

Meeting Minutes Transmittal/Approval
Tri-Party Agreement Milestone Review Meeting
EPA Conference Room
Richland, Washington
November 18, 1992

From/ Appvl.: Steven H. Wisness Date: 12/16/92
Steven H. Wisness, RL (A5-19)
Hanford Project Manager

Appvl.: Paul T. Day Date: 12/16/92
Paul T. Day, EPA (B5-01)
Hanford Project Manager

Appvl.: David B. Jansen Date: 12/16/92
David B. Jansen
Hanford Project Manager

Prepared by Appvl.: Frank T. Calapristi Date: 12/16/92
Frank T. Calapristi
Westinghouse Hanford Company

93127630894

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| Henderson, JM | WHC | S4-55 | Wisness, SH | RL | A5-15 |
| Huffman, LA | RL | A5-15 | Yerxa, JK | RL | A5-15 |
| | | | EDMC | WHC | H4-22 |



TPA Milestone Review
Meeting Minutes Transmittal/Approval
November 18, 1992 (sheet 2 of 4)

1. **MEETING MINUTES**

The minutes of the October 21, 1992, Milestone Review meeting were reviewed and approved.

2. **MILESTONE M-01-00, GROUT CAMPAIGNS**

The information was presented by G. Sanders of RL (Attachment 1).

Under the Planned Activities Section, RL reported Vault 106-109 construction will start in November. Under the Accomplishments Section, Ecology asked when they will see the Grout Issue Paper submitted to DOE-HQ; however, RL was not certain when the DOE-HQ review will be completed. In response to a question on how the regulators can help resolve the PA and FSAR problems, RL said the three parties must resolve the outstanding technical issues and remove the program uncertainties. When asked for feedback on the public perception of Grout, Ecology reported there is a recognition to move forward with the Grout work that can be completed with today's technology but they also recognize the need to resolve technical problems before other work can be completed. Ecology emphasized the public is looking for some work to be completed.

There were no action items assigned during this presentation.

3. **MILESTONE M-02-00, PRETREATMENT**

The information was presented by Jon Peschong (Attachment 2).

There were no issues or action items identified in this presentation.

4. **MILESTONE M-03-00, HWVP**

The information was presented by Jim Couly (Attachment 3).

Under Accomplishments, Ecology asked about the results of the Noble Metals Test and requested the information be passed back to them.

No issues or action items were identified.

5. **MILESTONE M-31-00, ADDITIONAL DST CAPACITY**

The information was presented by G. Konzek (Attachment 4).

RL asked Ecology to comment on the recently submitted draft change request which recommended new milestones. Ecology said Scott McKenney is their contact to discuss this subject.

After some discussion on the tank capacity requirements, RL said they are not certain at this time if or how many additional tanks are required.

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TPA Milestone Review
Meeting Minutes Transmittal/Approval
November 18, 1992 (sheet 3 of 4)

6. MILESTONE M-04-00, ANNUAL REPORT OF TREATABILITY STUDY

The information was presented by M. Dev (Attachment 5).

There were no issues or action items identified in this presentation.

7. MILESTONE M-06, SST RETRIEVAL TECHNOLOGY

The information was presented by B. Nicoll (Attachment 6) and supplemented by a five minute video.

There were no issues or action items identified.

8. MILESTONE M-07-00, DEMONSTRATE SST RETRIEVAL (ATTACHMENT 7)

The information was presented by B. Nicoll (Attachment 7). Under Planned Actions, Ecology asked for clarification of the "Initial Tank Leak Study". There was discussion on how the requirements would be defined and Ecology requested early involvement in the forthcoming studies. The Kaiser Sub-Surface Barrier study was of particular interest to Ecology. RL agreed with Ecology's request but stated RL needs to complete some preliminary work with Westinghouse before involving Ecology. However, RL will keep Ecology and EPA informed of progress in this area.

RL also asked the regulators for a Point Of Contact (POC) for this milestone. Ecology was unable to identify a POC at this time. However, Tom Tebb (Ecology) and D. Sherwood (EPA) are their POC's for the barrier study.

9. MILESTONE M-08-00, FULL SCALE SST FARM CLOSURE DEMONSTRATION

The information was presented by B. Nicoll (Attachment 8). Under the Milestone Assessment section, EPA questioned the plan for the SST EIS and its relationship to the TWRS EIS. After some discussion, it was agreed to defer this discussion to the December 17 Project Managers Meeting.

10. MILESTONE M-09-00, SST CLOSURE

The information was presented by B. Nicoll (Attachment 9). Under Planned Actions, EPA asked if there is a definition of "What is an empty tank". RL said this criteria has not been established at this time.

During a discussion of the draft Regulatory Assessment Report on Closure of SST's as Landfills; Ecology repeated a continuing concern about their lack of early involvement in development of reports and the possible erroneous assumptions that may be made concerning the Ecology position.

RL responded they must establish their own position first and understand the regulations before they are ready to involve Ecology.

There were no action items identified.

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TPA Milestone Review
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November 18, 1992 (sheet 4 of 4)

11. M-05-00, SST STABILIZATION

The information was presented by G. Bishop (Attachment 10). Under the Special Topics section, EPA asked when the T-101 tank will be pumped. RL replied there is no firm date established at this time. It was noted by Ecology, the regulatory date is February 15, 1993.

There were no issues or action items identified.

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AGENDA

TRI-PARTY AGREEMENT MAJOR MILESTONE MANAGEMENT REVIEW

Wednesday, November 18, 1992

EPA CONFERENCE ROOM
MEDICAL DENTAL CENTER

<u>TIME</u>	<u>MILESTONE</u>	<u>TITLE</u>	<u>RL DIVISION DIRECTOR</u>	<u>LEVEL 2/3 MANAGER</u>	<u>PRESENTER</u>
9:00 am	M-01-00	Complete 14 Grout Campains	Lief Erickson	J. L. Epstein	G. H. Sanders
9:30 am	M-02-00	Pretreatment	Lief Erickson	W. C. Miller	J.C. Peschong
9:45 am	M-03-00	Initiate HWVP Operations	R. W. Brown	R. A. Smith	R. L. Long
10:00 am	M-31-00	Additional DSTs	R. W. Brown	R. L. Fritz	G. R. Konzek
	M-04-00	Annual Treatability Studies	Lief Erickson	W. C. Miller	M. Dev
10:20 am	M-06-00	Develop SST Retrieval Tech.	Lief Erickson	M. K. Mahaffey	B. L. Nicoll
	M-07-00	Demonstrate SST Retrieval	Lief Erickson	W. C. Miller	B. L. Nicoll
	M-08-00	Full-Scale Farm Closure Demo.	Lief Erickson	W. C. Miller	B. L. Nicoll
11:00 am	M-09-00	Closure of 149 SSTs	R. D. Izatt	R. D. Wojtasek	B. L. Nicoll
11:15 am	M-05-00	SST Stabilization	R. E. Gerton	R. E. Raymond	G. E. Bishop
11:30 am	M-10-00	SST Core Sample Analysis	R. E. Gerton	J. G. Propson	J. M. Clark
11:45 am		Lunch			
12:30 pm		TPA Project Managers' Site Tour: N-Area and N-Reactor Facility			
		Tour coodinator: Larry Arnold			
4:00 pm					

ATTENDEES

TPA MILESTONE MANAGEMENT REVIEW

NOVEMBER 18, 1992

EPA CONFERENCE ROOM
MEDICAL DENTAL CENTER

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<u>NAME</u>	<u>ORGANIZATION</u>	<u>MAILSTOP</u>
<u>F.T. CALAPRISTI</u>	<u>WHC/TPA</u>	<u>B2-35</u>
<u>J. L. EPSTEIN</u>	<u>WHC GROUT</u>	<u>R4-01</u>
<u>J.E. COONEY</u>	<u>DOE-HWV</u>	<u>A5-10</u>
<u>G.H. Sanders</u>	<u>DOE-RL</u>	<u>A5-15</u>
<u>Dale Lindsey</u>	<u>WHC/TPA</u>	<u>B2-35</u>
<u>J.A. Austin</u>	<u>WHC/TPA</u>	<u>B2-35</u>
<u>J. L. PESCHONG</u>	<u>DOE-RL</u>	<u>A5-15</u>
<u>LA Huffman</u>	<u>DOE-RL</u>	<u>A5-15</u>
<u>Dave Jansen</u>	<u>Ecology</u>	<u></u>
<u>Dave Nylander</u>	<u>Ecology</u>	<u>Kennewick</u>
<u>Mike Mahaffey</u>	<u>WHC-TD</u>	<u>L4-73</u>
<u>Paul Day</u>	<u>EPA</u>	<u>B5-01</u>
<u>David Mark</u>	<u>DOE/HQ</u>	<u>EM-361</u>
<u>MADAN DEV</u>	<u>DOE-RL</u>	<u>A5-16</u>

ATTENDEES

TPA MILESTONE MANAGEMENT REVIEW

NOVEMBER 18, 1992

EPA CONFERENCE ROOM
MEDICAL DENTAL CENTER

93127630900

<u>NAME</u>	<u>ORGANIZATION</u>	<u>MAILSTOP</u>
<u>Clarence Bailes</u>	<u>DOE - RL</u>	<u>A5-16</u>
<u>Steven Barker</u>	<u>WHC - TWRS</u>	<u>S4-58</u>
<u>Nick Anderson</u>	<u>WHC - HWVP</u>	<u>G6-02</u>
<u>THOMAS RAWLEY</u>	<u>WHC - TWRS</u>	<u>R1-49</u>
<u>JON YERXA</u>	<u>DOE - TPA</u>	<u>AE 15</u>
<u>BRUCE NICOLL</u>	<u>DOE - TWRS</u>	<u>A5-10</u>
<u>DAVID PAST</u>	<u>WHC - TPAT</u>	<u>B2-35</u>
<u>Mark Henderson</u>	<u>WHC - Retrieval</u>	<u>S4-55</u>
<u>Steve Wigness</u>	<u>DOE - RL</u>	<u>A5-15</u>
<u>Jan Clark</u>	<u>DOE - RL</u>	<u>A4-02</u>
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(ATTACHMENT 1)

**Grout Facilities Milestone M-01-00
Complete 14 Double-Shell Tank Grout Campaigns**

presented to

**State of Washington Department of Ecology and
U.S. Environmental Protection Agency**

**George Sanders, Acting Director Disposal Division
Lori Huffman, RL Low-Level Waste Branch
Joe Epstein, WHC Level 3 Manager**

November 18, 1992

Milestone Description

M-01-00

Complete 14 grout campaigns of double-shell tank (DST) waste by December 1996 and maintain currency with feed thereafter.

Baseline Schedule

Complete 14 campaigns by December 1996.

Note: TPA change request was denied by Ecology and EPA on October 30, 1992. RL responded with letter to Ecology and EPA on November 6, 1992, invoking dispute resolution under the TPA.

Open Commitments

- Action:** Provide the State's position on vault 103.
- Responsibility:** T. Michelena
Due Date: February 28, 1992
Status: Complete. Vault 103 will be re-hydrotested in accordance with agreement in Spring 1993. Ecology will be notified prior to starting hydrotest.
- Action:** Provide a copy of the draft grout C-2 analysis to the State in parallel with DOE review.
- Responsibility:** G. Sanders
Due Date: March 6, 1992
Status: Document is being reworked to incorporate RL comments, new population dose calculations, and facility modifications. Resubmittal planned to RL early December.

Open Commitments (Cont.)

Action: RL to contact Seattle EPA office regarding LDR.

Responsibility: L. Huffman

Due Date: September 1, 1992

Status: Action completed. White paper has been drafted currently incorporating comments, and a presentation on plans for compliance with LDR is planned for UMM.

Planned Activities

- Continue development of operating, maintenance, and administrative procedures October 1992
- Continue facility modifications and critical facility maintenance activities October 1992
- Complete construction of vaults 102-105 November 1992
- Complete M-01-02A. (Initiate construction vaults 106-109.) November 1992
- Submit DST vault closure plan to RL December 1992
- Complete Grout Technology Plan to TWRS Technology Integration December 1992
- Complete Pilot Plant 106-AN test results February 1993
- Complete PSW core analysis March 1993

Accomplishments

- Resolution of vault 103 leak test requirements. August 1992
- Submitted TPA change request to regulators September 1992
- Completed draft of FY 1993 Work Plan September 1992
- PA Base Case has been defined October 1992
- Submitted final Grout Issue Paper to DOE-HQ October 1992
- Resolved majority of Ecology's H₂ concerns October 1992

Milestone Assessment

	<u>Schedule</u>	<u>TPA Baseline</u>	<u>Status</u>
• M-01-01A	Complete and verify 2 campaigns (101, 102).	9/93	Under evaluation
• M-01-01B	Complete 1 additional campaign (103).	12/93	Under evaluation
• M-01-02	Complete 3 additional DST campaigns in 1994 (104, 105, 106).	12/94	Under evaluation
• M-01-02A	Initiate construction of vaults 106-109.	11/92	11/92
• M-01-03	Complete 4 additional DST campaigns in 1995 (107-110).	12/95	Under evaluation
• M-01-03A	Initiate construction of vaults 110-113.	11/93	Under evaluation
• M-01-04/00	Complete 4 additional campaigns in 1996 (111-114).	12/96	Under evaluation
• M-01-04A	Initiate construction of vault 114.	11/94	under evaluation

Achievement of these milestones will require an extremely aggressive schedule. Increased resource commitment, as well as accelerated/creative techniques and methods for completion and approval of the FSAR, PA, ORR and other critical path items will be required.

Milestone Assessment (cont.)

- **Cost versus Budget**

Tri-Party Agreement milestone costs and budget status will not be available for this reporting month. This is a result of delays experienced in establishing FY 93 budget baselines for Tri-Party Agreement milestones in the Financial Data System. We expect our baselines will be established in time for November reporting of Tri-Party Agreement milestone cost and budget information.

Special Topics

Key Issues

- **Critical path schedule compared to current TPA milestones and pending dispute resolution.**
- **Ecology's concerns on hydrogen generation.**
 - **FSAR update planned (mitigation equipment) and an informational copy will be provided to Ecology subsequent to HQ review and approval. Planned for mid 1993.**
 - **Confirming analysis of the H₂ generation.**
- **NRC ruling on petitions of States of Washington and Oregon with respect to high-level waste definition.**
- **Technical Issues**
 - **PA will be submitted to RL in March 1993**
 - **Heat of Hydration data will be finalized in February 1993 to support the development of Vault 102 campaign plan.**

Special Topics (cont.)

Change Notice Activity

- Change request M-01-92-01A has been denied by Regulators.
- Dispute resolution invoked by RL. Issue to be discussed at the Project Managers meeting.

**INITIATE PRETREATMENT OF
DOUBLE-SHELL TANK WASTES**

Milestone M-02-00

J. C. Peschong

Waste Pretreatment

November 18, 1992

Milestone Description

- M-02-00

Initiate pretreatment of double-shell tank waste

Double-shell tank waste pretreatment is required prior to disposal of high-activity tank wastes. The pretreatment supports the removal, treatment, and final disposal of wastes subject to land disposal restriction which are stored in double-shell tanks. Removal of the wastes from double-shell tanks and disposal in grout or glass will allow double-shell tank space to be made available for single-shell tank waste

- DELIVERABLE(S)

- Program documents which define plans to develop, demonstrate, and implement pretreatment processes for tank wastes (M-02-03).
- Start DST NCAW retrieval system process test (M-02-04)
- Incorporate additional interim milestones to support pretreatment of double-shell tank waste (M-02-05)

Milestone Description (Cont)

- **BASELINE SCHEDULE (Interim)**
- **Submit tank waste remediation system baseline scope, cost, and schedule by August 1993 (M-02-03)**
- **Start DST retrieval process test by December 1996 (M-02-04)**
- **Incorporate additional milestones for pretreatment by August 1993 (M-02-05)**

Accomplishments (Last three months)

- **Completed preliminary evaluation of actinide separations processes**
 - **TRUEX appears to be best developed process which is applicable to majority of tank waste**
 - **Solid sorbents appear to be leading alternate process**
- **Completed report summarizing batch equilibrium data for Cesium removal using IX**
- **Draft TWRS Fiscal Year 1993 Work Plan issued**
- **Issued draft TWRS Systems Engineering Plan for review**

Accomplishments (Last three months) (Cont)

- **Initial Pretreatment Module Engineering Study issued for peer review**
- **Request for bid released for broad based evaluation of pretreatment alternatives**
- **Draft Issue Paper on Pretreatment prepared**
- **Definitive design of DST NCAW retrieval system process test initiated**

Planned Actions (Next six months)

- **Revise and reissue TWRS Decision Plan (every 6 weeks)**
- **Issue TWRS Functions and Requirements document**
- **Issue TWRS Technology Plan**
- **Complete engineering study of Initial Pretreatment Module (M-02-00-T2)**
- **Issue draft TWRS Systems Engineering Study for review**
- **Issue TWRS Program Plan**
- **Issue report on NCRW TRUEX Laboratory Development (M-02-00-T3)**
- **Issue Pretreatment Technology Plan which includes Technology Plan for selection of actinide separation process (M-02-00-T6)**

Milestone Assessment

- Schedule

MILESTONE	DESCRIPTION	DATE	STATUS
M-02-03	Submit TWRS baseline documents	8/93	On Schedule
M-02-04	Start DST NCAW retrieval system process test	12/96	On Schedule
M-02-05	Incorporate additional interim milestones to support pretreatment	8/93	On Schedule
M-02-00-T2	Complete engineering study of Initial Pretreatment Module (Tank Safety Treatment Module)	12/92	On Schedule

Milestone Assessment (Cont)

- Schedule (Cont)

MILESTONE	DESCRIPTION	DATE	STATUS
M-02-00-T3	Publish summary of NCRW TRUEX laboratory development work	12/92	3 months behind schedule
M-02-00-T4	Complete engineering study on Cs ion exchange	3/93	On Schedule
M-02-00-T5	Complete waste treatment feed optionization (blending) study	3/93	On Schedule
M-02-00-T6	Issue Technology Plan for selection of advanced (actinide) separation process	3/93	On Schedule
M-02-00-T7	Initiate settling tests for NCAW in-tank solids washing	12/93	12 months schedule extension required

Tri-Part Agreement Budget Baseline Summary

- October 1992

"Tri-Party Agreement milestone cost and budget status will not be available for this reporting month. This is a result of delays experienced in establishing FY-93 budget baselines for Tri-Party Agreement milestones in the Financial Data System. We expect our baselines will be established in time for November reporting of Tri-Party Agreement milestone cost and budget information."

Milestone M-03-00

Initiate Hanford Waste Vitrification Plant Operations

R. L. Long

HWVP Project Office

November 18, 1992

Milestone Description/Deliverables

M-03-03 Initiate HWVP operations

Dec 1999

Accomplishments (last 3 months)

- **RL submitted final Clean Air Act permit to regulatory agencies**
- **Completed noble metal tests with HWVP feed in KfK melter**
- **Initiated Title III: Field Engineering and Inspection**
- **Continued site preparation construction**
- **Continued Detailed Design**

Accomplishments (last 3 months) (continued)

- Issued summary report on FY 1992 QA evaluations and assessments
- Transmitted HWVP PSAR Rev. 0 (WHC-SD-HWV-PSAR-001, Rev. 0) to DOE-HQ for review and approval
- Issued Integrated Defense Waste Processing Facility Melter System Test Report for review and comment

Planned Activities (next 6 months)

- **Key Decision 3B, Approval to Commence Construction - November 1992**
- **Complete contract negotiations for Phase II construction - January 1993**
- **Initiate construction of the Canister Storage Building or a Multi-Purpose Storage Complex (M-03-04) - February 1993**
- **Initiate construction of the Vitrification Building foundation (M-03-05) - March 1993**
- **Issue TWRS Applied Technology Plan (which will include HWVP Technology Plan)**

Cumulative HWVP Cost Performance

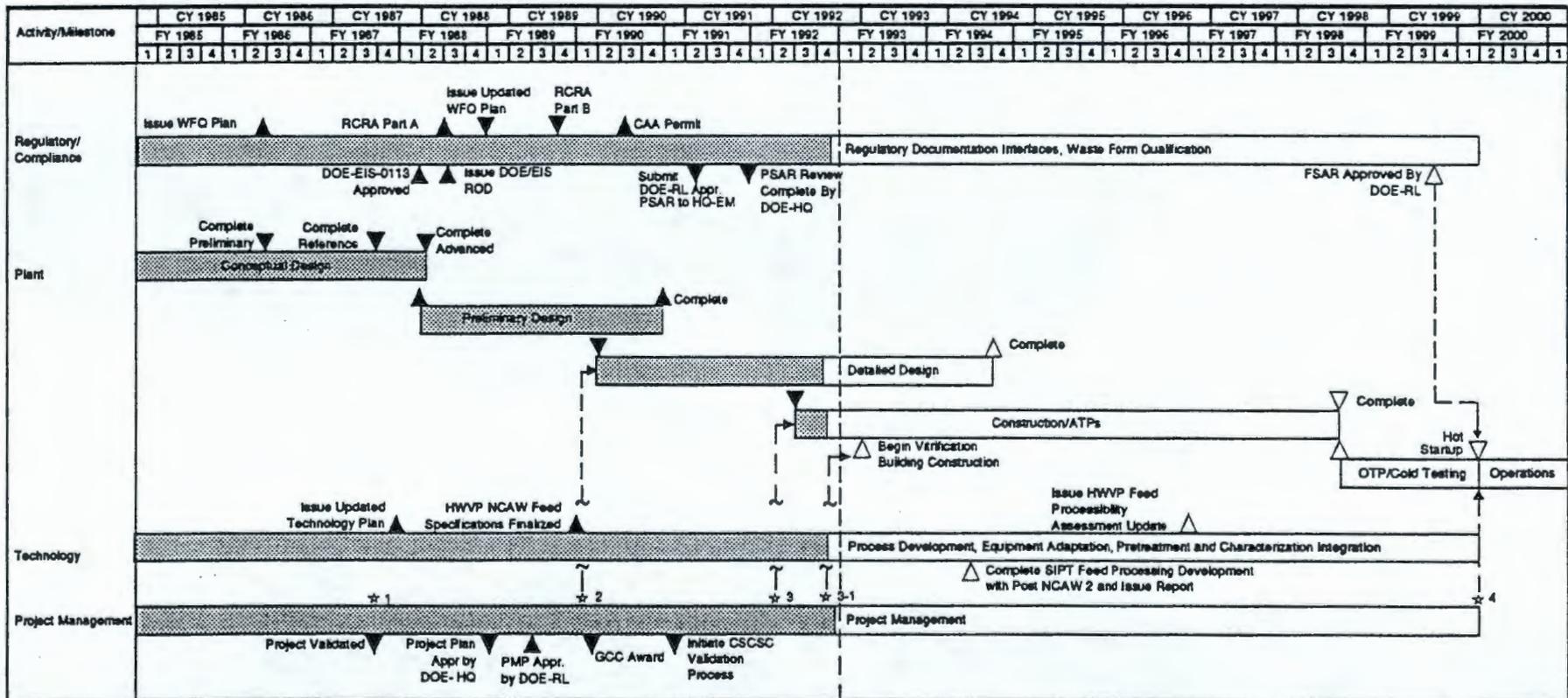
(Includes All Contractors)

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Project Summary Schedule

Hanford Waste Vitrification Plant Project Summary Schedule



LEGEND: ☆ Key Decisions ▲ DOE-RL Controlled Milestone ▼ DOE-HQ Controlled Milestone

- ACRONYMS:
- ATP - Acceptance Test Procedure
 - CAA - Clean Air Act
 - CSCSC - Cost and Schedule Control Systems Criteria
 - EIS - Environmental Impact Statement
 - FSAR - Final Safety Analysis Report
 - GCC - General Construction Contractor
 - NCAW - Neutralized Current Acid Waste
 - OTP - Operations Test Procedure
 - PMP - Project Management Plan
 - PSAR - Preliminary Safety Analysis Report
 - RCRA - Resource Conservation and Recovery Act
 - ROD - Record of Decision
 - WFO - Waste Form Qualification

- ☆ Key Decision
1. Approval of New Start
 2. Approval to Commence Detailed Design
 3. Approval to Commence Site Preparation
 - 3-1 Approval to Commence Construction
 4. Approval to Commence Operation

HWVP-0641

Special Topics

- **Change Requests**

<u>Change Number</u>	<u>Class</u>	<u>Milestone</u>	<u>Description</u>
M-03-92-03	2	M-03-03	Change completion date for detail design from June 1994 to December 1994

- **Status**

Ecology denied the change request for lack of information on impacts to interim TPA milestones. RL sent Dispute Resolution letter (November 3, 1992) requesting discussion

**PROVIDE ADDITIONAL DOUBLE-SHELL
TANK CAPACITY**

MILESTONE M-31-00

**G. R. KONZEK
RL, MULTI-FUNCTION WASTE REMEDIATION FACILITY
PROJECT OFFICE
NOVEMBER 18, 1992**

TPA Milestone M-31-00

Provide additional double-shell tank capacity

Open Commitments

- **Item**

- **Provide Ecology with approved copy of the FDC by July 17, 1992**

- **Status**

- **FDC was transmitted to Ecology and EPA on August 27, 1992**

TPA Milestone M-31-00

Provide additional double-shell tank capacity

Milestone Description

- **M-31-00** **Provide additional double-shell tank capacity. Construction complete.**
- **M-31-01** **Complete Conceptual Design Report -
for up to four tanks
Due 9/30/92 (Completed)**
- **M-31-02** **Recommend additional double-shell
tank milestone(s)
Due 9/30/92**
- **M-31-02-T1** **Complete detailed design for first new
tanks
Due 2/95**

TPA Milestone M-31-00

Provide additional double-shell tank capacity

Milestone Description (continued)

- **M-31-02-T2** **Construction start of first new tanks
Due 10/95**

- **M-31-02-T3** **Provide additional double-shell tank
capacity. Construction complete for
first new tanks.
Due 6/99**

TPA Milestone M-31-00

Provide additional double-shell tank capacity

Accomplishments (Last 3 months)

- **Multi-Function Waste Tank Facility**
 - **Functional Design Criteria has been approved by RL and transmitted to Ecology and EPA**
 - **Conceptual Design Report has been approved by RL and transmitted to Ecology and EPA**
 - **ICE (Independent Cost Estimate) Review was successfully completed**
 - **Initiate Advanced Conceptual Design (ACD)**

Planned Actions (next six months [M-31])

- **Initiate Definitive Design (Title I, January 1993, M-31-03)**
- **Complete Project Management Plan**
- **Complete Quality Assurance Program Plan**
- **Complete Advanced Conceptual Design**
- **Complete Ecology "Cost Review"**

TPA Milestone M-31-00

Provide additional double-shell tank capacity

Planned Actions (continued)

- **Study to evaluate additional tank space requirements (M-31-02)**
 - **Waste generated during retrieval**
 - **Waste generated during decommissioning**
 - **Waste generated during remediation activities, and**
 - **Additional mission needs as identified**

TPA Milestone M-31-00

Provide additional double-shell tank capacity

Milestone Assessment

- **Schedule**
 - **Advanced Conceptual Design (ACD) has been initiated**
 - **Impacts to M-31-02 completion, pending dispute resolution**

TRI-PARTY AGREEMENT BUDGET BASELINE SUMMARY OCTOBER 1992

"Tri-Party Agreement milestone cost and budget status will not be available for this reporting month. This is a result of delays experienced in establishing FY93 budget baselines for Tri-Party Agreement milestones in the Financial Data System. We expect our baselines will be established in time for November reporting of Tri-Party Agreement milestone cost and budget information."

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TPA Milestone M-31-00

Provide additional double-shell tank capacity

Special Topics

M-31-02 has problems for completion:

- **The Evaluation requires information currently being developed as a part of TWRS planning and integration effort**
- **TWRS rebaselining will provide the integrated approach for the safe storage of tank wastes and project the future need and timing of new tank capacity**

**Provide Annual Reports of Tank Waste
Treatability Studies**

Milestone M-04-00D

M. Dev

Hanford Tank Waste Disposal Program

November 18, 1992

Milestone Description

- **M-04-00**

Wastes stored in double-shell (DST) and single-shell (SST) tanks, as well as newly generated wastes destined to be stored in double-shell tanks, will be studied to determine the most appropriate treatment/disposal method. Studies to determine the long-term feasibility of grout or glass for disposal of these wastes are included in the scope of this milestone.

- **DELIVERABLE(S)**

The report is due annually. It is a concise addenda to the previous year's report. It will provide traceability with the activities and developments stated in the previous year's report. The areas which are covered in this report include:

 - Treatability of existing and newly generated SSTs and DSTs wastes
 - Feasibility of using grout and glass as a final waste form
 - Safety issues, such as tank 101-SY, which impact treatment
 - Other treatment/disposal technologies, such as intermediate processing, which may have an impact on future disposal

- **BASELINE SCHEDULE**

Submit report annually in September to the U. S. Environmental Protection Agency, and to the State of Washington Department of Ecology.

Accomplishments (Last three months)

- **M-04-00C Annual Report of Tank Waste Treatability Studies Issued on September 29**

Planned Actions (next six months)

- **Resume Los Alamos Technical Associates Contract
February 1, 1993**
- **End Activity Period prior to preparation of FY 1993
report, February 28, 1993**

**TRI-PARTY AGREEMENT
BUDGET BASELINE SUMMARY
OCTOBER 1992**

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**SINGLE-SHELL TANK RETRIEVAL
TECHNOLOGY DEVELOPMENT**

Milestone M-06-00

B. L. Nicoll, DOE

Tank Waste Remediation System

November 1992

Milestone Description

- **M-06-00** **Develop single-shell tank waste retrieval technology and complete scale model testing.**

- **DELIVERABLE(S)** **Demonstrate retrieval technology for single-shell tank waste forms including sludge, saltcake and in-tank hardware. Show technology for support, control and deployment systems. Demonstrations to be performed in scale model tank, using simulated waste. (Supports M-07)**

- **BASELINE SCHEDULE** **Complete milestone in June 1994. (Two interim milestones completed)**

Open Commitments

- ACTION ITEM** - **Set up meeting that provides a detailed briefing to the regulators on M-06-00.**
- Responsibility** - **B. L. Nicoll, DOE**
- Due Date** - **February 26, 1992**
- Status** - **Complete**

Accomplishments (Last three months)

- **M-06-02 "Start of Testing" Completed**

Demonstration 09/24/92 - Hanford 337 High Bay

- **Remote robotic deployment of end effectors**
- **Salt cake water cannon**
- **2" pipe cutter**
- **Sludge mobilization and transport**
20 gpm, dilution 4:1

Supported by

- **Viewing systems**
 - **Characterization**
 - **Sensors**
 - **Positioning systems**
 - **Control system**
-
- **November 1992 Demonstration for Industry and Media in 337 High Bay**

Planned Actions (Next six months)

- **Salt Cake Rubbelizer and Post Rubbelizer Development Initiated**
- **Optimization of Sludge Mobilization End Effector Parameters**
- **Testing of 4" Pipe Cutter Initiated**
- **Scarifier for Soft and Hard Waste Test Planning**

MILESTONE ASSESSMENT

- Schedule

- M-06-01 "Identify Technologies" Completed October 1990
- M-06-02 "Start of Testing" completed September 1992
- Complete planning for M-06-00 "Complete Scale Model Testing" definition in FY 93 to support June 1994 milestone completion date.

MILESTONE ASSESSMENT (cont'd)

- **Technical Scope**

- **1/8 Sector, Full-Scale Tank Mockup in 337 High Bay Proposed for all Robotics Demonstrations**
- **Multi-Laboratory Approach to End Effector Development for Various Waste Forms**
 - **WHC Sludge**
 - **Lawrence Livermore Saltcake**
 - **Sandia In-Tank Hardware**
- **Other Scope Being Evaluated for Milestone Completion**

MILESTONE ASSESSMENT (cont'd)

o Budget vs. Cost (\$ in Millions)

- **Tri-Party Agreement milestone cost and budget status will not be available for this reporting month. This is a result of delays experienced in establishing FY93 budget baselines for Tri-Party Agreement milestones in the Financial Data System. We expect our baselines will be established in time for November reporting of Tri-part Agreement milestone cost and budget information.**

**FULL-SCALE DEMONSTRATION
OF WASTE RETRIEVAL TECHNOLOGY**

Milestone M-07-00

B. L. Nicoll

Treatment Program Branch

November 1992

Milestone Description

- **M-07-00** **Initiate full-scale demonstration of waste retrieval technology**

- **DELIVERABLES** **Deliverable Initiation is defined as startup of the waste retrieval equipment in the selected single-shell tank**

- **BASELINE SCHEDULE** **Initiate retrieval operations - October 1997**

OPEN COMMITMENTS

- None

Accomplishments (Last three months)

- **Prepared draft of M-07 Tank Selection criteria and recommendations (M-07-01)**
 - **Selection criteria (top level):**
 - **Resolution of tank safety issues**
 - **Compliance with regulatory requirements**
 - **Proceed with waste disposal**
 - **Tank space logistics**
 - **Full size SST for demonstration of reference SST retrieval technologies**
 - **Plan reviewed by DOE, comments being incorporated**

Accomplishments (Last three months) (Cont)

- Tank C-106 Early Retrieval Plan provided to the regulators (Sept 1992)
- Initiated discussions on Tank C-106 sluicing with Washington Department of Health (DOH)
- Initiated development of required cost, schedules, and technical information to support C-106 retrieval effort

Planned Actions (Next six months)

- **Complete M-07 tank selection (M-07-01 and 02)**
- **C-106 Sluicing Effort**
 - **Engineering Studies/Analyses**
 - **Field walk-downs in support of preliminary design**
 - **Preparation of Functional Design Criteria**
 - **Work Planning for the following:**
 - Operations Work Plan**
 - Quality Assurance Plan**
 - Detailed Design**
 - **Preliminary Design**
 - **Regulatory compliance/safety documentation**
 - Initiate safety documentation**
 - Initiate environmental documentation (RCRA, CAA, NEPA)**
- **Complete initial tank leak study**

Milestone Assessment

- Schedule

- If sluicing is allowed for SST waste retrieval, initiation of retrieval by 10/97 possible
- Retrieval operations must coincide with other TWRS operations.

Milestone Assessment (Cont)

- Technical Scope

- Retrieval options for M-07 tank include both sluicing and long reach manipulator systems (reference technologies)
- Propose to initiate retrieval demonstration with sluicing
- Complete 95% waste retrieval with long reach manipulator system, if required

Milestone Assessment (Cont)

Budget Baseline Summary

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We expect our baselines will be established in time for November reporting of Tri-Party Agreement milestone cost and budget information.

9 3 1 2 7 5 3 0 9 5 0 (ATTACHMENT 8)

**FULL-SCALE SINGLE-SHELL TANK
FARM CLOSURE DEMONSTRATION**

Milestone M-08-00

B. L. Nicoll

Treatment Program Branch

November 1992

Milestone Description

- **M-08-00** **Initiate full-scale tank farm closure demonstration project**

- **DELIVERABLES** **Initiation is defined as full-scale waste retrieval**

- **BASELINE SCHEDULE** **Initiate full-scale closure demonstration - June 2004**

OPEN COMMITMENTS

- None

Accomplishments (Last three months)

- **Initiated Retrieval Program Plan.**

- **Initiated Retrieval Technology Plan.**

Planned Actions (Next six months)

- Complete Retrieval Program Plan (March, 1993)
- Complete Retrieval Technology Plan (March, 1993)
- Initiate document defining requirements and approach for subsurface barrier development
- Initiate Phase II of Tank Leak Studies - expanding studies to additional SSTs
- Establish near term DST/SST Retrieval Sequence for Pretreatment (Baseline) (March, 1993)

Milestone Assessment

- Schedule

- Activities planned for FY 1993-1994 will support M-08 demonstration
 - Engineering studies and functional design criteria development
 - Technology evaluations
 - Detailed planning and scheduling
 - Support to NEPA documentation preparation for the SST EIS

Milestone Assessment (Cont)

- **Technical Scope**

- **Current TWRS plans are to demonstrate retrieval of waste for entire tank farm as part of closure demonstration**
- **May require accelerated closure plan development and negotiation for the M-08 farm**

Milestone Assessment (Cont)

Budget Baseline Summary

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Single-Shell Tank Closure

Milestone M-09-00

**Reporting Made to Interim Milestones
M-09-01 and M-09-02**

Bruce L. Nicoll

**DOE-RL Retrieval and Treatment Division
Retrieval Branch Chief**

November 18, 1992

Milestone Description

- o M-09-00 Complete Closure of all 149 single-shell tanks by June 2018
- o Deliverables Closure and removal of required waste from the 149 single-shell tanks will be effected in accordance with the approved closure plan(s). As stated in the Hanford Defense Waste-Environmental Impact Statement Record of Decision, a supplemental EIS will be prepared prior to making any final decisions regarding disposal of single-shell tank waste. The final closure plan(s) will address the recommendations of the supplemental EIS
- o Baseline Schedule
 - Complete preparation of supplemental environmental impact statement (SEIS) and issue draft for public review by June 2002 (M-09-01)
 - Submit closure plan to Ecology for approval by December 2003 (M-09-02)

Open Commitments

- o None

Accomplishments (last three months)

- o TWRS-EIS Notice-of-Intent (NOI) continues progressing through DOE-HQ review/revision cycle
- o Prepared and Issued draft TWRS-NOI Technical Support Document for internal review
- o Issued draft TWRS Systems Engineering Study for Internal Review

7 3 1 2 7 5 3 9 7 2
Planned Actions (next six months)

- o **Finalize and Issue TWRS Systems Engineering Study**
- o **Initiate revision to the SST System Closure/Corrective Action Work Plan**
- o **Issue TWRS EIS-NOI to the Federal Register**
- o **Initiate TWRS-EIS NOI Public Scoping Meetings**
- o **Prepare and Issue draft Regulatory Assessment Report on Closure of SSTs as Landfills**
- o **Prepare and Issue draft Risk Assessment Report on Closure of SSTs assuming Closure as Landfills**

Milestone Assessment

o Schedule

- Issue TWRS System Engineering Study
- Issue to Federal Register TWRS EIS NOI - not accomplished in FY 1992, rescheduled in FY 1993
- Issue revised SST System Closure/Corrective Action Work Plan (Rev 1) to Ecology - on schedule (7/93)
- Issue Draft Regulatory Assessment report on closure of SSTs as landfills - on schedule (3/93)
- Issue Draft Risk Assessment report for closure of SSTs assuming closure as landfills - on schedule (3/93)
- SEIS (M-09-01) - on schedule (6/02)
- Closure Plan (M-09-02) - on schedule (12/03)
- SST Closure (M-09-00) - planned for future action (6/18)

o Technical Scope

Milestone Assessment (cont'd)

o Budget vs. Cost (\$ in Millions)

- **Tri-Party Agreement milestone cost and budget status will not be available for this reporting month. This is a result of delays experienced in establishing FY93 budget baselines for Tri-Party Agreement milestones in the Financial Data System. We expect our baselines will be established in time for November reporting of Tri-part Agreement milestone cost and budget information.**

**Complete Single-Shell Tank
Interim Stabilization**

Milestone M-05-00

**G. E. Bishop
Tank Farms Project Office**

November 18, 1992

MILESTONE DESCRIPTION

- o M-05-00** **Complete single-shell tank interim stabilization on all tanks except C-105 and C-106 by September, 1995. Complete interim stabilization on all tanks by September, 1996.**

- o Deliverable(s)** **Interim stabilization will be considered complete when pumping of each tank is complete. Pumping will be complete when as much liquid as practical is removed to a double-shell tank. This occurs when pumping rate drops to 0.05 gpm. At this point, only 5000 gallons of supernatant and 50,000 gallons of interstitial liquid remain in the tank.**

- o Baseline Schedule** **Interim stabilize single-shell tanks annually beginning in FY-1989.**

ACCOMPLISHMENTS (LAST 3 MONTHS)

- o Completed a safety study of nonwatchlist tanks to appraise safety concerns on interim stabilization of these tanks.**
- o Completed a draft safety study allowing interim stabilization of FeCN watchlist tanks.**
- o Issued criticality evaluation for interim stabilization of nonwatchlist tanks in 241-BY and 241-C farm tanks. Draft criticality JCO in review.**

PLANNED ACTIONS (NEXT 6 MONTHS)

- o Resume after outstanding safety issues are addressed:
 - Continue interim stabilization of 4 tanks (BY-102, C-102, C-107, and C-110). Milestone M-05-03.**
 - Continue interim stabilization of 1 additional tank (BY-109). Milestone M-05-04.****
- o Continue investigation of safety issues involved with watchlist tanks.**
- o Negotiate changes to interim stabilization milestones M-05.**

MILESTONE ASSESSMENT

- o Budget Baseline Summary - October 1992**
 - o "Tri-Party Agreement milestone cost and budget status will not be available for this reporting month. This is a result of delays experienced in establishing FY-1993 budget baselines for Tri-Party Agreement milestones in the Financial Data System. We expect our baselines will be established in time for November reporting of Tri-Party Agreement milestone cost and budget information".**

- o Schedule Performance**
 - o Pumping suspended on January 28, 1992, due to incident involving unidentified toxic fumes. Criticality concerns have since delayed restart of pumping.**

MILESTONE ASSESSMENT (continued)

o Schedule Performance (continued)

o M-05-03 - (4 tanks by 9-30-91)

Missed completion date. Pumping suspended for six weeks at end of August 1991 due to concerns over compliance with Wyden Amendment. Pumping restarted in 241-BY farm and 241-C farm in November 1991. Pumping suspended in January 1992, due to noxious gas issues. Pumping since delayed by criticality issues.

- Four (4) tanks will be pumped following resolution of safety issues (e.g., criticality) and pressure testing of transfer lines.**

o M-05-04 - (9 tanks by 9-30-92)

Milestone was not met as currently written.

- Change Request M-05-92-02 submitted to extend completion date 120 days. Request denied by Ecology, currently in dispute resolution.**

MILESTONE ASSESSMENT (continued)

o Schedule Performance (continued)

- **One (1) tank will be pumped following resolution of safety (criticality) issues, and pressure testing of transfer piping.**
- **For 12 remaining nonwatchlist tanks, physical and material condition of farms impact schedule and will likely pace stabilization work of remaining tanks. A detailed scope of this work has been prepared. Safety issues that have been identified also must be addressed (e.g., criticality).**
- **For 27 remaining watchlist tanks, unresolved safety issues (hydrogen generation, ferrocyanide, organic and high temperature) must be addressed prior to proceeding with stabilization.**

MILESTONE ASSESSMENT (continued)

o Technical Scope

- o The milestone completion remains dependent on removal of current pumping restrictions. When this will occur is unknown.**

- o 44 tanks remain to be stabilized.**
 - 17 nonwatchlist tanks**
 - 27 watchlist tanks**

- o Watchlist tanks designated by public law 101-510, section 3137 (Wyden Amendment). Most have unreviewed safety concerns over hydrogen generation or ferrocyanide content. Others contain potentially flammable organics, or high temperature.**

MILESTONE ASSESSMENT (continued)

o Technical Scope (continued)

- o Resolution of unresolved safety issues may require presently unanticipated modifications or alterations to the affected tanks, which could delay stabilization even further.**

SPECIAL TOPICS.

o Issue

- o Due to restrictions of transfers within tank farms due to criticality concerns, the restart of pumping has been delayed.**
- o Achievement of M-05 milestone is uncertain.**

o Corrective Action

- o Technical issues require discussion for renegotiation of the M-05 milestone.**

o Emergency Leak Response

- o Currently making preparations to emergency pump assumed leaking tank 241-T-101. This is a FeCN watchlist tank.**

SINGLE-SHELL TANK CHARACTERIZATION

MILESTONE M-10-00

John Clark - USDOE/RL

Bill Zuroff - WHC

Waste Characterization Program

November 18, 1992

Milestone Description

- o **M-10-00** **Sample and analyze at least two complete core samples from each single-shell tank.**

- o **DELIVERABLE(S)** **Obtain and analyze a minimum of two core samples from each single-shell tank. Samples will be collected and analyzed to determine the characteristics of significant waste strata to support timely development of tank waste retrieval technology and to assist in preparation of single-shell tank closure plans and the supplemental EIS. Samples will be collected and analyzed in accordance with a single-shell tank waste analysis plan.**

- o **BASELINE SCHEDULE** **Complete single-shell tank waste characterization by September 1998.**

Accomplishments (Last three months)

- **Completed TPA Milestone M-10-06 23 days ahead of schedule on September 7, 1992.**
- **Initiated envelope testing of the hard salt cake sampler.**
- **Started installation of equipment and instrumentation on the second core sampling truck (rotary mode).**
- **Received conceptual approval from the State Departments of Health and Ecology to use an off-the-shelf exhauster for initial rotary mode sampling activities.**
- **Completed a first draft of the Master Core Sampling Schedule detailing the waste tank sampling schedule through 1998 based on current TWRS priorities.**

Planned Actions

- Issue TWRS Tank Waste Characterization Plan
- Evaluate Milestones M-10-07 thru M-10-12 based on TWRS decision
- Complete R & D and installation of Hard Salt Cake Sampler and Hydrostatic Balance System M-10-13-T2 *10/1/13
plan for Fe(CN) tank*
- Continue push mode core sampling - near term schedule includes Tanks T-107, C-108, and C-111 (All FeCN)

MILESTONE ASSESSMENT

- Schedule Performance

- M-10-06 Obtain a total of 20 core samples - completed 23 days ahead of schedule

- Budget vs. Cost

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SPECIAL TOPICS

- **M-10-13-T2 complete R & D and installation of hard salt cake sampler and hydrostatic balance system - December 1992**
 - Instrumentation cabinet complete
 - Pressure system complete
 - Purge control cabinet installed
 - Universal sampler complete
 - Centering device complete
 - Drill bit complete
 - On schedule for December 1992 completion

- **Rotary mode exhauster**
 - Met with WDOE and Department of Health - September 15 and October 27. Received approval for off-the-shelf exhauster and broad brushed BACT (using best engineering vapor estimate).
 - The decision of the group was to wait for the new vapor sampler and actual core samples from several farms before proceeding with a BACT special design rotary exhauster.

SPECIAL TOPICS (cont'd)

- **Evaluate Milestones M-10-07 thru M-10-12 based on TWRS Decision Plan**

- **Laboratory analytical capacity**
 - **Current throughput is greater than the required 216 day turnaround**

 - **Possible alternatives**
 - **Relax the 180 analytical requirement**
 - **Utilize off-site laboratories**