INNOVATIVE APPROACHES TO TECHNICAL–PUBLIC AFFAIRS COLLABORATIONS

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ABSTRACT

Once the Waste Isolation Pilot Plant (WIPP) opened and the Hazardous Waste Facility Permit became effective, the nation's 23 transuranic (TRU) waste sites faced the daunting task of shipping waste across the country to WIPP. After 25 years of talking, planning, and regulatory hurdles, the pipeline was open, and the WIPP was ready to receive TRU waste. Recognizing the enormity of this task, the Carlsbad Field Office (CBFO), which manages the WIPP, and the U.S. Department of Energy (DOE) Headquarters launched a major initiative to assess the waste system and recommend modifications to optimize it.

The process of managing, organizing, facilitating, and implementing this massive effort involved DOE, its WIPP contractors, and TRU waste managers at all DOE sites across the country. More than 100 people, representing all the DOE TRU waste sites, participated in the eight-month process that resulted in an innovative approach to enhanced communications that involved public affairs staff working directly with technical staff.

INTRODUCTION

On March 26, 1999, the Waste Isolation Pilot Plant (WIPP) opened for the disposal of TRU waste resulting from weapons research and production (1). The WIPP's opening resolved a number of scientific, engineering, regulatory (2, 3), and political challenges, but was only the first step in addressing a new set of challenges. These challenges include characterization and certification, transportation, and disposal of TRU waste:

- **Characterization and certification:** characterizing and certifying the contents of every potentially WIPP-bound container to ensure that each meets the numerous complex federal and state requirements for disposal at the WIPP.
- **Transportation:** obtaining Nuclear Regulatory Commission-approved shipping containers to meet differing needs; retaining highly competent carriers to transport the waste; training emergency responders across the nation; and correctly packaging, loading, scheduling, coordinating, and shipping the waste to the WIPP in compliance with federal and state laws. Developing transportation schedules for the disposal of TRU waste requires balancing cleanup agreements, timetables, and commitments that individual states and the federal government have made to accommodate many competing priorities.
- **Disposal:** anticipating disposal quantities and timetables, ensuring adequate assets for waste receipt and emplacement, maintaining mine readiness, mining new panels and rooms to ensure availability of adequate disposal volume, preparing for closure, and sealing the panels as they are filled.

These tasks are overlain by preparations to receive remote-handled TRU waste by 2002, which will entail additional and significant procedural and technical requirements. The coordination of all of these activities, including the changing requirements, requires clear communication among all the TRU waste sites, the Carlsbad Field Office (CBFO), and the WIPP's regulators.

Recognizing the enormity of this task, the CBFO, which manages the WIPP, and DOE Headquarters launched a major initiative to assess the TRU waste system and modify it as necessary to accommodate the many needs and requirements. In inaugurating this effort, CBFO Manager Dr. Inés Triay and Marc Frei, who had been the Headquarters WIPP lead for many years, wrote, ". . .the time has come to re-examine how we are doing business and to take a holistic, system-wide view to re-engineer the TRU waste program. . . ."

Four teams – an Executive Team, a Characterization Team, a Transportation Team, and a Disposal Team – were formed from among representatives of all the TRU waste sites and the CBFO to undertake this effort. The CBFO established an aggressive schedule to accomplish the work in phases:

- **Phase 1:** recommendations for activities that could be implemented in 6 months
- **Phase 2:** recommendations that require additional paper study for justification or additional lead time for implementation (within 18 months)
- **Phase 3:** recommendations that require technology development activities (implementation within 36 months)

The four re-engineering teams, composed of more than 100 members, met in late October 1999 to begin this task. Out of that initial meeting, the teams developed drafts of their Phase 1 recommendations. The team leaders met in late November to review, finalize, and prioritize the Phase 1 recommendations, which they presented to Dr. Carolyn Huntoon, Assistant Secretary for Environmental Management (EM-1), and Dr. Triay on November 17, 1999. The DOE's response was positive.

The individual teams continued to meet on weekly conference calls throughout the winter and early spring, working on Phase 2 and 3 recommendations combined. The team leaders met again March 14-16, 2000 to review, finalize, and prioritize these recommendations; develop cost estimates for them; and present their results to Dr. Triay.

OVERARCHING THEMES

Several themes recurred in the teams' recommendations, including:

- **Excessive requirements:** The recommendations refer frequently to requirements in the WIPP Hazardous Waste Facility Permit that are not prescribed by law and do not contribute to the protection of workers, human health, or the environment. At the same time, the teams noted, these requirements significantly increase the cost of and time required for characterization, transportation, and disposal.

- **Orphan waste:** The teams recommended addressing existing orphan waste and developing standard definitions to avoid generation of new orphan waste.
- **Standardization:** Several teams identified issues related to inconsistencies in how the work is done and the need for standardization. The inconsistencies included differences across the DOE complex in characterization procedures and equipment; methods of estimating total TRU waste disposal costs; software for data reporting; formats for data recording, certification, and QA documents; and procurement of common items. The teams recommended standardization of formats, software, procedures, and equipment to address these inconsistencies and achieve efficiencies.
- **Remote-handled TRU waste:** The teams also identified issues they needed to address to begin disposal of remote-handled TRU waste. The recommendations covered a range of needs including development of:
  - A remote-handled TRU waste regulatory strategy that addresses internal documentation and management needs and external regulatory process and communications
  - Mobile remote-handled TRU waste characterization equipment
  - Model certification documents and alternate shipping casks and packages
  - Alternate disposal configurations to mitigate lost panel space.
- **Communications:** Every team cited a need for better communications. Recommendations included holding workshops, establishing a site liaison, fostering more effective communications with the regulators, improving the information exchange between the CBFO and the sites, clarifying requirements, implementing an electronic version of the TRAMPAC, and providing the remote-handled TRU waste design basis to the sites.
- **Flexibility:** The teams cited a need for greater flexibility that would allow use of new technologies and new or different shipping packages. They said that experience will provide new understandings of what is needed to demonstrate compliance with the requirements and that, as they demonstrate the efficacy of alternate procedures, the regulators should allow their use. They identified the permit modification process as the vehicle to achieve these efficiencies and encouraged the CBFO to submit modifications and clarifications as soon as possible.

The teams made a total of 59 recommendations, broken out as shown in Table I and summarized briefly in the pages that follow. The recommendations are being addressed in several ways: through modifications and clarifications to the WIPP Hazardous Waste Facility Permit, engineering studies, longer-term technology development efforts, and organizational changes.

The CBFO has reviewed and analyzed the recommendations and developed a path forward for each. It has fully implemented 22 recommendations. The 31 recommendations that are in progress are mostly those that require permit modifications or clarifications. More than 70 clarifications to the WIPP Hazardous Waste Facility Permit have been written, forwarded to the New Mexico Environment Department (NMED), and placed on the re-engineering Web site for the sites' information. The CBFO has written Class 1 and Class 2 permit modifications that respond to the recommendations and submitted some of them to NMED. Some are still being written. Several recommendations in the "in progress" category have some aspects that may be implemented, but others that are still being

developed. The six pending recommendations are of lower priority and will be implemented later. They require additional study or analysis, and the CBFO and its contractors are actively addressing them.

Table I. Implementation Status of Recommendations

	Implemented	In Progress	Pending	**Total**
Executive	5	1	0	**6**
Characterization	11	15	5	**31**
Transportation	3	12	0	**15**
Disposal	3	3	1	**7**
Total	**22**	**31**	**6**	**59**

PROCESS FOR RE-ENGINEERING

The CBFO's challenge in undertaking the re-engineering effort was to create a process that engaged those who would be responsible for implementing any changes that resulted and to come up with plans that were credible, defensible, and achievable. The CBFO Manager concluded that the TRU waste managers must lead the effort. With this mandate in mind, the CBFO public affairs participants, who were trained facilitators, writers, and meeting managers, designed a process that capitalized on the strengths that the DOE and contractor TRU waste managers from across the country brought to the table. They were called upon to review, study, and then make recommendations for improving the characterization and certification, transportation, and disposal activities at each of these diverse sites, including the WIPP. Led by the CBFO Manager, the public affairs staff developed a detailed implementation plan that freed the technical teams from concerns about managing the meetings, which allowed them to concentrate on the substantive topics at hand. The process included the following components:

- Meeting management, including plenary and break-out group facilitation, agendas, presentation development, and logistics for a kick-off meeting and later for follow-up meetings of the team leaders to finalize the Phase 1 and Phase 2-3 recommendations developed during the first meeting and subsequent conference calls
- An interactive Web site
- Focused, facilitated, and recorded weekly conference calls
- Presentation of the Phase 1 findings to the CBFO Manager and DOE Headquarters
- Presentation of the final recommendations to the CBFO Manager
- Preparation and publication of the final report.

IMPLEMENTATION OF THE RE-ENGINEERING PROCESS

Step 1

After consulting with CBFO technical experts, the public affairs staff developed detailed implementation and facilitation plans and agendas and designed the process for the kick-off meeting. The public affairs staff then facilitated and recorded the plenary meeting and the breakout sessions.

This two-day meeting involved more than 100 technical experts from across the DOE complex. After introductory presentations on the first morning, the meeting participants divided into four teams: Executive, Characterization, Transportation, and Disposal. A trained facilitator and recorder assisted each team. Each recorder took notes, which were projected on a screen so that participants could follow the development of recommendations in real time.

At the end of the two-day meeting, each group presented its initial recommendations to the entire group.

Step 2

The CBFO established a Web site so that each participant could actively review and comment on recommendations while they were being developed. The CBFO updated the Web site weekly and answered questions on-line throughout the eight-month process.

Step 3

Each team held weekly conference calls throughout the process. As recommendations were developed, the teams discussed and refined them during these calls, and the CBFO posted them to the Web site for further discussion and review. The team leaders led these calls, and public affairs staff took notes, distributed them to participants, and posted them on the Web site.

Step 4

After the teams completed the first phase of recommendations, the team leaders, assisted by public affairs staff, discussed each team's recommendations, refined those recommendations in real time (again with computer-aided projection), and developed Phase 1 recommendations for presentation to the CBFO Manager and Assistant Secretary Carolyn Huntoon.

Step 5

Throughout the winter and early spring, the teams continued to meet via their weekly conference calls and Web site interactions.

Step 6

The team leaders gathered again to finalize all the recommendations and review the final recommendations that the public affairs staff had compiled, based on the meetings, phone calls, and Web site discussions. This facilitated meeting again featured computer-aided review of recommendations and refinement as necessary.

The recommendations (4) served as the basis for further study and analysis by the TRU waste complex.

Step 7

The CBFO proceeded with implementation of the recommendations. In May 2000 the CBFO published *"Re-engineering the Pipeline, Final Report"* (5) to document its progress in implementing the recommendations. Once again, the public affairs staff assisted the process by compiling information about the status of implementation, facilitating the final meeting, and developing an executive summary.

LESSONS LEARNED

The success of this effort depended largely on several significant factors:

- To be successful, the affected participants—in this case, the TRU waste sites in partnership with the CBFO—must identify and develop solutions to shared issues.
- A long-term problem-solving effort will be more successful if the participants have support in managing the process—the meetings, the preparation of materials, and the use of real-time devices so that participants can comment immediately and make mid-course corrections as necessary.
- The public affairs and public involvement disciplines can bring perspective to the process, but public affairs staff wanting to be considered equal partners with technical staff on key decisions must immerse themselves in the technical issues so that they can add value to technical discussions as participant-facilitators.
- Good meeting management and thoughtful consideration of agendas and process are essential components of a multi-faceted effort such as the re-engineering effort, and these skills can lead to better discussions, more participation, and more complete outcomes.
- Carefully planning the up-front design of opportunities for involvement can help sustain interest and involvement over long periods of time.

CONCLUSIONS AND NEXT STEPS

Resolution of highly complex issues shared among numerous parties at widely separated locations requires thoughtful management of the *process* as well as the issues. Indeed, such an effort requires that equal thought be put into both the *how* as well as the *what* of problem-solving. Issuance of the Hazardous Waste Facility Permit for the WIPP brought a new set of challenges *and* opportunities for the CBFO. The permit required the CBFO and the TRU waste sites to work within a new structure to

certify sites and waste, test and prove the transportation system, and exercise and establish revised disposal procedures. As operations changed to meet permit requirements, participants quickly identified requirements and protocols that were counterproductive to efficient system management. The public affairs team brought a variety of meeting management, facilitation, presentation, and writing skills to assist the TRU waste managers in addressing the challenges, through face-to-face and telephone interactions, the shared Web site, and the final report.

The success of the re-engineering effort strengthened the relationship between the public affairs and technical staff. The effort was successful because it brought together DOE and contractors who were recognized leaders in their fields, developed far-reaching recommendations for TRU waste disposal, and will form the basis for the CBFO management of TRU waste for years to come.

REFERENCES

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