

# Improving Public Information Regarding Radioactive Waste Shipments

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## ABSTRACT

In 2012, the Blue Ribbon Commission on America's Nuclear Future (BRC) recommended that the U.S. Department of Energy (DOE) begin "prompt efforts to prepare for the eventual large-scale transport of spent nuclear fuel and high-level waste to consolidated storage and disposal facilities when such facilities become available."<sup>1</sup> As DOE works to implement this recommendation, it will face many challenges – not least of which is the need to cultivate public acceptance for shipments of spent nuclear fuel (SNF). In its 1986 "Transportation Institutional Plan," DOE's now defunct Office of Civilian Radioactive Waste Management (OCRWM) recognized that "the success of its program to develop and implement a national system for nuclear waste management and disposal...depends not only on safety, but on broad-based public understanding of and confidence in program activities and objectives."<sup>2</sup> Two decades later, the National Academies' Committee on Transportation of Radioactive Waste echoed this observation in its report *Going the Distance? The Safe Transport of Spent Nuclear Fuel and High-Level Radioactive Waste in the United States*: "[T]he social risks for spent fuel and high-level waste transportation pose important challenges to the successful implementation of programs for transporting spent fuel and high-level waste in the United States."<sup>3</sup>

This paper recommends an initial step in addressing social risks for transportation through a model public information program that will initiate and sustain public involvement as DOE develops the transportation system for moving SNF from shutdown reactors to facilities for consolidated storage. For insight, the authors look to a variety of sources, including the early strengths and the later weaknesses of OCRWM's efforts to keep stakeholders informed during the years from 1986 through 2009 when the office was eliminated. The scope of the recommended approach encompasses a commitment to proactively being open and transparent with the public and its planning partners; a process for developing new information materials that use responsive "key messages;" frequent and varied methods of communication, including social media; and a willingness to accept and incorporate public input into program decisions. While a successful public information program cannot guarantee public acceptance of shipments, it is a necessary first step to achieving this goal.

## INTRODUCTION

For decades, the United States has struggled to develop a final solution for disposing of the nation's highly radioactive waste from commercial power plants and defense-related activities. The latest attempt ended in 2009 when the Obama Administration cancelled the Yucca Mountain repository program. While the president declared the site to be "not a workable option,"<sup>4</sup> the fact remained that the Nuclear Regulatory Commission had not yet completed its review of DOE's license application – nor even gotten very far into the process. While we may never know whether Yucca Mountain was or was not "unworkable" from a technical standpoint, clearly it

was political forces that made – and will continue to make – siting a nuclear waste repository or storage facility an exceedingly difficult task for the nation.

To succeed with a final disposal solution for SNF will require the federal government to address these forces head on, and that means getting at their underlying causes. One problem that has long plagued DOE is the relatively low level of trust that the public feels toward the OCRWM program. Overcoming this deficit to cultivate public acceptance will require DOE to make a new commitment to openness and transparency and to take demonstrable action to live up to that commitment. DOE has an opportunity to begin down this path as it implements the 2013 “Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste.” The Strategy outlines the Administration’s plans for implementing the BRC’s recommendations. The first milestone in the Strategy is the development of a pilot consolidated storage facility to begin accepting SNF from shutdown reactors in 2021. A larger facility is to follow in 2025, with a permanent repository planned for decades later in 2048 – a full 50 years after Congress first expected OCRWM to begin accepting SNF from the nation’s nuclear power plants.

To begin planning for the development of these facilities and the transportation system to move SNF and high-level radioactive waste (HLW), DOE established the Nuclear Fuels Storage and Transportation Planning Project (Planning Project). It will be imperative for the DOE Planning Project to initiate and sustain a model program for providing information and involving the public. For the sake of continuity, the program developed now must be consistent across DOE’s activities related to both transportation and siting. In addition, it must be transferable to a new entity in the event that Congress carries out the BRC’s recommendation to establish a new organization to manage the radioactive waste management system.<sup>5</sup>

DOE would do well to begin the task by focusing on engaging the public in connection with the transportation system. Several programs within the department have enjoyed success with shipment-related public outreach programs – an example being the one for moving transuranic waste to the Waste Isolation Pilot Plant (WIPP) in New Mexico. Building on past successes such as WIPP, DOE’s public outreach program for the consolidated storage facility should be characterized by frequent, timely, and accessible interactions with members of the public; reliance on messages and concepts that are responsive to the concerns people have; and aggressive efforts to incorporate public input as the radioactive waste management system is developed. The underpinning for all these activities must be a strong commitment to openness and transparency as the most effective means of reducing public concern and mistrust. Cultivating the trust and confidence of the public cannot guarantee that DOE or a new entity will succeed in its efforts to develop a new “workable” waste management system; without building public trust, however, attempts to do so will fail.

## **THE IMPORTANCE OF SOCIAL RISKS**

Historically, DOE’s program for managing SNF and HLW has suffered from a lack of public trust and confidence. As far back as 1993, a task force of the Secretary of Energy Advisory Board, after two years of study, issued findings and recommendations for increasing public trust and confidence in DOE’s radioactive waste management activities. The task force report, “Earning Public Trust and Confidence: Requisites for Managing Radioactive Waste,” explained

the importance of public trust and confidence: “On a pragmatic level, public trust and confidence is generally essential for agencies to carry out effectively missions assigned to them. More fundamentally, however, trust and confidence makes a central contribution to sustaining the legitimacy of public organizations within the American system of governance.”<sup>6</sup> The task force observed that, compared to other DOE programs, OCRWM – the predecessor of the current program – had “a relatively constricted view of what is required to restore trustworthiness; it has not implemented any consistent approach to doing so; and has rarely considered explicitly the consequences of its actions for public trust and confidence.”<sup>7</sup>

A 2006 study by the National Academies’ Committee on Transportation of Radioactive Waste reaffirmed the importance of what it called “social risks” to the federal government’s program for shipping SNF. Appointed in 2003, the committee carried out a study that identified key current and future technical and societal concerns about the transportation of SNF and HLW in the United States.<sup>8</sup>

The committee could identify no fundamental technical barriers to the safe transport of SNF and HLW, but did find a number of social and institutional challenges to the successful initial implementation of a large shipping campaign involving these materials. The committee determined that social risks do pose important challenges and they are “as real and important” to many people as the associated health and safety risks.<sup>9</sup> It recommended that DOE take “early proactive steps” to characterize, communicate, and manage the social risks that arise from transportation operations.<sup>10</sup> This recommendation should be common sense to anyone who is trained in risk management. When shipping radioactive waste, for example, shippers are trained to anticipate the associated risks, seek to understand them, and then manage the risks. As the NAS committee noted, social risks are one of the risks associated with the transportation of SNF and HLW. Unfortunately, these more qualitative risks require a different set of skills to manage than health and safety risks. As a result, they are often overlooked or neglected.

The NAS committee cited extensive research that found that risk perceptions can be tremendously influenced – positively and negatively – by the actions of organizations involved in implementing or opposing a transportation program. The effect of such external influences poses a particular problem for the DOE Office of Nuclear Energy because, as the 1993 “Earning Public Trust and Confidence” study noted, the federal government’s program for managing SNF and HLW has traditionally suffered from a low level of trust and confidence. In 2012, in the BRC’s final report, the commissioners noted that, in the years since Congress selected Yucca Mountain as the lone site for the national repository, “Trust and confidence in the federal government’s basic commitment and competence to deliver on its waste management obligations have all but completely eroded.” The BRC went on to state that “[r]estoring that trust and confidence must be the government’s first priority and is essential for getting all aspects of the nation’s nuclear waste program back on track.”

As it works to rebuild public confidence in its shipping activities, DOE may learn from experiences that individual states have had in dealing with public perceptions of the risks of transporting radioactive waste. One example comes from the State of Oregon. In recent years, citizen activists in the Pacific Northwest have capitalized on the general concern and fear over

radioactive waste transport as a method to get people angry and engaged primarily to block future shipments of waste to the Hanford Nuclear Site in Washington State.

Since the 1950s, DOE had sent waste from many of its sites for disposal at Hanford. Beginning in the late 1990s, DOE considered several different proposals which potentially could have resulted in tens of thousands of truckloads of waste going to Hanford for storage and disposal. After a Washington State initiative banning such import of waste was overturned by the courts, opponents of the waste import proposals began to galvanize public opposition both by emphasizing the potential impacts at Hanford and to the Columbia River, and also by focusing on transportation risks. The activist groups were so successful at raising this as an issue that public meetings conducted during the last several years in Oregon and western Washington on many different Hanford topics were often hijacked by concerns over radioactive waste transport.

While the State of Oregon also strongly opposed import of additional waste for disposal at Hanford, Oregon Department of Energy representatives were concerned about the level of opposition that was being focused on transportation. Hanford has been and will again be a regular shipper of transuranic waste to WIPP, and its HLW – once vitrified – is destined for a geologic disposal facility. In addition, the shutdown Trojan nuclear plant northwest of Portland and the operating Columbia Generating Station nuclear plant near Richland, Washington, both have inventories of SNF that are intended to be disposed of at a national repository. Safe and uneventful transportation of radioactive materials has been a key part of Oregon policy regarding Hanford since the 1980s.

What exacerbated the situation was that the messaging from the citizen groups focused in large part on two issues that were not factual – that thousands of truckloads of radioactive waste would travel through western Oregon en-route to Hanford, and that people were at grave risk from non-accident exposure.<sup>11</sup>

After determining that interest did exist among members of the public, agency staff promoted and then conducted four public meetings in August 2012 specifically on radioactive material transportation. The intent was to delve into 30 years of information gathered through a state radioactive material transport permit program; provide detailed information on shipping routes, shipping trends, and types of material that travel through the state; and share actual inspection readings from shipments that could be considered highly radioactive materials. The presenter did not attempt to discuss risk or what is acceptable risk. Instead, the intent was to counter the misinformation the public was receiving, which seemed to form the core of the public concern and outrage.

Two meetings were conducted in Portland and two in Hood River – about 65 miles east of Portland on the Columbia River. A total of 35 members of the public attended the meetings. They received detailed information on radioactive material shipment activity through the state dating back to the late 1980s. Through that data, they could see that implementation of the Low-Level Waste Policy Act Amendments of 1985 resulted in a significant drop of shipments through western Oregon beginning in 1993, because California was no longer able to ship radioactive waste to a commercial waste disposal site located at Hanford. They could also see the sharp increase of shipments through both Portland and Hood River during decommissioning of the

Trojan nuclear plant in the late 1990s and early 2000s, and the abrupt decline once decommissioning was complete.

There was also detailed discussion of radiation emissions from shipments. Through data from inspections conducted in Oregon and neighboring states over the past few decades, it was clear that shipments of SNF and remote-handled transuranic waste, which had traveled through Oregon in the past, had radiation levels that were just a fraction of the regulatory limit. It became clear that non-accident radiation exposure was low or zero.

Research has consistently shown that the most credible sources for risk information are usually local, with the fire chief typically among the most credible sources.<sup>12</sup> The NAS committee also recognized this phenomenon, writing, “Emergency responders are among the most trusted members of their communities. Well-trained responders can become important emissaries for DOE’s transportation program in local communities and can enhance community preparedness to respond to other kinds of emergencies.”<sup>13</sup>

Because emergency responders rank as so highly trusted, when the Fire Chief from the Hermiston, Oregon, Fire Department offered to address questions and concerns about emergency response and emergency preparedness at the Portland meetings, Oregon Department of Energy staff were quick to accept the invitation. The Chief is a member of a citizen advisory board that provides recommendations on Hanford cleanup to Oregon’s Governor, Legislature, and the Oregon Department of Energy. He was in uniform at the meetings, and addressed numerous questions about how he assessed the risk of these shipments. He did comment that there were many other hazardous material shipments that he was more concerned about. Meeting participants seemed satisfied with his responses.

Can it be said with certainty that public trust and confidence in Oregon’s Department of Energy or DOE increased as a result of these meetings? No, because there was a concerted attempt to keep the format of the meetings somewhat informal, therefore no polling or survey of attendees was conducted to see if the meetings had changed people’s opinions. However, the first Hanford public meeting in Portland following these transportation meetings had no discussion of transportation. A previous meeting a few months earlier on the same topic was completely disrupted because of transportation concerns. Oregon’s experience provides an excellent example of how DOE can anticipate public concerns and respond by providing stakeholders with relevant, accurate information that is presented in a manner that is meaningful to them.

## **A PROMISING START**

DOE’s Planning Project may succeed if it learns the lessons of the past and emulates the successful outreach efforts like those conducted in Oregon. Looking to the origins of the waste-management program, in August 1986, OCRWM laid out its strategy for interacting with the public and other stakeholders with the publication of its “Transportation Institutional Plan.” In the opening lines of the document, DOE acknowledged the need to cultivate public support, stating that DOE “recognizes that the success of its program to develop and implement a national system for nuclear waste management and disposal...depends not only on safety, but on broad-based public understanding of and confidence in program activities and objectives.”<sup>14</sup> Toward this end, OCRWM’s “Public Information Guidelines” committed to making “program

information publicly available to the fullest and most timely extent possible.”<sup>15</sup> The “Transportation Institutional Plan” identified three categories of interactions between OCRWM and program stakeholders: information exchange; involvement in the planning process; and management of specific issues.<sup>16</sup>

OCRWM anticipated that its engagement of the public would occur as part of information exchange and management of specific issues, with involvement in the planning process being geared more toward the states, tribes, and local communities affected by shipments. The program identified five “initiatives” that were designed “to encourage and stimulate informed participation by the interested public at large.”<sup>17</sup>

- Maintaining an efficient system for responding to information requests and to other correspondence that deals with transportation matters.
- Conducting meetings and briefings for interested civic groups and other public assemblies wherein information is exchanged.
- Developing educational resources concerning nuclear waste transportation and establishing effective mechanisms for dissemination.
- Ensuring that adequate, objective transportation information is included in community information offices.<sup>18</sup>
- Using the *OCRWM Bulletin* and other resources, including the OCRWM Electronic Bulletin Board (INFOLINK), to impart transportation news and information to the interested public.<sup>19</sup>

Although the “Transportation Institutional Plan” and “Public Information Guidelines” were an excellent start, OCRWM did not fully back up the words in these early documents with concrete actions. In its 1993 report, the Secretary of Energy Advisory Board’s task force recommended that OCRWM undertake “[c]onsistent and respectful efforts to reach out to state and community leaders and to the general public for the purpose of informing, consulting, and collaborating with them about the technical and operational aspects of Departmental activities.”<sup>20</sup> Furthermore, the task force explained that the type of involvement it envisioned resulting from this outreach “would be characterized by frequent contact, complete candor, rapid and full response to questions, use of at least some suggestions, and assistance in increasing the technical and oversight skills of the community.”<sup>21</sup>

In the mid-1990s, OCRWM had some success in its outreach activities related to the involvement of state government agencies through four regional cooperative agreements. Interactions with and involvement of the public, however, was more limited. As a co-sponsor of the DOE Transportation External Coordination Working Group (TEC/WG), OCRWM deserves some credit for working with stakeholders to develop new public information materials through the TEC/WG Communications Topic Group. The majority of these materials, however, were for the benefit of DOE’s Office of Environmental Management, not OCRWM, although there was some crossover to make these items useful to OCRWM.

On the whole, despite the early promise of the “Transportation Institutional Plan,” OCRWM invested few resources in public outreach from the mid-1990s through the cancellation of the program in 2009. The relatively low priority placed on public outreach was partly the result of the program devoting most of its resources to characterizing the Yucca Mountain site in preparation for the 2002 decision by Congress to approve the site. Years later, perhaps in anticipation of greater public interest, public information activities picked up slightly after DOE submitted its license application to the Nuclear Regulatory Commission in 2008.<sup>22</sup> Nevertheless, what the Secretary of Energy Advisory Board’s task force observed two decades ago can still be said today: OCRWM did not implement any consistent approach to restoring trustworthiness.

## **A NEW APPROACH**

DOE’s Planning Project, and its one-day successor, would do well to acknowledge the waste management program’s roots as it structures the public outreach and engagement program. The five principles cited above were well-crafted for the original program and remain a good foundation for building the new program. However, communication techniques and technologies have changed dramatically since the mid-1980s. The public’s relations with and trust of government has also dramatically changed during the course of the past few decades.

We recommend that DOE’s Planning Project approach its public outreach and engagement program by adopting the following four principles that build on OCRWM’s “Transportation Institutional Plan” and the recommendations of the Secretary of Energy Advisory Board task force:

- A commitment to proactively being open and transparent in its relations with the public and its planning partners (states and tribes).
- Public information materials and other communications that respond directly to public concerns.
- Frequent, timely, accessible interactions with the public, through public meetings and the use of webinars and social media.
- A willingness to accept and incorporate public and other external input into decisions, and to publicly acknowledge the influence of that input.

To a large extent, DOE’s Planning Project is already making reasonable progress on these principles in its engagement of states in transportation planning. It is from this positive experience that we draw our recommendations and examples. To date, however, public engagement has not yet begun. We therefore encourage DOE’s Planning Project to consider our input as it develops a new and improved public outreach program.

### A commitment to proactively being open and transparent

Shortly after taking office in 2009, President Barack Obama pledged a commitment toward creating an unprecedented level of openness and transparency in government, citing an open government as a way to ensure the public trust and establish a system of transparency, public participation, and collaboration. By providing information for citizens about what their

government is doing, a policy of openness strengthens our democracy and promotes efficiency, effectiveness and accountability in government.

Executive departments and agencies were directed to harness new technologies to put information about their operations and decisions online and to make them readily available to the public. Executive departments and agencies were instructed to solicit public feedback to identify information of greatest use to the public. In addition, executive departments and agencies were directed to offer Americans increased opportunities to participate in policymaking and to provide the government with the benefits of the collective expertise and information of its citizens. Toward this end, the directive required executive departments and agencies to solicit public input on how to increase and improve opportunities for public participation in government.

In keeping with the President's pledge, the first step in implementing the BRC's recommendations should be for DOE (or a Nuclear Waste Administration, if created) to make a public commitment to openness and transparency in its development and operation of the waste-management program. This commitment should appear prominently on all program documents, public information materials, and on web or social media sites for the project. It is worth noting that a genuine commitment to openness and transparency means adopting a culture that encourages – even *requires* – staff to think deeply about what they do and to ask constructive questions about their actions. How might the public be interested in or concerned about this action? Can we solicit input into the decision before taking action? And, if we can, what would be the best way to do so in order to maximize involvement? Viewing all potential decisions or actions through the lens of enhancing public involvement is, in essence, anticipating social risks. Doing so is essential for the waste-management program to develop successful strategies for managing social risks.

#### Using public information materials that respond to public concerns

In communicating with the public, it will be important for DOE to use materials that resonate with the public and respond to anticipated concerns. In previous attempts at doing this, DOE has not fared all that well.

In our 2008 paper, “Why DOE's Messages on Transportation Don't Resonate with the Public (and What DOE Can Do to Fix the Problem),” we examined DOE's past track record of overlooking common “outrage factors” that shape public perception of risk. In reviewing 40 fact sheets, booklets, and brochures produced between 1978 and 2007, we found numerous examples of “unresponsive” messages – messages that either failed to respond to the common outrage factors, or worse, would actually heighten public outrage. One particular recurring theme was that “no deaths or serious injuries have resulted from exposure to the radioactive contents of these shipments.” While it is understandable for DOE to want to emphasize the “positives” about its shipments, “no deaths or harmful releases” is not an attribute that is likely to ease the concerns of the public. As we noted, when presented with this statement, a sufficiently outraged person could very well insert “yet” at the end of the statement – both because accidents are unavoidable and because of radiation having “unseen” long-term effects.

We cited more recent statements that indicated the department still stubbornly clings to the belief that it can meet its social and institutional challenges simply by adopting a “process that has



transportation safety as its priority.” Unless DOE embraces the concept of outrage factors and uses the lessons of risk perception to its advantage, the department will never win public acceptance of – or even tolerance for – its program to ship SNF and HLW to an interim storage site or repository.

We stand by our recommendation in the 2008 paper: in developing new public information materials related to SNF and HLW transportation, DOE needs to respond to outrage factors by emphasizing tangible benefits; the similarities between these shipments and other familiar shipments; the influence of the public on decisions; and the endorsement of more credible information sources at the local and state level.

Fortunately for DOE, the Planning Project has willing partners to help craft effective communication messages. As noted earlier, OCRWM previously worked with the TEC/WG to develop and review some of the program’s public information materials. That same sort of opportunity is available through the National Transportation Stakeholder Forum’s (NTSF) Communications Working Group, which includes a number of state and tribal members with experience and skills in communicating with the public. The NTSF Communications Working Group recently updated a set of “key messages” originally developed by the TEC/WG. These messages highlight both “big picture” and transportation-specific concepts that should be incorporated into both written public information materials and into DOE’s other communications activities, such as public meeting presentations. These key messages are aimed at addressing some common concerns about radioactive material transportation, including transport risk and how these risks are managed, the necessity for transporting the materials, and the benefits of doing so.

Another tool developed by the NTSF Communications Working Group is a “development guide” for writing transportation fact sheets. Its intent is to help DOE, states, and other parties develop fact sheets that can improve the public perception of the risk of nuclear waste transportation in advance of a campaign, and increase the public’s confidence in the safety of the shipments. The development guide identifies frequently asked questions concerning shipments – for example, the reason for making the shipments, the type of material being shipped, and the general timing of a campaign. By using tools like the development guide and the key messages, and by tapping the NTSF Communications Working Group as a sounding board for ideas, DOE or a Nuclear Waste Administration would stand a greater chance of success in crafting public information materials that are responsive to public concerns.

In addition to fact sheets and other written materials, DOE needs to invest in developing and maintaining a dynamic web presence. Government agency web sites are often static, unimaginative, and quickly become outdated. DOE will need to improve upon the typical model for government websites and make extensive use of social media, including YouTube and other video sites, to proactively “push out” its messages and quickly respond to questions, rumors and attacks. It will likely be a challenge for a large agency such as DOE to streamline internal approval/review processes in order to be responsive to queries and statements posed through its website and on social media.

Frequent, timely, accessible interactions with the public

Communication technologies have advanced by leaps and bounds compared to what was available at the start of the program in the 1980s. In just a few short years, social media has become a worldwide phenomenon. According to the Pew Research Center, 67 percent of on-line adults use social networking sites, including 83 percent of those under the age of 29 and 77 percent of those 30-49 years of age (as of December 2012). The proliferation of smartphones has made social networking accessible virtually anywhere. Pew's research found that 40 percent of cell phone owners use a social networking site on their phones, and 28 percent do so on a typical day.<sup>23</sup> These numbers are bound to increase because the adults of tomorrow are today's teenagers and younger children who are growing up with smartphones.

While the majority of people use social media to stay in touch with family and friends, it is becoming an increasingly popular method for people to share interests. People who are concerned or upset about the prospect of radioactive material transportation will find a way to connect with one another through social media platforms. As examples, on Facebook today, dozens of groups have formed in connection with the Keystone Pipeline project – some in favor, the vast majority opposed. DOE should be prepared to engage audiences that use social media in this way.

The internet and the social media sites that have developed offer the new program with limitless options for identifying interested parties, getting information out to them, and receiving feedback. Because of applications like Facebook and Twitter, a process that would have taken weeks just a few decades ago has been shortened to hours or even minutes today. Granted, the quality of the input received may not be of the highest caliber in every case, given the “rapid response” nature of public comments on media sites. But if one goal is to make sure information is getting out to the people and being received, comments and tweets serve a useful purpose in verifying that someone is paying attention to the material that is being shared.

While a great deal of information can appropriately be shared via social media, e-mail, and even printed media, these methods do not take the place of face-to-face interaction for engaging people in a dialogue and, in the long term, building relationships with stakeholders. DOE's Planning Project should take every opportunity to meet in person with the people who may be affected by shipments through their communities. These opportunities should include meetings held by the program for the purpose of disseminating information and getting feedback. In addition, it would be wise to establish a “speakers corps” of knowledgeable people who can speak at meetings of state, tribal, and local governments; civic groups; and in educational institutions. High-quality risk-communications training should be required of all staff – even seasoned professionals – whose responsibilities include speaking to the public about the program and its activities.

It is important to make sure public meetings are accessible to the people who care about the issue. Meetings of federal agencies often take place in Washington, D.C., which is convenient for federal program staff but not necessarily for the public that is affected by the proposed action. The topic of SNF shipments will likely be of interest to people who live near the facilities that will be shipping, as well as those living along the main rail lines and highways that will be used for shipments. Depending on the destination site that is chosen for an interim storage facility,

good locations for transportation-related meetings could include cities like Chicago, Kansas City, or Omaha. In the Midwest, for example, there is special sensitivity to the prospect of barge shipments taking place on the Great Lakes. If the DOE Planning Project were to seek public input on barge shipments in the Great Lakes region, cities like Chicago or Milwaukee, both located on Lake Michigan, would be ideal places to hold such a discussion. Likewise, to determine the level of public acceptance for barge shipments on the coasts, the DOE Planning Project should consider holding public meetings in coastal cities where citizens are likely to be affected and, therefore, interested.

In scheduling and locating public meetings, it is inevitable that some interested parties will not be able to attend. Fortunately, technology has advanced so much that webcasting is always an option for reaching the segment of the public that, for whatever reason, cannot attend public meetings in person. Webinars are another way to get information out to people in a timely, somewhat interactive fashion. While face-to-face interaction could be considered “the gold standard,” webinars offer an adequate, lower-cost option for disseminating information to people and for soliciting their feedback.

One topic DOE did not address in its “Principles” was when to begin reaching out to the public and, once outreach is initiated, how often to interact. Regarding the initiation of contact, while there are good arguments against “going public” prematurely, a general rule of thumb is “the sooner, the better.” If the media are already beginning to cover the program, then the public outreach should already have begun. In the Midwest, DOE began reaching out to the states two years prior to the start of cross-country shipments of SNF from foreign research reactors. Public outreach was limited for this important but relatively small-scale campaign; the Foreign Research Reactor program, however, prepared public information materials one year before the first cross-country shipment commenced. With a more sizeable campaign that is likely to affect a larger population, DOE’s Planning Project should initiate public outreach as soon as Congress gives it a green light to proceed. This suggested timing means that program staff should be developing public information materials and a public outreach plan right now –well in advance of Congress passing enabling legislation.

Harkening back to OCRWM’s commitment to make information “available to the fullest and most timely extent possible,” it will be important for the DOE Planning Project or its successor to have a two-pronged approach by which some information is disseminated on a regularly scheduled basis – such as through printed or e-newsletters – while other information is imparted as it happens through mechanisms like Twitter and/or Facebook (or whatever social media sites and tools are in vogue in the future). As the pace of activity increases – e.g., when documents are published for public comment – the frequency of the regularly scheduled communication would likely need to increase, as well.

#### A willingness to accept and incorporate external input

Just as important as actively engaging the public and other external stakeholders and disseminating timely, responsive information is the process of receiving input and then acting on it. As noted earlier, one way to demonstrate trustworthiness is to make decisions that reflect external input and then to call attention to how that input influenced a program decision. It is all too common for stakeholders to submit comments on a public notice only to have their input

appear to be ignored by the federal agency that collected it. Clearly, DOE and other federal programs cannot please all of the people all of the time. But it would behoove DOE, in particular, to look for opportunities to accept stakeholder and other external input – to question its own rationale for rejecting input and ask questions like “Why not?” or “What would be the harm?”

A few examples illustrate the impact DOE or a Nuclear Waste Administration could have by accepting input from its stakeholders. In the 1990s, DOE’s Naval Nuclear Propulsion Program (NNPP) began holding joint exercises with states affected by shipments of SNF from nuclear-powered submarines and aircraft carriers. The purpose of the exercises is to open the lines of communication between the NNPP and the state and local officials that are affected by the program’s classified shipments of SNF. When the State of Oregon first proposed to NNPP personnel the idea of holding a joint exercise, the reaction was decidedly negative. The state persisted, however, with the result that the first exercise was held in Bremerton, WA, in 1996.

The exercise was a positive experience not only for the state and local responders, but also for the NNPP program. These joint exercises are now well established, taking place every 2-3 years. In fact, while the states had to approach the NNPP program about holding the initial exercises, the NNPP now reaches out to states that might have an interest in hosting the event. In addition, the geographical range has expanded to include not only those states that host naval bases used for refueling the reactors, but also in states in the heartland of the nation that are affected by the rail shipments. NNPP very publicly gives credit to the states for conceiving of the idea of joint exercises. The result is that the program enjoys a high degree of goodwill on the part of the states and a strong working relationship exists between the federal and state government officials with regard to the program’s shipments.

A second example involves truck shipments of SNF from foreign research reactors. In 1998, DOE’s Foreign Research Reactor (FRR) program began reaching out to the states to plan cross-country shipments of research reactor SNF from South Carolina, where the shipments would enter the U.S. by ship, to the Idaho National Laboratory. Working cooperatively with the affected regional groups, the FRR program held three planning meetings prior to the first shipment. At the first meeting, which took place in December 1998, the Western states informed the FRR staff that the states expected the SNF shipments to adhere to the protocols for transuranic waste shipments that would soon begin heading to WIPP in New Mexico. The Western states and DOE’s Carlsbad Field Office had collaborated over a period of several years to develop the protocols, which are codified in the Western Governors’ Association’s “WIPP Transportation Safety Program Implementation Guide.” The FRR staff were not prepared to address this expectation at the first planning meeting.

Three months later, however, at the second meeting, the FRR staff responded to the West’s comment with a detailed presentation. In the presentation, the program manager for the FRR shipments acknowledged each of the protocols in the WIPP Program Implementation Guide and indicated whether DOE would follow the protocol. If it were the case that DOE would *not* follow a particular protocol, the program manager explained the rationale and offered to work with the states to identify a mutually acceptable means of achieving similar ends. In some instances – for example, point-of-origin inspections – the protocol would have applied even if the Western states had not made a specific request. Yet the FRR staff recognized the value of

using input from the affected states and giving those states at least some credit for the suggestion. By acknowledging that the new plans for shipments were influenced by the West's request regarding the WIPP Program Implementation Guide, the FRR program cultivated the states' acceptance of the shipping campaign. As a result, DOE enjoyed strong support from the Western states for the FRR program's shipments, which continues to this day.

Contrast the above positive examples with OCRWM's 2005 decision on the use of dedicated trains. July of that year saw the issuance of the long-awaited "Department of Energy Policy Statement for Use of Dedicated Trains for Waste Shipments to Yucca Mountain." Dedicated trains carry a single commodity, whereas SNF shipped using general freight service could be carried on trains also carrying flammable and other hazardous materials. The policy statement cited four reasons for the decision to use dedicated trains for OCRWM's "usual rail transport" of SNF and HLW: safety, security, system cost, and operations. Nowhere did the statement mention the possible advantages from a public preference perspective, which was well documented at this time. The NAS Committee, for example, in its report *Going the Distance*, found "clear...public preference advantages" favoring dedicated trains."<sup>24</sup>

OCRWM missed an opportunity to attribute a decision – at least in part – to the program's desire to accommodate public preferences. By choosing not to, and by citing only cost and programmatic reasons to support the dedicated train decision, OCRWM conveyed to its stakeholders that their concerns and their input did not matter. For the new program to succeed with consent-based site selection and with a transportation planning process that is open and transparent, the people in charge must learn to seek out and embrace opportunities to demonstrate to the public that their input does, indeed, matter.

## **CONCLUSION**

To be sure, communicating with the public regarding the radioactive waste management program will be an exceedingly difficult task. DOE's OCRWM neither enjoyed a high level of public trust and confidence nor did it take effective measures to cultivate public acceptance. With the waste-management program as much as 50 years behind schedule, DOE or a new Nuclear Waste Administration will be under intense pressure to make progress on the technical milestones of the waste-management system – with the likely result that few resources will be devoted to institutional matters like public outreach. As past history has shown, technical feasibility means little if the program faces significant public opposition. The success of the entire waste-management program, therefore, will depend upon the extent to which the public is engaged in its development.

Fortunately, there are several tools available to help DOE or the new agency hit the ground running in developing an effective communication program. Historical documents such as the "Transportation Institutional Plan," and "Earning Public Trust and Confidence" – albeit decades old – are still excellent resources full of useful ideas for cultivating public trust and confidence. External stakeholders such as the state regional groups and the NTSF stand ready to assist in developing public information materials that respond to the public's need for information and the local concerns people might have. What is now needed is for leadership within DOE to make the commitment to openness and transparency, with the next step being for staff to carry out a program that involves frequent, timely, accessible interaction; uses responsive messages; and

incorporates public input. With legislation already introduced, now is the time for DOE to begin developing its plans and materials for engaging the public.

Communication is the only activity in the waste-management program that is completely independent of the site or sites chosen. This means it is the only activity that can proceed now – before a site is selected – without causing controversy. DOE needs to work aggressively to develop a communications plan and the materials to support it. By getting the plan and the materials together now, the department will be well prepared to hand these highly useful products over to the new agency if and when Congress decides to act decisively to solve the nation’s nuclear waste problem.

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<sup>1</sup> BRC, p. vii.

<sup>2</sup> DOE/OCRWM, 1986b, p. i.

<sup>3</sup> NAS, SR.4.

<sup>4</sup> OMB, p. 62.

<sup>5</sup> On June 27, legislation was introduced in the U.S. Senate that would establish a Nuclear Waste Administration as the new authority for managing SNF and HLW. S.1240 awaits action by the Senate.

<sup>6</sup> SEAB, p. v.

<sup>7</sup> *Ibid.*, p. vi.

<sup>8</sup> NAS, p. 25.

<sup>9</sup> *Ibid.*, p. 154.

<sup>10</sup> *Ibid.*, p. 180.

<sup>11</sup> Non-accident exposure is the radiation exposure people might receive while sitting in traffic or even in their homes near transportation corridors.

<sup>12</sup> Covello.

<sup>13</sup> NAS, p. 5.24.

<sup>14</sup> DOE/OCRWM, 1986b, p. i.

<sup>15</sup> DOE/OCRWM, 1986a, p. 1.

<sup>16</sup> DOE/OCRWM, p. 30.

<sup>17</sup> DOE/OCRWM, 1986b, pp. 28-29.

<sup>18</sup> These offices were established in areas that were being considered as a repository host location.

<sup>19</sup> The *OCRWM Bulletin* was a printed newsletter, published “approximately monthly,” and mailed to interested parties that requested to be on the mailing list. The INFOLINK “Electronic Bulletin Board” was an early predecessor of web pages and social media sites that are popular today.

<sup>20</sup> SEAB, p. vii.

<sup>21</sup> *Ibid.*

<sup>22</sup> Janairo and Bailey, p. 9.

<sup>23</sup> Pew Internet and American Life Project.

<sup>23</sup> NAS, p. 5.15.