mountain rulemaking addressed one or more of the following four concerns: (a) NRC should await publication of final environmental and safety standards for Yucca Mountain by the U.S. Environmental Protection Agency (EPA); (b) NRC should retain a formal hearing process for reaching a decisions on whether or not to authorize construction of a potential repository at Yucca Mountain; (c) NRC should adopt EPA's more stringent numerical limits for individual protection; and (d) NRC should incorporate separate criteria for protection of groundwater at Yucca Mountain. NRC addressed all of these concerns when it published its final regulations five months after EPA issued its final standards (9). The final regulations directly incorporated EPA's limits for individual protection and adopted EPA's separate limits for protection of groundwater. The reasons for these changes to NRC's initial proposal are many, complex, and were not limited to the agency's goal of improving stakeholder confidence. Nonetheless, the NRC's final regulations incorporated changes that accommodated the four issues of greatest concern identified by the majority of stakeholders that chose to comment on NRC's proposal.

To build on these improvements, NRC's Division of HLW Repository Safety faces significant new challenges in the coming year. By year's end, the NRC expects to receive a license application from the Department of Energy for the proposed repository.

U.S. law sets forth a three to four year time frame for the NRC to make its licensing decision. Balancing NRC's commitments to openness and stakeholder confidence with demands on time and staff resources, as well as with the constraints imposed by NRC's hearing process, may compel more changes beyond those discussed above.

## **VI. CONCLUSIONS**

In seeking to increase stakeholder confidence in its HLW regulatory program, NRC has made, and continues to make organizational, process and policy changes. Many of these changes could be seen as small, common-sense improvements. Taken as a whole, however, these improvements reflect a changing vision and increased commitment to discharge NRC's HLW responsibilities through a more inclusive regulatory process. By engaging the public earlier, listening to individual issues and concerns, and providing understandable and honest responses, we are earnestly working to make NRC's regulation of nuclear waste understandable and worthy of the public's trust. Further, these changes should be seen as examples of an evolving agency concern for enhancing stakeholder confidence and the corresponding institutional changes within the agency as a whole.

***NOTE:*** *The views expressed herein are those of the author and do not reflect any judgment or determination by NRC on matters addressed or the acceptability of a license application for a geologic repository at Yucca Mountain.*

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