



## Department of Energy

Washington, DC 20585

January 20, 2012

The Honorable Edward J. Markey  
U.S. House of Representatives  
Washington, DC 20515

Dear Congressman Markey:

Thank you for your November 22, 2011, letter requesting information about the Waste Treatment Plant (WTP) at the Department of Energy's (DOE) Hanford Site in Washington State. Secretary Chu has asked me to reply on his behalf.

As Acting Assistant Secretary for Environmental Management (EM), I am responsible for the execution of the WTP project. The WTP project is a complex undertaking that requires a significant portion of DOE's current and future EM resources. As this commitment of financial, personnel, technical and management oversight resources demonstrates, the WTP project is pivotal to our cleanup mission at Hanford and one of the highest priorities for DOE. We will continue to focus significant attention and resources on the safe, reliable, and successful completion of this important project.

### **Safety Culture**

A vibrant and effective safety culture is vital at all facilities in the DOE complex. In recent months, we have taken additional concrete steps to improve the safety culture at WTP, including conducting town hall and focus group meetings at Hanford with the Deputy Secretary of Energy; forming a single, more efficient Employee Concerns Program at Hanford; enhancing the Differing Professional Opinion process and ensuring that employees are fully aware of it; initiating a follow-on review of the safety culture at the WTP project by DOE's Office of Health, Safety, and Security (HSS); and providing Safety Conscious Work Environment training for project managers. In addition, the prime contractor, Bechtel National, Inc., (BNI), undertook a safety culture review of the WTP using outside experts.

DOE recognizes that it must always strive to strengthen the safety culture at the WTP project and our other sites and keep our stakeholders informed of our progress; our management principles require us to seek continuous improvement. One example of these efforts is through an annual undertaking to understand how our sites are implementing DOE's integrated safety management system. DOE requested that all EM site managers report on actions they are taking to evaluate safety culture at their sites. We have received some of these results already and expect to receive the rest by the end of this month. We will analyze this data to identify both areas of strength and areas for improvement so that we can develop and implement best practices to apply Department-wide.



DOE accepts the Defense Nuclear Facilities Safety Board (Board) Recommendation 2011-1, *Safety Culture at the Waste Treatment and Immobilization Plant*. DOE has developed a robust Implementation Plan (IP) that includes a detailed and comprehensive accounting of the steps that we will take to address the Recommendation. Moreover, DOE will address issues on safety culture identified now or in the future even if they fall beyond the initial scope of the Recommendation. We have included all the correspondence between the DOE and the Board for Recommendation 2011-1 as well as a copy of the IP.

This letter also encloses information on the Bechtel Independent Safety and Quality Culture assessment. The enclosures include a letter from BNI to DOE introducing the Department to the scope of the BNI review; biographies of the team members, who were selected by BNI; a memorandum from the WTP Federal Project Director to the Deputy Secretary of Energy that introduces the Team Charter and Statement of Work; and a final version of the BNI assessment report. We have also provided the HSS October 2010 Nuclear Safety and Quality Culture report. HSS has conducted another review of the WTP safety culture, which was reflected in a report issued on January 13, 2012. We are now reviewing that report to identify additional actions we will need to take. A copy of the report is included.

### **Technical and Budget Issues**

Considerable progress has been made in the design and construction of the WTP project. As of today, the project is 62 percent complete, with four of the WTP project's five facilities – Low-Activity Waste, Balance of Facilities, the Analytical Lab, and High-Level Waste Facilities – having no major unresolved technical issues. The Pretreatment Facility is the only facility for which there are significant technical issues remaining. Final resolution of technical issues for the Pretreatment Facility has taken longer and cost more than anticipated. DOE will maintain our focus on resolving technical issues for the Pretreatment Facility, while continuing construction activities on those areas not affected by the technical concerns. In that way, DOE anticipates being able to maintain our planned progress on the Low-Activity Waste, Balance of Facilities, and the Analytical Laboratory.

The current approved total project cost of the WTP is \$12.263 billion, and the approved baseline schedule for completing the construction and commissioning of the WTP project is 2019. Based on earlier Construction Project Reviews (CPR) – a project management tool that draws on peer expertise from across the DOE complex – we advised Congress that the total project cost target could only be met with a modified funding profile, which emphasized concentrating the construction phase into fewer years to achieve efficiency gains. The Department is currently evaluating several planning scenarios for completing construction and startup of the WTP based on a number of different factors, including assumed annual funding profiles that are supportable in the current fiscal environment. In terms of overall lifecycle costs for the waste treatment campaign, the current cost projection and estimated date of completion of the treatment of the waste are \$62 billion

and 2047, respectively, assuming a WTP hot commissioning completion and start date of 2019.

The August 2011 Construction Project Review (CPR) for the WTP project identified additional challenges in meeting the cost and schedule baseline. The cost estimates contained in that report represented the peer review team's current estimate based on recent trends in risk realization on the WTP project. The CPR team projected these trends would continue through the construction period. While we believe this methodology provides a reasonable prediction of potential risk and associated cost impacts, DOE remains committed to delivering the WTP project as close to the total projected cost as possible. In addition, efforts continue to identify cost savings and reduce risks on the project to mitigate impacts to the baseline cost and schedule.

External reviews also provide a critical management tool, utilized for all major projects in the EM portfolio. We have included in the enclosures to this letter all of the major WTP reviews, including CPR reports produced as a result of our regular reviews of this project; the Tank Waste Subcommittee of the Environmental Management Advisory Board reports; and the Consortium for Risk Evaluation with Stakeholder Participation reviews.

In addition, all of the 28 technical issues identified by the External Flowsheet Review Team (EFRT) in 2006 have been closed, since the criteria for doing so have been satisfied. In 2010, the Deputy Secretary of Energy commissioned an independent review of the WTP project, including technical design review by the EM Advisory Board's Tank Waste Subcommittee, to address, among other things, whether technical risks have been adequately addressed in the design, including verification of closure of those technical issues from the EFRT. This review determined that "[T]he current WTP Contractor, with DOE's concurrence, has met the WTP procedures and protocols that constitute issue closure and is continuing to pursue the resolution of remaining technology issues in parallel with engineering, procurement, and construction activities..."

The BNI contract does not provide an award, performance, or milestone fee exclusively for closure of the EFRT findings. The award fee is based upon several key elements associated with project performance, including contract changes resolution; contract and business systems; construction and procurement; safety and health performance; quality management; and engineering technical performance. Cost elements include cost and schedule performance, earned value management performance, and risk management.

Work related to specific design, procurement, and installation activities associated with implementation of the technical solutions is ongoing and has been fully incorporated into the WTP project's cost and schedule performance baseline, through the formal change control process. The change control process is the means by which major DOE projects identify necessary technical- or business-related changes to the project baseline, then document the cost and schedule impacts and obtain the necessary approvals to incorporate those changes into the project baseline. Any residual risks are properly documented in the WTP project risk management plan.

For pulse jet mixing, which is considered one of the primary remaining technical issues with the WTP's Pretreatment Facility, DOE has committed to performing additional large-scale integrated testing to demonstrate and confirm performance of the WTP vessel mixing capability and sampling systems, as described in the enclosed IP to address Board Recommendation 2010-2 *Pulse Jet Mixing at the Waste Treatment and Immobilization Plant*. The 2010-2 IP represents a commitment to undertake a broad range of engineering and testing activities to resolve this issue.

Our response is supplemented with the records enclosed with this letter. We also welcome the opportunity to provide a briefing on the actions we have taken and have planned to take to strengthen the nuclear safety culture at the WTP project or other technical or budget concerns you may have.

If you have any further questions, please contact me or Mr. Christopher Davis, Office of Congressional and Intergovernmental Affairs, at (202) 586-5450.

Sincerely,

A handwritten signature in cursive script that reads "Dave Huizenga".

David Huizenga  
Acting Assistant Secretary for  
Environmental Management

Enclosures