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Innovative Techniques Used by EPA, SCDHEC, and DOE to Increase Stakeholder and Public Involvement in the Cleanup of Nuclear Production Facilities

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(This paper expresses the author's views. No endorsement of those views by the U.S. Environmental Protection Agency is intended or implied.)

ABSTRACT

This paper will describe the importance of public and stakeholder involvement to the decisions being made at Savannah River Site (SRS) regarding the cleanup of major production facilities. For over a decade the Department of Energy (DOE), the U.S. Environmental Protection Agency (EPA) and the South Carolina Department of Health and Environmental Control (SCDHEC) have operated under a three party agreement (known as the Federal Facilities Agreement or FFA) to clean up the SRS from the remnants of the Cold War plutonium production at SRS. During this time, the 3 agencies have consulted with the surrounding and impacted public to gain stakeholder input on the decisions concerning the clean up of various wastes at the SRS. The primary instrument of public input has been and remains the SRS Community Advisory Board (CAB). Much progress has been made over the years in cleaning up the SRS and the CAB has provided invaluable stakeholder input. Many planned decisions have been modified and changed as a result of the input of the CAB. Recently, DOE has decided to move forward with the Decommissioning of excess facilities at the SRS. These facilities include many buildings involved in the various missions of radioactive isotope production at the SRS, including the reactors and the plutonium processing facilities. The discussions of the 3 agencies on how to best accomplish this work have always included discussions about how to best involve and receive input from all stakeholders. The innovative way the 3 agencies have worked together through the public involvement format has application nationally and DOE-Complex wide. The decisions made will impact the surrounding community and the country for years. Multiple meetings with the CAB and other stakeholders will be required and it will be incumbent on the 3 agencies to reach out to and involve all interested parties. At least 3 different approaches could be used for stakeholder involvement. 1) a typical CERCLA "proposed plan format" with several alternatives presented and the agencies pointing out the most likely alternative; 2) present all possible alternatives without bias and take feedback from the public; 3) present all possible alternatives along with their pros/cons. Each approach has its own pros and cons. This paper will discuss the pros and cons and describe how the Agencies are moving forward.

This paper will also discuss the public involvement aspects of such major decisions. In order to be successful, education efforts will need to be made to the general public. All

aspects of the decisions must be properly communicated. Cleanup decisions that are protective of human health and the environment, compliant with all other pertinent laws and restrictions and keep risk to workers at a minimum and are cost effective must be made. However, decisions that are acceptable to all stakeholders are needed in order to succeed. The details of the goals of the effort will be presented in this paper.

INTRODUCTION: SAVANNAH RIVER SITE D&D PROJECT AND STAKEHOLDER INVOLVEMENT

In June 2003, the Department of Energy Savannah River Operations Office (DOE-SR), the South Carolina Department of Health and Environmental Control (SCDHEC), and the Environmental Protection Agency, Region 4 (EPA-4) endorsed a Memorandum of Agreement concerning cleanup at the Savannah River Site (SRS). The vision of the Agreement is that SRS will reduce its operations footprint to establish a buffer zone at the perimeter of the Site, while the central core area of the Site will be reserved for continuing or future long-term operations. DOE-SR, EPA-4, and SCDHEC agreed that establishing this buffer zone and appropriately sequencing environmental restoration and decommissioning activities can lead to greater efficiency and accelerate completion of entire site areas. This vision is embodied in the concept of Area Completion – which integrated operations, deactivation and decommissioning, and soils and groundwater cleanup into a time-phased approach to completing all the work necessary to address the Cold War legacy. Decommissioning addresses the “footprint” of the building or structure, while the soils and groundwater project addresses any environmental remediation that may be required in the underlying and surrounding soils and groundwater. Since then, over 240 facilities have been decommissioned at the SRS, ranging from guard stations to nuclear fuel production facilities. This success could only have been achieved with the support of our stakeholders. This paper will describe how SRS engaged its stakeholders through this period of accelerated decommissioning and how SRS will continue to engage stakeholder participation in its upcoming decommissioning activities.

PLANNING: THE SAVANNAH RIVER SITE ENVIRONMENTAL MANAGEMENT INTEGRATED DEACTIVATION AND DECOMMISSIONING PLAN

In September 2003, SRS published the Savannah River Site Environmental Management Integrated Deactivation and Decommissioning Plan to support the Area Completion effort. This comprehensive plan addressed the final disposition and physical end state of all Environmental Management facilities throughout the SRS. Facilities and structures will either be demolished with the foundation left in place, or decommissioning may be achieved through closure in place, referred to as in-situ decommissioning. When a foundation is left in place, DOE-SR determined that residual contamination up to a worker risk level would be an acceptable end state.

There were two opportunities for public involvement in the development of this Plan. First, in May 2003, the Plan was issued to the Citizens Advisory Board (CAB) Facility Disposition and Site Remediation Committee for review. The CAB responded with Recommendation 167, Deactivation and Decommissioning Plan. The CAB recommended that the D&D Program focus on risk reduction, removing principal sources of hazards, and implement the program in a timely manner. SRS also sponsored a public workshop, to introduce other interested stakeholders to the details of the plan and to

solicit their input. Numerous comments were received, responded to, and incorporated into the final version, which was issued in September 2003.

EXECUTION: THE D&D CORE TEAM

At the SRS the D&D project had the opportunity to learn from other projects, most notably the Environmental Restoration Project, or as it is now called, the Soils and Groundwater Project. The success of the SRS CERCLA cleanup project can largely be attributed to the Core Team approach which it has employed since 1999. The Core Team approach establishes an empowered team focused on understanding the problem and working together to find solutions. Most importantly, all the members have the same goal – get the job done. With the establishment of the 2003 MOA, a D&D Core Team was formed.

As part of the 2003 MOA, the D&D Core Team developed a flow chart to describe how a graded approach could be applied to the decommissioning project. Although the three parties originally agreed to four decommissioning “models”, in application only three were used. The model choice was based on facility hazards, contaminants, complexity, and pre-existing regulatory agreements. In consideration of these factors, a Facility Decommissioning Evaluation (FDE) is prepared. Its purpose is to determine which decommissioning “model” should apply to the facility. Each model involves progressively more regulatory and stakeholder participation.

The simplest decommissioning actions, such as guard houses or office buildings are identified as Simple Model facilities. These facilities, which may also require asbestos abatement, are demolished to the foundation using conventional demolition techniques. For these facilities, the public is notified of DOE-SR’s plans through briefings at CAB meetings. Formal public comment is not sought. Regulatory involvement includes review and concurrence on the Facility Decommissioning Evaluation. Representatives for SCDHEC and EPA-4 review the documentation and may conduct a field walk-down of the facility before making their determination.

The next level of complexity, the Integrated Sample Model, is applied to facilities that may have been exposed to chemical or radiological contamination due to its operational history. This model requires characterization to determine if contamination is present in the foundation and if cleanup is needed. The FDE includes a description of the processes conducted in the facility and a listing of contaminants of concern (COC). Representatives for SCDHEC and EPA-4 review the documentation and conduct a field walk-down of the facility before making their determination. During the walk-down the regulators have the opportunity to request additional sampling locations and/or sampling for additional COCs. The public is informed of activities involving these facilities through briefings done by DOE to the CAB at public meetings and notices placed in the SRS Environmental Bulletins.

Facilities with the highest level of complexity are decommissioned as Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) non-time critical

removal actions. This process involves development of an Engineering Evaluation/Cost Analysis (EE/CA), conducting a formal public comment period, and documenting the removal action in a Removal Action Memorandum. The EE/CA provides the framework for evaluating alternative decommissioning actions. It identifies the objectives of the decommissioning action and analyzes the effectiveness, implementability, and costs of various alternatives. The EE/CA is made available for formal public review and comment for 30 days. A notice of availability is published in local newspapers and in the SRS Environmental Bulletin. An overview presentation on the contents of the EE/CA is also given to the Citizens Advisory Board's Facility Disposition and Site Remediation Committee at the beginning of the review period.

To facilitate the public review of EE/CAs, the SRS sponsored a public workshop on the EE/CA process. Although EE/CAs have been used for soils and groundwater activities, the public was uncertain about how the EE/CA process would be applied in decommissioning. In fact, in their Recommendation 215, the SRS CAB recommended that DOE-SR explain to stakeholders what the EE/CA process is and how it differs from CERCLA remedial actions. The objective of the workshop was to familiarize members of the public with the specific elements of an EE/CA, help them understand how other regulatory standards are addressed in the CERCLA process, compare the EE/CA and the more familiar Remedial Action Alternative Processes, and describe public involvement opportunities.

This approach was developed with the SCDHEC and EPA-4 and is documented in the June 2003 Memorandum of Agreement. It also implements the 1995 Environmental Protection Agency and Department of Energy policy memorandum, which established "that decommissioning activities will be conducted as a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) non-time critical removal action, unless circumstances at the facility make it inappropriate."

In addition to the two workshops described previously, 15 briefings were given to the CAB and/or FD&SR committee between May 2003 and January 2007. Another group that was also regularly informed through meeting and workshops was the Citizens for Environmental Justice. SRS Environmental Justice (EJ) Program was implemented in 1994 by direction of Executive Order 12898. The Department's EJ strategy reflects the commitment of federal agencies to participate in efforts to advance the human well-being of our communities. It also emphasizes community participation and empowerment of our stakeholders. Besides the Executive Order, the National Environmental Policy Act of 1969 also reflects "socio-economic impacts, environmental consequences, and affected environment." As part of the EJ Program, SRS has a HQ's funded grant with Savannah State University (SSU) who in turn subcontracts with the Citizens for Environmental Justice (CFEJ). CFEJ is a grass-roots organization based in Savannah, Georgia focused on educating stakeholders on environmental issues as they relate to the Savannah River Site. Presentations were given at CFEJ community meetings in the Central Savannah River Area as well as at the Bi-State Environmental Justice Conference at Savannah State University in Savannah, Georgia.

IMPROVEMENTS

Since the Memorandum of Agreement was signed, DOE-SR decided that certain facilities, especially the primary nuclear production facilities such as the canyons and reactors, will be decommissioned as CERCLA remedial actions to ensure even greater regulatory and public participation. This decision also satisfies concerns expressed through the SRS CAB in their Recommendation 215, which questioned whether the CERCLA removal action process was adequate for a complex facility such as a canyon. The first facility at SRS to be decommissioned as a CERCLA Remedial Action will be P-Reactor.

In August 2005, SRS issued a special expanded version of the Savannah River Site Environmental Bulletin, dedicated to D&D project activities. Publication of the SRS Environmental Bulletin began in 1990 as a way to notify contiguous landowners, the media and nearby communities about proposed changes to the SRS RCRA Hazardous Waste Permit Application, as required by law. In June of 1992, the use of the Bulletin expanded to include topics such as cleanup progress, research, and upcoming public involvement opportunities. Although the Environmental Bulletin is not a regulatory requirement, each addition provides timely information on pertinent topics to an interested audience. The Bulletin is issued at least monthly, with an electronic distribution of twelve thousand and a regular mail distribution of sixteen hundred. D&D-specific Bulletins are issued quarterly or as needed to further ensure a broad range of stakeholders are kept informed of the D&D project. Each Bulletin summarizes the status of the project, describes the facility and model that will be used for decommissioning, and provides other statistics, such as volume and types of waste generated. The Bulletin is also used to announce workshops or availability of documents for public comment.

In 2006, the three parties agreed that decisions made on decommissioning projects need to be institutionalized through the Federal Facility Agreement (FFA) for the Savannah River Site. To do that, the FFA was modified to include a section entitled Decommissioning Facilities. This section defines decommissioning and describes how the facilities will be evaluated to determine if there has been a release or if there is a substantial threat of release of hazardous substances to the environment. All facilities planned for or undergoing decommissioning are now listed in an appendix of the FFA. As the FDE for each facility is reviewed by EPA-4 and SCDHEC, the decommissioned end state for the facility is either documented as requiring no further evaluation or response action during area completion or as potentially warranting further action during area completion. Use of the FFA to memorialize these decisions will aid the public and other stakeholders and increase the transparency of the decisions and the overall process.

FUTURE DEVELOPMENTS

The three agencies primarily responsible and involved in the cleanup of the nuclear production facilities at the Savannah River Site have decided to use the CERCLA public involvement process. EPA, DOE, and states throughout the United States have

used the CERCLA Public Involvement Process on Removal and Remedial Actions with great success. The term community involvement is applied to demonstrate the commitment to early and meaningful community participation during Superfund cleanup. The foundation of the community involvement program at SRS is the belief that members of the public affected by the cleanup of the Site have a right to know what is being done in their community and to have a say in the decision-making process. Using the standard public involvement process under CERCLA, DOE would issue a Proposed Plan that has been approved by EPA and SCDHEC describing the alternatives considered for the cleanup and the chosen alternative. The Proposed Plan would be public noticed and available for public comment for 30 days. During the 30 days, DOE would additionally host a public meeting, if it was requested. In addition, the standard practice at SRS is to hold a public briefing with the Citizens Advisory Board (CAB) regarding the cleanup actions. During this public meeting, DOE and the regulatory agencies would take all comments provided and try to provide responses immediately or follow-up with official responses at a later date. Following the close of the comment period, a Record of Decision would be developed that included a comment responsiveness summary. While the three agencies retain the final responsibility and authority to decide what will happen regarding cleanup at the SRS, community input is valued and seriously considered. All three agencies understand through experience that cleanup projects which include early community and stakeholder involvement and which incorporate their concerns and interests are far less controversial and much more likely to be accepted. Over the years, the public and stakeholders have made substantive contribution to the Site cleanup process and they have invested significant time to become involved.

However, the cleanup of the nuclear production facilities at SRS will require a much more robust public involvement effort for all three agencies. CERCLA requires specific community involvement activities that must occur at certain points throughout the process. The three agencies are developing a community involvement effort for the cleanup of the nuclear production facilities that goes beyond the letter of the law and will implement more robust involvement. Therefore, the public was begun to be notified and informed early in the process of alternative development. Informational briefings on considerations for the cleanup of the nuclear production facilities were incorporated into standard CAB and Environmental Justice Community meetings several months before draft decision documents were prepared. While the decision documents are in a draft form, a full briefing will be provided to the CAB on the Proposed Plan at a meeting in the general area of SRS. An additional briefing will be provided at another CAB meeting in a “downstream” location closer to the Atlantic coast. In regards to the Proposed Plan itself, the public notice will be extended to 60 days to allow additional time for comments on the proposed alternative. These meetings and the extension of the public comment period will allow the public and stakeholders to be well informed of ongoing and planned activities about the cleanup of the nuclear production facilities. All members of the project team from each of the three agencies will encourage and enable the public to get involved. In addition, the three agencies will listen carefully to what the public is saying and incorporate all applicable comments and recommendations into the remedy to craft a remedy that is effective and meets the needs of the community. After full consideration of all written comments received and incorporation of all input gathered at the public

meetings, an Interim Record of Decision will be developed that includes a comment responsiveness summary. The Interim Record of Decision will address only the facility. The advantage of the Interim Record of Decision over other methods of documenting the cleanup is that it provides a more robust public involvement, codifies the selected remedy within the CERCLA statute, and provides finality with the remedy for the facility while still allowing flexibility for the final remedy of the entire industrial area around the facility. The Interim ROD is a legal document which will be used to explain to the public and stakeholders how their comments were considered, what the three agencies plan to do, and why the decision was reached. At a later date, a final Record of Decision will be issued for the entire industrial area around the facility.

CONCLUSION

The success of the community involvement effort for the cleanup of the nuclear production facilities at SRS will have a direct impact on the success of the overall cleanup. Therefore, the preferred cleanup remedy, as presented in the Proposed Plan, will reflect community and stakeholder concerns as they have been voiced through the process. As a result, it is anticipated that the community will be more acceptable of the preferred alternative as described in the Proposed Plan. The extensive public involvement effort will eliminate potential delays in the implementation of cleanup plans resulting in a more efficient and protective remedy.

REFERENCES

1. United States Environmental Protection Agency Superfund Community Involvement Handbook. EPA 540-K-05-003 April 2005
2. Citizens Advisory Board Recommendation No. 167 (adopted July 22, 2003), "Deactivation and Decommissioning Plan."
3. Citizens Advisory Board Recommendation No. 184 (adopted January 27, 2004), "F-Canyon Deactivation and Post Deactivation."
4. Citizens Advisory Board Recommendation No. 192 (adopted May 25, 2004), "Prioritizing D&D Activities."
5. Citizens Advisory Board Recommendation No. 203 (adopted November 16, 2004), "The Federal Facility Agreement Process - Early Involvement of Stakeholders."
6. Citizens Advisory Board Recommendation No. 215 (adopted May 24, 2005), "F-Canyon Complex Decommissioning."
7. Citizens Advisory Board Recommendation No. 233 (adopted May 23, 2006), "P-Area Operable Units."

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8. Citizens Advisory Board Recommendation No. 241 (adopted November 17, 2006), “Progress of PUREX and TRU Waste Disposition.”