



Department of Energy  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

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Ms. Marilyn B. Reeves, Chair  
Hanford Advisory Board  
c/o Confluence Northwest  
342 Union Station  
800 NW Sixth Street  
Portland, Oregon 97209

Dear Ms. Reeves:

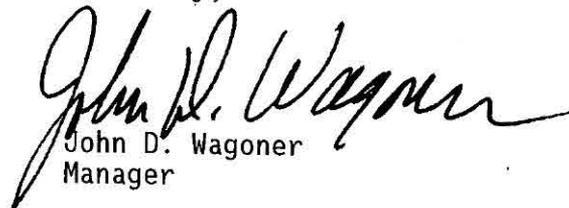
RESPONSE TO HANFORD ADVISORY BOARD (HAB) ADVICE #47

This letter is in response to the HAB letter to John Wagoner, U.S. Department of Energy, Richland Operations Office (RL), Chuck Clarke, U.S. Environmental Protection Agency, and Mary Riveland, Washington State Department of Ecology, "Contract Incentives for TWRS Program Improvements (HAB Advice #47)," dated May 3, 1996. RL agrees that contractor performance can be significantly improved by the appropriate use of incentives. The upcoming Project Hanford Management Contract will include some "critical few" performance measures that are to be incentivized. These will be negotiated prior to contract award.

Enclosed is a response to each of the four areas identified in the May 3, 1996, HAB letter.

RL looks forward to continuing dialogue with the HAB concerning these and other subjects. If you have further questions regarding the information provided, please contact me or your staff may contact Carol Sohn, of my staff, on (509) 376-8523.

Sincerely,

  
John D. Wagoner  
Manager

MSD:CLS

Enclosure

cc w/encl:  
M. Riveland, Ecology  
C. Clarke, EPA

## ENCLOSURE

### RESPONSE TO HANFORD ADVISORY BOARD (HAB) ADVICE #47

#### 1. COMPLETE AND ISSUE SAFETY BASIS FOR TANK FARM OPERATIONS.

The lack of a comprehensive Safety Analysis report for the Waste Tank Farms is a long standing issue. Proposals were made by Westinghouse Hanford in 1987 for the prompt development of a safety basis for the tank farm. Due to funding limitations and the identification of new unresolved safety issues, progress has been limited on this documentation. Currently, we understand that some progress is being made on this report with the resolution of several of the tank safety issues. We urge that an intensive effort be made to achieve the prompt completion of this significant safety documentation. In view of the major safety issues associated with the tank farms and public safety concerns, this should be a major evaluation factor for the incumbent contractor.

RESPONSE: Currently, Hanford Tank Waste Remediation System (TWRS) operations are conducted under an interim safety basis, documented in "Hanford Tank Farm Facilities Interim Safety Basis," WHC-SD-WM-ISB-001. Document WHC-SD-WM-ISB-001 was submitted to the U.S. Department of Energy (DOE), Richland Operations Office (RL), in August 1993 and was approved by RL in November 1993. The Hanford Tank Farm Facilities Interim Safety Basis constitutes a portion of the Authorization Basis for TWRS against which proposed changes, tests, and new safety issues are evaluated, in accordance with DOE Order 5480.21, "Unreviewed Safety Questions."

In August 1995, TWRS initiated an aggressive and intensive program to upgrade and maintain the Safety Analysis documentation for TWRS. The objective of this Safety Management Program (SMP) is to establish and maintain the TWRS Authorization Basis in a phased approach. The SMP includes preparation of a Basis for Interim Operation (BIO) document, preparation of a comprehensive Final Safety Analysis Report (FSAR) for TWRS operations, development and implementation of a Safety Management System.

The first phase of the SMP involves amending the current interim safety basis to accommodate near-term projects and activities. The second phase of the SMP involves developing a TWRS BIO in accordance with DOE Standard 3011-94. The BIO will be a significant improvement to the current interim safety basis by providing a strong link between the hazards identified and the controls established to manage those hazards to an acceptable level. The BIO is scheduled to be completed by September 1996 and will upgrade the interim safety basis to be compliant with DOE Order 5480.23, "Nuclear Safety Analysis Reports." Completion of this document is associated with a performance based incentive.

The third phase includes the preparation and implementation of the TWRS FSAR and fully implemented Technical Safety Requirements (TSR). The FSAR and TSRs are scheduled to be completed by mid-November 1996, and approval

is planned for December 31, 1996. Since the due dates for the FSAR and BIO are close, common approaches to both documents have been selected to avoid duplicate work. In addition to achieving compliance with DOE Order 5480.23, the FSAR and TSR documents will significantly improve our ability to safely and cost-effectively manage activities related to TWRS operations, and resolve several outstanding technical issues related to risk management (e.g., hazard identification and mitigation).

2. CONDUCT INDEPENDENT COST REVIEW OF MULTI-YEAR PROGRAM PLAN.

The Board has expressed its concern over the validity of TWRS budget estimates. The MYPP should be reviewed by a truly independent entity in order to evaluate TWRS budget projections. Such a review should not be limited to a cost estimate for proposed tasks, but should examine whether the tasks are essential in a strategic path to waste stabilization.

RESPONSE: See response under question three.

3. MEANINGFUL REVIEW OF LIFE-CYCLE COST FOR TREATMENT AND DISPOSAL PROGRAM.

Many estimates as to the total cost for the disposal program have been developed. These estimates range from \$31 billion to \$40 billion. It is unclear as to what assumptions the program is currently proceeding with. WHC should clearly communicate current disposal program cost assumptions and provide for independent review of those costs.

RESPONSE: The following response answers questions two and three:

The current life-cycle estimate and the planning assumptions used to develop the Disposal Program estimate are provided in the TWRS Multi-Year Program Plan (MYPP). The MYPP is prepared and approved by RL on a yearly basis. The \$40B estimate was a rough order-of-magnitude estimate documented in the first issue of the MYPP (September 1994). Included in the estimate was the Waste Disposal Program (\$29.8B) and the Waste Storage Program (\$10.2B). The current MYPP (November 1995) includes a refined TWRS life-cycle cost estimate of \$28.6B. The Waste Disposal and Waste Storage portions of that estimate are \$25B and \$3.6B, respectively.

Both RL and the Westinghouse Hanford Company (WHC) have undertaken an aggressive stance to develop life-cycle cost estimates that are defensible and auditable. This effort started after the establishment of the \$40B working baseline. Specific actions that have been instrumental in this process include the following two items:

- Activity-based cost estimating where life-cycle costs are based upon the cost to deliver individual products, has become the standard. This method allows tracking of cost for completion of products and the use of this information to refine the life-cycle cost estimate.

- Cost estimates are reviewed for duplicate work efforts and missing work. Duplicate work efforts result in inaccurate cost estimates; not including essential work in the cost estimate reduces the defensibility of the estimate.

The \$11.4B reduction, from \$40B to \$28.6B, results from rigorous activity-based cost estimating, correction of errors, and an overall refinement of TWRS planning including the initial incorporation of Privatization. Further refinement of the process continues with the next MYPP update scheduled for September 1996.

The strategy to privatize the Pretreatment and Immobilization portions of the Disposal Program has been implemented. Planning level estimates to accomplish this privatized scope of work were prepared. DOE has postulated that a 30% cost reduction is possible when comparing generic past practices to privatization practices. This assumption cannot be validated until fixed prices for waste products have been negotiated.

The cost estimates presented in the MYPP are considered to be formal and defensible in a public forum. Comparing the cost estimate presented in the MYPP to the cost estimate presented in the EIS could confuse the reader who does not understand the basis for each estimate.

DOE understands and agrees with the value of independent review of cost estimates. TWRS cost estimates prepared by RL are periodically reviewed in detail by DOE Headquarters (HQ) Office of Field Management (FM-20). FM-20 is not part of the TWRS "chain of command." These reviews are critical assessments of TWRS prepared cost estimates. Based on the outcome of these reviews, FM-20 makes independent recommendations to the Secretary of Energy regarding acquisition of major systems such as TWRS. The results of these independent reviews have been and will continue to be key to continued refinement of the TWRS life-cycle cost estimate.

An independent cost estimate of TWRS was recently conducted by the FM-20. This review covered the estimates associated with both the privatized and non-privatized portions of TWRS Disposal and Storage. The report associated with this review should be available in the coming months to provide further response to this issue.

#### 4. REVISE CHARACTERIZATION STRATEGY AND HAVE IT PEER REVIEWED.

The lack of an efficient characterization program with a clear path forward is a concern to the Board. TWRS should develop a program that clearly delineates characterization needs and the means by which to fulfill those needs efficiently. This program should be validated by external peer review.

These critical issues must be addressed. For too long, DOE has tolerated poor contractor performance in the TWRS program and this cannot continue. It is time to raise the expectations and make award fee contingent upon demonstrable progress and results.

RESPONSE: The Characterization Project is comprised of two major parts, which are production and strategy. Production entails mainly field sampling and analysis in the laboratory. The strategy portion of the program involves integrating various customer needs (retrieval, safety, and regulator) into an overall sampling program, compiling results for customer use, and reporting results in the form of Tank Characterization Reports (TCR).

The efficiency of the production part of characterization has increased dramatically. For example, the number of 19" segments per shift has increased from .23 to .67 in the last year; by February 1996, the 222S Lab had processed as many samples as it had in all of Fiscal Year (FY) 1995. These increases in efficiency have allowed more work to be performed in FY 1996 than previously expected. At the beginning of this FY it was thought only 21 of the 40 Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) required TCRs could be completed. With the increased level of productivity in the field and the laboratory, the goal is to have all 40 TCRs completed this year. RL and the contractor have agreed on a multi-million dollar incentive which will reward the contractor if they can produce 40 acceptable TCRs instead of the 21.

The characterization strategy has been evolving as more knowledge of the tanks' contents is learned. The original Tri-Party Agreement required two full-depth core samples from each Single-Shell Tank (SST) to be analyzed. This strategy, formulated before the recognition of potential tank safety problems, was directed at determining what was in the SSTs in order to meet the needs of a Performance Assessment, waste designation, and other needs.

The second characterization strategy folded in Double-Shell Tanks (DST) as well as the SSTs and accommodated resolution of the safety problems. A formal Data Quality Objective process was initiated to determine information needs. The sampling and analysis requirements were determined on a tank-by-tank basis.

Our current strategy aims to integrate the characterization effort so that single tank sampling efforts serve the informational needs of multiple TWRS projects. Through periodic evaluation of data, high-priority tanks are identified and characterized in order to provide the most information to resolve relevant issues such as retrieval, flammable gas and organics. The sampling and analyses of these tanks will result in obtaining the most valuable information in the most cost-effective manner. This strategy has been peer reviewed by HQ, RL, WHC, Ecology, the Sub-Tank Advisory Panel, and the Defense Nuclear Facilities Safety Board (DNFSB) staff.

Reconciliation of this revised characterization strategy with the current Tri-Party Agreement commitments still remains to be accomplished. On June 13, 1996, RL provided Ecology with a change request for the M-44 Milestone, which will align the Tri-Party Agreement more closely with DNFSB 93-5 recommendation.