

**Development of National Defense Authorization Act of Fiscal Year 2005 Section 3116
Waste Determinations and Other Tank Closure Decisions through a Transparent Public
Process – 11406**

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ABSTRACT

In the evolving process of implementing requirements of Section 3116 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 (NDAA) and other tank closure decisions, the U.S. Department of Energy (DOE) has modified its standard practices of developing technical documents independently, to embracing a public document development process. While DOE and the Savannah River Site debuted a new scoping process for involving regulators and stakeholders in the development of low-level radioactive waste disposal performance assessments, prior to preparation, in order to achieve a more open and effective process, the Hanford site is now initiating a similar process for its tank closure performance assessment being developed under DOE Order 435.1. As the process has continued to evolve, DOE is advocating use of this process for more than just performance assessments. DOE has also applied this process to a Waste Determination Basis developed under the NDAA at Savannah River Site and is expected to be used in the Hanford Waste Incidental to Reprocessing Determination development under the DOE Order. In addition, DOE staff are embracing the scoping process to be used on non-waste determination activities as a method of improving DOE's effectiveness, credibility, and open communications associated with cleanup programs.

INTRODUCTION

In the past, DOE developed all technical documents with the assumption that regulators and members of the public would be most interested in reviewing a finished product and would not be interested in how that product was developed. With the advent of the NDAA, and the recognition for the need to hold discussions early on in the planning stages with the U.S. Nuclear Regulatory Commission (NRC) in the development of documentation to support a waste determination, DOE recognized that the stakeholders were also interested in the thought processes that went into the development of the documents and how the mathematical modeling was conducted. For example, in developing a performance assessment, which is a risk

assessment for the long-term performance of a radioactive waste disposal facility, DOE modified its standard procedure for obtaining input from interested parties. Prior to the NDAA, DOE did not release the performance assessment to the public with the expectation that it was more technical than the public would wish to be involved with. The DOE view was that it was only an analytical tool for analysis documents, primarily for use as a reference. With a growing understanding that the regulators and public were interested in the level of detailed information found in the performance assessment, Savannah River Site held meetings with NRC and the regulators to tweeze out the details of the assumptions used in the technical analyses of the F Tank Farm performance assessment. As Savannah River Site and Hanford Site have improved their experience with the development of these tools, the numbers and types of documents with expected early public involvement has improved, also. This paper discusses the lessons learned from the public process developed for the performance assessments and how DOE is enhancing the development of other documents using this public involvement process.

THE PROCESS

Beginning in 2007 and spanning 18 months, Savannah River Site initiated the development of the F Tank Farm Performance Assessment with a series of scoping meetings with the State and Federal regulators and NRC representatives. During these meetings, Savannah River Site and stakeholder staff discussed specifically which assumptions would be used to input to the mathematical models as the basis for the risk assessment. Also, Savannah River Site personnel began regularly briefing the Citizen Advisory Board and other public participants on status of the performance assessment development and the processes used in emptying and cleaning the underground radioactive liquid waste storage tanks. Finally, a primer on performance assessments was developed by DOE for use with the public to improve understanding of the need and basis for the analyses. This training was given near Aiken, South Carolina, and has been offered for other sites to use with their public.

This was a huge departure from earlier actions in which the Savannah River Site might mention that a performance assessment existed or tank cleaning was underway, but not release the documentation. Because so many technical documents were not shared, the public and regulators did not specifically request to participate in the development of these documents, however, on a rare occasion the results of the analyses were requested. Now that there is a much greater understanding and involvement in the performance assessment development process, indications are that the public has greater confidence in the results of DOE's technical analyses.

NEW IN 2010 – HANFORD SITE

Hanford initiated their C Tank Farm performance assessment activities in January of 2010 and chose to follow the Savannah River Site stakeholder inclusiveness model. The performance assessment provides the technical analysis for the policy decision in the Waste Incidental to Reprocessing Determination for closing the underground storage tanks. Hanford C Tank Farm is

not regulated under the NDAA and therefore is not required to consult with NRC for DOE to issue a Waste Incidental to Reprocessing Determination under its self-regulation. However, DOE does typically request NRC to review and provide comments on new performance assessments as a peer reviewer who can assist DOE in producing technically credible documents so therefore, in general the process has emerged to be the same.

Using lessons learned from the Savannah River Site performance assessment scoping, Hanford scoping meetings were planned for a two year period with the in-person meetings spread further apart than the Savannah River Site meetings. Hanford offered several site tours for participants to gain a greater understanding of the areas being discussed and included additional stakeholder groups beyond just State and Federal regulators and NRC. The Tribal representatives and invited environmental groups have developed a great understanding of the significance of the assumptions and how they are used in calculating the long-term risk. The reaction to the Hanford scoping process has been improved communication and greater awareness of the steps required for developing this type of risk assessment. Both Hanford and stakeholders have greatly benefited by the increased communication.

NEW IN 2010 – SAVANNAH RIVER SITE

After developing the F Tank Farm Performance Assessment with State and Federal regulator and NRC input and providing early drafts of the document to the public for comment, it was recognized by DOE staff that another step could be taken to increase DOE openness and credibility. When Savannah River Site developed the performance assessment for the H Tank Farm, a public meeting was held in Aiken, South Carolina to allow observation of the discussions held between DOE, NRC, and State and Federal regulators to iron out the assumptions and methodologies for the analyses. In addition, when the Waste Determination Basis work was initiated for F Tank Farm, the public and State and Federal regulators were invited to observe the scoping meeting between DOE and NRC. This later scoping meeting was held in a public location and broadcast via the web with a conference phone link facilitating public participation either in person, by computer, or by phone. At two points during each day of meeting, the public had the opportunity to ask questions and provide comments.

These scoping meetings led to the recognition that greater communication improves relationships and effective decision making by the agencies. While DOE and the regulators had held quarterly meetings to discuss status of activities and issues arising with the requirements laid out in the Federal Facility Agreement or permits for several years, additional monthly meetings were initiated to further improve communications and timely discussion of topics or issues. Furthermore, NRC representatives were invited to observe the DOE/regulators' quarterly and monthly meetings.

In addition to increasing the communication among regulators and NRC, briefings for the Citizen's Advisory Board and public participants have increased over time. The performance

assessment educational forum was updated and provided again to the public in 2010. The public has also been briefed on several occasions on the multi-agency tank closure decision process and the supporting documentation to achieve closure of tanks. Each respective agency (DOE, NRC, State and Federal regulators) involved with closure of tanks have independently participated in informing the public of their respective roles and responsibilities including the planned timing and process for public participation such as public review and commenting on documents associated with the tank closure decisions.

RESULTS

The importance of the increased communication and the improvements in DOE credibility cannot be overstated. It has been gratifying to see once contentious relationships due to a lack of understanding and trust become less so over time as communication has increased. The scoping process facilitates an interactive exchange among the various agency's technical experts to discuss expressed concerns, comments, and questions; achieves an understanding of different perspectives; and consideration of alternative approaches to address the various agencies needs during performance of the analyses. DOE acknowledges the process to be time consuming with scoping of performance assessment taking up to two years, however, this approach is expected to be more efficient by identifying the needs and expectations of the various agencies upfront so that can be incorporated into and addressed in the analysis the first time versus performing additional analyses on the back end.

In fact, DOE has been asked on multiple occasions how the process can be accelerated. The assumption that there will be less questions and delays after performing the analysis has not significantly realized at this time. This is understandable given the highly technical complex analyses and interpretation of the results that each agency must independently evaluate. Nonetheless, process acceleration has been achieved recently, when scoping at Savannah River Site for development of the H Tank Farm performance assessment was accomplished in about 4 months, versus 2 years, and a single 2 day public scoping meeting with the agencies as described above. This was achieved by incorporating the lessons learned from the F Tank Farm Performance Assessment scoping and multi-agency reviews completed to date and scoping of the features and aspects that differ between the two tank farms. Further, in order to benefit by economies of scale, Savannah River Site has identified a set of documents and decisions which will encompass an entire tank farm and will not change for a specific tank. Excellent progress towards completing these documents has been achieved. For the F Tank Farm, these include the performance assessment, Waste Determination and Basis, National Environmental Policy Act Supplement Analysis, and an Industrial Wastewater General Closure Plan. Once these are complete, only a few tank specific documents will be required to support the final closure decision. These documents are also planned to be completed for groups of tanks further accelerating the closure process.

CONCLUSIONS

DOE's Office of Environmental Management has experienced great success with this improved stakeholder communication process and, like the success experienced by using the Core Team Process for Comprehensive Environmental Response Compensation Liability Act closures, holding scoping meetings for stakeholders prior to the development of highly complex, technical analyses has much greater value than previously considered. Those that participated in the development of the performance assessments through the scoping process have been advocating its use in other areas of environmental cleanup at DOE.