START 9713505.0123

0045793

October 3, 1996

Mr. John D. Wagoner
Hanford Site Manager
U.S. Department of Energy
Richland Operations Office
P. O. Box 550
Richland, WA 99352

NOV 1996
RECEIVED
EDMC

Dear Mr. Wagoner:

Re: Close-out of Dispute Resolution Milestone 41-09

This is to inform you that the Washington State Department of Ecology (Ecology) considers the M-41-09 dispute, "Start interim stabilization of 7 non-watch list tanks in 241-S Tank Farm.", closed

USDOE submitted an agreeable plan and schedule to Ecology on September 10, 1996 as required in a letter dated August 14, 1996 sent to you from Mr. Mike Wilson, Ecology's Nuclear Waste Program Manager. Ecology approved the plan and schedule on September 23, 1996, which is documented on change control form, M-41-96-02, dated September 4, 1996.

As required under the Hanford Federal Facility Agreement and Consent Order, also known as the Tri-Party Agreement (TPA), Amendment Six, Article VIII, Paragraph D, this letter serves as the "final written decision" by the Director of Ecology. Information necessary to reach the decision, as required under Article VIII, Paragraph D, is available in Ecology records for this determination.

Although this dispute is resolved, Ecology continues to be concerned about USDOE's ability to manage the related interim stabilization safety issues and provide adequate funding for the completion of this activity.

If you should have any further question, please contact Mr. Michael Wilson at (360) 407-7150 or Ms. Suzanne Dahl at (509) 736-5705.

Sincerely,

Mary Riveland
Director of Ecology

MR/JD:sb

cc: Jackson Kinzer, USDOE
George Sanders, USDOE
Doug Sherwood, EPA
Mary L. Blazek, Oregon, USDOE
Administrative Record (M-41-00)

bcc: Suzanne Dahl
Jack Donnelly
Ron Skinnarland
Michael Wilson

9713505.0125

IAMIT MEETING MINUTES

9713505.0126

0044745

Meeting Minutes
Inter Agency Management Integration Team (IAMIT)
EPA Conference Room
712 Swift Blvd., Richland
May 28, 1996

Appvl.: Linda K. McClain Date: 6/25/96
L. K. McClain, RL
IAMIT Representative

Appvl.: Kevin Quinn Date: 6/25/96
for D. R. Sherwood, EPA
IAMIT Representative

Appvl.: Michael A. Wilson Date: 6/25/96
M. A. Wilson, Ecology
IAMIT Representative

Prepared by
Appvl.: F. T. Calapristi Date: 6/25/96
F. T. Calapristi
Westinghouse Hanford Company

Attendees

Alexander, S. M.	Ecology	B5-18	Moore, S. V.	Ecology	B5-18
Arnold, L. D.	WHC	B2-35	Sherman, Y. T.	RL	A7-75
Calapristi, F. T	WHC	B2-35*	Rasmussen, J. E.	RL	A5-15*
Donnelly, J. W.	Ecology	B5-18	Sanders, G. H.	RL	A5-15*
Faulk, D. A.	EPA	B5-01	Sherwood, D. R.	EPA	B5-01*
Greager, E. M.	WHC	H6-20	Stone, A. B.	Ecology	B5-18
Haass, C. C.	RL	S7-51	Wilson, M. A.	Ecology	B5-18*
Harper, R. B.	Ecology	B5-18	Yerxa, J. K.	RL	A7-75
Knollmeyer, P. M.	RL	S7-41*	EPIC		H6-08*
McClain, L. K.	RL	H0-12*			
McLaughlin, M. A.	WHC	B2-35			

cc:

Clark, J. M.	RL	S7-54	Mecca, J. E.	RL	R3-79
Hansen, C. A.	RL	S7-41	Piper, L. L	RL	A5-11
Kinzer, J. E.	RL	S7-50	Schmeeckle, T. O	RL	A2-45

* W/Attachments

IAMIT28.MAY

9713505.0127

Inter Agency Management Integration Team
EPA Conference Room
712 Swift Blvd., Richland
May 28, 1996

IAMIT Representatives: Doug Sherwood, Mike Wilson, Linda McClain
WHC Tri-Party Agreement Integration: Larry D. Arnold
Recorder: Frank Calapristi

1. **Approval of April Meeting Minutes**

The IAMIT reviewed and approved the minutes for the April 23, 1996 meeting.

2. **Status of the Community Relations Plan (CRP)**

EPA distributed and reviewed a draft list of six significant changes to the CRP (Attachment 1). One of the changes will eliminate the microfilm copies of the Administrative Records at the Seattle, Lacey and Richland locations. In a related discussion, it was agreed to eliminate microfilm copies of the Administrative Records at the four Public Information Repositories (PIRs) located in Spokane, Seattle, Richland and Portland, OR. Hard copies of the Administrative Record Index will be placed in the Administrative Record and PIR locations.

A question was asked about any compliance requirement to place RCRA TSD information in the Administrative Record locations. The question will be reviewed by the three parties.

3. **Approval Signatures for the IAMIT and TPA Milestone Meeting Minutes**

RL recommended that in the absence of the Cognizant DOE Assistant Manager (AM); the Director of DOE - Environmental Assurance, Policy and Permits (EAP) may sign for approval of the IAMIT meeting minutes. The recommendation was accepted by EPA and Ecology.

4. **Recommendations for Early Identification of Non-TPA Regulatory Issues**

The WHC representative requested a postponement of the presentation and asked the IAMIT for some examples of their concerns. In the subsequent discussion several examples were identified such as:

- Under the single regulator concept, prior agreements made by the three parties may be altered or canceled without the knowledge of all three parties.

- Permit issues involving the Washington State Department of Health may impact a TPA milestone or commitment; however, TPA management personnel are not always notified.

- Enforcement of other regulatory requirements such as NESHAPS, CAA, etc or the DNFSB have directly or indirectly affected TPA milestones or commitments and this information was not always elevated to TPA management before it reached a crisis stage.

The discussion led into recommendations for early notification to the IAMIT and it was agreed the following process will be followed by the three agencies.

- The Project Managers will identify and work the non-TPA regulatory issues, and if they are not resolved the problem will be elevated to their respective upper management.

- The format for the monthly TPA Milestone Reviews will be revised to include a section on "Potential Non-TPA Regulatory Issues Affecting TPA Milestones or Commitments". This information will be part of the monthly call letter to presenters of the TPA Milestone Reviews. It was also agreed the presenters will include their regulatory counterparts in the preparation of the TPA Milestone Review presentation. The agencies will provide guidance to their respective project managers for this process.

5. TPA on Internet

RL reported that it would cost about $4000 to place the TPA Document on the internet. After a short discussion, the IAMIT agreed to proceed with this activity. It was noted no other enhancements are planned at this time, although the Community Relations Plan (CRP) may be included at a later date. The following action was assigned.

Action: **Develop a plan to place the TPA document on the internet with a possible follow-on action to add the CRP. The plan will include:**

- **Issue a Work Order to BCSR**
- **Design a Homepage with the TPA logo**
- **Identify a cross reference to the TPA and Ecology Homepage**
- **Funding requirement for future enhancements**
- **Process for involving the three parties in future enhancements**

Resp.: **R. Morrison** **Due: June 25, 1996**

6. **Discuss Change Requests**

The change request M-41-96-02, "Revise Milestones/Flammable Gas Issue" was discussed briefly and RL reported the WHC recommendations from the soon-to be delivered LANL Safety Analysis Report will not be available until June 10, 1996. RL added they need to evaluate the report to determine its impact on the M-41 Recovery Schedule. RL recommended an extension of the Dispute Resolution period from June 5 to July 5, 1996.

Ecology noted that the report was originally due on March 30, 1996 and added their review of the draft Safety Analysis Report may not have adequately addressed worker safety. RL said this was one of several issues they identified to LANL in the original report.

Ecology asked for an Integrated Critical Path Schedule and indicated they are not interested in extending the dispute period without the "big picture". By Thursday COB, RL committed to have a date when the integrated schedule will be available. RL estimated the schedule will be available in about two weeks. When asked to identify their expectations from the integrated schedule, Ecology said they expect all critical path activities pertaining to Rotary Core and Interim Stabilization to be integrated into the Schedule. The extension of the dispute period was signed by RL (Attachment 2); however, Ecology said they will revisit the extension agreement after Thursday COB, when they expect to learn the date of the integrated Critical Path Schedule.

9713505.0130

Meeting Minutes
Inter Agency Management Integration Team (IAMIT)
EPA Conference Room
712 Swift Blvd., Richland
June 25, 1996

Appvl.: _____ Date: 7/23/96
L. K. McClain, RL
for IAMIT Representative

Appvl.: _____ Date: 7/23/96
for D. R. Sherwood, EPA
IAMIT Representative

Appvl.: _____ Date: 7/23/96
M. A. Wilson, Ecology
IAMIT Representative

Prepared by
Appvl.: _____ Date: 7/23/96
F. T. Calapristi
Westinghouse Hanford Company

Attendees

Alexander, S. M.	Ecology	B5-18	Miera, F. R.	RL	A5-15*
Arnold, L. D.	WHC	B2-35	Morrison, R. D.	WHC	B2-35
Bengtson, P. J.	WHC	B3-35*	Oates, K. J.	EPA	B5-01*
Calapristi, F. T	WHC	[redacted]	Skinnerland, R	Ecology	B5-18*
Faulk, D. A.	EPA	B5-01	Rasmussen, J. E.	RL	A5-15
Haass, C. C.	RL	S7-51*	Roeder, L. R.	JAC	
Hansen, C. A.	RL	S7-41	Sanders, G. H.	RL	A5-15
Holliday, K. K.	Ecology	B5-18	Saueressig, D.	WHC	S8-05
Jackson, D. E.	RL	A5-15	Taylor, W. J.	RL	S7-51
Kinzer, J. E.	RL	S7-50	Thompson, J. F.	Rl	S7-54
Lundstrom, D.	Ecology	B5-18*	Vieth, D. L.	Rl	S7-54
McClain, L. K.	RL	H0-12*	Werdel, N. A.	RL	H0-12
McClusky, J. M	RL	S7-54	Wilson, M. A.	Ecology	B5-18*
McLaughlin, M. A.	WHC	B2-35	Yerxa, J. K.	RL	A7-75
Michelena, T. M.	Ecology		EPIC		H6-08*

* W/Attachments

IAMIT25.JUN

9713505.0131

Inter Agency Management Integration Team
EPA Conference Room
712 Swift Blvd., Richland
June 25, 1996

IAMIT Representatives: Doug Sherwood, Mike Wilson, Linda McClain
WHC Tri-Party Agreement Integration: Larry D. Arnold
Recorder: Frank T. Calapristi

Linda McClain announced that effective July 1996, Charles Hansen will be the primary DOE Assistant Manager (AM) on the IAMIT. The back-up AM will be Jackson E. Kinzer.

1. **Approval of May Meeting Minutes**

The IAMIT reviewed and approved the minutes for the May 28, 1996 IAMIT meeting.

2. **Status of the Community Relations Plan (CRP)**

The Public Information Officers reported the revised Community Relations Plan (CRP) is out for public comment, which will be completed on July 31, 1996. During the public comment period, there will be two focus meetings: July 9, in Seattle and July 10, in Portland, Or. The meeting format and agenda will be reviewed with the HAB this week.

Ecology announced they are in the process of hiring a Public Involvement person for the Kennewick office. Ecology will be moving the focus for public involvement from the Lacey office to Kennewick.

3. **Management of the Public Information Repositories (PIRs)**

It was recognized that Hanford is moving towards a paperless documentation System, including increased use of the Internet. Consequently, the future role and/or format of the PIRs needs to be re-evaluated.

- Are the PIRs necessary if Hanford documents are available on the Internet?
- What are the Internet capabilities at the PIR locations?
- Are the documents currently listed in the Tri-Party Agreement (Section 10) and the Community Relations Plan adequate to meet public access requirements?
- If electronic files replace paper documents at the PIRs; what is the implementation plan?

As a result of the discussion regarding the above questions, the following action was assigned.

Action: Visit each PIR location to review the document inventory and evaluate possibilities for upgrading electronic access by the general public

Resp.: F. T. Calapristi Due: July 31, 1996

4. **Format for the Disposition of Eight Reactors**

Discussion of this topic was deferred to a later date - TBD.

5. **Change Request Approvals**

The following change requests were approved by the IAMIT

- M-16-96-01: Remedial Action Milestones for 100-BC-1, 100-HR-1 and 100-DR-1 Operable Units (Attachment 1A)
- P-09-01: Update Flow Chart for Part B Permit (Attachment 1B)

6. **M-41-00 Dispute Resolution**

RL opened the discussion by identifying the potential safety problems which led to the "Creation of Danger" declaration by DOE in the Tank Farms (Attachment 2). It was noted, the safety problems were in close proximity to the field workers. This was followed by a technical discussion of the tank conditions and evidence which indicated the presence of flammable gas. A final Tank Safety Assessment Report is expected from LANL which will provide the basis for a recovery plan. (The current draft of the report was provided to Ecology). However, a three tier review is required after the receipt of the report and the review will be completed by September 10, 1996. This review and approval is required before the start of salt well pumping (Interim Stabilization).

RL requested an extension of the Dispute Resolution period to September 10 to allow time for the above events to take place. The subsequent discussion is summarized below:

<u>RL Position</u>

RL needs to implement the safety assessment recommendations before the start of Interim Stabilization. By August 27, RL will submit to Ecology a change package containing the recovery plan. By September 10, the recovery plan will have been approved by both parties and will be implemented to meet the milestone date of September 2000. RL stated

they have not missed the milestone dates for M-41-09 and M-41-10 because the "Creation of Danger" (TPA Article 32) required a delay in completing the milestones.

Ecology position

The Tri-Party Agreement milestones have been missed. RL should recognize this and work with Ecology to move forward.

Additional discussion followed with the following conclusion; Ecology agreed to sign an extension of the Dispute Resolution period to September 10 provided:

(1) RL commits to the September 10 date to issue an approved recovery plan; otherwise RL will agree they have missed the milestones.

(2) RL will provide documentation that a "Creation of Danger" did exist in December 1995. RL will submit a change package and recovery plan that both parties will approve by September 10, 1996.

RL objected to condition (1); consequently, the dispute was not resolved. Ecology will provide RL with a formal response, to their request for extending the Dispute Resolution period, by close of business Wednesday, June 26, 1996.

9713505.0134

M-41 DISPUTE CHRONOLOGY
AND
ASSOCIATED LETTERS

M-41 DISPUTE CHRONOLOGY

(1) Letter, from J. Kinzer, RL, to M. Wilson, Ecology, "Creation of Danger, Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement)," dated December 12, 1995.

(2) Letter, from M. Wilson, Ecology, to J. Kinzer, RL, "Re: Department of Energy letter dated December 12, 1995, Creation of Danger, Hanford Federal Facility Agreement and Consent Order (Tri Party Agreement), dated December 22, 1995.

(3) Letter, from T. Michelena, Ecology, to J. Kinzer, RL, "Administrative and Access Controls on the 177 High-Level Radioactive Waste Tanks," dated January 8, 1996.

(4) Letter, from P.F.X. Dunigan, RL, to M. Wilson, Ecology, "Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Change Control Form M-41-96-01," dated January 17, 1996.

(5) Letter, from J. Kinzer, RL, to M. Wilson, Ecology, "Response to the Washington State Department of Ecology (Ecology) Letter, Entitled, "Creation of Danger," dated December 22, 1995," dated January 26, 1996.

(6) Letter, from M. Wilson, Ecology, to P.F.X. Dunigan, RL, "Tank Farm Stabilization Change Control Form M-41-96-01," dated January 30, 1996.

(7) Letter, from P.F.X. Dunigan, RL, to M. Wilson, Ecology, "Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Change Control Form M-41-96-01," dated February 7, 1996.

(8) Thirty Day Extension to Dispute Resolution for Hanford Federal Facility Agreement and Consent Order Change Request M-41-96-01, dated March 6, 1996.

(9) Letter, from J. Kinzer, RL, to M. Wilson, Ecology, "Administrative and Access Controls on the 177 High-Level Radioactive Waste Tanks," dated March 15, 1996.

(10) Second Thirty Day Extension to Dispute Resolution for Hanford Federal Facility Agreement and Consent Order Change Request M-41-96-01, dated March 26, 1996.

(11) Third Thirty Day Extension to Dispute Resolution for Hanford Federal Facility Agreement and Consent Order Change Request M-41-96-01, dated April 23, 1996.

(12) Fourth Thirty Day Extension to Dispute Resolution for Hanford Federal Facility Agreement and Consent Order Change Request M-41-96-01, dated May 28, 1996. (Not approved by Ecology)

(13) Letter, from G. Sanders, RL, to M. Wilson, Ecology, "Elevation of Dispute Resolution for Hanford Federal Facility Agreement and Consent Order Change Control Form M-41-96-01," dated June 5, 1996.

9713505.0137

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

96-PRI-235 DEC 11 1996

Mr. Mike Wilson, Project Manager
Nuclear Waste Program
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Wilson:

CREATION OF DANGER, HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (TRI-PARTY AGREEMENT)

On October 16, 1996, an Unreviewed Safety Question (USQ) Evaluation was completed by the U.S. Department of Energy, Richland Operations Office (RL) which raises serious flammable gas concerns on all 177 Hanford high-level mixed waste underground storage tanks. This evaluation was based on a screening of the tanks for trapped hydrogen gas. RL informed the Washington Department of Ecology (Ecology) and the U.S. Environmental Protection Agency (EPA) on October 17, 1996, of these issues at the Unit Manager's Meeting held on the same day.

As a precautionary measure to assure workers safety and to avoid creation of danger to health or welfare of site personnel, additional administrative controls have been placed on work activities associated with all 177 Hanford high level mixed waste underground storage tanks not already designated as watch list tanks. Flammable gas watch list controls have been implemented for all the tanks. Safety analysis concerning the flammable gas issue will be required to allow a determination on the safe pumping of the tanks. Upon completion of the safety analysis RL will review the results and make a determination if pumping can commence. The resolution of the flammable gas safety issue is necessary prior to initiating any type of activity affecting the tanks. The decision to extend the flammable gas controls was made as a result of information which suggests that small amounts of flammable gas may be present in more tanks than originally believed.

The additional flammable gas controls have imposed limitations on the RL's ability to continue work toward meeting several Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) milestones. Under the Common Provisions of the Tri-Party Agreement, Article XXXII, "Creation of Danger," if any Party determines that activities conducted pursuant to the Agreement are creating a danger to the health or welfare of the people on the Hanford Site, that Party may require or order the work to stop. The Tri-party Agreement, paragraph 107, states,

If the Parties concur in the work stoppage, DOE's obligations shall be suspended and the time periods for performance of that work which was stopped, shall be extended, pursuant to Article XL, "Extensions," of the Agreement, for such period of time in which work was stopped, or as agreed to by the Parties.

The effective date of the RL action to stop activities pursuant to the Creation of Danger clause of the Tri-Party Agreement was October 17, 1995. The activities associated with the milestones listed in the enclosure were affected by the work stoppage caused by the creation of danger. Each of these activities has been impacted by the administrative controls to some degree and will require a milestone extension. The full magnitude of the impact is under evaluation, but cannot be ascertained at this time. It should be noted that additional impacts to the Tri-Party Agreement may occur if the administrative controls remain in place for an extended period.

Should you have any questions on this matter, please contact me on (509) 372-8977.

Sincerely,

Jackson E. Kinzer, Assistant Manger
Tank Waste Remediation Systems

Enclosure

cc: T. Michelena, Ecology
R. Stanley, Ecology
D. Sherwood, EPA
L. Arnold, WHC
R. Bacon, WHC

TPA MILESTONES POTENTIALLY AFFECTED BY THE FLAMMABLE GAS ISSUE

M-41 (INTERIM STABILIZATION) & M-44 (TANK CHARACTERIZATION REPORTS) SERIES

MILESTONE	DUEDATE	MILESTONE TITLE
M-41-01-T02	11/30/95	COMPLETE INTERIM STABILIZATION OF 5 SST.
M-41-08	8/31/96	START INTERIM STABIL. OF 1 NON-WATCH LIST TANK IN 241-U TANK FARM
M-41-08-T01	4/30/97	COMPL INTERIM STABILIZATION OF 1 NON-WATCH LIST 241-U TANK
M-41-09	1/31/96	START INTERIM STABIL. 7 NON-WATCH LIST TANKS IN 241-S TANK FARM
M-41-09-T01	4/30/97	COMPL INTERIM STABIL. OF 7 NON-WATCH LIST 241-S TANKS.
M-41-10	4/30/96	START INTERIM STABILIZ. 2 FLAM. GAS WATCH LIST TANKS IN 241-A/AX
M-41-11	8/31/96	START INTERIM STABILIZ. OF 4 FLAM. GAS WATCH LIST TANKS IN 241-U
M-41-11-T01	9/30/97	COMPL INTERIM STABILIZ. OF 4 FLAM. GAS WATCH LIST TANKS IN 241-U
M-41-12-T01	12/31/97	COMPL INTERIM STABIL. OF 4 FERROCY. WATCH LIST TANKS IN 241-BX/BY
M-41-12A-T1	11/30/95	REACH DECISION ON INT. STABILIL. P/F FOR TANK 241-BY-105
M-41-13	8/31/96	START INTERIM STABIL. OF 3 ORG. WATCH LIST TANKS 241-U TANK FARM
M-41-13-T01	1/31/98	COMPLETE INTERIM STABILIZATION OF 3 ORGANIC 241-U WL TANKS
M-41-14	6/30/97	START INTERIM STABILIZATION OF 7 FLAMMABLE GAS WATCH LIST TANKS
M-41-15	6/30/97	START INTERIM STABILIZ. OF 2 ORGANIC WATCH LIST TANKS IN 241-S/SX
M-41-16	3/30/98	START INTERIM STABILIZATION OF 2 NON-WATCH LIST TANKS IN 241-T
M-41-16-T01	8/31/98	COMPL INTERIM STABILIZATION OF 2 NON-WATCH LIST TANKS IN 241-T
M-41-17-T01	5/31/98	COMPL INTERIM STABILIZATION OF 1 FERROCYANIDE WATCH LIST TANK
M-41-18	4/30/98	START INTERIM STABILIZ. OF 1 FLAMM. GAS WATCH LIST TANK IN 241-T
M-41-18-T01	7/31/98	COMPL INTERIM STABILIZ. OF 1 FLAMM. GAS WATCH LIST TANK IN 241-T
M-41-19	9/30/98	START INTERIM STABILIZATION OF 1 ORGANIC WATCH LIST TANK IN 241-C
M-44-09	9/30/96	ISSUE 40 TCRs IN ACCORDANCE WITH THE APPROVED TCPs.
M-44-10	9/30/97	ISSUE 40 TCRs IN ACCORDANCE WITH THE APPROVED TCPs.
M-44-11	9/30/98	ISSUE 30 TCRs IN ACCORDANCE WITH THE APPROVED TCPs.

9713505.0139

9713505.0140

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

December 22, 1995

Jackson Kinzer, Assistant Manager
Tank Waste Remediation System
U. S. Department of Energy
P. O. Box 550
Richland WA 99352

Dear Mr. Kinzer:

RE: Department of Energy letter dated December 12, 1995, CREATION OF DANGER, HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (TRI PARTY AGREEMENT).

I am in receipt of your above referenced letter. While human health and safety are primary concerns for Ecology, ultimately safest conditions will follow retreival, treatment and disposal of all wastes stored in Hanford's 177 underground tanks. We at Ecology are very concerned over the impacts your current actions will have on reaching that objective. To date we find ourselves essentially forced to accept your actions in the face of an extreame lack of information from USDOE (e.g., the basis for placing Hanford tanks under additional control, how these decisions were reached, and what your plans are to safely continue work required to meet our objectives as agreed to under the Tri Party Agreement).[1]

While we support safe management of Hanford tank wastes, we are struggling to understand your recent decision to place flammable gas and organic safety administrative and access controls on all tanks (all those not already on the "watch list"). The need for this unprecedented decision has not been adequately justified. Though we are in receipt of your December 12, 1995 letter asserting creation of danger (pursuant to Tri Party Agreement Article XXXII), we have neither agreed with this claim or granted any relief from (TPA) work requirements. As you know we have requested a complete set of supportive documentation in this matter and will be reviewing it and responding at our earliest opportunity. Unless Ecology concurs in the work stoppage and agrees to an extension of schedule, existing tank milestones will remain in effect (see Article XXXII, paragraph 107).

---

1 We note that though your December 12, 1995 letter states that: "RL informed the Washington Department of Ecology (Ecology) and the U.S. Environmental Protection Agency (EPA) on October 17, 1995, of these issues at the Unit Manager's Meeting held on the same day.", discussions with our Unit Manager, and a review of meeting minutes has revealed that no such notice was given.

Please also note that during a December 20, 1995 discussion with Chris Bader of your staff, I was informed that USDOE is preparing a response to a series of inquiries in this matter which were recently forwarded to RL by Dr. Alex Stone of Ecologys' Kennewick Office. I would appreciate receiving a copy of your response to these inquiries as soon as it is available.

Be assured that I and my staff are fully committed to working with USDOE and its contractors to ensure continued tank farm safety, and timely cleanup progress.

Sincerely,

Mike Wilson, Manager
Nuclear Waste Program

cc: Steve Cowan, USDOE HQ
Roger Bacon, WHC
Tanya Barnett, Office of the Attorney General
Ron Izatt, USDOE RL
Tom Perry, USGAO
Rich Tontodonato, DNFSB
Merilyn Reeves, HAB

9713505.0142

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

January 8, 1996

Ack for David

MARY ANN MCLAUGHLIN
4 PAGES

Mr. Jackson Kinzer
U. S. Department of Energy
P. O. Box 550
Richland, WA 99352

Dear Mr. Kinzer:

Re: Administrative and Access Controls on the 177 High-level Radioactive Waste Tanks

Ecology strongly supports safe management of the 177 tanks and is attempting to understand the recent decision by the U.S. Department of Energy (USDOE) to place flammable gas and organic safety administrative and access controls on all 177 tanks. The need for this decision has not been adequately justified to Ecology; a number of issues need to be understood. Therefore, in an attempt to better understand USDOE's decision, a series of questions are attached which encompass Ecology's concerns. Please note that these questions have previously been transmitted informally to your staff. These questions must be resolved within the context of an integrated management system to assure that work within the Tank Waste Remediation System (TWRS) program meets the goals to which USDOE has obligated itself.

The Washington Department of Ecology (Ecology) firmly believes it is important to place a high priority upon the continued safe storage and maintenance of the high-level radioactive waste contained in the 177 tanks at Hanford in a manner protective of both the environment and human health and safety. Ecology continues to place a high priority on resolving all safety concerns with the ultimate goal of final disposal of the waste at Hanford. Final disposal presents the safest alternative to eliminating the hazards presented by the wastes currently stored at Hanford.

Ecology wishes to expeditiously address this matter and work with USDOE to assure both the high-level waste is maintained safely and progress toward disposal continues. If you have any questions, please contact Dr. Alex Stone at (509) 736-3018.

Sincerely,

Toby Michelena
TWRS Project Manager
Nuclear Waste Program

TMM:AS:djb
Enclosure

RECEI
JAN 16
DOE RL
196-TWR-

Questions concerning administrative and access controls on all of Hanford's 177 high-level radioactive waste tanks

1) Over the last year, USDOE has, through its Safety Screening Data Quality Objective (DQO) document, defined the information needed to determine which tanks are being maintained safely and which require additional controls. All tanks were classified as 'unsafe' until the Safety Screening DQO had been applied and analytical data provided to determine the current safety status of the tanks. USDOE affirmed current controls were adequate and additional controls would be added only if the sampling results indicated an unsafe condition. This process was discussed with and accepted by Ecology. Why has USDOE subsequently decided that this process is no longer adequate? What role will the Safety Screening DQO play in the future?

2) By placing administrative and access controls on all 177 tanks, USDOE is implementing a process which may prove difficult to resolve in a timely manner. What procedure(s) will be used to remove controls from the tanks? It is Ecology's understanding the procedures do not currently exist. Therefore, when does USDOE expect to have these procedures developed? Furthermore, the procedure development process must be clearly identified. How will these procedures affect those tanks which pose the greatest safety hazard (i.e. by diverting limited money and resources to evaluate tanks which present little safety hazard from those tanks with acknowledged safety concerns—the Watch List tanks)? Who will have the responsibility for making these procedural decisions (DOE-Headquarters, DOE-Richland Office, etc.) and what role will regulatory agencies/oversight groups (Ecology, Defense Nuclear Facility Safety Board, etc.) and stakeholders (Indian Nations, Hanford Advisory Board, environmental groups, etc.) play in this process?

3) Can continuous monitoring be applied for the hydrogen gas safety criteria during operational and waste intrusive events (characterization, stabilization, retrieval, waste transfers, etc.) If so, how long would it take to obtain this capability and what impact would it have upon the TWRS program and overall Hanford budgets in terms of time, costs, resource allocation, etc.?

4) Does the capability exist to ventilate the single shell tanks (SSTs) during operational and waste intrusive activities? If so, what would it require to apply ventilation procedures during these events? If not, what delay would be involved in procuring these capabilities and, given these budget restrictive times, what effects would the procurement and use of this equipment have upon the TWRS and overall Hanford Budgets? Would the cost be born by other Hanford Programs? If so, what program(s)?

5) One of the most serious impacts these tanks have on the environment is leakage due to tank failure. The TPA partially addresses this concern through the interim stabilization program which removes pumpable liquids from the tanks. Interim stabilization of the SSTs has been interrupted due to the application of administrative and access controls. When will a safety basis for the interim stabilization program be generated and who will

have the responsibility within USDOE to approve this process (i.e. USDOE-Headquarters or USDOE-Richland)?

6) USDOE has acknowledged that these controls will have some impact upon the ability to transfer waste from tank to tank. USDOE has also acknowledge the extent of the impact is unknown at this time. How will this decision affect the ability to proceed with waste management and environmental restoration at Hanford and when will Ecology be informed of the conclusions of an impact analysis? How will USDOE resolve this issue given the limited tank space available and the recommendation of the Safe Interim Storage Environmental Impact Statement (EIS) that no new tanks are needed? How will these decisions affect the operation of the 242-A Evaporator? If the evaporator is impacted, how will USDOE proceed with waste management and cleanup activities outside of TWRS which depend upon the tank farms to receive their wastes?

7) What effect will this decision have upon the cost of the TWRS program? USDOE has admitted in meetings attended by Ecology that several of the tanks do not represent a serious safety hazard due to the lack of waste stored within. What efficiencies will be realized by placing controls on these tanks? Is it appropriate to place controls on these tanks? How will the resulting delays and additional costs affect the TWRS budget for the next 3 to 5 years? For example, how will the cost of these decisions affect the upgrades program which, in its attempt to improve the safe storage of the waste, should also be a high safety priority for USDOE? What if any baseline work scope will be impacted?

8) The generation of hydrogen by the 177 high-level radioactive waste tanks is not a new phenomenon. It has been a widely recognized and technically acknowledged fact that, due to the contents of these tanks, all 177 have and will continue to generate hydrogen. This process will continue as long as radioactive waste is stored in the tanks. How is it that USDOE did not factor hydrogen generation into its day to day operations? For example, technology has existed for decades within the private sector which enables drilling under more adverse conditions than those observed at Hanford. Yet sampling has been halted because the sampling technique failed to consider such waste characteristics. What steps were taken in the past and what is planned for the future to assure all interested parties the TWRS Program has planned for all foreseeable eventualities and that progress will not be abruptly halted at a critical phase due to the failure to consider known waste characteristics? Has USDOE identified all administrative, operational and procedural changes which must occur to compensate for the hydrogen gas generation phenomenon? If so, provide this information to Ecology. Finally, how much longer do the Safety and Characterization Programs need to resolve well identified safety issues so Ecology, oversight agencies, Tribal Nations, advisory and environmental groups, and the general public can be assured the waste is being safely stored?

9) Over the last 5 years, the TWRS Characterization Program has spent more than $250 million to characterize the waste in the 177 tanks. What criteria has USDOE used to prioritize and schedule its tank sampling to obtain the required information? How will this change in the future? How were the sampling techniques and analytical methods selected

which should be expected to provide the data to quantify and/or bound -the safety hazards associated with the waste stored within these tanks? What data haves USDOE obtained over the last five years which directly relates to understanding and/or resolving the safety concerns raised by the tanks? What more is needed? Which tanks currently have sufficient characterization data which would allow rapid removal of controls and the return to normal operations? Which tanks do not have sufficient data? How quickly can operations be resumed with appropriate safety controls or limits in either all tanks or those which pose the greatest safety hazard? Considerable funds have also been used producing an array of sampling techniques, including four core sampling trucks. How did trucks designed to sample tanks known to generate hydrogen gas fail to include appropriate safety measures to allow them to complete their tasks? What measures are needed to upgrade any equipment for safe operation including the core sampling trucks and how long will it take? What effect will these further delays have upon the Characterization Program, particularly pertaining to its budgets and work scope as identified in the TWRS Tank Waste Analysis Plan submitted in August 1995 to fulfill TPA Milestone M-44-02? Is not the characterization of the tanks and identification of safety issues the only acceptable way USDOE can evaluate the safety hazards involved? Due to the safety issues involving these tanks, are~~is~~ not identification, characterization and resolution of potential safety hazards one of USDOE's highest priorities

Payne/Fayillowitz

10) USDOE has been evaluating retrieval technologies and has a well developed retrieval program within TWRS. USDOE has tentatively scheduled the retrieval of SST 241-C-106 in 1996 which will not only evaluate a potential retrieval technology (sluicing) but will also resolve a high heat safety issue. What impacts will this decision have upon the retrieval of C-106 high heat sludge? How will the addition of administrative and access controls affect the resolution of a high priority safety issue? What effect will this decision have upon the retrieval budget? In addition, USDOE is planning to install retrieval systems in a number of other tanks (241-SY-102, AW-105 and AZ-102). What effect will this decision have upon these plans and the subsequent consolidation of these tank wastes? How are safety issues being considered during the design and construction of future retrieval systems and have all known safety hazards been included in these designs?

Harris

9713505.0146

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

JAN 17 1996

96-PRI-006

Mr. Mike Wilson, Program Manager
Nuclear Waste Program
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Wilson:

HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (TRI-PARTY AGREEMENT)
CHANGE CONTROL FORM M-41-96-01

Enclosed for your review and approval is the Tri-Party Agreement Change Control Form M-41-96-01. This change request incorporates suggested Tri-Party Agreement language as discussed with Mr. Jack Donnelly of the Washington State Department of Ecology (Ecology) and Mr. Ben Harp of the U.S. Department of Energy, Richland Operations Office (RL) during two informal meetings held in December of 1995 and January of 1996.

The Hanford Site Tank Farms Facilities Interim Safety Basis (ISB) which defines what work can safely be accomplished does not currently include interim stabilization of flammable gas tanks. A Safety Analysis (SA) is being prepared for Tank 241-A-101, which is thought to represent worst-case conditions for stabilization of a flammable gas tank. Upon completion of this SA, five of the seven 241-S tanks which are the subject of Milestone M-41-96-01 will be evaluated against the bounding analyses, and supplemental analyses will be performed as required. Upon completion of the supplemental analyses and incorporation into the ISB, stabilization of these tanks will commence.

The basis for this change request is the that on October 16, 1995, an Unreviewed Safety Question evaluation was declared. This evaluation was based on a screening of the Hanford tanks for trapped gas prepared for RL by Pacific Northwest National Laboratory. RL was informed on October 17, 1995, of these concerns, and advised Ecology and the U.S. Environmental Protection Agency of the issues at the Unit Managers Meeting held on the same day. RL informed Ecology on December 12, 1995, of the need to invoke the Creation of Danger provision of the Tri-Party Agreement due to the flammable gas concerns.

RL recognizes the responsibility to meet established Tri-Party Agreement schedules, but when issues arise which can impact safe operations, RL must evaluate the issues on a case by case basis and proceed to resolve the safety concerns in an orderly manner.

Since the analyses for 241-A-101 and the supplemental analyses for the subject milestone tanks is not complete, the actions which are necessary to safely interim stabilize these tanks is not known. By February 15, 1996, RL will propose a schedule for establishing the new date for Milestone M-41-09.

If you have any questions, please contact Ms. Carolyn C. Haass on (509) 372-2731 or Mr. Ben Harp on (509) 376-1462.

Sincerely

for P.S.X. Dunigan, Jr., Administrator
Hanford Tri-Party Agreement

PRI:CCH

Enclosure

cc w/encl:
T. Micheiena, Ecology
J. Donnelly, Ecology
D. Sherwood, EPA
L. Arnold, WHC

9713505.0148

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-41-96-01	Do not use blue ink. Type or print using black ink.	January 15,1996

Originator: B. Harp/C. Haass

Phone: (509)376-1462/372-2731

Class of Change

[ ] I - Signatories [X] II - Executive Manager [ ] III - Project Manager

Change Title

Change Completion Date for Milestone M-41-09

Description/Justification of Change

Interim Milestone M-41-09 and Target Date M-41-09-T01 are currently stated as follows:

M-41-09	Start Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm.	1/31/1996
M-41-09-T01	Complete Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm.	4/30/1997

Change Milestone M-41-09 and Target Date M-41-09-T01 as follows:

M-41-09	Start Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm.	TBD

(cont.)

Impact of Change

This Change Request results in delay to Interim Milestone M-41-09 and Target Date M-41-09-T01. There is no delay to Major Milestone M-41-00.

Affected Documents

Hanford Federal Facility Agreement and Consent Order Amendment 4, Appendix D, Work Schedules.

Approvals

DOE: J. T. Kinzer	Date: 1-17-96	X Approved	___ Disapproved
EPA	Date	___ Approved	___ Disapproved
Ecology	Date	___ Approved	___ Disapproved

Description/Justification (cont.)

M-41-09-T01	Complete Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm.	TBD

On October 16, 1995, an Unreviewed Safety Question (USQ) Evaluation (1) was completed for the U.S. Department of Energy, Richland Operations Office (RL) by one of its contractors which raised serious concerns on the safe operation of flammable gas tanks. This evaluation was based on a screening (2) of the Hanford tanks for trapped gas prepared for RL by a different Hanford contractor. RL was informed on October 17, 1995, of these concerns, and advised the Washington Department of Ecology (Ecology) and the U. S. Environmental Protection Agency (EPA) of the issues at the Unit Managers Meeting on the same day. After further review of the facts in the technical studies, RL is unable to make a final determination on the safe operation of the flammable gas tanks without conducting a Safety Analysis. RL informed Ecology on December 12, 1995, (3), of the need to invoke the Creation of Danger provision of the Agreement due to the flammable gas concerns.

Safety Analysis work on the flammable gas issue has been contracted to a third party and a report, assessing tank 241-A-101 only, is scheduled for completion by January 31, 1996. Subsequent safety analyses, addressing additional tanks and tank farms, are planned. At present, however, there is sufficient information to warrant declaration of a USQ concerning the flammable gas tanks. Upon completion of the safety analyses, RL will analyze the results and make a determination if operations may resume.

RL recognizes the responsibility to meet established Tri-Party Agreement schedules, but when issues arise which can impact safe operations, RL must evaluate the issues on a case by case basis and proceed to resolve the USQ in an orderly manner. This milestone change delays the start of pumping the potential watch list tanks in 241-S-Farm to accommodate the safety assessment work and the time needed for review of the work through RL. The target date M-41-09-T01 for completion of the interim stabilization of the tanks is also delayed because of the delay in the start of this work. When the safety analysis has been completed and a determination has been made by RL whether operations can be resumed for the affected tanks, then a date can be assigned for completion of Milestone M-41-09 and Target Date M-41-09-T01.

Preparations for interim stabilizing tanks not considered potential flammable gas watch list tanks will continue.

(1) R. J. Van Vleet and R. L. Guthrie, Unreviewed Safety Question Evaluation, TF-95-0095, Westinghouse Hanford Company, October 16, 1995.

(2) Whitney, Paul, Screening the Hanford Tanks for Trapped Gas, PNL-10821, Pacific Northwest Laboratory, Richland, Washington, 1995.

(3) Letter, J. Kinzer to M. Wilson, "Creation of Danger, Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement," dated December 12, 1995.

9713505.0150

42899

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

JAN 2 6 1996

96-TSD-004

Mr. Mike Wilson, Manager
Nuclear Waste Program
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Wilson:

RESPONSE TO THE WASHINGTON STATE DEPARTMENT OF ECOLOGY (ECOLOGY) LETTER, ENTITLED, "CREATION OF DANGER", DATED DECEMBER 22, 1995

It is the intent of this letter to address your concerns regarding the U.S. Department of Energy (DOE), Richland Operations Office (RL) invocation of Article XXXII, Creation of Danger, of the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement), regarding the flammable gas issue.

Expansion of flammable gas controls and the recommendation to add tanks to the flammable gas "watch list" is justified in light of a recent analysis completed by Pacific Northwest National Laboratory (PNNL) and emergent data collected by Westinghouse Hanford Company (WHC). The PNNL analyses and emergent data have led RL to conclude that more single-shell and double-shell tanks are capable of generating significant levels of flammable gas in the waste. Specifically, the PNNL analysis found that 59 tanks showed waste elevation fluctuations with changes in barometric pressure (increased barometric pressure correlated with decrease in tank level and vice-versus), thereby resulting in the conclusion that these tanks contained significant amounts of flammable gas in the waste. Prior to the PNNL analysis, it was thought that only 25 tanks had the capability to produce significant quantities of flammable gas.

The WHC data included multiple findings of flammable gas in the drill string of the push-mode sampling device and voids within core segments as revealed by radiographic inspection. This occurred with 4 different tanks, 3 of which were not previously thought to contain significant amounts of flammable gas. While the push-mode sampling device is qualified to sample in a flammable gas environment, the unexpected high frequency and high concentrations of flammable gas has caused RL to question the safety of our operations. Source documents for all this information were previously transmitted to Ecology on December 12, 1995.

RL's response to this new data is on 2 levels: assuring worker safety; and assuring public safety. Both are required to perform work at Hanford, though the administrative requirements for ensuring each are somewhat different. Worker safety involves preventing the accumulation and ignition of volumes of flammable gas which are large enough to cause potential hazard to workers in the immediate vicinity, but not large enough to cause a concern to the general public. Based on the disparity between previous analyses and the new analyses and data presented above, RL concluded that it no longer could ensure the safety of workers performing operations which were not authorized in a flammable gas environment. Thus, operations which are not specifically designed and authorized in flammable gas environments have been terminated until they are either analyzed and proven to be safe in a flammable gas environment, or until tank is certified to be safe for entry of non-flammable gas qualified equipment. Operations which are currently not authorized in a flammable gas environment include: salt well pumping; and rotary mode core sampling.

Ensuring public safety requires the prevention of the accumulation and ignition of relatively large volumes of flammable gas. The definition of what constitutes a public safety concern (relevant to this matter) is contained in the Public Law 101-510 Sec. 3137. This amendment states, "...the Secretary of Energy shall identify which single-shell or double-shelled high-level nuclear waste tanks at the Hanford Nuclear Reservation, Richland, Washington, may have a serious potential for release of high-level waste due to uncontrolled increases in temperature or pressure". If a tank is determined to meet established criteria, then it must officially be designated as a "watch list" tank. DOE Headquarters (HQ), is the approval authority for the addition of tanks to the "watch list". RL has completed a survey of the data presented above for 43 high-priority tanks, and has recommended to HQ that 25 tanks be added to the current flammable gas "watch list", (this decision is pending in HQ). Controls to ensure the safety of these tanks have already been implemented. It should be noted that the remaining 134 tanks will be reviewed by March 31, 1996. It is possible that other tanks will be recommended to be added to the "watch list".

These actions have been deemed necessary and were implemented to ensure the safety of Hanford workers and the general public. For these safety reasons, the controls were put into place in advance of fully understanding their impact on planned work, including Hanford Federal Facility Agreement and Consent Order (Tri Party Agreement) commitments. A preliminary recovery plan was developed and informally presented to Ms. Alicia Huckaby and Dr. Alex Stone of your staff on January 19, 1996. The recovery plan is expected to be fully developed by February 16, 1996, and formally submitted to you for your information. It will include dates for submittal of Tri Party Agreement change requests. We are holding regular working meetings to manage progress to the recovery plan and have invited Ms. Huckaby, Dr. Stone, and other Ecology staff to attend.

In RL's December 21, 1995 letter to you, Creation of Danger, Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) a list of affected milestones was officially submitted to Ecology. This list has been expanded by one milestone, M-40-09 (September 30, 1998) and is being re-submitted in its entirety as Attachment 1.

In light of the above, RL seeks immediate concurrence from Ecology on the work stoppage for the following near-term Tri Party Agreement commitments: Target Date M-41-01-T02 (November 30, 1995), Milestones M-41-09 (January 31, 1996), and M-41-10 (April 30, 1996). Upon completing the recovery plan noted above, RL will revise and re-submit Attachment 1, and seek Ecology's concurrence for milestones affected by the flammable gas issue.

If you have additional questions regarding this matter, please call me on (509) 376-7591, or Mr. Jon Peschong, of my staff, on (509) 376-9327.

Sincerely,

Jackson Kinzer

Jackson Kinzer, Assistant Manager
Office of Tank Waste Remediation System

TSD:JCP

Attachment

cc w/attach:

L. D. Arnold, WHC
G. D. Johnson, WHC
M. A. McLaughlin, WHC
T. Michelena, Ecology
G. T. Tebb, Ecology
D. Sherwood, EPA

TRI-PARTY AGREEMENT MILESTONES
POTENTIAL EFFECTS OF FLAMMABLE GAS ISSUE

MILESTONE	TITLE	DUE DATE
M-40-10	Complete Vapor Space Monitoring of All Flammable Gas Generating Tanks.	1/31/97
M-40-09	Close all unreviewed Safety Questions (USQ) for Double-Shell and Single and Single-Shell Tanks.	9/30/98
M-41-01-102	Complete Interim Stabilization of 5 Single Shell Tanks.	11/30/95
M-41-08	Start Interim Stabilization of 1 Non-Watch List Tank in 241-U Tank Farm.	8/31/96
M-41-08-101	Complete Interim Stabilization of 1 Non-Watch List Tank in 241-U Tank Farm.	4/30/97
M-41-09	Start Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm.	1/31/96
M-41-09-101	Complete Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm.	4/30/97
M-41-10	Start Interim Stabilization of 2 Flammable Gas Watch List Tanks in 241-A/AX Tank Farms	4/30/96
M-41-10-101	Complete Interim Stabilization of 2 Flam. Gas Watch List Tanks in 241-A/AX Tank Farms.	12/31/98
M-41-11	Start Interim Stabilization of 4 Flammable Gas Watch List Tanks in 241-U Tank Farm.	8/31/96
M-41-11-101	Complete Interim Stabilization of 4 Flammable Gas Watch List Tanks in 241-U Tank Farm.	9/30/97
M-41-12-101	Complete Interim Stabilization of 4 FeCN Watch List Tanks in 241-BX/BY Tank Farms.	12/30/97
M-41-13	Start Interim Stabilization of 3 Organic Watch List Tanks in 241-U Tank Farm.	8/31/96
M-41-13-101	Complete Interim Stabilization of 3 Organic Watch List Tanks in 241-U Tank Farm.	1/31/98
M-41-14	Start Interim Stabilization of 7 Flammable Gas Watch List Tanks in 241-S/SX Tank Farms	6/30/97
M-41-14-101	Complete Interim Stabilization of 7 Flam. Gas Watch List Tanks in 241-S/SX Tank Farms	11/30/99
M-41-15	Start Interim Stabilization of 2 Organic Watch List Tanks in 241-S/SX Tank Farms.	6/30/97
M-41-15-101	Complete Interim Stabilization of 2 Organic Watch List Tanks in 241-S/SX Tank Farms.	3/31/99
M-41-16	Start Interim Stabilization of 2 Non-Watch List Tanks in 241-T Tank Farm.	3/30/98
M-41-16-101	Complete Interim Stabilization of 2 Non-Watch List Tanks in 241-T Tank Farm.	8/31/98
M-41-17-101	Complete Interim Stabilization of 1 Ferrocyanide Watch List Tank in 241-T Tank Farm.	5/31/98
M-41-18	Start Interim Stabilization of 1 Flammable Gas Watch List Tank in 241-T Tank Farm.	4/30/98
M-41-18-101	Start Interim Stabilization of 1 Flammable Gas Watch List Tank in 241-T Tank Farm.	7/31/98
M-41-19	Start Interim Stabilization of 1 Organic Watch List Tank in 241-C Tank Farm.	9/30/98
M-41-19-101	Complete Interim Stabilization of 1 Organic Watch List Tank in 241-C Tank Farm.	3/31/99
M-44-09	Issue 40 ICRs in Accordance with the Approved TCPs.	9/30/96
M-44-10	Issue 40 ICRs in Accordance with the Approved TCPs.	9/30/97
M-44-11	Issue 30 ICRs in Accordance with the Approved TCPs.	9/30/98
M-44-12	Issue 30 ICRs in Accordance with the Approved TCPs.	9/30/99
M-45-03A	Initiate Sluicing Retrieval of C-106.	10/31/97

ref. 95-PRI-235

9713505.0153

9713505.0154

376-2195
M.A. McLAUGHLIN

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

January 30, 1996

Post-it™ brand fax transmittal memo 7671	# of pages ▸ 2
To Carolyn Haass	From Dey
Co.	Co.
Dept.	Phone # 360-407-7142
Fax # 509-376-8142	Fax #

Mr. Paul F. Dunigan, Jr., Administrator
Hanford Tri-Party Agreement
U.S. Department of Energy
P.O. Box 550 - A5-15
Richland, Washington 99352

Dear Mr. Dunigan, Jr:

Re: Tank Farm Stabilization Change Control Form M-41-96-01

This responds to your letter to the Department of Ecology (Ecology) dated January 17, 1996, in which you requested an extension to Milestone M-41-09 and Milestone M-41-09-T01 for starting and completing interim stabilization of seven (7) non-watch list tanks in the 241-S Tank Farm.

In accordance with the Tri-Party Agreement (TPA) Action Plan 12.3.3, Ecology hereby disapproves Change Control Form M41-96-01.

Ecology disapproves this Change Control Form for the following reasons:

1) Mr. Jack Donnelly, Ecology's stabilization lead, had one meeting with the USDOE (as opposed to two stated in your letter) and Westinghouse Hanford Company (WHC) representatives on January 3, 1996, to discuss the entire stabilization program and to outline a potentially agreeable schedule with milestones for each tank farm. Following those discussions, WHC and USDOE were to DRAFT a change control form. However, the SIGNED change control form submitted did not reflect these discussions or agreements, but rather identified only one milestone (M-41-09) with a To Be Determined (TBD) date. Submittal of a "TBD" can only make discussions more difficult in that they constitute deferral of work, rather than a request for extension.

2) The USDOE has stated in its daily Tank Farm summary reports that stabilization of three (3) tanks is scheduled for starting by January 31, 1996. These tanks are S-110, S-108 and T-107. The two S-Farm Tanks (S-110 and S-108) are already included in M-41-09. It is impractical to believe that Ecology would accept any complete change to this milestone when the USDOE is currently on schedule to meet at least part of the milestone.

3) The WHC has out lined and submitted a draft pumping schedule including a strategy and safety analysis element for Ecology approval. This strategy included interim milestones, pumping durations, safety analysis durations, and has been discussed with Mr. Jack Donnelly as a holistic means of approaching the Stabilization program for the TPA. Any draft change control form submitted by USDOE must include this tentative strategy as a starting point for negotiations. For your reference, I have attached a copy of the strategy submitted to Ecology.

4) Ecology is still in the process of reviewing the technical basis of USDOE's letter dated December 12, 1995 citing the need to invoke Creation of Danger under TPA, Article XXXII. Although our review has not been completed, our initial understanding of this issue relates to a lack of management initiative to address a well known (hydrogen gas generation) tank phenomena. If this is the case, Ecology will be unable to accept Creation of Danger as a viable rationale for changing this milestone. We look forward to your submittal of previously requested data in support of your position.

5) As has been discussed with Department of Energy representatives on numerous occasions, change requests submitted for the Tank Waste Remediation System will no longer be considered unless they contain the Critical Path information required pursuant to the TPA Action Plan 11.7.

We look forward to working with the Department of Energy staff to resolve this matter in the most expedient means possible. It is our belief that the work previously done by the USDOE and WHC staff in conjunction with Mr. Donnelly forms the framework for quick resolution.

Should you have any further questions on this matter, please contact Mr. Toby M. Michelena, TWRS Project Manager, at (360) 407-7144.

Sincerely,

Joe Stohr for

Michael A. Wilson
Program Manager
Nuclear Waste Program

MAW:TMM:djb
Enclosure

cc: Doug Sherwood, EPA-RL
Jackson Kinzer, DOE-RL
Roger Bacon, WHC

9713505.0156

42896

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

FEB 7 1996

96-PRI-017

Mr. Mike Wilson, Manager
Nuclear Waste Program
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Wilson:

HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (TRI-PARTY AGREEMENT) CHANGE CONTROL FORM M-41-96-01

References:

1. Letter from J. Kinzer, RL, to M. Wilson, Ecology, "Creation of Danger, Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement)," dated December 12, 1995

2. Letter from M. Wilson, Ecology, to J. Kinzer, RL, Response to "Creation of Danger, Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement)", dated December 22, 1995

3. Letter from P.F.X. Dunigan, RL, to M. Wilson, Ecology, "Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Change Control Form M-41-96-01", dated January 17, 1996

4. Letter from M. Wilson, Ecology, to P.F.X. Dunigan, RL, "Tank Farm Stabilization Change Control Form M-41-96-01", dated January 30, 1996

The U.S. Department of Energy, Richland Operations Office (RL) acknowledges receipt of your letter dated January 30, 1996, disapproving the Tri-Party Agreement Change Control Form M-41-96-01 (Reference 4). The Change Control Form was received by RL on February 5, 1996.

RL believes there is cause to change the due date for the Tri-Party Agreement Interim Milestone M-41-09, "Start Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm," which was due on January 31, 1996, and Target Date M-41-09-T01, "Complete Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm," due April 30, 1997. As stated in the above references, work associated with the Tank Waste Remediation System (TWRS) single-shell and double-shell tanks cannot proceed until the completion of the safety analyses and resolution of the flammable gas safety issue for the affected tanks.

This letter is to notify the Washington State Department of Ecology (Ecology) that RL wishes to enter into dispute resolution on the change request, as provided in Article VIII of the Tri-Party Agreement. In addition, RL looks forward to working with the Ecology TWRS Project Manager in resolving the five issues identified in Reference 4 over the next thirty days.

If you have any questions, please call Ms. Carolyn C. Haass on (509) 372-2731.

Sincerely,

James L. Rasmussen

for P.F.X. Dunigan, Jr., Administrator
Hanford Tri-Party Agreement

PRI:CCH

cc: T. M. Michelena, Ecology
J. W. Donnelly, Ecology
L. D. Arnold, WHC

43323

Tri-Party Agreement

March 6, 1996

THIRTY DAY EXTENSION TO DISPUTE RESOLUTION FOR HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER CHANGE REQUEST M-41-96-01

Change Request M-41-96-01, concerning M-41-09 Interim Milestone, "Start Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm," is in the dispute resolution process of the Hanford Federal Facility Agreement and Consent Order. The end of the initial thirty (30) day period during which the Project Managers seek resolution of the dispute is extended thirty (30) days. This extends the end of that period from March 8, 1996 to April 7, 1996.

James E. Rasmussen
Director, Environmental Assurance,
Permits and Policy Division
U.S. Department of Energy
Richland Operations Office

Michael A. Wilson
Manager, Nuclear Waste Program
State of Washington
Department of Ecology

cc: L. D. Arnold, WHC
J. W. Donnelly, Ecology
D. R. Sherwood, EPA
C. C. Haass, DOE
D. E. Jackson, DOE
J. E. Kinzer, DOE
T. M. Michelena, Ecology
D. Powaukee, Nez Perce
R. Jim, YIN
B. Burke, CTUIR
Administrative Record

9713505.0159

DON'T SAY IT --- *Write It!*

DATE: March 12, 1996

TO:

S. Alexander	B5-18
L. D. Arnold	B2-35
L. E. Borneman	R1-52
J. M. Clark	S7-54
J. W. Donnelly	B5-18
D. M. Eder	B3-62
D. B. Engelman	R1-49
W. C. Floberg	G1-76
L. A. Garner	S6-30
C. C. Haass	S7-51
B. J. Harp	S7-54
D. E. Jackson	A5-15
J. E. Kinzer	T4-08
D. L. Lenseigne	S7-23
D. Lundstrom	B5-18
P. J. Mackey	B3-15
M. A. McLaughlin	B2-35
T. M. Michelena	fax
T. Morton	S8-05
B. E. Paul	B3-75
R. P. Prosser	H9-10
J. E. Rasmussen	A5-15
M. W. Rosenberry	S7-57
D. R. Sherwood	B5-01
A. B. Sidpara	S7-54
A. J. Watts	B3-75
P. W. Willison	A4-52
R. D. Wojtasek	S7-84
EDMC	H6-08

FROM: R. D. Morrison B2-35

Telephone: 376-6574

cc: RDM File
OSK File
TPA File

Note: THIS EXTENSION AGREEMENT TO BE INCORPORATED INTO THE ADMINISTRATIVE RECORD

SUBJECT: APPROVED HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER DISPUTE RESOLUTION EXTENSION FOR M-41-09

Attached, for your information, is a copy of approved Hanford Federal Facility Agreement and Consent Order "Thirty Day Extension to Dispute Resolution for Hanford Federal Facility Agreement and Consent Order Change Request M-41-96-01"

If you have any questions, please call me on 376-6574.

ceg

Attachment

9713505.0160

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

MAR 15 1996

RECEIVED
MAR 18 1996

MARY ANN MCLAUGHLIN
10 PAGES

96-TSD-010

Mr. Mike Wilson, Manager
Nuclear Waste Program
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Wilson:

ADMINISTRATIVE AND ACCESS CONTROLS ON THE 177 RADIOACTIVE WASTE TANKS AT HANFORD

Reference: Letter from Toby Michelena, Ecology, to Jackson Kinzer, RL, "Administrative and Access Controls on the 177 High-Level Radioactive Waste Tanks" dated January 8, 1996.

In accordance with the referenced document enclosed are the Department of Energy, Richland Operations Office (RL) response to the questions raised by the Washington State Department of Ecology, concerning the administrative and access controls which were placed on all 177 waste tanks in November 1995.

If you have any questions, please contact Mr. Jon Peschong on (509) 376-9327.

Sincerely,

for Jackson Kinzer, Assistant Manager
Office of Tank Waste Remediation System

TSD:GWR

Enclosure

cc: T. Michelena, Ecology
A. Stone, Ecology
D. Sherwood, Ecology
G. Johnson, WHC
R. Bacon, WHC

RESPONSE TO THE WASHINGTON STATE DEPARTMENT OF ECOLOGY ADMINISTRATIVE AND ACCESS CONTROLS ON ALL 177 RADIOACTIVE HIGH-LEVEL WASTE TANKS AT HANFORD

Question 1:

Over the last year, USDOE has, through its Safety Screening Data Quality Objective (DQO) document, defined the information needed to determine which tanks are being maintained safely and which require additional controls. All tanks were classified as "unsafe" until the Safety Screening DQO had been applied and analytical data provided to determine the current safety status of the tanks. USDOE affirmed current controls were adequate and additional controls would be added only if the sampling results indicated an unsafe condition. This process was discussed with and accepted by Ecology. Why has USDOE subsequently decided that this process is no longer adequate? What role will the Safety Screening DQO play in the Future?

Answer:

The Safety Screening process was previously used to identify which tanks had safety issues and required controls. However, controls were placed on all 177 tanks in November 1995, as a result of obtaining information and data on flammable gases during core sampling operations and observations of gas voids in the samples taken. It was felt prudent to place controls on the tanks to protect the workers, public, and the environment.

The Safety Screening DQO process classifies and refers specific, and potential safety issue problems to the appropriate safety programs for resolution as was done in this instance. The Safety Screening DQO looks primarily at measured parameters, and screens tanks based on those parameters. Data that requires interpretation beyond the actual measurements or the need for further lines of investigation are deferred to program-specific strategy documents. The DQO will continue to be used for two purposes:

1) Waste tanks with no currently identified safety issues will be screened to verify that no safety criteria have been exceeded.

2) Waste tanks with identified safety issues will be screened to determine if the data provides information on that issue and to verify that no other safety criteria have been exceeded.

Question 2:

By placing administrative and access controls on all 177 tanks, USDOE is implementing a process which may prove difficult to resolve in a timely manner. What procedure(s) will be used to remove controls from the tanks? It is Ecology's understanding the procedures do not currently exist. Therefore, when does USDOE expect to have these procedures developed? Furthermore, the procedure development process must be clearly identified. How will these procedures affect those tanks which pose the greatest safety hazard (i.e. by diverting limited money and resources to evaluate tanks which present little safety hazard from those tanks with acknowledged safety concerns--the Watch

List Tanks)? Who will have the responsibility for making these procedural decisions (DOE-Headquarters, DOE-Richland Office Etc.) and what role will regulatory agencies/oversight groups (Ecology, Defense Nuclear Facility Safety Board, etc.) and stakeholders (Indian Nations, Hanford Advisory Board, environmental groups, etc) play in this process?

Answer:

The Tank Waste Remediation System (TWRS) Program has and will continue to maintain the Tank Farm facilities in a safe manner. Consistent with this approach, a graded system of controls has been applied to ensure continued safe operations without unduly restricting the ability to progress in the clean-up effort. Controls are based on current safety analyses and assessments. At the present time controls to address flammable gas concerns have been placed on all 149 Single-Shell Tanks (SST) and 28 Double-Shell Tanks (DST). These controls are consistent with the latest information and analyses regarding flammable gas issues. Review of the flammable gas issue is continuing. In accordance with our position of maintaining the Tank Farm facilities in a safe manner these controls will remain in effect until a sufficient technical basis can be established which would allow a modification to the existing controls. When a technical basis is established that will allow a change to the controls, then the approval of the modifications will be consistent with the manner in which they were originally established.

Question 3:

Can continuous monitoring be applied for the hydrogen gas safety criteria during operational and waste intrusive events (characterization, stabilization, retrieval, waste transfer, etc.) If so, how long would it take to obtain this capability and what impact would it have upon the TWRS program and overall Hanford budget in terms of time, costs, resource allocation, etc?

Answer:

Monitoring for flammable gases is a requirement for all intrusive activities for all tanks. Application of this requirement for all tanks were put into effect November 1995. Operating Specification Documents (OSD) for SST, DST and aging waste tanks were modified to include controls for monitoring flammable gases. These controls were already in place for watch list tanks.

For the flammable gas watch list tanks, Standard Hydrogen Monitoring Systems have been installed. The method used or other tanks involves the use of a Flammable Gas Meter (FGM). FGMs will also be used for the monitoring of tanks during salt-well pumping. The first tanks to employ these devices, on a continuous basis, will be 241-T-107, 241-S-110 and 241-S-108. This equipment was delivered in January 1996. Similar devices will be used for salt-well pumping watch list tanks (e.g., 241-101-A). These devices cost less than $25K each.

Question 4:

Does the capability exist to ventilate the Single Shell Tanks (SST's) during operational and waste intrusive activities? If so, what would it require to apply ventilation procedures during these events? If not, what delay would be involved in procuring these capabilities and, given these budget restrictive times, what effects would the procurement and use of this equipment have upon the TWRS and overall Hanford Budget? Would the cost be born by other Hanford Programs? If so, what programs(s)?

Answer:

The majority of the SSTs do not have active ventilation. Currently, Westinghouse Hanford Company (WHC) is modifying the rotary mode core sampling exhausters for intrinsically safe operation. These systems will be put in use by the June 1996, time frame.

Use of ventilation systems for other operations would be put into use, if required by the safety basis. Currently, a Safety Assessment (SA) is being completed for the interim stabilization (salt-well pumping) of flammable gas watch list tanks. Preliminary results indicate that a ventilation system would be required on a stand-by basis. It would be used only if the dome space exceeds a set value for flammable gas concentration. Several options for providing these systems are being pursued; the cost for such systems may range from $100K to $300K. Delivery of such systems is still under evaluation.

Question 5:

One of the most serious impacts these tanks have on the environment is leakage due to tank failure. The TPA partially addresses this concern through the interim stabilization program which removes pumpable liquids from the tanks. Interim stabilization of the SSTs has been interrupted due to the application of administrative and access controls. When will a safety basis for the interim stabilization program be generated and who will have the responsibility within USDOE to approve this process (i.e. USDOE-Headquarters or USDOE-Richland)?

Answer:

Los Alamos National Laboratory (LANL) has been contracted to prepare a SA for interim stabilization of flammable gas watch list tanks. The current schedule shows that the SA will be submitted to the U.S. Department of Energy (DOE), Manager, Richland Operations Office (RL) in mid March 1996, and approval is expected in June 1996. The approval authority for updating the authorization basis for this work is RL. RL sent a letter to DOE Headquarters (HQ) on January 11, 1996, stating that RL's interpretation of HQ's guidance letter of November 11, 1995, gives RL the authority to approve updates to the Interim Safety Basis (ISB). The SA for Interim Stabilization will be submitted as an update to the ISB.

Request # M-41-96-01). To the extent practical recovery plans will be developed concerning non watch list tanks. Any cost/schedule impacts that result from the imposition of administrative controls will be documented using the appropriate change control system (i.e., Program and/or Tri-Party Agreement).

Question 8:

The generation of hydrogen by the 177 high-level radioactive waste tanks is not a new phenomenon. It has been widely recognized and technically acknowledged fact that, due to the contents of these tanks, all 177 have and will continue to generate hydrogen. This process will continue as long as radioactive waste is stored in the tanks. How is it that USDOE did not factor hydrogen generation into its day to day operations? For example, technology has existed for decades within the private sector which enables drilling under more adverse conditions than those observed at Hanford. Yet sampling has been halted because the sampling technique failed to consider such waste characteristics. What steps were taken in the past and what is planned for the future to assure all interested parties the TWRS Program has planned for all foreseeable eventualities and that progress will not be abruptly halted at a critical phase due to the failure to consider known waste characteristics? Has USDOE identified all administrative, operational and procedural changes which must occur to compensate for the hydrogen gas generation phenomenon? If so, provide this information to Ecology. Finally, how much longer do the Safety and Characterization Programs need to resolve well identified safety issues so Ecology, oversight agencies, Tribal Nations, advisory and environmental groups, and the general public can be assured the waste is being safely stored?

Answer:

The ISB for the Tank Farms addresses the issue of generation of hydrogen. Currently, the ISB forbids rotary mode core sampling in flammable gas watch list tanks. The potential for hydrogen and other gases in non-flammable gas watch list tanks has been addressed by establishing appropriate controls in the day-to-day operations (e.g., gas monitoring is conducted when tank boundaries are opened). Issues with such mixtures below the waste surface surfaced a few years ago with the release events for 241-SY-101. These issues for flammable gas have been primarily directed at the stored gas and modes for release. Furthermore, these issue has been compounded because of the presence of an oxidizer, nitrous oxide, in the gas mixture. Recently, discoveries of stored gas in several non-flammable gas watch list tanks have resulted in RL placing flammable gas controls on all 177 tanks.

Currently, SAs are being prepared for conducting rotary mode core sampling and saltwell pumping of flammable gas tanks. These SAs will evaluate the hazard and consequence analysis so as to establish the requisite work controls and equipment requirements for doing these types of activities. These documents will be submitted to RL within the next month.

Also, updates/modifications to the ISB are in progress. This document, together with updated Interim Operational Safety Requirements (i.e., "controls") will be submitted to RL for approval. It is anticipated that these documents will be completed at the end of March 1996.

Question 9:

Over the last 5 years, the TWRS Characterization Program has spent more than $250 million to characterize the waste in the 177 tanks. What Criteria has USDOE used to prioritize and schedule its tank sampling to obtain the required information? How will this change in the future? How were the sampling techniques and analytical methods selected which should be expected to provide the data to quantify and/or bound the safety hazards associated with the waste stored within these tanks? What data haves (sic) USDOE obtained over the last five years which directly relates to understanding and/or resolving the safety concerns raised by the tanks? What more is needed? Which tanks currently have sufficient characterization data which would allow rapid removal of controls and the return to normal operations? Which tanks do not have sufficient data? How quickly can operations be resumed with appropriate safety controls or limits in either all tanks or those which pose the greatest safety hazard? Considerable funds have also been used producing an array of sampling techniques, including four core sampling trucks. How did trucks designed to sample tanks known to generate hydrogen gas fail to include appropriate safety measures to allow them to complete their tasks? What measures are needed to upgrade any equipment for safe operation including the core sampling trucks and how long will it take? What effect will these further delays have upon the Characterization Program, particularly pertaining to its budgets and work scope as identified in the TWRS Tank Waste Analysis Plan submitted in August 1995 to fulfill TPA Milestone M-44-02? Is not the characterization of the tanks and identification of safety issues the only acceptable way USDOE can evaluate the safety hazards involved? Due to the safety issues involving these tanks, are not identification, characterization and resolution of potential safety hazards on of USDOE's highest priorities.

Answer:

Prioritization of tank sampling was formalized in 1995, and documented in the Tank Waste Characterization Basis (WHC-SD-WM-TA-164). The primary issues requiring sampling were identified and prioritized. Criteria were identified for each issue against which to evaluate the importance of each tank. All tanks were evaluated and ranked in priority order, starting with those that are most important with regard to the largest number of issues. This ranking forms the basis for the sampling schedule. As tanks are sampled, the information will be evaluated and fed back into the prioritization process to determine if new knowledge alters future priorities. In addition, identification of new issues or closure of existing issues will cause re-evaluation of sampling needs.

Sampling techniques and analytical methods were selected based on the specific information required from each tank and the physical constraints involved (e.g., waste depth and physical form). Information needs for each issue are defined by first formulating the overall plan to resolve the issue (including

characterization, monitoring, experimentation, modeling, mitigation and controls) and then using the DQO process to specify the details of the characterization needs. Over the past five years RL has obtained significant data relating to the content and behavior of tank waste that supports resolution of safety issues:

- Ferrocyanide ages to a non-reactive form;
- Organic complexants show some aging;
- Organic solvents in the vapor phase correspond to solvents in the condensed phase;
- Flammable gases are not observed in the steady state headspaces of the vast majority of tanks; and
- Overall waste composition is consistent with that predicted by historical records.

Additional specific information needs have been identified for 28 high priority tanks described in the Characterization Basis document. Obtaining this information will allow decisions to be made regarding the appropriate handling of groups of tanks. This information will also allow RL to better define specific remaining information needs associated with individual tanks.

All tanks have been assessed by comparing the applicable information needs to the available information. Current information requirements for safety screening include taking samples from each individual tank. Other information needs apply to subsets of tanks. Eight tanks have been identified where all known information needs have been met (241-C-103, 241-C-107, 241-C-108, 241-C-111, 241-C-112, 241-AX-102, 241-U-204, 241-TY-104). These tanks have sufficient information available to define the minimum necessary level of controls. To date a total of 118 tanks have been sampled by some means (core, grab, auger, vapor, or a combination) since 1989. In many of these tanks, the existing characterization data are adequate to define the required controls. In cases where characterization data are insufficient, a conservative approach has been taken by placing controls on the tank until they are shown to be unnecessary.

The original core sampling trucks were not designed for use with flammable gas environments. This reflected a decision to accelerate delivery of the rotary mode core sampling systems by retrofitting the capability to sample in flammable gas tanks. This decision was made at a time when there were only 25 flammable gas watch list tanks. Currently, there is no known commercial drilling technology which operates in a flammable vapor environment containing both fuel (principally hydrogen and ammonia) and oxidizer (nitrous oxide) such as exists in the Hanford tanks. A detailed SA for the rotary mode core sampling system is currently being prepared, and an ignition source study for each tank farm is being prepared. Results of these efforts will be used to upgrade the controls and equipment, where required. Efforts are underway to upgrade the trucks for use in the flammable gas watch list tanks; these modifications should be completed in the next couple of months. It is expected that the SA will be approved and the modifications to the rotary mode core sampling trucks will be completed in June 1996. The modifications will address three concerns: the exhausters are not intrinsically safe, the current

rotary bit is a potential spark source, and the drill string is a potential spark source. Approval of the SA and the system modifications will allow rotary mode core sampling of flammable gas tanks to be authorized in June 1996.

Testing of the rotary mode core sampling system was conducted this past summer in tanks 241-BY-108 and 241-BY-110. This testing disclosed that several tanks, which were previously thought to require rotary mode core sampling, could probably be successfully push mode sampled. With this new information, the 28 high priority tanks were re-screened for appropriate sampling methodology. Those tanks, which are now considered to be capable of being successfully sampled in the push mode, were scheduled to be sampled first. Since then, high priority tanks 241-BY-104, 241-BY-106 and 241-U-109, which were originally scheduled for rotary mode core sampling, have been successfully push mode sampled.

Additionally, a list of alternate high priority tanks has been developed. All of these tanks will provide significant information, although not to the extent of the original 28 high priority tanks. Current planning is to sample two of these alternate high priority tanks prior to authorization for rotary mode core sampling in flammable gas tanks in June 1996.

The Fiscal Year (FY) 1996 Tank Waste Analysis Plan (TWAP) listed those tanks which would possibly be sampled in FY 1996. A revision the TWAP is required to add additional tanks.

Question 10:

USDOE has been evaluating retrieval technologies and has a well developed retrieval program within TWRS. USDOE has tentatively scheduled the retrieval of SST 241-C-106 in 1996 which will not only evaluate a potential retrieval technology (sluicing) but will also resolve a high heat safety issue. What impacts will this decision have upon the retrieval of C-106 high heat sludge? How will the addition of administrative and access controls affect the resolution of a high priority safety issue? What effect will this decision have upon the retrieval budget? In addition, USDOE is planning to install retrieval systems in a number of other tanks (241-SY-102, AW-105, and AZ-102). What effect will this decision have upon these plans and the subsequent consolidation of these tanks wastes? How are safety issues being considered during the design and construction of future retrieval systems and have all known safety hazards been included in these designs?

Answer:

The restrictions imposed in the Tank Farms OSD for SSTs and the Aging Waste Facility (tanks 241-C-106 and 241-AY-102 fall into these respective categories) will not impact either the cost or the schedule of the W-320 Sluicing Retrieval Project. These OSDs are the governing documents for controls in the Tank Farms related to flammable gases. Construction activities are slightly affected through the requirement to verify the pit or tank vapor space atmosphere is below the ten percent Lower Flammability Limit

value before work commences. The sluicing retrieval activity (defined as a waste-intrusive activity in the OSDs) will require a continuous flammable gas monitor to be installed on both the sending and receiving tanks before equipment installation. No impacts to project cost or schedule result from this requirement since previously procured gas monitoring units will be used for the required duration of the activity.

The safety administrative and access controls on the non-watch list DSTs are a cost effective tool for providing reasonable assurance that tank-intrusive activities can be accomplished without creating unsafe conditions related to flammable gas. Very little additional effort is required of the work crews to obtain a significantly improved margin of safety. These controls have been implemented by Project W-151 during construction of the first DST retrieval system in tank 241-AZ-101. Components placed in the tank have been grounded, spark proof tools have been used during tank-intrusive tasks, and most importantly, the dome airspace is sampled prior to gaining access to the tank. After initially revising the existing work packages to include the added controls, costl and schedule impacts to the retrieval system construction have been negligible. Construction of retrieval systems for tanks 241-SY-102, 241-AW-105 and 241-AZ-102 over the next five years will easily implement these same controls.

Project W-211 will design and construct retrieval systems for the next ten DSTs based on the design of the current project, W-151. Six of these tanks are on the flammable gas watch list, so are not impacted by the new controls. The more stringent watch list controls will be used during construction of the retrieval systems for the six watch list tanks.

The safety analysis for any retrieval project considers all known hazards. When these hazards can potentially result in unacceptable consequences, the safety analysis requires the project to design appropriate mitigating features or administrative controls. For Project W-211, the major component of the retrieval system are two 300 horsepower mixer pumps. By design, the pumps will not present a hazard related to flammable gas. The drive motors are located exterior to the tank, the pump head operates within the liquid waste, and the support shaft is filled with water excluding a place for flammable gas to collect. Another example of the design, considered the potential flammable gas hazard as the requirement for the Closed Circuit TV cameras to operate in a flammable gas environment. The safety analysis addresses the flammable gas hazard regardless of the addition of the recent administrative and access controls.

9713505.0169

43501

Tri-Party Agreement

March 26, 1996

SECOND THIRTY DAY EXTENSION TO DISPUTE RESOLUTION FOR HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER CHANGE REQUEST M-41-96-01

Change Request M-41-96-01, concerning M-41-09 Interim Milestone, "Start Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm," is in the dispute resolution process of the Hanford Federal Facility Agreement and Consent Order. The dispute has been extended for thirty days for continued discussion at the Project Manager level. The current extension will expire on April 7, 1996.

The end of the period during which the Project Managers seek resolution of the dispute is hereby extended an additional thirty (30) days, from April 7, 1996 to May 6, 1996.

James E. Rasmussen
Director, Environmental Assurance,
Permits and Policy Division
U.S. Department of Energy
Richland Operations Office

Michael A. Wilson
Manager, Nuclear Waste Program
State of Washington
Department of Ecology

cc: J. W. Donnelly, Ecology
T. M. Michelena, Ecology
D. R. Sherwood, EPA
C. C. Haass, DOE
D. E. Jackson, DOE
J. E. Kinzer, DOE
G. H. Sanders, DOE
L. D. Arnold, WHC
D. Powaukee, Nez Perce
R. Jim, YIN
B. Burke, CTUIR
Administrative Record

9713505.0170

43894

Tri-Party Agreement

April 23, 1996

THIRD THIRTY DAY EXTENSION TO DISPUTE RESOLUTION FOR HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER CHANGE REQUEST M-41-96-01

Change Request M-41-96-01, concerning M-41-09 Interim Milestone, "Start Interim Stabilization of 7 Non-Watch list Tanks in 241-S Tank Farm" is in the dispute resolution process of the Hanford Federal Facility Agreement and Consent Order. The dispute has been extended for sixty days for continued discussion at the Project Manager level. The current extension will expire on May 6, 1996.

The end of the period during which the Project Managers will seek resolution of the dispute is hereby extended an additional thirty (30) days, from May 6, 1996 to June 5, 1996.

James E. Rasmussen
Director, Environmental Assurance,
Permits and Policy Division
U.S. Department of Energy
Richland Operations Office

Michael A. Wilson
Manager, Nuclear Waste Program
State of Washington
Department of Ecology

cc: L. D. Arnold, WHC
J. W. Donnelly, Ecology
C. C. Haass, DOE
D. E. Jackson, DOE
J. E. Kinzer, DOE
T. M. Michelena, Ecology
G. H. Sanders, DOE
D. R. Sherwood, EPA
Administrative Record

9713505.0171

Tri-Party Agreement

May 28, 1996

FOURTH THIRTY DAY EXTENSION TO DISPUTE RESOLUTION FOR HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER CHANGE REQUEST M-41-96-01

Change Request M-41-96-01, concerning M-41-09 Interim Milestone, "Start Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm," is in the dispute resolution process of the Hanford Federal Facility Agreement and Consent Order. The dispute has been extended for continued discussion at the Project Manager level. The current extension will expire on June 5, 1996.

The end of the period during which the Project Managers seek resolution of the dispute is hereby extended an additional thirty (30) days, from June 5, 1996 to July 5, 1996.

James E. Rasmussen
Director, Environmental Assurance,
Permits and Policy Division
U.S. Department of Energy
Richland Operations Office

Michael A. Wilson
Manager, Nuclear Waste Program
State of Washington
Department of Ecology

cc: J. W. Donnelly, Ecology
T. M. Michelena, Ecology
D. R. Sherwood, EPA
C. C. Haass, DOE
D. E. Jackson, DOE
J. E. Kinzer, DOE
G. H. Sanders, DOE
L. D. Arnold, WHC
D. Powaukee, Nez Perce
R. Jim, YIN
B. Burke, CTUIR
Administrative Record

9713505.0172

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

JUN 0 6 1996

96-MSD-102

Mr. Mike Wilson, Manager
Nuclear Waste Program
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Wilson:

ELEVATION OF DISPUTE RESOLUTION FOR HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (TRI-PARTY AGREEMENT) CHANGE CONTROL FORM M-41-96-01

References:

1. Letter from J. Kinzer, RL, to M. Wilson, Ecology, "Creation of Danger, Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement)," dated December 12, 1995.

2. Letter from P.F.X. Dunigan, RL, to M. Wilson, Ecology, "Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Change Control Form M-41-96-01," dated January 17, 1996.

3. Letter from M. Wilson, Ecology, to P. Dunigan, RL, "Tank Farm Stabilization Change Control Form M-41-96-01," dated January 30, 1996.

4. Letter from P.F.X. Dunigan, RL, to M. Wilson, Ecology, "Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement)," dated February 7, 1996.

5. First, Second, and Third "Thirty Day Extension to Dispute Resolution for Hanford Federal Facility Agreement and Consent Order Change Request M-41-96-01," dated March 6, 1996, March 26, 1996, and April 23, 1996.

6. Fourth "Thirty Day Extension to Dispute Resolution for Hanford Federal Facility Agreement and Consent Order Change Request M-41-96-01," dated May 28, 1996.

On October 16, 1995, the U.S. Department of Energy, Richland Operations Office (RL) completed an Unreviewed Safety Question (USQ) Evaluation. The evaluation was based on a screening of the tanks for trapped hydrogen gas. RL informed the Washington State Department of Ecology (Ecology) and the U.S. Environmental Protection Agency on October 17, 1995, of the issue. After preliminary analysis of the issue, RL informed Ecology of the need to invoke the Creation of Danger provision of the Tri-Party Agreement due to flammable gas concerns (Reference 1).

On January 17, 1996, RL submitted Change Request Form M-41-96-01, which requested a change in the due dates for Interim Milestone M-41-09 and Target Date M-41-09-T01, to be determined. The basis for this Change Request was the

need to complete a Safety Assessment to identify equipment and operational changes necessary to safely resume saltwell pumping beginning with tank 241-A-101, 241-BY-109, and the five 241-S Tanks (Reference 2). The Change Request Form was denied by Ecology on January 30, 1996, (Reference 3). On February 7, 1996, RL invoked the Dispute Resolution provisions of the Tri-Party Agreement (Reference 4).

Substantial dialogue has occurred between RL and Ecology at the Project Manager level, in an attempt to resolve this dispute. The dispute has been extended three times at the Project Manager level (Reference 5). A fourth extension was verbally denied by Ecology on May 31, 1996, (Reference 6) leaving the latest extension to expire on June 5, 1996.

In response to Ecology's rejection of the M-41-96-01 Change Request and the request for further extension of the dispute at the Project Manager level, RL by this letter of objection, exercises its right under Tri-Party Agreement Article VIII, Section 30 A, to elevate this matter to the Interagency Management Integration Team (IAMIT) for further consideration.

RL still believes that "good cause" exists under the Creation of Danger provisions of the Tri-Party Agreement to revise the due dates for Interim Milestone M-41-09 and Target Date M-41-09-T02, as well as all the remaining M-41 interim milestones and target dates. A Recovery Plan has been prepared for the remaining Tri-Party Agreement M-41 interim milestones and target dates. The proposed milestone dates can not be confirmed and approved by all parties until the Safety Assessment associated with the interim stabilization activities is finalized. The Safety Assessment is due to RL on June 25, 1996. This assessment will be forwarded to Ecology at the earliest possible time.

RL looks forward to initiating IAMIT discussions concerning the resolution of the Tri-Party Agreement Change Request M-41-96-01 dispute. Should you have any questions or need additional documentation, please contact Jim McClusky, Division Director of Waste Storage Division on (509) 372-0947.

Sincerely,

George H. Sanders, Administrator
Hanford Tri-Party Agreement

MSD:CCH

cc: J. Wilkinson, CTUIR
D. Pawaukee, Nez Perce Tribe
R. Jim, YIN
T. Michelena, Ecology
J. Donnelly, Ecology
L. Arnold, WHC
R. Bacon, WHC
B. Erlandson, WHC
T. Morton, WHC
B. Williamson, WHC

9713505.0174

JUN 05 1996

bcc: MSD OFF File
MSD Rdg File
RMIC
D. Jackson, EAP
G. Sanders, EAP
C. Haass, MSD
J. Clark, WSD
J. Peschong, WSD
P. Kruger, EAP
J. Rasmussen, EAP

Record Note: In response to Ecology's rejection of the M-41-96-01 Change Request and the request for further extension of the dispute at the Project Manager level, RL by this letter of objection, exercises its right under Tri-Party Agreement Article VIII, Section 30 A, to elevate this matter to the IAMIT for further consideration.

6-5-96

OFFICE >	MSD	MSD	WSD	WSD	WSD	TWR
SURNAME>	HAASS	SOHN	CLARK	PESCHONG	MCCLUSKY	BADER
DATE >	6-5-96	6-5-96	6/5/96	6-5-96	6-5-96	6-5-96
OFFICE >	TWR	OCC	EAP	EAP		
NAME>	KINZER	WILSON	SANDERS	Kruger		
DATE >	6-5-96	6/5/96	6/5/96	6/5/96		

(Please Return To Leslie McClure, 3-9109, 2704HV/D200F/200) DOCUMENT No. 68882

9713505.0175

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

June 26, 1996

Mr. Jackson Kinzer
Office of Tank Waste Remediation Systems
U.S. Department of Energy
Richland Operations
P.O. Box 550
Richland, WA 99352

RE: Ninety Day Extension to Dispute Resolution for Hanford Federal Facility Agreement and Consent Order Change Request M-41-96-1

Dear Mr. Kinzer:

Change Request M-41-96-01, concerning M-41-9 Interim Milestone, "Start Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm," is in the dispute resolution process of the Hanford Federal Facility Agreement and Consent Order. The dispute was elevated to the Interagency Management Integration Team (IAMIT) for resolution. The period for discussion and resolution of this dispute at the IAMIT level expires on June 26, 1996.

After consideration of this matter and following discussion in the June 25, 1996, IAMIT meeting, I have determined that Ecology can not agree to extend the dispute resolution of the M-41-9 Interim Milestone.

Consistent with the terms of the Tri-Party Agreement, USDOE remains bound by the conditions of the current TPA Interim Milestone M-41-9 and must take all actions necessary to maintain compliance. Please contact me at (360) 407-7150, if you would like to discuss this matter further.

Sincerely,

Michael A. Wilson

Michael A. Wilson, Manager
Nuclear Waste Program Manager

cc: Ron Izatt, USDOE
Jim Rasmussen, USDOE

9713505.0176

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

JUL 0 9 1996

96-EAP-205

Mr. Michael Wilson, Manager
Nuclear Waste Program
Washington Dept. of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Dear Mr. Wilson:

EXTENSION OF DISPUTE RESOLUTION

Per our recent telephone conversation, enclosed herewith please find a proposed memorandum of agreement addressing extension of dispute resolution under the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement). The U. S. Department of Energy, Richland Operations Office, proposes to extend dispute resolution involving Tri-Party Agreement Change Request M-41-96-01 until July 17, 1996, as it is believed that further discussion of relevant facts will prove beneficial to all parties.

Provided the Washington Department of Ecology agrees with the proposed extension, after obtaining the appropriate signature, please forward the signed original document to my office. Your assistance in this matter is greatly appreciated.

Should you have any questions, please contact me on (509) 376-6888.

Sincerely,

George H. Sanders, Administrator
Hanford Tri-Party Agreement

EAP:GHS

Enclosure

cc w/encl:
L. D. Arnold, WHC

9713505.0177

Tri-Party Agreement

EXTENSION TO DISPUTE RESOLUTION FOR HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER CHANGE REQUEST M-41-96-01

Change Request M-41-96-01, concerning M-41-09 Interim Milestone, "Start Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm," is in the dispute resolution process of the Hanford Federal Facility Agreement and Consent Order. The dispute has been elevated to the Director of Ecology for resolution. The period for discussion and resolution of this dispute will expire on July 10, 1996. The parties have agreed that further discussion on this issue will be beneficial. Therefore, the parties have agreed to extend the dispute period.

The end of the period during which DOE and Ecology seek resolution of the dispute is hereby extended seven (7) days, from July 10, 1996 to July 17, 1996, to allow time for discussion of the issue at the Senior Executive Level.

John D. Wagoner
Manager
U.S. Department of Energy
Richland Operations Office

Mary Riveland
Director
State of Washington
Department of Ecology

cc: L. D. Arnold, WHC
B. Burke, CTUIR
J. W. Donnelly, Ecology
R. Jim, YIN
T. M. Michelena, Ecology
D. Powaukee, NPT
D. R. Sherwood, EPA

Roger

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

August 14, 1996

Mr. John Wagoner
Richland Operations Manager
P. O. Box 550
Richland, WA 99337

Dear Mr. Wagoner:

Re: Dispute Resolution Agreement for Milestone M-41-09

This letter confirms the agreement reached between Dan Silver, Assistant Director for the Washington State Department of Ecology (Ecology) and Ron Izatt, of the U. S. Department of Energy (USDOE) on July 12, 1996 regarding M-41-09, "Start interim Stabilization of 7 non-watch list tanks in 241-S Tank Farm." The agreement reached states, "USDOE shall submit to Ecology a plan and schedule in the form of a change package by August 30, 1996 so that Ecology approval can be issued by September 10, 1996 to allow successful progress toward completion of M-41-00, "Complete single-shell tank interim stabilization by September 30, 2000."

Dispute resolution was initiated under the Hanford Federal Facility Agreement and Consent Order (HFFACO), Amendment Six, Article XXVI. USDOE issued a work stoppage on pumping many single-shell tanks, including tanks within M-41-09 due to the presence of flammable gas in some tanks and USDOE's determination to invoke Article XXXII, Creation of Danger, under the HFFACO. Ecology contends that the flammable gas issue was a known problem, and should have been discussed between the existing management teams. Ecology is not in the position of "second guessing" worker safety, and recognizes safety as a critical factor. However, M-41-09 was missed as well as M-41-10, and seven months have elapsed with no progress toward an amenable solution.

USDOE must submit the plan and schedule to meet Ecology's expectations of completing M-41-00. Failure to obtain Ecology's approval by September 10, 1996 shall result in USDOE missing M-41-09 and M-41-10, and Ecology shall take significant and appropriate enforcement actions.

Sincerely,

Michael A. Wilson, Manager
Nuclear Waste Program

See George Sanders for cc: Mail from Roger Stanley re: agreed delivery date for Recovery Plan. (4/10 for submittal)

9713505.0179

ACCEPTED RECOVERY PLAN

9713505.0180

45321

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

96-WSD-213

SEP 09 1996

NMWMP - Hanford

SEP 10 1996

Kennewick

Mr. Mike Wilson, Program Manager
Nuclear Waste Program
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Wilson:

HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER CHANGE CONTROL FORM M-41-96-02 AND RECOVERY PLAN FOR MILESTONE M-41-00, "COMPLETE SINGLE-SHELL TANK INTERIM STABILIZATION"

Enclosed for your approval is the signed Change Control Form M-41-96-02. This change proposes to revise the remaining Interim Milestones and Target Dates for M-41-00, "Complete Single-Shell Tank Interim Stabilization." Also enclosed is a Recovery Plan which supports this Change Request and the Major Milestone M-41-00 completion date of September 30, 2000.

If you have any questions, please contact John Clark on (509) 376-2246 or Carolyn Haass on (509) 372-2731.

Sincerely,

for George H. Sanders, Administrator
Hanford Tri-Party Agreement

WSD:JMC

Enclosures

cc w/encls:
J. Wilkinson, CTUIR
J. Donnelly, Ecology
S. McKinney, Ecology
D. Pawaukee, Nez Perce Tribe
L. Arnold, WHC
B. Erlandson, WHC
R. Jim, YIN

9713505.0181

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-41-96-02	Do not use blue ink. Type or print using black ink.	September 4, 1996

Originator

J. M. Clark/M. A. McLaughlin

Phone

(509)376-2246/376-4084

Class of Change

[ ] I - Signatories [X] II - Executive Manager [ ] III - Project Manager

Change Title

Revise M-41 Interim Milestones due to Flammable Gas Issue

Description/Justification of Change

The need to institute flammable gas controls on a number of single shell tanks before they can be pumped has led to a revision of the schedule for interim stabilizing the single shell tanks which have not yet been completed. The revised schedule is reflected in the following M-41 Interim Milestone and Target Date changes:

Delete the following M-41 Interim Stabilization Interim Milestones and Target Dates:

M-41-01-T02	Complete Interim Stabilization of 5 Single Shell Tanks	11/30/1995
M-41-08	Start Interim Stabilization of 1 Non-Watch List Tank in 241-U Tank Farm.	8/31/1996
M-41-08-T01	Complete Interim Stabilization of 1 Non-Watch List Tank in 241-U Tank Farm.	4/30/1997

(continued)

Impact of Change

The single shell tank interim stabilization schedule has been revised.
All M-41 Interim Milestones and Target Dates are revised because of the need to institute flammable gas controls on additional tanks in the single shell tank farms.
The Major Milestone M-41-00 is not changed.

Affected Documents

Hanford Federal Facility Agreement and Consent Order, Appendix D, Work Plan.

Approvals

DOE	9/6/96 Date	✓ Approved	___ Disapproved
EPA	Date	___ Approved	___ Disapproved
Ecology	Date	___ Approved	___ Disapproved

Description/Justification (cont.)

M-41-09	Start Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm.	1/31/1996
M-41-09-T01	Complete Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm.	4/30/1997
M-41-10	Start Interim Stabilization of 2 Flammable Gas Watch List Tanks in 241-A/AX Tank Farm.	4/30/1996
M-41-10-T01	Complete Interim Stabilization of 2 Flammable Gas Watch List Tanks in 241-A/AX Tank Farms.	12/31/1998
M-41-11	Start Interim Stabilization of 4 Flammable Gas Watch List Tanks in 241-U Tank Farms.	8/31/1996
M-41-11-T01	Complete Interim Stabilization of 4 Flammable Gas Watch List Tanks in 241-U Tank Farms.	9/30/1997
M-41-12-T01	Complete Interim Stabilization of 241-BX-106, 241-BY-103 and 241-BY-106.	12/31/1997
M-41-12A	Start Interim Stabilization of Tank 241-BY-105.	TBD
M-41-12A-T02	Complete Interim Stabilization of Tank 241-BY-105.	TBD
M-41-13	Start Interim Stabilization of 3 Organic Watch List Tanks in 241-U Tank Farm.	8/31/1996
M-41-13-T01	Complete Interim Stabilization of 3 Organic Watch List Tanks in 241-U Tank Farm.	1/31/1998
M-41-14	Start Interim Stabilization of 7 Flammable Gas Watch List Tanks in 241-S/SX Tank Farms.	6/30/1997
M-41-14-T01	Complete Interim Stabilization of 7 Flammable Gas Watch List Tanks in 241-S/SX Tank Farms.	11/30/1999
M-41-15	Start Interim Stabilization of 2 Organic Watch List Tanks in 241-S/SX Tank Farms.	6/30/1997
M-41-15-T01	Complete Interim Stabilization of 2 Organic Watch List Tanks in 241-S/SX Tank Farms.	3/31/1999
M-41-16	Start Interim Stabilization of 1 Non-Watch List Tank in 241-T Tank Farm.	3/30/1998
M-41-16-T01	Complete Interim Stabilization of 1 Non-Watch List Tank IN 241-T Tank Farm.	8/31/1998
M-41-17-T01	Complete Interim Stabilization of 1 Ferrocyanide Watch List Tank in 241-T Tank Farm.	5/31/1998

Description/Justification (cont.)

M-41-18	Start Interim Stabilization of 1 Flammable Gas Watch List Tank in 241-T Tank Farm.	4/30/1998
M-41-18-T01	Complete Interim Stabilization of 1 Flammable Gas Watch List Tank in 241-T Tank Farm.	7/31/1998
M-41-19	Start Interim Stabilization of 1 Organic Watch List Tank in 241-C Tank Farm.	9/30/1998
M-41-19-T01	Complete Interim Stabilization of 1 Organic Watch List Tank in 241-C Tank Farm.	3/31/1999

The following Interim Milestones and Target Dates are added:

M-41-20	Start Interim Stabilization of 4 Single Shell Tanks.	9/30/1996
M-41-21	Start Interim Stabilization of 2 Single Shell Tanks.	3/31/1997
M-41-22	Start Interim Stabilization of 6 Single Shell Tanks.	9/30/1997
M-41-23	Start Interim Stabilization of 8 Single Shell Tanks.	3/31/1998
M-41-24	Start Interim Stabilization of 9 Single Shell Tanks.	9/30/1998
M-41-25	Start Interim Stabilization of 3 Single Shell Tanks.	3/31/1999
M-41-26	Start Interim Stabilization of 2 Single Shell Tanks.	9/30/1999
M-41-27	Complete Salt Well Pumping of Single Shell Tanks.	9/30/2000
M-41-27-T01	Complete Salt Well Pumping of 1 Single Shell Tank.	9/30/1996
M-41-27-T02	Complete Salt Well Pumping of 4 Single Shell Tanks.	9/30/1997
M-41-27-T03	Complete Salt Well Pumping of 5 Single Shell Tanks.	9/30/1998
M-41-27-T04	Complete Salt Well Pumping of 8 Single Shell Tanks.	9/30/1999
M-41-27-T05	Complete Salt Well Pumping of 16 Single Shell Tanks.	9/30/2000

The M-41-00 Major Milestone date of September 30, 2000 is not impacted by this change.

On October 16, 1995 an Unreviewed Safety Question (USQ) Evaluation (1) was completed for the U.S. Department of Energy (DOE) by one of its contractors which raised serious concerns on the safe operation of flammable gas tanks. This evaluation was based on a screening (2) of the Hanford tanks for trapped gas prepared for the DOE by a different Hanford contractor. The DOE was informed on October 17, 1995 of these concerns, and advised the Washington Department of Ecology (Ecology) and the U. S. Environmental Protection Agency (EPA) of the issues at the Unit Managers Meeting on the same day. After further review of the facts in the technical studies, the DOE was unable to make a final determination on the safe operation of the flammable gas tanks without conducting a

Description/Justification (cont.)

Safety Analysis. The DOE informed Ecology on December 12, 1995 (3), of the need to invoke the Creation of Danger provision of the Hanford Federal Facility Agreement and Consent Order due to the flammable gas concerns.

The DOE recognizes the responsibility to meet established Tri-Party Agreement schedules, but when issues arise which can impact safe operations, DOE must evaluate the issues on a case by case basis and proceed to resolve the USQ in an orderly manner. Safety Analysis work on the flammable gas issue was contracted to a third party and a report, assessing tank 241-A-101 only, was scheduled for completion on January 31, 1996. The Safety Analysis, however, was not adequate to allow the restart of interim stabilization work for the single shell tanks involved in Milestone M-41-09 and subsequent milestones. The initial phase of the Safety Analysis was completed in August 1996, and forms the basis for the replacement interim milestones described above. Subsequent safety analyses, addressing additional tanks and tank farms, were found to be needed and additional safety analysis work is being carried out.

The flammable gas issue has to date impacted five interim milestones and three target dates. Target Date M-41-01-T02 was delayed by the need to institute flammable gas controls on tank 241-BY-109, which is the only remaining tank to be pumped under that target. Five of the seven tanks in S Farm which were scheduled for start of interim stabilization to complete Interim Milestone M-41-09 are currently designated as part of the USQ, and flammable gas watch list controls have been implemented for these tanks. This results in a delay for the start of pumping the potential watch list tanks in S Farm to accommodate the safety assessment work and the time needed for review of the work. The target date M-41-09-T01 for completion of the interim stabilization of the tanks is also delayed because of the delay in the start of this work. Interim Milestone M-41-10, which required start of interim stabilization for two flammable gas watch list tanks in 241-A/AX tank farms by April 30, 1996, was also impacted by the need to do additional safety analysis work. Target M-41-10-T01 is consequently delayed. Additional Interim Milestones, M-41-08, M-41-11 and M-41-13, due August 31, 1996, have been impacted.

A recovery plan has been developed and the new milestones stated above are supported by a schedule in that plan. The schedule addresses the safety analysis requirements for the tanks, as well as the additional preparation time needed for the equipment and administrative controls due to the flammable gas concerns. The new interim milestones and target dates do not specify individual tanks in order to allow flexibility needed to address future considerations as they arise and to fully integrate the interim stabilization work with other Tank Farm programs.

(1) R. J. Van Vleet and R. L. Guthrie, Unreviewed Safety Question Evaluation, TF-95-0095, Westinghouse Hanford Company, October 16, 1995.

(2) Whitney, Paul, Screening the Hanford Tanks for Trapped Gas, PNL-10821, Pacific Northwest Laboratory, Richland, Washington, 1995.

(3) Letter, J. Kinzer to M. Wilson, "Creation of Danger, Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement," dated December 12, 1995).

9713505.0185

HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER RECOVERY PLAN, M-41-00, "INTERIM STABILIZATION"

Table of Contents

Introduction....2
Purpose/Objectives....3
Assumptions/Requirements....3
General....3
Specific....5
Critical Path Impacts....6
Risks and Benefits of Approach....6
Programmatic Interfaces....6
Internal....6
External (i.e., other Hanford programs/projects)....7
MYPP....7
Multi-year work plan....7
Near and long term funding constraints....8
Recovery Schedule....9
Recovery Plan....10
Crosswalk Chart (Existing vs. Proposed TPA Milestones)....11
Proposed Change Request....14

September 4, 1996

HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER
RECOVERY PLAN, M-41-00, "INTERIM STABILIZATION"

Introduction

Beginning in 1975, to reduce the risk of loss of single-shell tank (SST) liquids to the environment, SST liquids were pumped first to designated SSTs, and after 1980 all wastes were transferred to double-shell tanks (DSTs). The process of pumping liquids from SSTs to DSTs is referred to as interim stabilization. To date, 115 of 149 SSTs have been classified as interim stabilized. Of the 115 SSTs, 102 have been isolated. Tank isolation, also known as intrusion prevention, is the installation of barriers in pipes leading to the SSTs and/or sealing valve pits to prevent adding any liquids to the tanks. Currently, there are 33 tanks yet to be interim stabilized. Tank 241-C-106 has been identified as part of Tri-Party Agreement, Milestone M-45-03, for SST Waste Retrieval Demonstration and is not addressed by this Recovery Plan. Four tanks had been previously stabilized but may not meet the current requirements. Evaluation of these tanks will be completed in September 1996. Any additional pumping, if required, is not considered significant.

The Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) established a Major Milestone, M-41-00, to "Complete Single-Shell Tank Interim Stabilization" by 9/30/2000. This milestone directs the timely completion of SST interim stabilization efforts. Milestone M-41-00 also encompasses intrusion prevention (except for tank 241-C-106).

Flammable gas controls were implemented on all 177 high-level waste tanks as a worker health and safety precaution in October 1995. This action ceased saltwell pumping in all SSTs, pending the outcome of a tank-by-tank analysis. In December 1995, after determining that minimal gas would be released due to unique waste properties in 4 tanks, the Department of Energy (RL) gave approval to commence saltwell pumping on three tanks utilizing continuous flammable gas monitoring (Tanks S-108, S-110, and T-107). In March 1996, pumping was started on not only S-108, S-110 and T-107 but also T-104. T-107 was declared interim stabilized in May 1996.

Subsequent findings from Safety Assessments and enhanced understanding of the flammable gas safety issues conservatively indicates that the waste in the remaining tanks require additional safety controls and equipment necessary to continue interim stabilization activities. The unanticipated, extensive safety analysis and the unplanned additional equipment/controls has resulted in the need to revise and reschedule the interim and target milestones of the TPA Major Milestone M-41-00.

September 4, 1996

Purpose/Objectives

The purpose of this Recovery Plan is to restructure the interim and target milestones as specified in the Tri-Party Agreement Major Milestone M-41-00, Interim Stabilization. This Recovery Plan also supports the annual review and affirmation of the interim and target milestones. The specific section of this milestone states as follows:

> "Interim milestones for start of pumping and target milestones for completion of each group of tanks will be reviewed and affirmed annually with Ecology. Upon start of the pumping, efforts to continue pumping will be continuously supported so that pumping is conducted as expeditiously as practical. If pumping is interrupted to a degree that jeopardizes the Target milestones, the Unit Managers shall meet in the effort to agree on a Recovery Plan. If such an agreement cannot be made at the Unit Manager Level, a formal Recovery Plan will be prepared and submitted to Ecology for Approval that supports the Major Milestone date of September 2000, if technically achievable."

The objective of this Recovery Plan is to provide a technical implementation plan and associated schedule to support achievement of interim stabilization and intrusion prevention of the 33 remaining SSTs in accordance with the Tri-Party Agreement M-41 Major Milestone date of September 2000.

Assumptions/Requirements

General

The M-41-00 Major Milestone to complete Interim Stabilization and Intrusion Prevention of 148 SSTs will be met by September 2000. This is based on the below listed assumptions. These assumptions are achievable but will require close management attention over the remaining life of program. It is the intention of RL to keep the Department of Ecology informed of any significant issues that could impact the end date.

Assumptions

* Adequate funding and resources are available.

* Multiple-tank pumping issues are resolved in a timely manner.

* Pumping of flammable gas tanks will not create another flammable gas tank.

* SY-102 is retrieved on time or complex waste can be routed through the tank prior to retrieval.

* Complex/noncomplex waste can be mixed.

* SY-102 is retrieved on time or TRU waste can be co-mingled with non-TRU waste. (U-106 is the only tank currently impacted.)

To ensure completion of the major milestone, the Recovery Plan is predicated on the assumption that all saltwell pumping will be completed by June 30, 2000. The Recovery Plan budget for FY 97 is constrained to the FY97 MYPP budget profile for these specific years. Additional funds will be required for FY97. Due to the length of time of resolution of the flammable gas issues and lead time for procurement of the required equipment, additional funds will be made available early in FY97 in order to meet the target end date.

Tank storage space will be available in the DSTs for the SST saltwell liquids. The 242A Evaporator is assumed to operate as required in OWVP Rev 22 Draft, such that DST storage sparce is available for saltwell liquors. DST and SST waste compatibility issues will be resolved, and cross-site transfers will be made as necessary. Tank waste characterization data will be available prior to saltwell pumping.

Planning to resolve the issue of the four tanks (B-104, BX-103, T-102, and T-112) that do not meet current established supernate and interstitial liquid stabilization criteria is included. This is done to ensure that the intent of Tri-Party Agreement Major Milestone M-41-00 is completed.

The following are the criteria for interim stabilization:

- pumping rates fall to less than 0.19 liters/min (0.05 gal/min), and

- the pumpable volume is reduced to less than 19 kiloliters (5,000 gallons) of supernate and 190 kiloliters (50,0000 gallons) of pumpable interstitial liquid.

Intrusion prevention is defined as the installation of barriers in pipelines leading into SSTs and sealing pump or valve pits that drain back into SSTs to avoid inadvertent liquid being added into the tank. It will be completed for all tank farms at the earliest opportunity to avoid any need to re-stabilize tanks.

Flammable gas monitoring equipment will be installed on all designated flammable gas SSTs before Interim Stabilization work can be initiated. A safety assessment for one tank (A101), and checklist reviews will be performed for all remaining SSTs to be interim stabilized. Flammable gas monitoring is anticipated for all saltwell pumping activities. An Operational Readiness Review (ORR) will be performed only on the first Flammable Gas tank.

Currently, the LANL Safety Assessment for 241-A-101 requires an exhauster. For the purpose of this Recovery Plan, it is assumed all tanks will require an exhauster for all or a portion of the time they are being pumped. Additional analysis will be done to determine when and if an exhauster can be removed or if it will be required at all.

Therefore, approximately 10 exhausters will be required for FY 97. This equipment to be installed will be classified as Defense in Depth per DOE Order 3009 and not Safety Class.

If RL elects to change the order of the tanks being interim stabilized, RL will notify Ecology of the change. The Recovery Plan is based on numbers of tanks and not specific tanks per se.

Tank 241-C-106 is identified as part of Tri-Party Agreement, Milestone M-45-03, for SST Waste Retrieval Demonstration, and is not included in this Recovery Plan.

Specific

All saltwell pumping durations are based on previous stabilization efforts of like or similar waste. These estimates are based on a modified 70 percent operating efficiency values for the average jet pumping flow rates as documented in a July 13, 1994 DSI to V.C. Boyles, "Jet Pump Durations to Interim Stabilize Remaining Single-Shell Tanks." These calculated durations are assumed to be the critical path pumping durations, and a slack time of approximately 25 percent of the duration was added to ensure success of the schedule.

Originally, waste types were to be segregated (e.g., complex and non-complex, etc.). Preliminary findings used to interpret SSTs interim stabilization sequence are found in WHC-SD-WM-TI-722, "Organic and TRU Screening for 200 West Area SST Interim Stabilization Activities," dated January 6, 1996. This information was augmented by WHC-SD-WM-ES-345, Development and Determination of a SST Interim Stabilization Pumping Strategy, dated April 1995. This deferred pumping of complexed and TRU wastes until the new cross-site transfer line was in place and 102-SY retrieval could be completed. The situation has now changed significantly. To meet the current TPA Milestone (9/00), RL must now approve co-mingling waste from the complex and TRU tanks with other tank wastes, and transferring some of this material before the SY-102 retrieval is performed. There are other approaches which are substantially more expensive that will meet the Milestone without co-mingling dissimilar waste, however, these are not recommended.

Critical Path Impacts

Two significant issues will require close management attention to ensure completion of the M-41-00 Major Milestone end date. First, retrieval of SY-102 by December 1998 and/or permission to mix complex and noncomplex waste must be achieved. Also, resolution of the TRU solubility issue must be achieved prior to stabilizing U-106.

Risks and Benefits of Approach

Additional funding will be required from the addition of flammable gas controls and equipment. This funding will be necessary to complete the revised baseline work scope and will be requested as part of the FY 97-00 Change Request. In addition, the flammable gas controls have imposed near term restrictions on the ability to comply with the established interim and target milestones.

The revised schedule allows for the opportunity to acquire information necessary to make decisions on waste compatibility, thus minimizing TRU waste generation; and provides for the opportunity to resolve waste segregation issues. Secondly, the recovery schedule complies with the intent of the major milestone, "Upon start of the pumping, efforts to continue pumping will be continuously supported so that pumping is conducted as expeditiously as practical." Schedule compression associated with interim milestone M-41-09, restricted continuous saltwell pumping due to the proximity of the tanks to each other and the capacity of the double contained receiver tank (DCRT). The Recovery Plan schedule modifies the duty on the S Farm DCRT permitting continuous saltwell pumping operations once started.

Programmatic Interfaces

Internal

The Safety Issue Resolution Project addresses the hazards associated with storage of tank waste through four sub-projects, Flammable Gas, Ferrocyanide, Organics and Noxious Vapors, and High Heat and Others. Interaction includes conducting safety evaluations and proposing corrective action strategies for mitigating and/or resolving the hazards.

The Waste Characterization Project provides waste behavior data; Tank Waste Analysis Plans (TWAP)/Tank Characterization Plans and Tank Characterization Reports (TCR). Solid Waste Disposal administers the disposal and storage of solid waste (contaminated equipment) removed from tank operations.

The Waste Disposal Program assumes the SST minimum safe operations activity in 2002 as part of the Waste Retrieval Project.

External (i.e., other Hanford programs/projects)

The Environmental Restoration Program may be providing the ground water monitoring activities in FY98.

MYPP

The TWRS Multi-Year Program Plan (MYPP) provides the strategy upon which the program's mission is to be carried out; and defines the technical baseline for all the functional aspects of the program, including work to be done, requirements to be satisfied, methods to be used, and quality to be achieved.

Multi-year Work Plan

Essentially, the work plans for the 200E/200W Transition to Controlled, Clean, and Stable sub-projects are contained within the MYPP. This Recovery Plan only deals with the Interim Stabilization and Intrusion Prevention work scope. The 200E/200W Transition to Controlled, Clean, and Stable projects Work Breakdown Structures are organized by tank farm, and thus, each farm has elements of interim stabilization, where appropriate. Table 1 provides the budget for the tank farms and associated SSTs still requiring Interim Stabilization. The previous plan (prior to the emergence of the flammable gas issue) was to start pumping as many SSTs as possible in the next two years, independent of proximity or waste compatibility constraints. Table 2 provides the budget required by the Recovery Plan.

September 4, 1996

Table 1: Current MYPP Interim Stabilization Budget

Tank Farm	FY97	FY98	FY99	FY00	Total
241-A (Tank A-101)	$482K	442	454	241	1619
241-AX (Tank AX-101)	663K	442	454	241	1800
241-BY	942K	1898	901		3741
241-C		601	159		760
241-S	2359K	3580	2515	1755	10213
241-SX	4131K	2099	1740	1019	8989
241-T	715K	118			833
241-U	179K	6054	2800	1112	10145
I/S Integ & Control	2821K	1585	1629	1000	6421
Exhausters	***	3,000			
Total	12,292K	19,819	10,652	3169	45,135

Table 2: Recovery Plan Interim Stabilization Budget

Tank Farm	FY97	FY98	FY99	FY00	Total
241-A (Tank A-101)	$482K	442	454	241	1619
241-AX (Tank AX-101)	663K	442	454	241	1800
241-BY	942K	1898	901		3741
241-C		601	159		760
241-S	2359K	3580	2515	1755	10213
241-SX	4131K	2099	1740	1019	8989
241-T	715K	118			833
241-U	179K	6054	2800	1112	10145
I/S Integ & Control	4000K	2000	1729	1100	8500
Exhausters	***	3,000			
Total	13,471K	20,234	10,752	3469	47,926

***5.2M from safety programs that is not included in this budget.

Near and Long Term Funding Constraints

Any alterations to the MYPP basis will be constrained within congressional authorization of the budget. Therefore, the Recovery Plan budget for FY 97 will be constrained by the FY 97 MYPP budget profile. Any additional funding required resulting from the flammable gas issue must be allocated from lower priority work. The Recovery Plan premise was to constrain planning to the FY 97 budget total for interim stabilization and implement actions for budget supplements in FY98 and beyond.

The difference between the current MYPP and the Recovery Plan budgets requires an additional 2.8M dollars to accomplish the Recovery Plan work scope. This funding deficiency will partially be managed by looking for efficiencies within the 200E/200W Transition to Controlled, Clean, and Stable projects and any remaining balance will be funded from lower priority work.

Recovery Schedule

The recovery schedule is structured by tank farm for the 33 SSTs yet to be interim stabilized. (The proposed milestone tables show 34 tanks to be started and/or completed. The difference is that credit has not been given for stabilizing T-107 in May 1996). The schedule provides the framework by which work scope, cost estimates, and time frame (timeline) reflect the proposed interim stabilization baseline. The schedule incorporates the constraints and assumptions as identified. The Recovery Schedule was developed using early start and late finish activity durations. Proposed milestones are identified based on the late start and late finish activity duration dates. The intent of the schedule is to work towards the early start and early finish, utilizing the slack time as contingency. Table 3 provides a listing of tanks that require interim stabilization and intrusion prevention, those tanks that have been interim stabilized and are awaiting intrusion prevention and those tanks that must be reassessed to the current stabilization criteria.

Table 3: SST Interim Stabilization and Intrusion Prevention Tank Status

Tanks to be Interim Stabilized and Intrusion Prevention			Tanks to have Intrusion Prevention		Tanks to be Reassessed
A-101	AX-101	BY-103	A-102	T-111	B-104
BY-105	BY-106	BY-109	C-105	BX-106	BX-103
C-103	S-101	S-102	T-101	BX-109	T-102
S-103	S-106	S-107	T-107	BX-111	T-112
S-108	S-109	S-110	U-110	BY-102	
S-111	S-112	SX-101	BX-107	BX-112	
SX-102	SX-103	SX-104	BX-110		
SX-105	SX-106	T-104			
T-110	U-102	U-103			
U-105	U-106	U-107			
U-108	U-109	U-111			

Recovery Plan

The Recovery Plan schedule was developed with the strategy to complete pumping of five West Area tanks to a late finish date of June 30, 2000. Preliminary waste compatibility assessments indicated that these tanks should be segregated from the majority of the remaining tanks to be interim stabilized because of the problem with the differences in waste classifications (complexed vs. non-complexed; TRU vs. non TRU). The problem with the different waste classifications is that numerous incompatibilities may exist between the saltwell wastes and the sludge in the DST receiver tank (241-SY-102). Review of the Characterization Project schedule provided insight that deferring interim stabilization of these tanks until FY 00 pumping would maintain to the maximum extent segregation of the waste types and would also permit the validation of the recovery schedule with the necessary data (tank waste sample analyses and assessments).

The Recovery Plan schedule was built upon models of like activities. The four models developed were 1) Safety Assessments, 2) Interim Stabilization tank preparations, 3) pumping of the respective saltwell, and 4) intrusion prevention. Specific tasks were reviewed and deleted or added depending on the requirements for that particular tank. Budget estimates were developed determining the labor and other resources required to complete each task within the summary activity, based on the models.

September 4, 1996

Crosswalk Chart (Existing vs. Proposed TPA Milestones)

(Completed interim and target milestones are not listed.)

Milestone	Description	Existing
The following milestones are canceled:		
M-41-01-T02	Complete Interim Stabilization of 5 SSTs in BY & C Farms BY-102, C-102, C-107, and C-110 already completed; BY-109 yet to be Completed	11/30/95
M-41-08	Start Interim Stabilization of One Non-Watch List Tank in 241-U Tank Farm	8/31/96
M-41-08-T01	Complete Interim Stabilization of One Non-Watch List Tank in 241-U Tank Farm	4/30/97
M-41-09	Start Interim Stabilization of 7 Non-Watch List Tank in 241-S Tank Farm	1/31/96
M-41-09-T01	Complete Interim Stabilization of 7 Non-Watch List Tank in 241-S Tank Farm	4/30/97
M-41-10	Start Interim Stabilization of 2 Flammable Gas Watch List Tanks in 241-A/AX Tank Farms	4/30/96
M-41-10-T01	Complete Interim Stabilization of 2 Flammable Gas Watch List Tanks in 241-A/AX Tank Farms	12/31/98
M-41-11	Start Interim Stabilization of 4 Flammable Gas Watch List Tanks in 241-U Tank Farm	8/31/96
M-41-11-T01	Complete Interim Stabilization of 4 Flammable Gas Watch List Tanks in 241-U Tank Farm	9/30/97
M-41-12-T01	Complete Interim Stabilization of 241-BX-106, 241-BY-103, and 241-BY-106	12/31/97
M-41-12A	Start Interim Stabilization of Tank 241-BY-105.	TBD
M-41-12A-T02	Complete Interim Stabilization of Tank 241-BY-105.	TBD
M-41-13	Start Interim Stabilization of 3 Organic Watch List Tanks in 241-U Tank Farm	8/31/96
M-41-13-T01	Complete Interim Stabilization of 3 Organic Watch List Tanks in 241-U Tank Farm	1/31/98
M-41-14	Start Interim Stabilization of 7 Flammable Gas Watch List Tanks in 241-S/SX Tank Farms	6/30/97
M-41-14-T01	Complete Interim Stabilization of 7 Flammable Gas Watch List Tanks in 241-S/SX Tank Farms	11/30/99
M-41-15	Start Interim Stabilization of 2 Organic Watch List Tanks in 241-S/SX Tank Farm	6/30/97

September 4, 1996

Milestone	Description	Existing
M-41-15-T01	Complete Interim Stabilization of 2 Organic Watch List Tanks in 241-S/SX Tank Farm	3/31/99
M-41-16	Start Interim Stabilization of 1 Non-Watch List Tank in 241-T Tank Farm	3/30/98
M-41-16-T01	Complete Interim Stabilization of 1 Non-Watch List Tank in 241-T Tank Farm	8/31/98
M-41-17-T01	Complete Interim Stabilization of 1 Ferrocyanide Watch List Tank in 241-T Tank Farm	5/31/98
M-41-18	Start Interim Stabilization of 1 Flammable Gas Watch List Tank in 241-T Tank Farm	4/30/98
M-41-18-T01	Complete Interim Stabilization of 1 Flammable Gas Watch List Tank in 241-T Tank Farm	7/31/98
M-41-19	Start Interim Stabilization of 1 Organic Watch List Tank in 241-C Tank Farm	9/30/98
M-41-19-T01	Complete Interim Stabilization of 1 Organic Watch List Tank in 241-C Tank Farm	3/31/99

Add the following Milestones:

Milestone	Description	Proposed
M-41-20	Start Interim Stabilization of 4 SSTs	**9/30/96**
M-41-21	Start Interim Stabilization of 2 SSTs	**3/31/97**
M-41-22	Start Interim Stabilization of 6 SSTs	**9/30/97**
M-41-23	Start Interim Stabilization of 8 SSTs	**3/31/98**
M-41-24	Start Interim Stabilization of 9 SSTs	**9/30/98**
M-41-25	Start Interim Stabilization of 3 SSTs	**3/31/99**
M-41-26	Start Interim Stabilization of 2 SSTs	**9/30/99**
M-41-27	Complete Saltwell Pumping of Single-Shell Tanks	**9/30/00**
M-41-27-T01	Complete Saltwell Pumping of 1 SST	**9/30/96**

September 4, 1996

Milestone	Description	Proposed
M-41-27-T02	Complete Saltwell Pumping of 4 SSTs	9/30/97
M-41-27-T03	Complete Saltwell Pumping of 5 SSTs	9/30/98
M-41-27-T04	Complete Saltwell Pumping of 8 SSTs	9/30/99
M-41-27-T05	Complete Saltwell Pumping of 16 SSTs	9/30/00

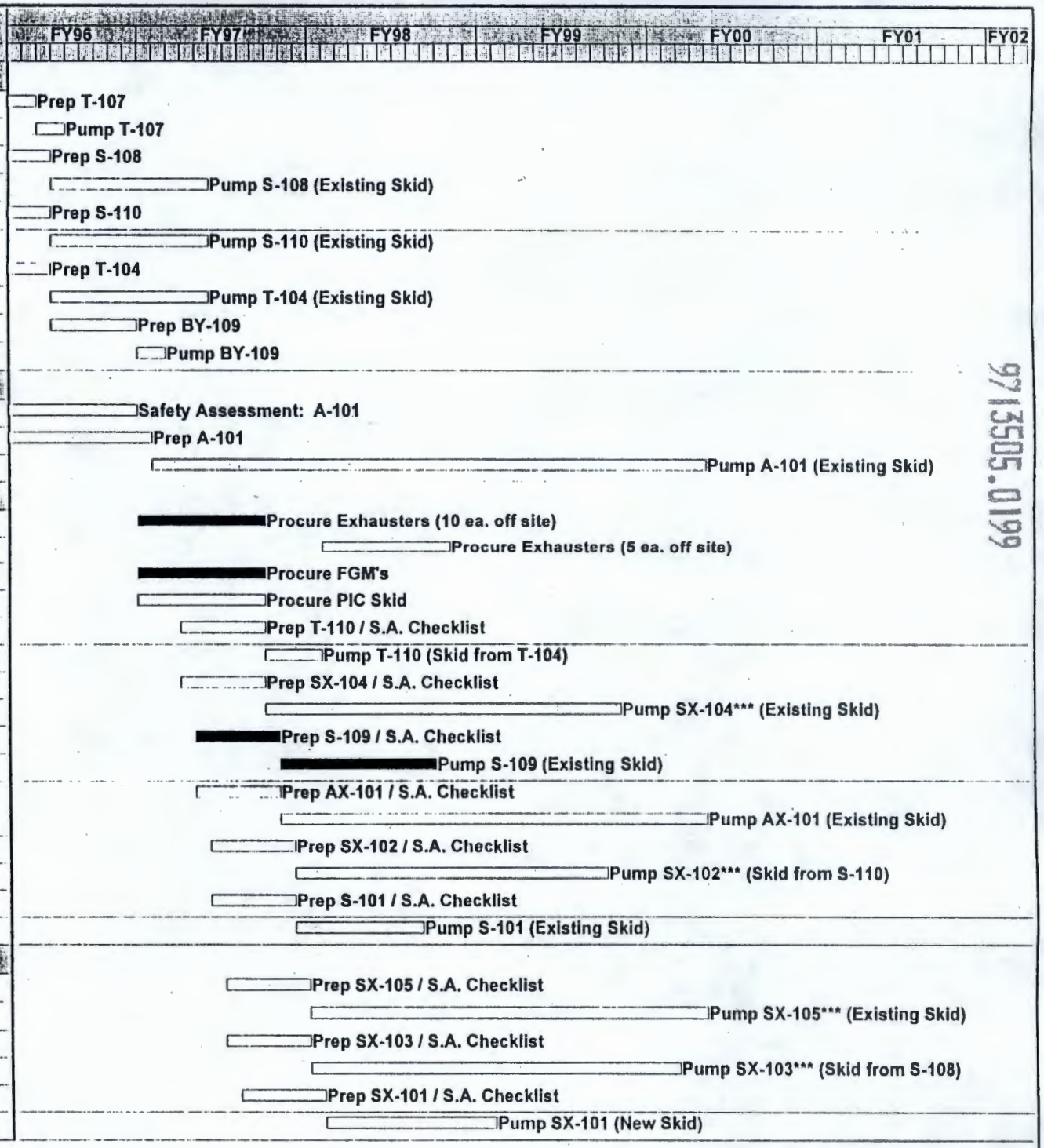
Proposed Tank Pumping Sequence

Proposed Start Date	Tank
on or before 9/30/96	241-T-107
	241-S-108
	241-S-110
	241-T-104
on or before 3/30/97	241-A-101
	241-BY-109
on or before 9/30/97	241-AX-101
	241-T-110
	241-SX-104
	241-S-109
	241-SX-102
	241-S-101
on or before 3/30/98	241-SX-101
	241-SX-105
	241-SX-103
	241-BY-103
	241-BY-105
	241-BY-106
	241-SX-106
	241-S-102
on or before 9/30/98	241-S-111
	241-U-102
	241-U-103
	241-U-105
	241-U-106
	241-U-107
	241-U-108
	241-U-109
	241-U-111
on or before 3/30/99	241-S-106
	241-S-103
	241-C-103
on or before 9/30/99	241-S-112
	241-S-107

September 4, 1996

Tri-Party Agreement Change Request
The proposed TPA Change Request M-41-96-02 dated September 4, 1996 is supported by this recovery plan. The change request is furnished as a separate, stand alone document.

Activity Description	Orig Dur	Start	Finish	M.S.
M-41-20 Start 5 SST's by 9/30/96				
Prep T-107	2	01JAN96	29FEB96	0
Pump T-107	2	01MAR96	30APR96	0
Prep S-108	3	01JAN96	31MAR96	0
Pump S-108 (Existing Skid)	11	01APR96	28FEB97	0
Prep S-110	3	01JAN96	31MAR96	0
Pump S-110 (Existing Skid)	11	01APR96	28FEB97	0
Prep T-104	3	01JAN96	31MAR96	0
Pump T-104 (Existing Skid)	11	01APR96	28FEB97	0
Prep BY-109	6	01APR96*	30SEP96	0
Pump BY-109	2	01OCT96	30NOV96	0
M-41-21 Start 1 SST by 3/31/97				
Safety Assessment: A-101	9	01JAN96A	30SEP96	1
Prep A-101	10	01JAN96	31OCT96	1
Pump A-101 (Existing Skid)	39	01NOV96	31JAN00	1
M-41-22 Start 6 SST's by 9/30/97				
Procure Exhausters (10 ea. off site)	9	01OCT96*	30JUN97	2
Procure Exhausters (5 ea. off site)	9	01NOV97*	31JUL98	2
Procure FGM's	9	01OCT96*	30JUN97	2
Procure PIC Skid	9	01OCT96*	30JUN97	2
Prep T-110 / S.A. Checklist	6	01JAN97	30JUN97	2
Pump T-110 (Skid from T-104)	4	01JUL97	31OCT97	2
Prep SX-104 / S.A. Checklist	6	01JAN97	30JUN97	2
Pump SX-104*** (Existing Skid)	25	01JUL97	31JUL99	2
Prep S-109 / S.A. Checklist	6	01FEB97	31JUL97	2
Pump S-109 (Existing Skid)	11	01AUG97	30JUN98	2
Prep AX-101 / S.A. Checklist	6	01FEB97	31JUL97	2
Pump AX-101 (Existing Skid)	30	01AUG97	31JAN00	2
Prep SX-102 / S.A. Checklist	6	01MAR97	31AUG97	2
Pump SX-102*** (Skid from S-110)	22	01SEP97	30JUN99	2
Prep S-101 / S.A. Checklist	6	01MAR97	31AUG97	2
Pump S-101 (Existing Skid)	9	01SEP97	31MAY98	2
M-41-23 Start 8 SST's by 3/31/98				
Prep SX-105 / S.A. Checklist	6	01APR97	30SEP97	3
Pump SX-105*** (Existing Skid)	28	01OCT97	31JAN00	3
Prep SX-103 / S.A. Checklist	6	01APR97	30SEP97	3
Pump SX-103*** (Skid from S-108)	26	01OCT97	30NOV99	3
Prep SX-101 / S.A. Checklist	6	01MAY97	31OCT97	3
Pump SX-101 (New Skid)	12	01NOV97	31OCT98	3



9713505.0199

Project Start	01JAN96
Project Finish	31AUG00
Data Date	01JAN96
Plot Date	03SEP96

Early Bar
Progress Bar
Critical Activity

ISS3

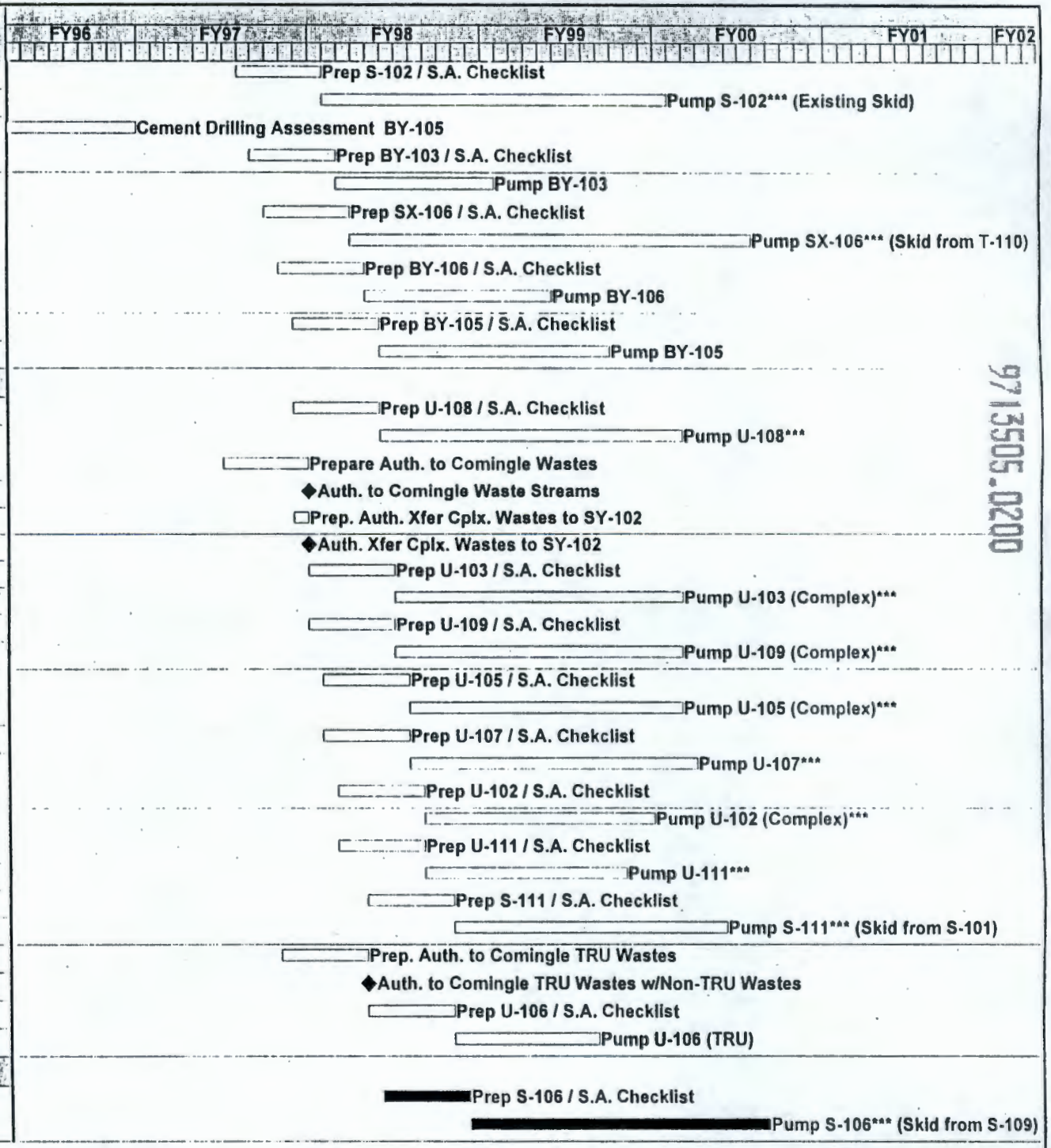
I.S. Long Range Recovery Plan
Revision D.02: Comingle All Wastes
Original Sch'd. add Exhs/FGMs/Skids

Sheet 1 of 3

Prepared by Brent Stapley 373-1135

Date	Revision	Checked	Approved

Activity Description	Orig Dur	Start	Finish	M.S.
Prep S-102 / S.A. Checklist	6	01MAY97	31OCT97	3
Pump S-102*** (Existing Skid)	24	01NOV97	31OCT99	3
Cement Drilling Assessment	9	01JAN96	30SEP96	3
Prep BY-103 / S.A. Checklist	6	01JUN97	30NOV97	3
Pump BY-103	11	01DEC97	31OCT98	3
Prep SX-106 / S.A. Checklist	6	01JUL97	31DEC97	3
Pump SX-106*** (Skid from T-110)	28	01JAN98	30APR00	3
Prep BY-106 / S.A. Checklist	6	01AUG97	31JAN98	3
Pump BY-106	13	01FEB98	28FEB99	3
Prep BY-105 / S.A. Checklist	6	01SEP97	28FEB98	3
Pump BY-105	16	01MAR98	30JUN99	3
M-41-24 Start 9 SST's by 9/30/98				
Prep U-108 / S.A. Checklist	6	01SEP97*	28FEB98	4
Pump U-108***	21	01MAR98	30NOV99	4
Prepare Auth. to Comingle Wastes	6	01APR97*	30SEP97	4
Auth. to Comingle Waste Streams	0	01OCT97*		4
Prep. Auth. Xfer Cplx. Wastes to	1	01SEP97	30SEP97	4
Auth. Xfer Cplx. Wastes to SY-102	0	01OCT97*		4
Prep U-103 / S.A. Checklist	6	01OCT97*	31MAR98	4
Pump U-103 (Complex)***	20	01APR98	30NOV99	4
Prep U-109 / S.A. Checklist	6	01OCT97*	31MAR98	4
Pump U-109 (Complex)***	20	01APR98	30NOV99	4
Prep U-105 / S.A. Checklist	6	01NOV97*	30APR98	4
Pump U-105 (Complex)***	19	01MAY98	30NOV99	4
Prep U-107 / S.A. Chekclist	6	01NOV97*	30APR98	4
Pump U-107***	20	01MAY98	31DEC99	4
Prep U-102 / S.A. Checklist	6	01DEC97*	31MAY98	4
Pump U-102 (Complex)***	16	01JUN98	30SEP99	4
Prep U-111 / S.A. Checklist	6	01DEC97*	31MAY98	4
Pump U-111***	14	01JUN98	31JUL99	4
Prep S-111 / S.A. Checklist	6	01FEB98	31JUL98	4
Pump S-111*** (Skid from S-101)	19	01AUG98	29FEB00	4
Prep. Auth. to Comingle TRU	6	01AUG97*	31JAN98	4
Auth. to Comingle TRU Wastes	0	01FEB98		4
Prep U-106 / S.A. Checklist	6	01FEB98*	31JUL98	4
Pump U-106 (TRU)	10	01AUG98	31MAY99	4
M-41-25 Start 3 SST's by 3/31/99				
Prep S-106 / S.A. Checklist	6	01MAR98	31AUG98	5
Pump S-106*** (Skid from S-109)	21	01SEP98	31MAY00	5



9713505.0200

Project Start	01JAN96
Project Finish	31AUG00
Data Date	01JAN96
Plot Date	03SEP96

Early Bar
Progress Bar
Critical Activity

© Primavera Systems, Inc.

ISS3

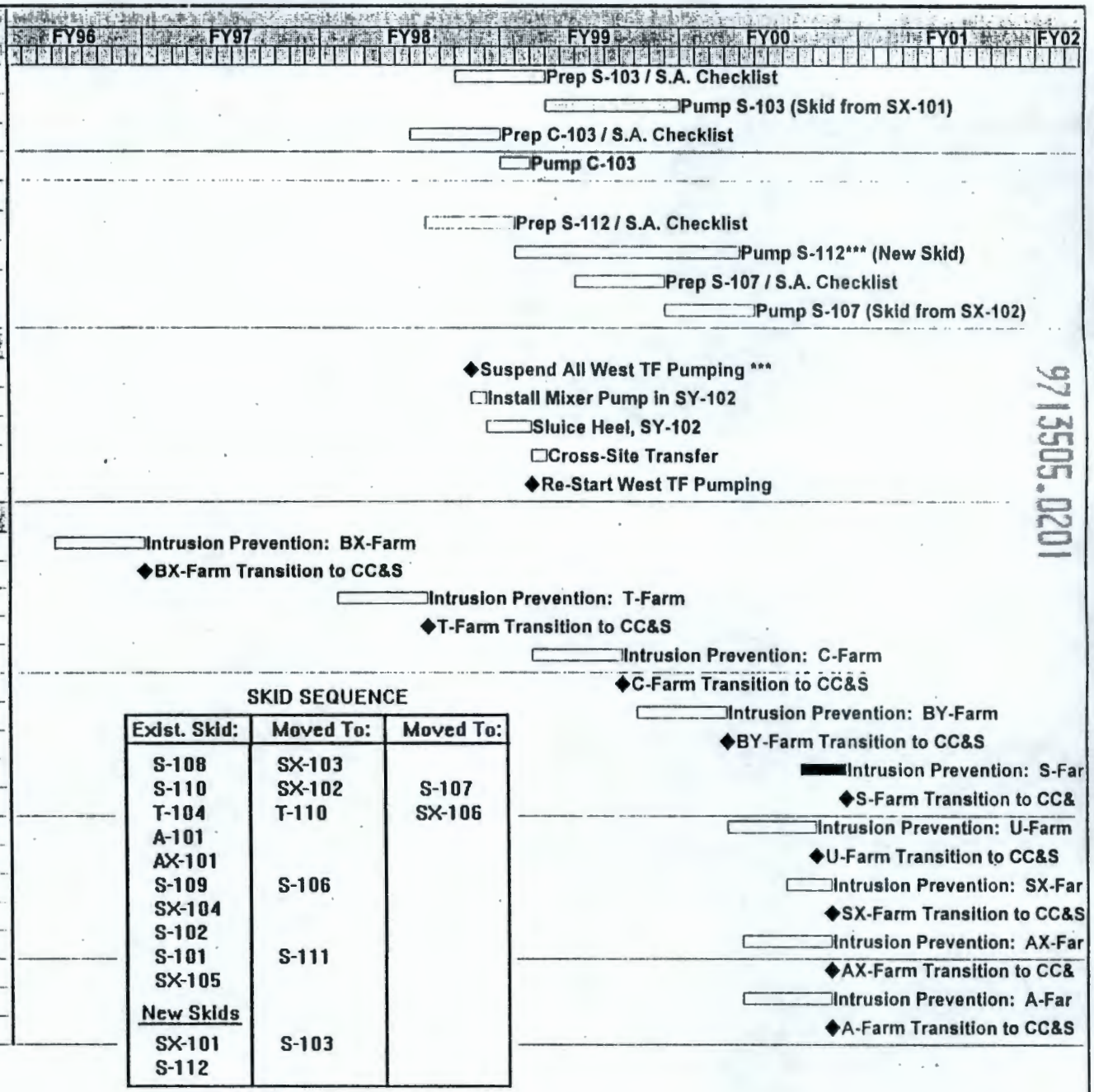
Sheet 2 of 3

I.S. Long Range Recovery Plan
Revision D.02: Comingle All Wastes
Original Sch'd. add Exhs/FGMs/Skids

Prepared by Brent Stapley 373-1135

Date	Revision	Checked	Approved

Activity Description	Orig Dur	Start	Finish	M.S.
Prep S-103 / S.A. Checklist	6	01JUL98	31DEC98	5
Pump S-103 (Skid from SX-101)	9	01JAN99	30SEP99	5
Prep C-103 / S.A. Checklist	6	01APR98*	30SEP98	5
Pump C-103	2	01OCT98	30NOV98	5
M-41-26 Start 2 SST's by 9/30/99				
Prep S-112 / S.A. Checklist	6	01MAY98*	31OCT98	6
Pump S-112*** (New Skid)	15	01NOV98	31JAN00	6
Prep S-107 / S.A. Checklist	6	01MAR99	31AUG99	6
Pump S-107 (Skid from SX-102)	6	01SEP99	29FEB00	6
SY-102 Retrieval Project				
Suspend All West TF Pumping ***	0	01AUG98*		8
Install Mixer Pump in SY-102	1	01AUG98	31AUG98	8
Sluice Heel, SY-102	3	01SEP98*	30NOV98	8
Cross-Site Transfer	1	01DEC98	31DEC98	8
Re-Start West TF Pumping	0		30NOV98	8
Intrusion Prevention, CCS Work				
Intrusion Prevention: BX-Farm	6	01APR96	30SEP96	9
BX-Farm Transition to CC&S	0		30SEP96	9
Intrusion Prevention: T-Farm	6	01NOV97	30APR98	9
T-Farm Transition to CC&S	0		30APR98	9
Intrusion Prevention: C-Farm	6	01DEC98	31MAY99	9
C-Farm Transition to CC&S	0		31MAY99	9
Intrusion Prevention: BY-Farm	6	01JUL99	31DEC99	9
BY-Farm Transition to CC&S	0		31DEC99	9
Intrusion Prevention: S-Farm	3	01JUN00	31AUG00	9
S-Farm Transition to CC&S	0		31AUG00	9
Intrusion Prevention: U-Farm	6	01JAN00	30JUN00	9
U-Farm Transition to CC&S	0		30JUN00	9
Intrusion Prevention: SX-Farm	3	01MAY00	31JUL00	9
SX-Farm Transition to CC&S	0		31JUL00	9
Intrusion Prevention: AX-Farm	6	01FEB00	31JUL00	9
AX-Farm Transition to CC&S	0		31JUL00	9
Intrusion Prevention: A-Farm	6	01FEB00	31JUL00	9
A-Farm Transition to CC&S	0		31JUL00	9



SKID SEQUENCE

Exist. Skid:	Moved To:	Moved To:
S-108	SX-103	
S-110	SX-102	S-107
T-104	T-110	SX-106
A-101		
AX-101		
S-109	S-106	
SX-104		
S-102		
S-101	S-111	
SX-105		
New Skids		
SX-101	S-103	
S-112		

9713505.0201

Project Start	01JAN96
Project Finish	31AUG00
Data Date	01JAN96
Plot Date	03SEP98

Early Bar
Progress Bar
Critical Activity

ISS3

I.S. Long Range Recovery Plan
Revision D.02: Comingle All Wastes
Original Sch'd, add Exhs/FGMs/Skids

Sheet 3 of 3

Prepared by Brent Stapley 373-1135

Date	Revision	Checked	Approved

9713505.0202

SIGNED, REVISED M-41
TPA CHANGE CONTROL FORM

9713505.0203

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-41-96-02	Do not use blue ink. Type or print using black ink.	September 4, 1996

Originator J. M. Clark/M. A. McLaughlin

Phone (509)376-2246/376-4084

Class of Change
[ ] I - Signatories [X] II - Executive Manager [ ] III - Project Manager

Change Title

Revise M-41 Interim Milestones due to Flammable Gas Issue

Description/Justification of Change

The need to institute flammable gas controls on a number of single shell tanks before they can be pumped has led to a revision of the schedule for interim stabilizing the single shell tanks which have not yet been completed. The revised schedule is reflected in the following M-41 Interim Milestone and Target Date changes:

Delete the following M-41 Interim Stabilization Interim Milestones and Target Dates:

M-41-01-T02	Complete Interim Stabilization of 5 Single Shell Tanks	11/30/1995
M-41-08	Start Interim Stabilization of 1 Non-Watch List Tank in 241-U Tank Farm.	8/31/1996
M-41-08-T01	Complete Interim Stabilization of 1 Non-Watch List Tank in 241-U Tank Farm.	4/30/1997

(continued)

Impact of Change

The single shell tank interim stabilization schedule has been revised.
All M-41 Interim Milestones and Target Dates are revised because of the need to institute flammable gas controls on additional tanks in the single shell tank farms.
The Major Milestone M-41-00 is not changed.

Affected Documents

Hanford Federal Facility Agreement and Consent Order, Appendix D, Work Plan.

Approvals

DOE	9/6/96 Date	✓ Approved	___ Disapproved
EPA	Date	___ Approved	___ Disapproved
Ecology	9/23/96 Date	✓ Approved	___ Disapproved

Description/Justification (cont.)

M-41-09	Start Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm.	1/31/1996
M-41-09-T01	Complete Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm.	4/30/1997
M-41-10	Start Interim Stabilization of 2 Flammable Gas Watch List Tanks in 241-A/AX Tank Farm.	4/30/1996
M-41-10-T01	Complete Interim Stabilization of 2 Flammable Gas Watch List Tanks in 241-A/AX Tank Farms.	12/31/1998
M-41-11	Start Interim Stabilization of 4 Flammable Gas Watch List Tanks in 241-U Tank Farms.	8/31/1996
M-41-11-T01	Complete Interim Stabilization of 4 Flammable Gas Watch List Tanks in 241-U Tank Farms.	9/30/1997
M-41-12-T01	Complete Interim Stabilization of 241-BX-106, 241-BY-103 and 241-BY-106.	12/31/1997
M-41-12A	Start Interim Stabilization of Tank 241-BY-105.	TBD
M-41-12A-T02	Complete Interim Stabilization of Tank 241-BY-105.	TBD
M-41-13	Start Interim Stabilization of 3 Organic Watch List Tanks in 241-U Tank Farm.	8/31/1996
M-41-13-T01	Complete Interim Stabilization of 3 Organic Watch List Tanks in 241-U Tank Farm.	1/31/1998
M-41-14	Start Interim Stabilization of 7 Flammable Gas Watch List Tanks in 241-S/SX Tank Farms.	6/30/1997
M-41-14-T01	Complete Interim Stabilization of 7 Flammable Gas Watch List Tanks in 241-S/SX Tank Farms.	11/30/1999
M-41-15	Start Interim Stabilization of 2 Organic Watch List Tanks in 241-S/SX Tank Farms.	6/30/1997
M-41-15-T01	Complete Interim Stabilization of 2 Organic Watch List Tanks in 241-S/SX Tank Farms.	3/31/1999
M-41-16	Start Interim Stabilization of 1 Non-Watch List Tank in 241-T Tank Farm.	3/30/1998
M-41-16-T01	Complete Interim Stabilization of 1 Non-Watch List Tank IN 241-T Tank Farm.	8/31/1998
M-41-17-T01	Complete Interim Stabilization of 1 Ferrocyanide Watch List Tank in 241-T Tank Farm.	5/31/1998

Description/Justification (cont.)

M-41-18	Start Interim Stabilization of 1 Flammable Gas Watch List Tank in 241-T Tank Farm.	4/30/1998
M-41-18-T01	Complete Interim Stabilization of 1 Flammable Gas Watch List Tank in 241-T Tank Farm.	7/31/1998
M-41-19	Start Interim Stabilization of 1 Organic Watch List Tank in 241-C Tank Farm.	9/30/1998
M-41-19-T01	Complete Interim Stabilization of 1 Organic Watch List Tank in 241-C Tank Farm.	3/31/1999

The following Interim Milestones and Target Dates are added:

M-41-20	Start Interim Stabilization of 4 Single Shell Tanks.	9/30/1996
M-41-21	Start Interim Stabilization of 2 Single Shell Tanks.	3/31/1997
M-41-22	Start Interim Stabilization of 6 Single Shell Tanks.	9/30/1997
M-41-23	Start Interim Stabilization of 8 Single Shell Tanks.	3/31/1998
M-41-24	Start Interim Stabilization of 9 Single Shell Tanks.	9/30/1998
M-41-25	Start Interim Stabilization of 3 Single Shell Tanks.	3/31/1999
M-41-26	Start Interim Stabilization of 2 Single Shell Tanks.	9/30/1999
M-41-27	Complete Salt Well Pumping of Single Shell Tanks.	9/30/2000
M-41-27-T01	Complete Salt Well Pumping of 1 Single Shell Tank.	9/30/1996
M-41-27-T02	Complete Salt Well Pumping of 4 Single Shell Tanks.	9/30/1997
M-41-27-T03	Complete Salt Well Pumping of 5 Single Shell Tanks.	9/30/1998
M-41-27-T04	Complete Salt Well Pumping of 8 Single Shell Tanks.	9/30/1999
M-41-27-T05	Complete Salt Well Pumping of 16 Single Shell Tanks.	9/30/2000

The M-41-00 Major Milestone date of September 30, 2000 is not impacted by this change.

On October 16, 1995 an Unreviewed Safety Question (USQ) Evaluation (1) was completed for the U.S. Department of Energy (DOE) by one of its contractors which raised serious concerns on the safe operation of flammable gas tanks. This evaluation was based on a screening (2) of the Hanford tanks for trapped gas prepared for the DOE by a different Hanford contractor. The DOE was informed on October 17, 1995 of these concerns, and advised the Washington Department of Ecology (Ecology) and the U. S. Environmental Protection Agency (EPA) of the issues at the Unit Managers Meeting on the same day. After further review of the facts in the technical studies, the DOE was unable to make a final determination on the safe operation of the flammable gas tanks without conducting a

Description/Justification (cont.)

Safety Analysis. The DOE informed Ecology on December 12, 1995 (3), of the need to invoke the Creation of Danger provision of the Hanford Federal Facility Agreement and Consent Order due to the flammable gas concerns.

The DOE recognizes the responsibility to meet established Tri-Party Agreement schedules, but when issues arise which can impact safe operations, DOE must evaluate the issues on a case by case basis and proceed to resolve the USQ in an orderly manner. Safety Analysis work on the flammable gas issue was contracted to a third party and a report, assessing tank 241-A-101 only, was scheduled for completion on January 31, 1996. The Safety Analysis, however, was not adequate to allow the restart of interim stabilization work for the single shell tanks involved in Milestone M-41-09 and subsequent milestones. The initial phase of the Safety Analysis was completed in August 1996, and forms the basis for the replacement interim milestones described above. Subsequent safety analyses, addressing additional tanks and tank farms, were found to be needed and additional safety analysis work is being carried out.

The flammable gas issue has to date impacted five interim milestones and three target dates. Target Date M-41-01-T02 was delayed by the need to institute flammable gas controls on tank 241-BY-109, which is the only remaining tank to be pumped under that target. Five of the seven tanks in S Farm which were scheduled for start of interim stabilization to complete Interim Milestone M-41-09 are currently designated as part of the USQ, and flammable gas watch list controls have been implemented for these tanks. This results in a delay for the start of pumping the potential watch list tanks in S Farm to accommodate the safety assessment work and the time needed for review of the work. The target date M-41-09-T01 for completion of the interim stabilization of the tanks is also delayed because of the delay in the start of this work. Interim Milestone M-41-10, which required start of interim stabilization for two flammable gas watch list tanks in 241-A/AX tank farms by April 30, 1996, was also impacted by the need to do additional safety analysis work. Target M-41-10-T01 is consequently delayed. Additional Interim Milestones, M-41-08, M-41-11 and M-41-13, due August 31, 1996, have been impacted.

A recovery plan has been developed and the new milestones stated above are supported by a schedule in that plan. The schedule addresses the safety analysis requirements for the tanks, as well as the additional preparation time needed for the equipment and administrative controls due to the flammable gas concerns. The new interim milestones and target dates do not specify individual tanks in order to allow flexibility needed to address future considerations as they arise and to fully integrate the interim stabilization work with other Tank Farm programs.

(1) R. J. Van Vleet and R. L. Guthrie, Unreviewed Safety Question Evaluation, TF-95-0095, Westinghouse Hanford Company, October 16, 1995.

(2) Whitney, Paul, Screening the Hanford Tanks for Trapped Gas, PNL-10821, Pacific Northwest Laboratory, Richland, Washington, 1995.

(3) Letter, J. Kinzer to M. Wilson, "Creation of Danger, Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement," dated December 12, 1995).