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0042729

Meeting Minutes Transmittal/Approval
Unit Managers Meeting: Single Shell Tanks & Double Shell Tanks
2704HV/Room G206
200 East Area Hanford Site, Washington

April 11, 1995

Appvl: _____ **Date:** 10/27/95
Wendell R. Wrzesinski, SST Unit Manager, DOE-RL

Appvl: Scott E McKinney **Date:** 10-17-95
Scott McKinney, SST Unit Manager,
WA Department of Ecology

EPA HAS DEFERRED APPROVAL TO ECOLOGY, PER KEVIN OATES' MESSAGE, 10/25/95
Appvl: _____ **Date:** _____
Kevin J. Oates, SST Unit Manager, EPA Region X

Appvl: Casey O. Ruud **Date:** 10-17-95
Casey O. Ruud, DST Unit Manager, DOE-RL

Appvl: Laura J. Cusack **Date:** 10/12/95
Laura J. Cusack, DST Unit Manager,
WA Department of Ecology

Appvl: Mardine P Campbell **Date:** 10/17/95
Mardine P. Campbell, WHC, Coordinator
Representative

Meeting Minutes are attached. Minutes are comprised of the following:

Attachment #1, Meeting Summary/Summary of Action Items & Agreements
Attachment #2, Agenda for Meeting
Attachment #3, Attendance List

Handout 1 - Provide additional DST Capacity, (M-42-00)
Handout 2 - Replacement of Cross Site Transfer System, Project 93-D-182
Handout 3 - Tank Farm Restoration and Safe Operations, Project W-314
Handout 4 - TPA Milestones, Waste Tank Safety Program
Handout 5 - Vapor Characterization Status on TPA Milestones, (M-40-03, M-40-08)
Handout 6 - DST and SST Characterization, (M-44-00)

JAN 1996
RECEIVED
EDMC

SINGLE-SHELL TANKS/DOUBLE-SHELL TANKS
Unit Managers Meeting
2704HV/G206
Richland, Washington

April 11, 1995
9:00 a.m. to 1:00 p.m.

Summary of Discussion and Commitments/Agreements

DST PERMITTING UPDATE (K. Elsethagen)

There was no DST permitting update this month.

M-42 MULTI-FUNCTION WASTE TANKS (J. Couey) [Handout #1]

J. Couey presented the status for the Multi-Function Waste Tanks project. The RL has sent a letter to EPA and Ecology notifying them of RL's intention to phase out the project. A formal change package is being prepared. The NEPA documentation will be continued with a record of decision due late November of 1995. This would permit a continuation of the project if needed.

There is no budget for the project in 1996. No work could be done until 1997, even if the decision were made to build two tanks. However there is a technical document which describes the basis for building no new tanks.

Scott McKinney, Ecology, indicated that new milestones might have to be negotiated for the consolidation of compatible tanks contents. These consolidation activities are a very aggressive waste management alternative. Ecology would like to see the path forward clearly defined and a system provided to ensure these activities will happen.

M-43 TANK FARM UPGRADES (G. Neath, M. Ramsay) [Handouts #2, 3]

G. Neath, RL, statused milestone M-43-07 (Replacement of the Cross-Site Transfer System). The project was recommended for validation. The NEPA record of decision date has been moved from October to November 20. Measures are being taken to ensure that the descoping of the Multi-Function Waste Tanks does not impact the Cross-Site Transfer System. Contingency money is coming from the money saved from the MFWT.

Discussion continued about the use of galvanized piping as a corrosion protection versus cathodic protection. The EPA has given verbal agreement to this option. Ecology is reviewing the proposal but would like to see some technical basis before making a decision.

The milestone M-43-07-T01 to complete definitive design by August 1995 will probably be missed. The best guess at design completion is December 1995. A TPA change request will be prepared.

The definition of "start of construction" was discussed. Does awarding the contract for long lead procurement items or the construction forces work

constitute start of construction? Final consensus was that awarding the contract will be the start of construction.

Completion of construction is estimated to be August of 1997.

Mark Ramsay, RL, discussed Project W-314, Tank Farm Restoration and Safe Operations. The late key decision zero necessitated a different path forward and caused a significant change to the milestones. A recent change request of proposed milestones consolidated the uncompleted milestones within 02, 04, 05 and 06 into the 08 milestone. Norm Hepner, Ecology, doubted the milestones would be approved at the April 14th meeting.

Funding for the project is a question.

ACTION: M. Ramsay will provide a copy of the February 1 DNFSB briefing.

M-40 SAFETY (G. Dukelow, D. Turner, J. Osborne, O. Wang) [Handouts #4, 5]

G. Dukelow presented the Safety Milestone report. The Acceptance Test Plans for the connection of TMACS for the first two thermocouple trees on 104-TY and 107-T will be done this week and will meet milestone M-40-02B.

D. Turner stated that M-40-04-T01 requires RL, Ecology and EPA to make a decision, either to interim stabilize tank C-103 with the organic layer in place or proceed with removal of the organic layer before interim stabilization. The Westinghouse Hanford Company (WHC) has recommended interim stabilization with the organic layer in place based on safety analyses. Alex Stone, Ecology, stated he needs to meet with EPA but their position is somewhat different than WHC's recommendation. The matter will be discussed at a separate meeting.

J. Osborne reported on the vapor sampling progress. A brief discussion ensued about the organic results in the tanks which had been interim stabilized, e.g., BY-108. The discussion will be continue when more information is available.

O. Wang will give a presentation on M-40-05 in June. The detail of design for the safety air chiller for C-106 is presently an issue. This will be discussed with RL next week. A. Stone stated that Ecology is of the opinion that the chiller should be placed on C-106 as quickly as possible. He reminded Mr. Wang that the SubTAP panel also recommended the chiller be installed as soon as possible.

M-44 CHARACTERIZATION (J. Thompson [Handout #6]

J. Thompson of RL introduced himself as the new program manager of characterization.

A. Stone questioned why the planned number of rotary core samplings did not consider the requirements given in the DNFSB. T. Kelley, WHC, explained that the plan is resource loaded for what the budget would support, in this case 18 samplings were planned but only 6 were budgeted.

A. Stone also stated that Ecology expects funding to be made available to characterize the sludge, liquid, vapor, etc. for all 177 tanks by September 1999 (M-44).

M-45 RETRIEVAL/CLOSURE

There was no presentation this month.

M-41 INTERIM STABILIZATION

There was no presentation this month.

SIGNING OF MEETING MINUTES.

MEETING ADJOURNED.

Attachment 2

SINGLE-SHELL TANKS/DOUBLE-SHELL TANKS
UNIT MANAGERS MEETING
2704HV/G-206
APRIL 11, 1995

AGENDA			
Begin Time	End Time	Subject	Presenter
9:00	9:10	DST Permitting Update	Kelly Elsethagen
9:10	9:40	M-42 Multi-Function Waste Tanks	Jim Couey
9:40	10:10	M-43 Cross-Site Transfer Lines	Gae Neath
10:10	10:40	M-43 Tank Farm Upgrades	Mark Ramsay
10:40	10:45	Break	N/A
10:45	11:15	M-40 Safety	Gary Dukelow
11:15	11:25	M-40-03, M-40-08 Vapor Characterization Update	Jerry Osborne
11:25	11:55	M-44 Characterization	Tom Kelley
11:55	12:25	Lunch	N/A
11:25	12:55	M-45 Retrieval/Closure	Wendell Wrzesinski
12:55	1:15	M-41 Interim Stabilization	Tom Rainey
1:15	1:25	Signing of January Meeting Minutes	N/A
1:25	1:55	Operation Update	Dann Alison/ Jan Brown

ACTION ITEMS FROM MARCH UNIT MANAGERS MEETING		
Action	Actionee	Due Date
Deliver a rough draft copy of Ecology's position on the M-44 Characterization TCP's.	Alex Stone	Undetermined
Presentation of additional psychometric data for tanks C-103, SX-104 etc. (requested by WDOE).	Operations	5/9/95 Tentative
Deliver February DNFSB briefing sheets giving status of Tank Farms systems to WDOE.	Mark Ramsay	4/11/95 Tentative
Deliver formal cover letter to WDOE & EPA from DOE-RL stating its agreement with WHC on "No new Tanks Issue".	Don Wodrich	4/11/95

Attachment 3

SINGLE-SHELL TANKS/DOUBLE-SHELL TANKS
UNIT MANAGERS MEETING
2704HV/G-206
APRIL 11, 1995

Name	Organization	MSIN	Phone
Kelly Elsethagen	TWRSEC/WHC	R1-52	373-1378
Lisa Jacques	WHC TWRS	R1-52	373-1505
Jim Couey	DOE-RL	S7-52	376-1457
Bob Long	"	"	6-7754
Curt Lewis	WHC	B4-08	373 6647
GREG PARSONS	WHC	B4-08	372-0115
LAUREN CUSACK	ECOLOGY		736-3038
Scott McKinney	"		(360) 407-7146
Casey Ruud	DOE-RL TOP	S7-54	373-3478
Alison D. Huckaby	Ecology	B5-18	736-3034
Gregory E. Morgan	DOE-RL TOP	S7-54	373-2346
DALE JACKSON	DOE/RL-EAP	A5-15	376-4951
Luis Soler	Dames & Moore	B1-42	946-3680
Mary Ann McLaughlin	WHC/TPAI	B2-35	376-4084
Fenggang Ma	Ecology		736-3035
Michael W. Cline	WHC/ES	H6-24	376-7957
R.L. Fritz	WHC/Prot.	B4-08	372-3506
Jun L. Brown	MACTEC	R3-77	373-7946
Norm Hepner	Ecology	Kenn.	736-3048
GAE M NEITH	DOE RL	S7 52	376 7828
DENNIS S. KEMMERER	GSSC	S7-72	372-0760
Carol J. Swafford	DOE RL	S7-52	376-6158
MEL LAKES	WHC/TWRSEE	R-51	373-0043
Mark Ramsey	DOE-RL	S7-52	376-7924
Michael A. Fish	DOE-RL	S7-52	376-8355
WALLY RUTHERFORD	WHC	R3-27	372-2903
Alex Stone	Ecol.	B5-18	736-3018

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SINGLE-SHELL TANKS/DOUBLE-SHELL TANKS
UNIT MANAGERS MEETING
2704HV/G-206
APRIL 11, 1995

Name	Organization	MSIN	Phone
Mary Jarvis	DOE-RL	S7-54	376-4550
C. A. GROENDYKE	DOE-RL	S7-54	376-9811
J.M. GRAY	DOE-RL	S7-54	376-4783
M P Campbell	WHC	R1-52	373-1131
Kathy Knox	WHC	H6-23	372-3596
Stanley Branch	DOE-RL	S7-54	376-9450
Dave Turner	WHC-WTSD		373-2238
Kevin Oates	EPA		376 6623
FRANK CALAPRISTI	WHC/TPA I	B2-35	376-6693
EDWARD J. LIPKE	WHC		373-9834
Oliver S. Wang	WHC	S7-	373-3011
JERRY W. OSBORNE	WHC	S7-15	373-5379
BARY T. DUKELOW	WHC	S7-15	373-4479
TOM KELLEY	WHC	S7-30	373-2038
DAVE BRATZEL	WHC	S7-30	373-3579
JAMES F. Thompson, Jr	DOE-RL	S7- ?	373-9757
Donald B Engelman	WHC	R1-49	373-3452
Guy Bishop	DOE	S7-54	372-1856
Thomas B. Rainey	WHC	R2-54	373-3531
C.J. Geier	WHC		373-5617
D. Alison	WHC	R1-52	373-6398
Van F. Brown	WHC		373-6397

PROVIDE ADDITIONAL DOUBLE-SHELL TANK CAPACITY

MILESTONE M-42-00

J. E. Couey
RL, MULTI-FUNCTION WASTE TANK FACILITY
PROJECT OFFICE

April 11, 1995

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Milestone Descriptions

- **M-42-00** — Provide additional double-shell tank capacity. Initiate "Hot" Operations of the MWTF 200E Area tanks. 12/98 (slipping)
- **M-42-01** — Initiate "Hot" Operations of the MWTF 200W Area tanks. 02/98 (slipping)
- **M-42-01-T1** — Initiate Detail Design of the MWTF 200W Area tanks. 03/94 (A 05/94)
- **M-42-01-T2** — Initiate construction of the MWTF 200W Area tanks. 09/94 (slipping)

Milestone Descriptions (continued)

- **M-42-02** — Complete construction of the MWTF 200E Area tanks. 09/98 (slipping)
- **M-42-02-T1** — Initiate construction of the MWTF 200E Area tanks. 02/95 (slipping)
- **M-42-02-T2** — Complete the Detailed Design of MWTF 200E Area tanks. 01/96 (slipping)

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Accomplishments

- Four MWTF Title II Design Packages have been completed and approved by WHC (10, 20, 40 & 60).

- Work was completed on schedule with technical and editorial changes required for submittal of the revised Preliminary Safety Analysis Report (PSAR). The Safety Evaluation Report is scheduled for approval in May 1995.

- MWTF project office completed preparation/presentation of the FY 97 validation package.

Accomplishments (continued)

- A meeting with the DNFSB staff was held in March 1995. Presentations were made on the technical basis regarding the proposal to phase out the MWTF project.

- The Environmental Protection Agency, DOE HQ, and Washington Department of Ecology have been notified in writing of the proposal to phase out the MWTF project. A formal TPA change request package has been drafted and is under review.

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Planned Actions (next six months [M-42])

- Continue National Environment Policy Act (NEPA) Documentation. The MWTF portion is on hold.

- Continue Title II Design.

- Revise Project Plan and submit Baseline Change Proposal based upon Title I approvals, additional NEPA scope, systems engineering integration, reduced cost estimate, and extended schedule.

- The Technical Tasks to support the basis for the waste volume projections is nearing completion. All deliverables have been completed and the final report is expected by April 28, 1995.

Special Topics

- Concerns
  - EIS activities have slipped causing impacts to the M-42 TPA Milestone series.
  - Implementation of the Secretary's commitment to the DNFSB to perform Critical Design Review and integrate with System Engineering, will slip milestones M-42 TPA Milestone series.

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- Concerns (continued)

  - Delegation of authority for local approval of Key Decisions is in progress. A pilot project (W-320) has been selected for developing procedures and implementation. Upon successful completion of this pilot, local delegation of authority for key decisions will be expanded to W-236A

Cost/Schedule Assessment (in thousands)

	Current Period Feb. 27 - Mar. 26	Percent	Cumulative to Date	Percent
Budget Cost Work Scheduled (BCWS)	6,592.00		72,034.90	
Budget Cost Work Performed (BCWP)	1,285.20		48,830.40	
Actual Cost Work Performed (ACWP)	1,443.70		49,502.50	
Variances:				
Schedule	(5,306.80)	-80%	(23,204.50)	-32%
Cost	(158.50)	-11%	(672.10)	-01%

As of end of March 1995

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Variance Explanation

Cost

The current period cost variance is due to engineering skill mix and the late resolution of equipment safety classification issues.

Schedule

Current period and cumulative schedule variance is due to delays in completing the EIS (lack of construction activity).

REPLACEMENT OF CROSS-SITE TRANSFER SYSTEM

PROJECT 93-D-182 (W-058)

GAE M. NEATH
RL, TANK WASTE PROJECTS

April 11, 1995

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Milestone Description

- M-43-07-T01 Complete Definitive Design, August 1995.
- M-43-07A Start Construction, November 1995.
- M-43-07B Complete Construction, August 1997.
- M-43-07C System Operational, February 1998.

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Accomplishments (Last three months)

- Obtained HQ delegation for approval of (Design Only) Long Lead Procurement Waiver, March 1995.
- Held briefings with Defense Nuclear Facility Safety Board staff (February/March 1995) and Hanford Advisory Board, February 1995.
- Performed 60% Design Review, February 1995.
- Project Validation Presentations were held for Fiscal Year 1997 funding, March 1995.

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Planned Actions (Next three months)

- Award Design Only Long Lead Procurement Contracts (Monitor Control System and Pumps), April 1995 and June 1995, respectively.

- Continue evaluation of scope impacts as a result of the potential deletion of the Multi-Function Waste Tank Facility Project, i.e., transfer line routing, diversion boxes, instrumentation, pump configuration, initiated March 1995.

- WHC Submittal of Preliminary Safety Analysis Report revision for review, April 1995 and DOE review, May 1995.

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Planned Actions (Next three months) - Continued.

- Continue support for Safe Interim Storage - Environmental Impact Statement.
- Continue Title II Design

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Special Topics

- Continue discussions with WDOE and EPA regarding the legal requirement by WAC 173-303-640 on cathodic/corrosion protection for piping.

- Scope integration with the Multi-Function Waste Tank Facility has delayed the design schedule. TPA milestone M-43-07-T01, Design Completion, will be missed. RL will initiate a TPA Change Request upon rescheduling of the project.

- Schedule delays of the Long Lead Procurement Waiver and the Environmental Impact Statement could impact remaining TPA Milestones. Project alternatives are being evaluated.

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Special Topics (Continued)

- **Cost/Schedule Assessment**

Note: Dollars in Thousands.	Current Period March 1995	Cumulative to Date	At Completion
Budget Cost Work Performed (BCWP)	302.0	5091.0	52700.0
Budget Cost Work Scheduled (BCWS)	518.0	6338.0	52700.0
Actual Cost Work Performed (ACWP)	270.0	5414.0	52700.0
Variances:			
Costs	32.0	-323.0	0.0
Schedule	-216.0	-1247.0	0.0

Note: The cumulative cost variance is attributed to PSAR and environmental testing costs not in baseline. The cumulative schedule variance is attributed to delayed Key Decision 2 and project integration efforts.

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Handout 3 (5)

TANK FARM RESTORATION AND SAFE OPERATIONS

PROJECT W-314

FY 1996 Major System Acquisition

M. L. Ramsay
RL, Tank Waste Projects Division

April 11, 1995

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TPA Milestones M-43-02, -04, -05, and -06
Tank Farm Restoration and Safe Operations

Milestone Description

- M-43-02 Complete Project W-314B Double Shell Tank Ventilation Upgrades - June 2002

  - M-43-02-T01 Provide WDOE and DOH the Engineering Study - FEB 1994 (C)
  - M-43-02-T02 Provide WDOE and DOH the Functions and Requirements - APR 1994 (C)
  - M-43-02-T03 Provide WDOE and DOE the Conceptual Design Statement of Work - JUN 1994 (C)
  - S - M-43-02A Provide WDOE and DOH the Conceptual Design Report - May 1995
  - S - M-43-02-T06 Receive DOE-HQ project validation to request congressional funding - June 1995
  - M-43-02-T07 Start Definitive Design for W-314B - January 1997
  - M-43-02-T08 Complete Definitive design for W-314B - January 1999
  - M-43-02-T09 Start construction of W-314B - March 1999
  - M-43-02B Complete construction of W-314B - December 2001
  - M-43-02C Start Operation of W-314B - June 2002

- M-43-04 Complete Project W-314A Tank Farm Integrated Instrumentation System Upgrades - June 2002

  - M-43-04-T01 Provide WDOE and DOH the Engineering Study - MAR 1994 (C)
  - M-43-04-T02 Provide WDOE and DOH the Functions and Requirements - MAY 1994 (C)
  - M-43-04-T03 Provide WDOE and DOE the Conceptual Design Statement of Work - JUN 1994 (C)
  - S - M-43-04A Provide WDOE and DOH the Conceptual Design Report - May 1995
  - S - M-43-04-T05 Receive DOE-HQ project validation to request congressional funding - June 1995
  - S - M-43-04-T06 Start Definitive Design for W-314A - January 1996
  - ? - M-43-04-T07 Complete Definitive design for W-314A - November 1998
  - M-43-04B Provide WDOE and DOH an integrated level 3 construction schedule - December 1998
  - M-43-04-T08 Start construction of W-314A - December 1998
  - M-43-04C Complete construction of W-314A - December 2001
  - M-43-04D Start operation of W-314A - June 2002

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TPA Milestones M-43-02, -04, -05, and -06
Tank Farm Restoration and Safe Operations

Milestone Description (continued)

- M-43-05 Complete Project W-314C Transfer System Upgrades - June 2004

  - M-43-05-T01 Provide WDOE and DOH the Engineering Study - FEB 1995 (C)
  - M-43-05-T02 Provide the WDOE the project Functions and Requirements - APRIL 1995 (C)
  - a - M-43-05-T03 Provide the WDOE the Project Conceptual Design Statement of Work - June 1995
  - M-43-05A Provide WDOE the project Conceptual Design Report - May 1996
  - M-43-05-T06 Receive DOE-HQ project validation to request congressional funding - June 1996
  - M-43-05-T07 Start Definitive Design for W-314C - January 1998
  - M-43-05-T08 Complete Definitive design for W-314C - November 2000
  - M-43-05-T09 Start construction of W-314C - March 2000
  - M-43-05B Complete construction of W-314C - December 2003
  - M-43-05C Start operation of W-314C - June 2004

- M-43-06 Complete Project W-314D Tank Farm Electrical Upgrades - June 2004

  - M-43-06-T01 Provide WDOE and DOH the Engineering Study - FEB 1996 (C)
  - a - M-43-06-T02 Provide the WDOE the project Functions and Requirements - April 1996
  - M-43-06-T03 Provide the WDOE the Project Conceptual Design Statement of Work - JUNE 1996 (C)
  - M-43-06A Provide WDOE the project Conceptual Design Report - May 1997
  - M-43-06-T06 Receive DOE-HQ project validation to request congressional funding - June 1997
  - M-43-06-T07 Start Definitive Design for W-314D - January 1999
  - M-43-06-T08 Complete Definitive design for W-314D - October 2001
  - M-43-06-T09 Start construction of W-314D - March 2001
  - M-43-06B Complete construction of W-314D - December 2004
  - M-43-06C Start operation of W-314D - June 2005

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TPA Milestones M-43-02, -04, -05, and -06
Tank Farm Restoration and Safe Operations

New Proposed Milestones-"08"

• M-43-08	Complete Project W-314 Tank Farm Restoration and Safe Operations Major Systems Acquisition - June 30, 2005
- M-43-08-T01	Receive DOE-HQ Project Validation to Request Congressional Funding for W-314 - June 30,1996
- M-43-08-T02	Start Definitive Design for W-314 - January 31, 1997
- M-43-08-T03	Complete Definitive Design for W-314 - June 30, 2004
- M-43-08-T04	Provide the Washington State Department of Ecology and Department of Health, and EPA an - December 31,1998 Integrated Level 3 Schedule showing all phases of project construction for Project W-314, which shall provide the basis for estsblishing additional construction milestones
- M-43-08-T05	Start construction of W-314 - December, 31, 1998
- M-43-08-T06	Complete construction of W-314 - December 31, 2004
- M-43-08-08A	Provide the Washington State Department of Ecology and Department of Health, and EPA the - May 31, 1996 design configuration baseline for project W-314
- M-43-08-08B	Validate target milestone dates (in order to convert to interim milestones) for project - July 31, 1996 W-314 design and construction activities based upon the completed design configuration baseline.
- M-43-08-08C	Complete turnover of all W-314 systems to operations - June 30, 2005

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TPA Milestones M-43-02, -04, -05, and -06
Tank Farm Restoration and Safe Operations

Accomplishments

- Completed and approved the preliminary Design Requirements Document (PDRD).
- Continued activity for procuring an offsite A-E/CM contractor. A-E/CM evaluations are underway and candidate firms have been short short listed. (Currently on hold until April 1995.)
- Obtained Key Decision 0, and authorization to proceed with conceptual design.
- Submitted TPA milestone change control form which converted -02, -04, -05, and -06 milestones to -08 milestones. Forecast for approval by WDOE and EPA by April 14, 1995.

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TPA Milestones M-43-02, -04, -05, and -06
Tank Farm Restoration and Safe Operations

Planned Actions (Next 6 Months)

Complete A-E/CM evaluation and pre-letter order activities.

Complete replanning strategy for conceptual design.

Complete RL conceptual design Statement of Work.

Initiate conceptual design.

Renegotiate TPA milestones.

Finalize NEPA Strategy
- EA-Instrumentation, Ventilation, and Electrical upgrades
- EA or EIS-Waste Transfer

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TPA Milestones M-43-02, -04, -05, and -06
Tank Farm Restoration and Safe Operations

Special Topics

- Concerns

  - The delay in obtaining DOE-HQ approval of Key Decision 0 has now gone past the point where TPA schedule is recoverable. The following milestones will be slipped: Completion of conceptual design (M-43-02A and M-43-04A), and DOE validation of project funding (M-43-02-T06 and M-43-04-T05). Letter to WDOE was submitted in October 1994. A change request was also recently submitted to WDOE on March 28, 1995.

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TPA Milestones M-43-02, -04, -05, and -06
Tank Farm Restoration and Safe Operations

- A one year schedule delay to the project is now reality. This will result in target milestone M-43-04-T07 "Start Definitive Design for W-314A" being slipped from January 1996 to January 1997. Impacts to completing Definitive Design by November 1998 (M-43-04-T07) are uncertain.

- "design-only" validation will probably not occur due to new congressional law. This will mean that definitive design can not start until FY 98 rather than FY 97 as currently planned. Impacts to present TPA negotiations are likely and remain to be assessed.

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TRI-PARTY AGREEMENT MILESTONES

WASTE TANK SAFETY PROGRAM

STATUS REPORT AS OF: 03/31/95

FY 1994 TPA milestones -- 9 of 9 scheduled (100%) were completed on or ahead of schedule.
FY 1995 TPA Milestones -- 5 scheduled; 4 are on schedule and 1 is ahead of schedule.

No.	Title	Due	Status	Remarks
M-40-01	Complete Tank 241-SY-101 Low Speed Mixer Pump Test. (Interim to SI-2g23 - 09/94)	03/94	Completed 03/17/94 ⊕	Completion of this TPA milestone was documented by WHC in a letter to RL dated March 17, 1994.
M-40-14	Close Ferrocyanide Unreviewed Safety Question. (SI-2s13 - 01/94)	03/94	Completed 03/01/94 ⊕	Completion of this TPA milestone was documented by WHC in a letter to RL dated March 28, 1994.
M-40-16	Complete Sampling and Safety Evaluation of Liquid Organic in Tank 241-C-103. (SI-2q15 - 03/94)	03/94	Completed 03/31/94 ●	Completion of this TPA milestone was documented by WHC in a letter to RL dated March 31, 1994.
M-40-17	Close Tank 241-C-103 Unreviewed Safety Question. (SI-2j16 - 03/94)	05/94	Completed 05/19/94 ⊕	Completion of this TPA milestone was documented by WHC in a letter to RL dated May 25, 1994.
M-40-11	Close the Unreviewed Safety Question for the Criticality Issue. (SI-2w17 - 03/94)	06/94	Completed 03/17/94 ⊕	Completion of this TPA milestone was documented by WHC in a letter to RL dated April 6, 1994.

Status: ⊕ Ahead of Schedule ● On Schedule ⊖ Behind Schedule ↑ Improving Schedule ↓ Deteriorating Schedule

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No.	Title	Due	Status	Remarks
M-40-06	Complete Vapor Sampling Characterization of Tank 241-C-103 (Phase 2) (SI-2m18 - 06/94)	08/94	Completed 08/10/94 ⊕	Completion of this TPA milestone was documented by WHC in a letter to RL dated August 10, 1994.
M-40-13	Design and Fabricate a Spare Mixer Pump for Tank 241-SY-101.	09/94	Completed 07/27/94 ⊕	Completion of this TPA milestone was documented by WHC in a letter to RL dated September 22, 1994.
M-40-15	Install Gas Monitoring Equipment in the Remaining Five Potentially Flammable DSTs. (Interim to SI-2h36 - 04/95)	09/94	Completed 09/27/94 ●	Completion of this TPA milestone was documented by WHC in a letter to RL dated September 27, 1994.
M-40-02A	Develop Criteria for Upgrading Temperature Monitoring Capabilities in Ferrocyanide Tanks.	09/94	Completed 09/13/94 ⊕	Completion of this TPA milestone was documented by WHC in a letter to RL dated September 13, 1994.
M-40-02B	Install Two of Seven New Thermocouple Trees.	04/95	●	A new TC was installed in tank 107-T on 11/10/94 and 104-TY on 3/6/95. TMACS connections have been completed for 104-TY and 107-T is scheduled for this week. ATPs will also be performed this week to complete this milestone

Status: ⊕ Ahead of Schedule ↑ Improving Schedule
● On Schedule ↓ Deteriorating Schedule
⊖ Behind Schedule

No.	Title	Due	Status	Remarks
M-40-04-T01	Reach Decision to Interim Stabilize Tank 241-C-103 With Floating Organic Layer In Place or Proceed With Removal of Floating Organic Layer.	05/15/95	●	TPA Change No. M-40-94-05 was approved on 10/12/94. The safety documentation supporting the decision was transmitted to DOE-RL on March 10, 1995. It was recommended to stabilize the tank with the organic in place. The organic would be pumped to a DST along with the aqueous. A decision document summarizing rationale for the WHC recommendation is in preparation.
M-40-07	Commence Operation of a Vapor Treatment System in Tank 241-C-103. (Interim SI-2n19 - 06/94)	06/95	●	Initial acceptance testing of the Low Flow Monitor design has been completed. Final fabrication of the supporting platform, computer housing, and stack assembly has also been completed. Three flow monitor assemblies are complete but field installation is in the process of being rescheduled.
M-40-02	Upgrade Temperature Monitoring Capabilities in Ferrocyanide Tanks.	09/95	●	(See M-40-02B)
M-40-05	Complete Safety Alternative Test in High-Heat Tank 241-C-106. (SI-2x38 - 06/95)	09/95	⊕	The air-chiller design study report issuance was revised to be issued in early April. This design report constitutes the technical basis of the leak contingency action plan, expected to be completed early in May.

<u>Status:</u> ⊕ Ahead of Schedule ● On Schedule ⊖ Behind Schedule ↑ Improving Schedule ↓ Deteriorating Schedule

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No.	Title	Due	Status	Remarks
M-40-03	Perform Vapor Characterization for all Ferrocyanide Watch List Tanks. (SI-2o37 - 06/95)	11/95	⊕	Ten of eleven ferrocyanide tanks scheduled for characterization in FY 1995 have been sampled. The last ferrocyanide tank is scheduled in April.
M-40-08	Perform Vapor Characterization for all Organic Watch List Tanks. (SI-2o37 - 06/95)	11/95	⊕	On schedule. ~~Eight~~ Nine of nine original (Group A) organic watchlist tanks have been sampled in FY 1995. In addition, 6 of 11 Group B organic watchlist tanks have been sampled to date.
M-40-04-T02	Remove Organic Layer Directly to Double Shell Tank System.	7/96	●	(See M-40-04-T01) If the decision supports removal of the organic layer to the DST system then this target milestone will become operative. If not, it will be deleted.
M-40-04	Complete Removal of Floating Organic Layer from Tank 241-C-103.	12/96	●	(See M-40-04-T01) If the decision supports removal of the organic layer for disposal then this milestone will become operative. If not, it will be deleted.
M-40-10	Complete Vapor Space Monitoring of all Flammable Gas Generating Tanks.	01/97	⊕	Installation was completed of flammable gas monitors in all flammable gas Watch List tanks.

Status: ⊕ Ahead of Schedule ↑ Improving Schedule
● On Schedule ↓ Deteriorating Schedule
⊖ Behind Schedule

No.	Title	Due	Status	Remarks
M-40-09	Close all Unreviewed Safety Questions (USQ) for Double-Shell & Single-Shell Tanks.	09/98	⊕	One USQ (flammable gas tanks) is outstanding. The USQ closure recommendation was changed to include all of SY Farm without reference to topical reports. The associated letter has been transmitted to RL recommending closure of the SY Farm USQ. Formal comments were subsequently transmitted to WHC by DOE, comments were incorporated and have been returned to DOE. Currently, WHC is awaiting guidance from DOE-RL on what additional reviews might be required for closure of the SY Farm USQ.
M-40-12	Resolve Nuclear Criticality Safety Issue.	09/99	●	A strategy is in work for resolving this safety issue.
M-40-00	Mitigate/Resolve Tank Safety Issues for High Priority Watch List Tanks.	09/01	●	

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Status: ⊕ Ahead of Schedule ↑ Improving Schedule
● On Schedule ↓ Deteriorating Schedule
⊖ Behind Schedule

Handout 5

5

Vapor Characterization Status on TPA Milestones M-40-03 & M-40-08

Presented to

Unit Managers Meeting

Jerry Osborne
Vapor Characterization Program Manager
April 11, 1995

9613390.0355

STATUS

- M-40-03
  - 17 of 18 FeCN WL tanks have been vapor sampled. Last tank scheduled for April 13, 1995.
  - 12 of 18 FeCN TCR Vapor chapters completed

- M-40-08
  - 9 of 9 (Group A) Organic WL tanks have been vapor sampled
  - 2 of 9 Organic TCR Vapor chapters completed
  - 6 of 11 (Group B) Organic WL tanks have been vapor sampled. Last four tanks scheduled to be completed by May 15, 1995.

19 of 34 total Vapor TCR chapters completed. 11 are currently being reviewed by the Vapor Conference Committee (April 10-12).

TANK VAPOR CHARACTERIZATION STATUS REPORT

Tank #	Watch List	Driver	Type of Sample	Sample Date	PNL Report	ORNL Report	OGI Report	WHC Sampling Report	WHC TCP	WHC VAPOR TCR Chapter
B-103	O	TPA (M-40-08) | SI (2o)	3	02/08/95	DRAFT	DRAFT	–		✓	
BX-104			3	12/30/94	I	DRAFT	–	✓	✓	
BY-103	F	TPA (M-40-03) | SI (2o)	3	11/01/94	DRAFT	✓	–		✓	DRAFT
BY-104	F	RMCS | TPA (M-40-03) SI (2o)	3	06/24/94	✓(PNL-10208)	✓	✓	✓	✓	DRAFT
BY-105	F	RMCS | TPA (M-40-03) | SI (2o)	3	07/07/94	✓(PNL-10256)	✓	✓	✓		DRAFT
BY-106	F	RMCS | TPA (M-40-03) | SI (2o)	3	07/08/94	✓(PNL-10248)	✓	✓	✓		DRAFT
BY-107	F	RMCS | TPA (M-40-03) | SI (2o)	3	10/26/94	DRAFT	✓	–		✓	DRAFT
BY-108	F	TPA (M-40-03) | SI (2o)	3	10/27/94	DRAFT	✓	–		✓	DRAFT
BY-110	F	TPA (M-40-03) | SI (2o)	3	11/11/94	DRAFT	✓	–		✓	DRAFT
BY-111	F	TPA (M-40-03) | SI (2o)	3	11/16/94	DRAFT	✓	–		✓	DRAFT
BY-112	F	TPA (M-40-03) | SI (2o)	3	11/18/94	DRAFT	✓	–		✓	
C-101		SI	3	09/01/94	DRAFT	✓	✓		✓	
C-102	O	SI (2o)	3	08/23/94	I	✓	✓		✓	
C-103	O	TPA (M-40-08) | SI (2o)	3	7B 05/25/94	✓(PNL-10081/ PNL-10172	✓	✓		✓	✓(WHC-EP-0780)
C-104		RMCS | SI	3	03/03/94	DRAFT	✓	✓	✓		DRAFT
C-105		RMCS | SI	3	02/16/94	DRAFT	✓	✓	✓		DRAFT
C-106	IIII	RMCS | SI	3	02/15/94	DRAFT	✓	✓	✓		DRAFT
C-107			3	09/29/94	DRAFT	✓	✓		✓	DRAFT
C-108	F	TPA (M-40-03) | SI (2o)	3	08/05/94	DRAFT	✓	✓		✓	DRAFT
C-109	F	TPA (M-40-03) | SI (2o)	3	08/09/94	DRAFT	✓	✓		✓	DRAFT
C-110		SI	3	08/24/94	I	✓	✓		✓	

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TANK VAPOR CHARACTERIZATION STATUS REPORT

Tank #	Watch List	Driver	Type of Sample	Sample Date	PNL Report	ORNL Report	OGI Report	WHC Sampling Report	WHC TCP	WHC VAPOR TCR Chapter
C-111	F	TPA (M-40-03) | SI (2o)	3	09/13/94	DRAFT	✓	✓		✓	✓
C-112	F	TPA (M-40-03) | SI (2o)	3	08/11/94	DRAFT	✓	✓		✓	DRAFT
S-102	O	TPA (M-40-08) | SI (2o)	3	03/14/95	I		--			
S-111	O	TPA (M-40-08) | SI (2o)	3	03/21/95			--			
SX-103	O	TPA (M-40-08) | SI (2o)	3	03/24/95			--			
SX-106	O	TPA (M-40-08) | SI (2o)	3	03/27/95			--			
T-107	F	TPA (M-40-03) | SI (2o)	3	01/18/95	DRAFT	✓	--		✓	
T-111	O	TPA (M-40-08) | SI (2o)	3	01/20/95	I	DRAFT	--		✓	
TX-105	O	TPA (M-40-08) | SI (2o)	3	12/22/94	DRAFT	DRAFT	--	✓	✓	DRAFT
TX-118	F/O	TPA (M-40-03/M-40-08) | SI (2o)	3	12/16/94	DRAFT	DRAFT	--	✓	✓	DRAFT
TY-101	F	TPA (M-40-03) | SI (2o)	3	04/06/95			--			
TY-103	F	TPA (M-40-03) | SI (2o)	3	04/11/95						
TY-104	F	TPA (M-40-03) | SI (2o)	3	☎ 04/13/95						
U-103	O	TPA (M-40-08) | SI (2o)	3	02/15/95	I	DRAFT	--		✓	
U-105	O	TPA (M-40-08) | SI (2o)	3	02/24/95	I		--			
U-106	O	TPA (M-40-08) | SI (2o)	3	03/07/95	DRAFT	DRAFT				
U-107	O	TPA (M-40-08) | SI (2o)	3	02/17/95	I		--		✓	
U-111	O	TPA (M-40-08) | SI (2o)	3	02/28/95	I		--		✓	

3 Gas and vapor sampling performed by FAS personnel using the VSS. This involves the mobile vapor sampling laboratory, heated transfer lines, and usually the installation of a water-heated vapor sampling probe in the tank.

I Inorganic draft report received from PNL (1/2 of requirement).

Draft Report has been submitted to WHC for review, and/or is in final clearance

✓ Final report received by WHC.

mnw:c\wpdata\jerry\vapsamac\status.t3 04/06/95

DOUBLE AND SINGLE-SHELL TANK CHARACTERIZATION

MILESTONE M-44-00

U.S. Department of Energy / Richland Operations Office

Jim Thompson - U.S. DOE

Unit Managers Meeting

April 11, 1995
Richland, Washington

9613390.0357

DOUBLE AND SINGLE-SHELL TANK CHARACTERIZATION

MILESTONE M-44-00

TOPICS

- Accomplishments
- Planned Activities
- Issues/Problems
- Special Issues
- Weekly Sampling Activities

9613390.0358

ACCOMPLISHMENTS

- Tank Characterization Plans (TCPs), first issue or recent revisions, for the following tanks were issued in March:

Tank	Revision	Release Date
241-U-106	Rev. 0B (Vapor)	03/01/95
241-U-201	Rev. 0A (Push)	03/02/95
241-U-202	Rev. 0A (Push)	03/02/95
241-C-201	Rev. 0 (Auger)	03/06/95
241-C-204	Rev. 0 (Auger)	03/06/95
241-BY-103	Rev. 1A (Auger)	03/06/95
241-S-102	Rev. 0A (Vapor)	03/06/95
241-C-203	Rev. 0 (Auger)	03/06/95
241-BX-106	Rev. 0 (Grab)	03/06/95
241-S-111	Rev. 0 (Vapor)	03/07/95
241-SX-103	Rev. 0 (Vapor)	03/08/95
241-SX-106	Rev. 0 (Vapor)	03/08/95
241-BY-105	Rev. 1A (Grab)	03/08/95

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Tank	Revision	Release Date
241-C-101	Rev. 1 (Auger)	03/08/95
241-C-105	Rev. 1 (Push)	03/08/95
241-SY-103	Rev. 0B (Push)	03/09/95
241-S-110	Rev. 1B (Grab)	03/16/95
241-C-111	Rev. 1C (Auger)	03/16/95
241-BX-109	Rev. 0 (Push)	03/17/95
241-TY-103	Rev. 0 (Vapor)	03/20/95
241-TY-101	Rev. 0 (Vapor)	03/20/95
241-U-203	Rev. 0 (Push)	03/27/95
241-U-204	Rev. 0 (Push)	03/28/95
241-TY-103	Rev. 0A (Vapor)	03/30/95
241-TY-101	Rev. 0A (Vapor)	03/30/95

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Accomplishments (Continued)

- The following tanks were loaded into the electronic Tank Characterization Database (TCD) during March: 241-C-103, 241-SY-103, 241-C-111, 241-C-108, and 241-BX-105.

- Thirty Tank Characterization Reports (TCRs) are scheduled to be issued during Fiscal Year 1995. The schedule for these TCRs is currently under review.

9613390.0361

Tanks Sampled During Month of March 1995

Push	241-C-105	Auger	241-TY-106
	241-C-107		241-BY-103
	241-U-201		241-B-112
	241-U-202		241-C-111
			241-C-101
Grab	241-AZ-101	Vapor	241-U-106
	241-BX-106		241-S-102
	241-BY-105		241-S-111
	241-BY-103		241-SX-103
	241-AW-106		241-SX-106
	241-A-244		
	241-A-101		

9613390.0362

CHARACTERIZATION SAMPLING
Through April 7, 1995

Mode	FEBRUARY				MARCH				APRIL			
	Tanks		Samples		Tanks		Samples		Tanks		Samples	
	Plnd	Comp	Plnd	Comp	Plnd	Comp	Plnd	Comp	Plnd	Comp	Plnd	Comp
Rotary	2	0	3	0	1	0	2	0	1	0	1	0
Push	2	0	4	0	3	4	8	10	2	0	4	1
Auger	3	3	3	3	3	5	6	9	2	1	4	2
Grab	4	2	4	2	3	7	3	7	1	1	1	1
Vapor	3	5	3	5	5	5	5	5	5	1	5	1

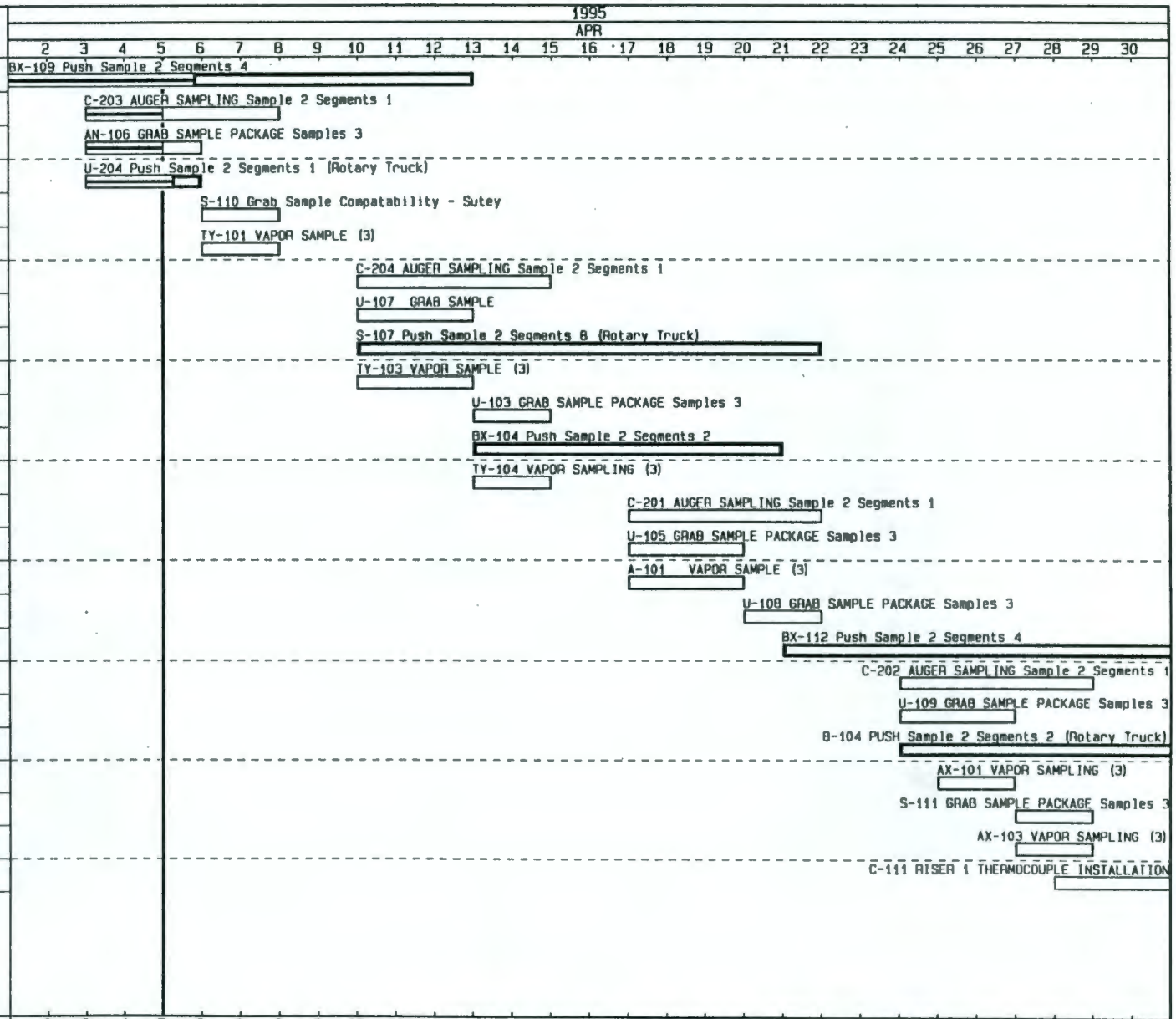
Planned Sampling Activities

for

April 1995

9613390.0364

ACTIVITY ID	LEVELED ES	LEVELED EF
PS65-4	27MAR95A	12APR95
AS17-4	3APR95A	7APR95
GS10-4	3APR95A	5APR95
PS19-4	3APR95A	5APR95
GS12-4	6APR95	7APR95
VS0B-4	6APR95	7APR95
AS27-4	10APR95	14APR95
GS0B-4	10APR95	12APR95
PS13-4	10APR95	21APR95
VS0C-4	10APR95	12APR95
GS39-4	13APR95	14APR95
PS61-4	13APR95	20APR95
VS0D-4	13APR95	14APR95
AS20-4	17APR95	21APR95
GS40-4	17APR95	19APR95
VS05-4	17APR95	19APR95
GS42-4	20APR95	21APR95
PS64-4	21APR95	3MAY95
AS16-4	24APR95	28APR95
GS43-4	24APR95	26APR95
PS0B-4	24APR95	1MAY95
VS32-4	25APR95	26APR95
GS27-4	27APR95	28APR95
VS33-4	27APR95	28APR95
TC26-4	28APR95	2MAY95



Plot Date 5APR95
Data Date 5APR95
Project Start 10CT93
Project Finish 29DEC97

Activity Bar/Early Dates
Critical Activity
Progress Bar
Milestone/Flag Activity

(c) Primavera Systems, Inc.

WESTINGHOUSE HANFORD COMPANY
TANK FARM OPERATIONS 1MAR95-31MAR95
CURRENT SCHEDULE (APR)

Sheet 1 of 1

Jim Chaffin 2-1799 G. Stenton, Prg. Mngr 3-5680

Date	Revision	Checked	Approved

9613390.0365

Planned Activities (Continued)

FY 1995 Milestone Status

- M-44-01B Submit Draft Tank Waste Analysis Plan Update to Ecology/EPA, due May 31, 1995.
  - On schedule
- M-44-02B Submit Tank Waste Analysis Plan Annual Update to Ecology/EPA, due August 31, 1995.
  - On schedule
- M-44-08 30 Tank Characterization Reports in Accordance with the Approved Tank Characterization Plans. Complete input of Characterization information for 30 High Level Waste Tanks to Electronic Database, due September 29, 1995.
  - On schedule

9613390.0366

ISSUES\PROBLEMS

- 325 Laboratory Restart

  Problem:

  The 325 Lab mission is being reevaluated for future utilization.

  Corrective Actions:

- The 222-S laboratory has been able to handle all samples sent to date.

- Based on the urgent need to reduce costs, PNL and WHC are in the process of preparing a transition plan to restructure Hanford radio-analytical laboratory services.

9613390.0367

ISSUES\PROBLEMS (Continued)

- Riser Availability (Activities ongoing; status similar to previous month)

Problem:

- Many SSTs only have 1-3 available risers. Competing for instrument installation through these risers may leave an insufficient number for Characterization (e.g. Thermocouple trees, LOWs).
- The FY-95 Characterization budget does not (at this time) include funds for new riser installations, but the riser simulation is included in the Class 1 Change Request.

Corrective Actions:

Integrate instrument installation/Characterization activities. Confirm risers with cameras/"plug gauge" (to see if straight, etc.).

The study for installation of new risers in single-shell tanks was completed. The study presents five alternatives ranging in cost from $363K to $2M per 12 inch riser with the cost per riser diminishing somewhat if five or more risers are installed. The study concludes that a one year, $340K on site demonstration using Alternative 3, a core

9613390.0368

- Riser Availability (Continued)

drill, should be performed. DOE-RL contracted with the U.S. Army Corps of Engineers to evaluate faster, better, cheaper alternatives for the demonstration and the actual installations.

Kaiser has incorporated their comments in the final plan, entitled "Simulated Riser Installation, By Use of Rotary Drilling." (April 1995)

This Activity Plan provides a de-scoped field simulation compared to first study. Cost dropped from $340K to $180K for field work and report.

9613390.0369

SPECIAL ISSUE

- **Technical Strategy for TWRS Characterization Program**

  TWRS is establishing the technical basis upon which the Program will make safety related, and other programmatic (retrieval, pretreatment, and disposal) decisions. Each program in TWRS communicates its technical basis for requesting Characterization information through the data quality objectives (DQO) process. Revisions to the DQO documents are in process. These revisions will communicate the information needs with sufficient detail that the Characterization Program can determine the most effective method for meeting needs. The technical basis for characterization allows one to show that specific requirements are met by using specific types of information.

9613390.0370

SNAPSHOT SCHEDULE

Sampling Activities for the week of April 10, 1995

9613390.0371

9613390.0372

[139] From: Dawn J Lawrence at ~WHC129 4/10/95 10:42AM (2325 bytes: 36 ln)
To: Clifford A Ashley at ~DOE4, Eugene J Jr Austin at ~WHC174, Keith E Boring at ~WHC174, David R Bratzel at ~WHC128, John M Clark at ~DOE15, Douglas W Craig at ~WHC128, G D (David) Forehand at ~WHC128, Richard D Frantz at ~WHC73, G T (Tom) Frater at ~WHC128, Vernon W Hall at ~WHC321, Joseph P Haney at ~MTC7, Paul R Hernandez at ~DOE15, Gregory D (Greg) Joyce at ~MTC7, Thomas J (Tom) Kelley at ~WHC396, W J (Wally) Kennedy at ~WHC23, David B (Bruce) Klos at ~WHC33, John G Kristofzski at ~WHC168, Kenneth Lang at EM, James R Lapointe at ~WHC174, James S (Jim) Lee at ~WHC117, Edward J Lipke at ~WHC239, John D Long at ~DOE4, Susan G McKinley at ~PNL89, Lola M Morgan at ~DOE19, Keith E (Gus) Myers at ~WHC23, Randolph Ni, Alfred D (Al) Olguin at ~WHC34, Michael A Payne at ~WHC117, James Poppiti at EM, Richard S Rodriquez at ~WHC73, Pratap Sathyanarayana at ~WHC140, John S Schofield at ~WHC338, Ruth D Schreiber at ~WHC163, Billy J Shoemake at ~WHC246, George A Jr Stanton at ~WHC175, Calvin L (Cal) Thomas at ~WHC321, Richard D Zill at ~DOE15
Subject: Characterization Snapshot - Week of 4/10 - 4/14
---------- Message Contents ----------

PLANNED ACTIVITIES 4/3 -- 4/7

Push
- U-203 (second of two cores) — Complete
- BX-109 (first of two cores) — Complete
- U-204 (first of two cores) — Complete

Auger
- C-203 — Complete

Vapor
- TY-101 — Complete

Grab
- AN-106 — Complete
- S-110 preparations — Completed sampling

****

PLANNED ACTIVITIES 4/10 -- 4/14

Push
- S-107 (first of two cores)
- BX-109 (second of two cores)

Auger
- C-204

Vapor
- TY-103
- TY-104 (set up)

Grab
- U-107

Distribution for UMM Minutes:

G. E. Bishop	S7-54
F. T. Calapristi	B2-35
M. P. Campbell	R1-52
J. E. Couey	S7-52
L. J. Cusack	B5-18
D. B. Engelman	R1-49
EDMC	H6-08
J. M. Gray	S7-54
D. E. Jackson	A5-15
T. J. Kelley	S7-30
S. McKinney	(Ecology-Lacey Office)
M. A. McLaughlin	B2-35
T. E. Rainey	R2-54
M. L. Ramsay	S7-52
C. O. Ruud	S7-54
M. W. Stevenson	B2-35
J. F. Thompson	S7-54
W. R. Wrzesinski	S7-53

Original (Administrative Record) goes to:
Gayle Landeen
H6-23

10/03/95