



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

OCT 31 1996

96-WSD-293

Mr. John T. Conway, Chairman
 Defense Nuclear Facilities Safety Board
 625 Indiana Avenue N.W., Suite 700
 Washington, D.C. 20004

Dear Mr. Conway:

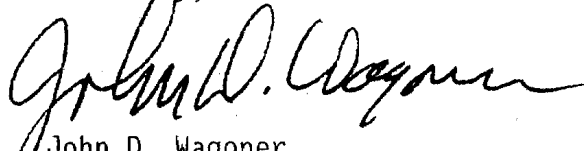
THE U.S. DEPARTMENT OF ENERGY (DOE), RICHLAND OPERATIONS OFFICE (RL) APPROVAL OF THE SAFETY ASSESSMENT FOR SALTWELL PUMPING IN FLAMMABLE GAS TANKS AND INCORPORATION INTO THE TANK WASTE REMEDIATION SYSTEM (TWRS) AUTHORIZATION BASIS

In response to the Defense Nuclear Facilities Safety Board Recommendation 93-5 Implementation Plan, Revision 1, DOE/RL-94-0001, Milestone 5.4.3.5.e, RL is reporting that the safety assessment for saltwell pumping in flammable gas tanks has been approved and the documentation incorporating the safety assessment into the TWRS Authorization Basis has been completed. RL has completed all of the actions identified under this milestone and proposes closure of this commitment. The due date for this milestone is October 31, 1996.

For your information, the safety assessment for saltwell pumping in flammable gas tanks and the documentation incorporating the safety assessment into the TWRS Authorization Basis have been informally provided to your staff.

If you have any questions, please contact me or your staff may contact Jackson Kinzer, Assistant Manager for TWRS on (509) 376-7591.

Sincerely,


 John D. Wagoner
 Manager

WSD:JMC

cc: R. Izatt, EM-2
 J. Tseng, EM-4
 K. Lang, EM-38
 M. Whitaker, S-3.1

RECEIVED
 OCT 31 1996
 DEFENSE NUCLEAR FACILITIES SAFETY BOARD

United States Government

Department of Energy

memorandum

Richland Operations Office

DATE: OCT 31 1996
REPLY TO
ATTN OF: WSD:JMC 96-WSD-224

SUBJECT: REQUEST FOR APPROVAL OF THE SAFETY ASSESSMENT (SA) AND THE ASSOCIATED SAFETY EVALUATION REPORT (SER) SUPPORTING THE SALTWELL PUMPING OF TANK 241-A-101

TO: John D. Wagoner
Manager

The subject tank is a Single-Shell Tank (SST) in the 200 East Area of the Hanford Tank Farms and is one of the unstabilized tanks included within both the Flammable Gas Unreviewed Safety Question, and the listing of flammable gas "Watch List" tanks. A SA (Enclosure 1) which evaluated the hazards posed by saltwell pumping the liquids from the tank (as required by the Hanford Federal Facility Agreement and Consent Order Milestone M-41) has determined that reasonable controls can be established to allow pumping of the tank while remaining within the risk acceptance guidelines applicable to the Tank Waste Remediation System (TWRS).

An independent review of the SA has also been performed and documented by a Safety Evaluation Report (SER [Enclosure 2]). The SER supports the SA determination that the risk acceptance guidelines will not be exceeded if the work is performed utilizing the controls specified in the SA. The SER also notes that the SA does not provide the demonstration of adequate protection of the environment, or an evaluation of worker and public risks from adjacent facilities (i.e., PUREX, 242-A evaporator, etc), that would be included in a more contemporary SA. Separate correspondence to the contractor has been prepared which will correct the deficiencies in the SA.

The SER identified two issues related to deficiencies in content of the safety analysis. The safety analysis did not include discussion of impacts on saltwell pumping from adjacent facilities or potential environmental impacts from accidents. TWRS recommendation of approval is based on the following:

IMPACTS FROM ADJACENT FACILITIES

- Accident conditions from adjacent facilities that could have impact on saltwell pumping activities could be initiated by waste transfers or external events such as natural phenomena, aircraft, or facility accidents.
- Waste transfer activities that result in mistransfers of materials make up the majority of events of concern related to interfacing facilities. No resulting hazardous conditions that were new or unique to saltwell pumping as compared to events internal to TWRS were identified. The controls, such as Emergency Response Guides, that address the hazardous conditions from facilities that interface to TWRS are the same as controls that address similar conditions resulting from causes within TWRS.

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96-WSD-224

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- For other events, the controls tend to be global in nature and are specifically related to the nature and location of the event. In situations where evacuation of TWRS is required, Tank Farm Emergency Response Guides specify actions that are required to ensure that an area or process is left in a safe state while personnel are absent. Evacuation of TWRS will not result in adverse conditions for saltwell pumping. Therefore, effects from events originating in facilities outside TWRS have been evaluated and determined to not result in adverse effects from saltwell pumping.

ENVIRONMENTAL RELEASES

- While the SA should explicitly cover the topic of protection to the environment related to accidental releases from saltwell pumping activities, TWRS does not recommend revision to the document for the following reasons:
 - Environmental releases are generally well understood based on existing safety analyses and long-term program experience.
 - The pending Basis for Interim Operation document covers this topic extensively and validates environmental protection practices.
- Saltwell pumping is conducted specifically to provide environmental protection by preventing or minimizing releases to the environment from potential leaks. Therefore, TWRS's position is that risk posed by further delay in saltwell pumping in order to revise the document is not warranted and increases the risk of potential environmental impacts.

To prevent further challenges to the environment from leaking SSTs, TWRS is preparing to saltwell pump the liquid from Tank 241-A-101. Your approval of this SA and SER by October 31, 1996, is a key step in completing our pumping preparations. If approved, separate correspondence will be prepared to Fluor Daniel Hanford, Inc. advising them that their authorization basis has been expanded to include pumping of Tank 241-A-101. In addition, correspondence will be forwarded to the Defense Nuclear Facilities Safety Board in order to complete an October 31, 1996, commitment in Revision 1 of Implementation Plan 93-5.

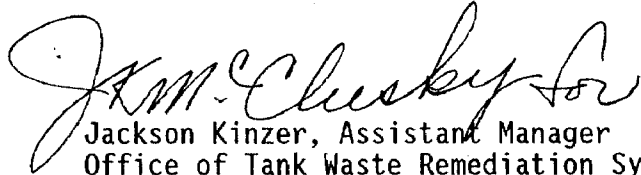
For your information, there will be additional approvals required prior to the start of actual pumping of the tank. Those approvals include:

- Your approval of a supplement to this SA, which will analyze and establish controls on the use of a metal cutting "water lance" within the vapor space of the tank;
- Your approval of the start of the U.S. Department of Energy, Richland Operations Office's (RL) independent Operational Readiness Review (ORR), which will review the contractors and RL TWRS readiness to proceed with the saltwell pumping of A-101; and

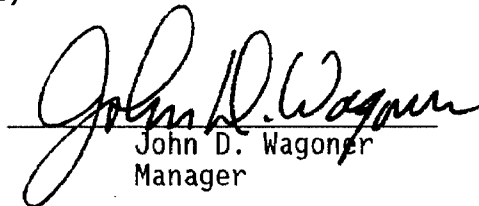
John D. Wagoner
96-WSD-224

- Your authorization to commence pumping, based upon the readiness determinations of the contractor, RL TWRS, and your independent ORR team.

If you have any questions, please contact me on 376-7591 or John M. Clark, of my staff, on 376-2246.


 Jackson Kinzer, Assistant Manager
 Office of Tank Waste Remediation System

Enclosures (2)

Approved  Date 10/31/96
 John D. Wagoner
 Manager

Disapproved _____ Date _____
 John D. Wagoner
 Manager



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

96-WSD-225

OCT 31 1996

Mr. H. J. Hatch, President
 Fluor Daniel Hanford, Inc.
 Richland, Washington

Dear Mr. Hatch:

CONTRACT NUMBER DE-AC06-96RL13200; APPROVAL OF "A SAFETY ASSESSMENT (SA) FOR SALT WELL JET PUMPING OPERATIONS IN TANK 241-A-101, HANFORD SITE, RICHLAND, WASHINGTON," WHC-SD-WM-SAD-036, REVISION 0

The U.S. Department of Energy (DOE), Richland Operations Office (RL), has reviewed the subject document in accordance with DOE Orders and RL Procedures. Based on our review, the subject document is approved, contingent on your meeting the requirements of this letter.

The Authorization Basis for the 241-A-101 saltwell pumping activity is recognized by RL to be comprised of the following documents:

- "A Safety Assessment for Salt Well Jet Pumping Operations Tank 241-A-101, Hanford Site, Richland, Washington," WHC-SD-WM-SAD-036, Revision 0.
- "A Safety Assessment for Salt Well Jet Pumping Operations in Tank 241-A-101, Safety Evaluation Report, Hanford Site, Richland, Washington," prepared by the Idaho National Engineering Laboratory Independent Review Team.
- "Hanford Site Tank Farm Facilities Interim Safety Basis," WHC-SD-WM-ISB-001, Revision 0-L.
- "Single-Shell Tank Isolation Safety Analysis Report," WHC-SD-WM-SAR-006, Revision 2.
- "Single-Shell Tank Stabilization Safety Analysis Report," WHC-SD-WM-SAR-034, Revision 0-A.
- "Single-Shell Tank Interim Operational Safety Requirements," WHC-SD-WM-OSR-005, Revision 0-E.
- "Aging Waste Facility Interim Operational Safety Requirements," WHC-SD-WM-OSR-004, Revision 1-E.
- "Double-Shell Tank Interim Operational Safety Requirements," WHC-SD-WM-OSR-016, Revision 0-E.
- This letter.

The basis for RL approval is documented in the attached Safety Evaluation Report (SER [Attachment]) and this letter. Based on the conclusions of the SER and the observations made by an independent RL review, the RL approval granted by this letter is contingent on the following:

1. That any changes to the chemical composition of the contents of both Tanks 241-A-101 and 241-AN-101 will require a safety assessment evaluation that will ensure that mixing the two streams will not create inorganic and/or organic chemical reactions concerns both immediately after transfer and on a long term storage basis of the mixed waste streams (Ref. SER);
2. That any changes in the operations or the equipment as described in the document will be preceded by a Unreviewed Safety Question (USQ) assessment process. Subsequent applications of the USQ process will consider the risks identified in the subject document. Note that the risk acceptance guidelines (also used in the document) are not considered to be part of the authorization basis (Ref. SER);
3. That the physical configuration of components within 241-A-101 will be functionally equivalent to those analyzed in the subject document. It is noted that this may require an in-tank cutting process (water lancing) and supplemental safety analyses (Ref. RL line);
4. That the subject document is applicable only to saltwell pumping operations for transfer of materials from the 241-A-101 to the 241-AN-101 Tanks on the basis of their waste inventory, their characterization, the associated risks identified, and the potential accidents and their associated consequences (Ref. SER);
5. That an operational readiness review is conducted as stipulated in the subject document (Ref. SER);
6. That future updates (no later than the first annual update in accordance with DOE Order 5480.23) to the subject document or the Tank Waste Remediation System (TWRS) Basis for Interim Operations (BIO)/Final Safety Analysis Report (FSAR) activity will demonstrate adequate protection of the environment from accidental contamination in accordance with DOE Order 5480.23 (Ref. SER);
7. That the basis for control 6.4.4.7 on waste level in Tank 241-AY-102 will be added as a "pen and ink" revision to the controls section of the subject document, and formally added to the document no later than its first annual update (Ref. Independent Review);
8. That the current TWRS BIO effort will address public use of Highway 240 on the Hanford Site (Ref. independent review); and
9. That Level II controls, as identified in Section 6 of the subject document, are also considered by RL to be Operational Safety Requirements. Fluor Daniel Hanford, Inc. may request reconsideration of the designation of each Level II control after evaluating its technical basis.

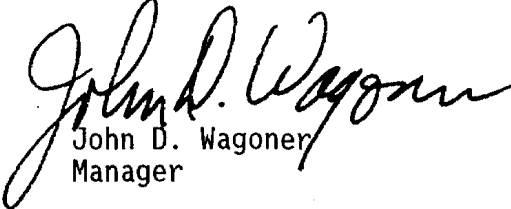
OCT 31 1996

Based on the combination of the following, RL has determined that the public, workers, and the environment will be adequately protected by the identified controls, and that the risks associated with activities evaluated in the subject document are acceptable:

1. Implementation of controls responsive to the above contingent conditions;
2. A thorough and comprehensive hazards identification and evaluation presented in the subject document from which adequate controls have been derived;
3. An adequate defense in depth philosophy and approach for controlling and managing the hazards as demonstrated in the subject document; and
4. The estimated consequences of conservatively analyzed accidents that are not out of line with those previously accepted by RL or with the criteria promulgated by DOE Headquarters for use in the TWRS FSAR.

If you have any questions, please contact me or your staff may contact Jackson Kinzer, Assistant Manager for TWRS on 376-7591.

Sincerely,


John D. Wagoner
Manager

WSD:JMC

Attachment