

**Meeting Minutes Transmittal/Approval  
 Tri-Party Agreement Milestone Review Meeting  
 Federal Building, Room 780  
 Richland, Washington  
 January 22, 1991**

From/  
Appvl.:

*SHW*  
 Steven H. Wisness, RL (A5-19)  
 Hanford Project Manager

Date: 2/19/92

Appvl.:

*Paul T. Day*  
 Paul T. Day, EPA (B5-01)  
 Hanford Project Manager

Date: 2/19/92

Appvl.:

*Larry Goldstein*  
 Larry Goldstein, Representative  
 Ecology (Olympia, WA)

Date: 3/19/92

Prepared by  
Appvl.:

*Tim Veneziano*  
 Tim Veneziano, Westinghouse Hanford Company

Date: 2/19/92



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**1. MILESTONE M-12-00, PAST-PRACTICE ACTIVITIES**

The information (attachment 1) was presented by Julie K. Erickson of RL. There was discussion on 100-BC-1 and 100-BC-5 work plan comment resolution and a meeting was held January 21, 1992 to resolve those comments. It was not known if any issues still exist. There was discussion on required corrective action for the existing \$200K overspending. However, this is not an issue since additional funding will come from other tasks which are underrun.

**2. MILESTONE M-13-00, PAST-PRACTICE ACTIVITIES - (Continued)**

There is no activity at this time on this milestone.

**3. MILESTONE M-27-00, AGGREGATE AREA MANAGEMENT STUDY REPORTS**

This area was reported as on schedule. The U.S. Department of Energy Field Office, Richland (RL) brought up the 200-UP-2 work plan and whether it should include groundwater. The RL prefers not to include groundwater in this plan and include it the Aggregate Area Management Study Report (AAMSR). Ecology has the action to determine their position. Ecology stated that they are open to the change but do not yet have a position. The decision was to let the unit managers continue to work this issue. The work plan contents must be determined by the end of January to avoid impacting the delivery date for the work plan.

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4. MILESTONE M-28-00, SOIL AND GROUNDWATER BACKGROUND

There is an issue with M-28-03, the soils study report, and this milestone will not be met by the end of February. The cause is the delay in completing the required laboratory analyses. Analysis is back on 170 of 200 samples and 30 are validated. RL will be preparing a change request for the milestone schedule change.

Action: Ensure that the analysis of samples collected last fall in support of M-28-00 followed proper QA/QC protocol.

Actionee: J. K. Erickson

Due: February 20, 1992

There was discussion as to whether the Office of Sample Management (OSM) was validating these samples or if it was being sub-contracted.

Action: Resolve the question of validation of lab results to determine if all validators are being consistent in their standards.

Actionee: J. K. Erickson

Due: January 29, 1992

5. MILESTONE M-29-00, RISK ASSESSMENT METHODOLOGY

There is an issue relative to the bounding-time-period for the risk assessment and it will be addressed at the Project Managers meeting January 23, 1992. The U.S. Environmental Protection Agency (EPA) raised an issue on the proposed Ecological Risk Assessment chapter. RL has ignored the October 1991 submittal of EPA/State of Washington Department of Ecology (Ecology) guidance document for this chapter. Options were presented by EPA. RL (Mike Thompson) stated that many of those comments have now been addressed and areas of concern that may still be open would be addressed during the review period following submittal of the draft document.

Action: On M-29, RL will provide areas where regulator comments were not included with rationale as to why not.

Actionee: K. M. Thompson

Due: February 29, 1992

EPA does not know, at this time, the magnitude of the disagreement and asked about follow-up on these issues before submittal in March. (i.e. handle issues informally rather than formally.) RL stated that time was not available without impacting the submittal due to the work remaining and internal review times, including DOE-HQ. Ecology encouraged RL to get more involved with the contractor doing the work risk assessment to have them more responsive to the regulators comments. EPA requested that the risk assessment working group meet in the very near future to again discuss the format and content of the ecological risk section of the methodology, before final drafting of that section by DOE. DOE stated that such a meeting should only occur after the section was drafted and that time would not allow the regulators input to affect the document due to the DOE-HQ requirement for internal review prior to the March 31, 1992 milestone date. There was discussion of a parallel review with HQ and the regulators starting March 1 and the conclusion was that this would not be of benefit for altering the submittal. EPA stated they needed the format and outline, not the entire draft, in order to find out how far apart the parties are.

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6. MILESTONE M-30-00, 100 AREA GENERAL INVESTIGATIONS

With the exception of shoreline and surface radiation surveys, all activities are on schedule. The necessary support will be obtained and the milestone will be met.

Action: Provide the M-29-00 risk assessment document to the Indian Tribes at the same time as the regulators.

Actionee: K. M. Thompson

Due: April 1, 1992

7. MILESTONE M-15-00, M-16-00

EPA clarified that all feasibility study phase III reports need to include a proposed plan for the remedial action (RA) work. In some places, this is not clearly stated. EPA stated that approval of 100-BC-1 and 100-BC-5 work plans should be included in RL's planned actions for the next six months. EPA asked if there were any Siemens issues for 1100-EM-1 that may be a road-block and RL responded that there are none at this time.

There was a discussion of the 300-FF-1 remedial investigation (RI) schedule recovery. EPA asked whether the CERCLA treatability test was ER or TD funded and the reply was that it was ER. RL would obtain data from other sites but would have to do the tests with our specific soil. There was discussion on the RL proposal to change the boundary of the 300-FF-1 operable unit and include more in 300-FF-5. The change would expedite remediation of 300-FF-1 due to elimination of buildings. EPA expressed concern on future treatability studies for the 100 Area (there maybe up to a dozen of these) and how they would fit into the operable unit work plan schedules. EPA requested that the parties get together and ensure these activities are integration.  
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8. RCRA/CERCLA INTEGRATION

This item was postponed because the presenter was ill.

9. SCHEDULE OPTIMIZATION STUDY

The information (attachment 2) was presented and a handout (attachment 3) was provided by Don Kane of PNL. The purpose of the study is to determine how to compress the RI/FS schedule into a four-year period. Ecology stated that the Ecology point of contact will be Dave Jansen for this study. RL stated that the intent of this study is to work together on this effort. PNL stated that it will be feedback-iterative. EPA expressed concern that the goal of compressing to four years is inconsistent with the streamlining effort to move toward 30 months. This was clarified by RL that the goal is to cut the time period as much as possible and there should be no disconnects with other efforts. To the funding question, RL stated the funding required would not come from funding for on-going past-practice work. There was discussion on when the final report would be available to the regulators and RL stated that it would be March 23.

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10. MILESTONES M-17-00, M-26-03, and M-26-04

The information (attachment 4) was presented by Dana Bryson of RL. The presentation indicates all work is on schedule but a new issue is that M-17-34B for 2724-W treatment by January 31 is in jeopardy. On the question of funding, RL does not foresee any problem over the next two years. The construction is complete but there are operational difficulties. There is a question of how to interpret the milestone since it states "complete construction." This will be discussed further at the Project Managers meeting January 23. There was discussion on the impact of the delay of 242-A restart on C-018H. As a result, the delisting petition will be submitted earlier (9/92) based on synthetic feed data, and verified as hot feed data becomes available. Milestones M-26-03 and M-26-04 were reported as on schedule.

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## AGENDA

## TRI-PARTY AGREEMENT MAJOR MILESTONE MANAGEMENT REVIEW

Wednesday, January 22, 1992

FED/ROOM 780

<u>TIME</u>	<u>MILESTONE</u>	<u>TITLE</u>	<u>RL DIVISION DIRECTOR</u>	<u>LEVEL 2/3 MANAGER</u>	<u>PRESENTER</u>
10:00 am	M-12-00	RI/FS Submittal (first 15)	E. A. Bracken	R. D. Wojtasek	J. K. Erickson
	M-13-00	Six (6) RI/FS Work Plans/Year	E. A. Bracken	R. D. Wojtasek	J. K. Erickson
	M-27-00	Submit 200 Area AAMS Reports	E. A. Bracken	R. D. Wojtasek	J. K. Erickson
	M-28-00	Soil/Groundwater Documents	E. A. Bracken	R. D. Wojtasek	J. K. Erickson
10:30 am	M-29-00	Risk Assessment Methodology	E. A. Bracken	R. D. Wojtasek	J. K. Erickson
	M-30-00	100 Area General Investigation	E. A. Bracken	R. D. Wojtasek	J. K. Erickson
11:00 am	M-15-00	RI/FS Process Completion	E. A. Bracken	R. D. Wojtasek	J. K. Erickson
	M-16-00	Complete Remedial Actions	E. A. Bracken	R. D. Wojtasek	J. K. Erickson
11:15 am		RCRA/CERCLA Integration	R. D. Izatt	M. D. Adams	J. E. Rasmussen
11:30 am		Schedule Optimization Study	E. A. Bracken	D. A. Kane	D. A. Kane (PNL)
11:45 am		Lunch			
1:00 pm	M-17-00	Treatment Facilities/ Upgrades	K. W. Bracken	D. E. Kelley	D. C. Bryson
	M-26-03	Cease 242-A discharges to LERF	K. W. Bracken	D. E. Kelley	D. C. Bryson
	M-26-04	Remove Residues / 242-A LERF	K. W. Bracken	D. E. Kelley	D. C. Bryson
2:00 pm		General Discussion			
3:00 pm		Adjourn			

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**Quarterly Briefing**  
**Past Practices Activities**

**Julie K. Erickson**  
**January 22, 1992**

ATTACHMENT 1

## Milestone Description

**Milestone M-12-00 requires 15 Operable Unit Work Plans be submitted to EPA and Ecology by June 1992**

**M-12-00      Submit RI/FS or RFI/CMS Work Plans for 15 Operable Units - June 1992**

**M-12-05a      Submit rescoped RI/FS or RFI/CMS Work Plans for Operable  
to                    Units, in accordance with the final "Hanford Past Practices  
M-12-14a      Strategy Document"**

<b>100-HR-1</b>	<b>September 1991</b>	<b>100-KR-1</b>	<b>October 1991</b>
<b>100-HR-3</b>	<b>September 1991</b>	<b>100-KR-4</b>	<b>October 1991</b>
<b>100-DR-1</b>	<b>September 1991</b>	<b>100-FR-1</b>	<b>November 1991</b>
<b>100-BC-1</b>	<b>September 1991</b>	<b>100-FR-3</b>	<b>November 1991</b>
<b>100-BC-5</b>	<b>September 1991</b>	<b>100-NR-1</b>	<b>December 1991</b>
		<b>100-NR-3</b>	<b>December 1991</b>

**M-12-15      Submit 200-UP-2 Operable Unit Work Plan (source and groundwater), or an agreed upon alternate Work Plan based on results of the U-Plant Aggregate Area Management Study - June 1992**

## **Accomplishments**

**Over the past 3 months, 11 rescoped Work Plans have been completed**

- **100-HR-1, 100-HR-3, 100-DR-1, 100-BC-1, 100-BC-5, 100-KR-1, 100-KR-4, 100-NR-1, 100-NR-2, 100-FR-1, 100-FR-2 Work Plans were submitted to the regulators**
- **Comments have been received on 100-HR-1, 100-HR-3, 100-DR-1, 100-BC-1, and 100-BC-5**
- **The format and content of the 200-UP-2 Work Plan were discussed by the three parties in January**

## **Planned Actions**

- **Resolve comments on 100 Area Rescoped Work Plans**
- **Develop consensus with regulators on format and content of 200-UP-2 and other 200 Area work plans**

# Milestone Assessment

## M-12-00 -- Variance Explanation/Status

<u>FYTD</u> <u>BUDGET</u> 400K	<u>FYTD</u> <u>COST</u> 600K	<u>SPENDING</u> <u>VARIANCE</u> -200K	<u>ANNUAL</u> <u>BUDGET</u> 1,100K
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- Accruals from FY 1991 were higher than planned, resulting in an overrun of 200K
- Work Plans were issued on schedule

## **Milestone Description**

**Milestone M-13-00 requires 6 RI/FS or RFI/CMS Work Plans be submitted each year to EPA and Ecology starting in CY 1993**

- **No activity in FY 1992**

## **Milestone Description**

**Milestone M-27-00 requires all Aggregate Area Management Study Reports (AAMSRs) for the 200 Areas be submitted to EPA and Ecology by September 1992**

- M-27-00**      **Submit all AAMSRs for the 200 Area to EPA and Ecology as secondary documents. These documents shall be prepared in accordance with the objectives of the "Hanford Past Practices Strategy" and the outline provided in the "200 AAMS Guidelines," both of which are included in Appendix F - September 1992**
- M-27-01**      **Submit methodology and format for the AAMSRs (to be included as Chapter 1 of each AAMSR) to EPA and Ecology as a secondary document - June 1991**
- M-27-02**      **Submit AAMSR for the 200 Area Waste Management Areas to**  
**M-27-09**      **(for all source term Operable Units within the waste management areas) - January-August 1992**

## **Milestone Description**

**Milestone M-27-00 requires all Aggregate Area Management Study Reports (AAMSRs) for the 200 Areas be submitted to EPA and Ecology by September 1992  
(Continued)**

<b>M-27-10</b>	<b>Submit AAMSR for 200 Area Groundwater Aggregate Areas,</b>
<b>and</b>	<b>including all groundwater impacted by the source term Operable</b>
<b>M-27-11</b>	<b>Units - September 1992</b>

## **Accomplishments**

**During the past 3 months, draft AAMSRs were prepared for the U-Plant, Z-Plant, and S-Plant Aggregate Areas**

- **All of the AAMSRs are on schedule**
- **The draft of the first AAMSR was transmitted to RL in December (due to the regulators on January 31, 1992)**
- **Discussions were initiated in January 1992, to understand the regulators expectations after the AAMSRs are submitted**

## **Planned Actions**

- **Submit 6 AAMSR (over one per month) to the regulators for review**

# Milestone Assessment

## M-27-00 -- Variance Explanation/Status

<u>FYTD BUDGET</u>	<u>FYTD COST</u>	<u>SPENDING VARIANCE</u>	<u>ANNUAL BUDGET</u>
2,500K	1,800K	700K	9,400K

- Contract dollars have not been accrued against the cost accounts as soon as planned. Additionally, costs of generating topical reports in support of the AAMSRs have not been as high as anticipated
- All of the AAMSRs are on schedule

## **Milestone Description**

**Milestone M-28-00 requires documentation of soils and groundwater backgrounds be submitted to EPA and Ecology by April 1992**

- M-28-00      Submit all soils and groundwater background determination documents to EPA and Ecology - April 1992**
- M-28-01      Submit soils background sampling and analysis plan and quality assurance project plan - June 1991**
- M-28-02      Submit background methodology description document for soils and groundwater (secondary document) - July 1991**
- M-28-03      Submit soils study report (primary document) establishing background values for soil at the Hanford Site, and include report in Appendix F - February 1992**
- M-28-04      Submit evaluation report on existing groundwater data (primary document) establishing background values for groundwater at the Hanford Site, and include in Appendix F - April 1992**

## **Accomplishments**

**During the past 3 months, background sampling has been initiated**

- **170 background samples have been analyzed**

# Milestone Assessment

## M-28-00 -- Variance Explanation/Status

<u>FYTD</u> <u>BUDGET</u>	<u>FYTD</u> <u>COST</u>	<u>SPENDING</u> <u>VARIANCE</u>	<u>ANNUAL</u> <u>BUDGET</u>
200K	200K	0	700K

- Milestone M-28-03 will be missed.

## **Special Topic**

### **Issue**

- **Milestone M-28-03 will be missed due to delays in receipt of analysis and validation of samples required as input for the Soils Background Report**
- **Initial delays were due to late receipt of comments from Ecology on Soils Background Sampling and Analysis Plan. Additional delays have resulted from prioritization of RI/FS samples, delaying sample analysis and validation**
- **A change request is being prepared. In addition a letter report providing the initial data and results on the soils background will be submitted at the end of February 1992**

## **Milestone Description**

**Milestone M-29-00 requires documentation describing the Hanford Risk Assessment Methodology be submitted to EPA and Ecology by March 1992**

- M-29-00      Develop and submit documentation to EPA and Ecology describing Hanford Risk Assessment Methodology - March 1992**
  
- M-29-01      Identify and submit descriptions of codes and models (secondary document) to be used in Risk Assessment - September 1991**
  
- M-29-02      Submit a plan for development of area wide groundwater models to support risk assessment and to evaluate impacts of changing groundwater flow fields (secondary document) - December 1991**
  
- M-29-03      Submit Risk Assessment Methodology document (primary document), and include in Appendix F - March 1992**

## **Accomplishments**

**Over the past 3 months, the Risk Assessment Team has met several times**

- **Description of codes and models to be used in risk assessment was submitted at the end of September 1991**
  
- **The team has identified an issue relative to the future bounding time period that should be applied to the risk assessment**
  - **The issue will be discussed in the TPA Project Managers meeting on January 23, 1992**

# Milestone Assessment

## M-29-00 -- Variance Explanation/Status

<b>FYTD</b>	<b>FYTD</b>	<b>SPENDING</b>	<b>ANNUAL</b>
<b><u>BUDGET</u></b>	<b><u>COST</u></b>	<b><u>VARIANCE</u></b>	<b><u>BUDGET</u></b>
<b>192K</b>	<b>154K</b>	<b>38K</b>	<b>831K</b>

- **Spending variance is due to contractors delay in billing for work performed**
- **Activities are currently on schedule**

## **Milestone Description**

**Milestone M-30-00 requires the integrated general studies of the 100 Areas be completed by September 1993**

- M-30-00 Complete integrated general investigations and studies for the 100 Area - September 1993**
- M-30-01 Submit a report (secondary document) to EPA and Ecology evaluating the impact to the Columbia River from contaminated springs and seeps, as described in the Operable Unit Work Plans listed in M-30-03 - February 1992**
- M-30-02 Submit a plan (primary document) to EPA and Ecology to determine cumulative health and environmental impacts to the Columbia River, incorporating results obtained under M-30-01 - May 1992**
- M-30-03 Complete all non-intrusive field work as identified in draft Work Plans for the following Operable Units: 100-HR-1, 100-HR-3, 100-DR-1, 100-BC-1, 100-BC-5, 100-KR-1, 100-KR-4, 100-NR-1, 100-NR-3, and 100-FR-1 - September 1992**

## **Milestone M-30-00, continued**

- M-30-04**      **Submit a report (secondary document) to EPA and Ecology evaluating the interaction of the Columbia River and the unconfined aquifer for aquifer hydraulic parameters - September 1992**
  
- M-30-05**      **Install all field instrumentation and initiate monitoring activities necessary to perform long term evaluation of Columbia River and unconfined aquifer interaction, in accordance with the tasks defined in the Operable Unit Work Plan listed in M-30-03 - September 1993**

## **Accomplishment**

**Over the past 3 months, the general studies have been initiated**

- **The spring and seep sampling was initiated in September 1991**
- **The non-intrusive activities continue on schedule**
- **Cultural resources reviews for reactor areas and along the river have been completed**
- **Surface radiation and shoreline surveys continue**
- **Non-intrusive sampling in the 100-D Area was initiated**
- **Soil gas surveys continue in the 100-D Area**
- **Site Evaluation Report (SER) for characterization of soils at the McGee Ranch was prepared and issued. SER identified a large reserve of fine-structured soils which could be used in construction of multi-layer barrier/closure covers on the Hanford site.**

## **Accomplishment (Continued)**

- **Cultural resources review for McGee Ranch was initiated and completed. Final report due in January 1992**

## Milestone Assessment

### M-30-00 -- Variance Explanation/Status

<u>FYTD</u> <u>BUDGET</u>	<u>FYTD</u> <u>COST</u>	<u>SPENDING</u> <u>VARIANCE</u>	<u>ANNUAL</u> <u>BUDGET</u>
609K	331K	289K	2,052K

- Variance is due to delays in shoreline and surface radiation surveys
- All activities are on schedule except shoreline and surface radiation surveys. Surveys are several weeks behind due to lack of HPT support in December. Additional HPT support has been obtained and milestone will be met

## **Milestone Description**

**Milestone M-15-00 requires RI/FSs for all Operable Units to be completed by September 2005**

**M-15-00 Complete the RI/FS (or RFI/CMS) process for all Operable Units - September 2005**

**M-15-01b/c Submit RI Phase II and FS Phase III reports for 1100-EM-1 Operable Unit to EPA and Ecology - December 1992**

**M-15-02a Submit FS Phase I & II report for 200-BP-1 to EPA and Ecology - May 1993**

**M-15-02b Submit RI Phase II report for 200-BP-1 to EPA and Ecology - April 1994**

**M-15-02c Submit FS Phase III report for 200-BP-1 to EPA and Ecology - March 1995**

**M-15-03a Submit FS Phase I & II report for 300-FF-1 to EPA and Ecology - September 1992**

## **Milestone M-15-00, continued**

- M-15-03b**    **Submit RI Phase II report for 300-FF-1 to EPA and Ecology -  
December 1993**
  
- M-15-03c**    **Submit FS Phase III report for 300-FF-1 to EPA and Ecology -  
August 1994**
  
- M-15-04a**    **Submit FS Phase I & II report for 300-FF-5 to EPA and Ecology -  
July 1993**
  
- M-15-04b**    **Submit RI Phase II report for 300-FF-5 to EPA and Ecology -  
August 1994**
  
- M-15-04c**    **Submit FS Phase III report for 300-FF-5 to EPA and Ecology -  
June 1995**

## **Accomplishments**

**Significant RI/FS activities were accomplished during the past 3 months**

### **1100 Area**

- **Continued informal resolution of risk assessment issues**
- **Completed 1100-EM-1 RI Phase 2 field activities (samples currently being analyzed)**

### **300 Area**

- **6 groundwater wells were completed for 300-FF-5 RI**
- **4 boreholes and 6 test pits were sampled and abandoned in the 300-FF-1 RI**

### **200 Area**

- **5 vadose zone boreholes were completed through cribs for 200-BP-1 RI**

## **Accomplishments (Continued)**

### **100 Area**

- **100-D Area vadose zone holes were completed ahead of schedule**
- **100-D Area groundwater monitoring wells were completed, and an additional 4 are near completion**

### **General**

- **Purchase requisition for the sonic drill has been prepared and issued. Procurement lead-time is estimated to be ~12 months. Prior to preparing the purchase requisition, a Request for Interest was submitted to the Commerce Business Daily**
- **Contract negotiations for the Mobile Screening Laboratory were initiated. Contract award is expected in January 1992**

## **Planned Actions**

**Characterization activities will increase during the next 6 months**

### **300 Area**

- **Phase 1 test pit excavation and drilling activities will continue at 300-FF-1 and be completed in February**
- **Well completion activities will be completed at 300-FF-5, completing Phase 1 well construction**

### **100 Area**

- **Vadose drilling will continue at 100-D**
- **Groundwater monitoring wells will be completed at 100-D and initiated in the 100-H and 100-B Areas**
- **Non-intrusive activities will continue in the 100 Area**

## **Planned Actions (Continued)**

### **1100 Area**

- **Develop vadose zone and groundwater conceptual models in 1100-EM-1**
- **Perform Risk Assessment**
- **Configuration of final 1100-EM-1 RI/FS Report preparation activities**
- **Continue 1100-EM-1 RI/FS coordination activities with Siemens Nuclear Power Corp**

### **200 Area**

- **Drilling and sampling activities will continue in the cribs at 200-BP-1**
- **Groundwater sampling will continue in the 200 Areas**
- **Non-intrusive activities to support the 200 Area AAMS will continue**

## Milestone Assessment

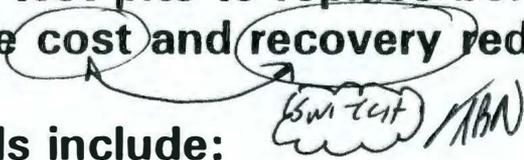
### M-15-00 -- Variance Explanation/Status

<u>FYTD BUDGET</u>	<u>FYTD COST</u>	<u>SPENDING VARIANCE</u>	<u>ANNUAL BUDGET</u>
17,300K	15,500K	1,800K	82,400K

- Characterization costs in the 100 Area and 300-FF-1 are less than planned
- Field characterization activities at 100, 200, and 300 Areas are currently on or ahead of schedule
  - 300-FF-1 field activities are on schedule based on regulator approval of recent change requests

## SPECIAL TOPIC - 300-FF-1 RI Schedule Recovery

**A proposal was presented to the regulators to reduce cost of characterization, and accelerate the ROD, and recover schedule**

- **The acceptance of test pits to replace boreholes has resulted in significant schedule cost and recovery reduction**  

- **Additional proposals include:**
  - **Reducing the number of sample locations through an iterative (feedback loop) approach is being developed and discussed**
    - **18 change requests have been approved by the regulators that have deferred scope to Phase II**
  - **Initiate a CERCLA treatability test ahead of the current schedule**
    - **Funding has been provided and efforts are underway to procure a contractor to do the treatability test**
  - **Perform an ERA on the landfills**
    - **The regulators have not responded to the proposal as yet**
  - **Initiate planning for IRM to accelerate ROD**
    - **A conceptual design for the IRM was developed for preparation of budget requests for FY 1993 and beyond**

## **SPECIAL TOPIC - RCRA/CERCLA Integration**

**A task team was formed and has been meeting, but the issues remain unresolved**

**EMO** Environmental Management Operations

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**Schedule Optimization Study - Briefing**

1. Purpose
2. Basis
3. Approach
4. Schedule
5. Issues
6. Points of Contact

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### **Purpose**

- Independent Review of RI/FS Schedule
- Compress schedule to about 4 years
- Identify impediments to compressing schedule
- Make specific recommendation to facilitate change
- Focus on four approved Work Plans plus other developments

### **Basis**

- TPA Dispute Resolution process
- Dictates close coordination with TPA members during study

### **Notes:**

#### **PURPOSE:**

Perform an independent review of the Hanford RI/FS schedule to determine how the schedule can be compressed to a target of about 4 years (to ROD); outline current impediments to achieving that optimum schedule; and recommend steps to achieve the optimum schedule. The study will examine the 4 currently approved RI/FS Work Plans and work plan design modifications now under development in order to provide a recognized structure for the findings, conclusions, and recommendations.

#### **BASIS:**

The study resulted from a TPA Dispute Resolution Process involving the 1100 EM-1 Operable Unit Work Plan. That resolution effort drove the initiation of the study, the study focus, and the interface between DOE, EPA and Ecology during the study itself.

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### Approach

- Four experienced EMO contractors
- Work closely with WHC, COE, and others
- Examine Generic Issues up front
- Examine detailed schedule in interviews
- Document success elsewhere for credible recommendations
- Create win-win atmosphere

### Schedule

- Target start Date -- February 1
- 15 weeks -- Draft Report out
- 23 weeks -- Final Report out

#### Notes:

#### APPROACH:

1. EMO selected the following contractors and their experienced principal investigators for the study:

IT Corp - Mr. Jerry Chiaramonte  
Engineering Sciences - Mr. Jim Royce  
Bechtel - Mr. Tom Demmltt  
CH2M Hill - Mr. Steve Wilhelm

2. Will work closely with WHC, the COE and others and provide real time feed back on tentative findings and recommendations. We will schedule our interviews and meetings so as to minimize the impact on key individuals.
3. Will examine the effect of selected "generic" Issues up front (NEPA, DOE Orders, QA/QC) before examining the schedule as contained in the WBS for the 4 approved Work Plans and in anticipated work plans. Hence, the study and understanding of requirements and procedures will proceed detailed interviews.
4. Emphasis will be placed on documenting the successful execution elsewhere of any recommendations made to abbreviate the schedule. Recommendations will be as specific and detailed as possible.

#### SCHEDULE:

- Target Start - 1 st week of February
- Duration = 15 weeks to delivery of Draft Report  
= 23 weeks to Final Report (assumes 4 week comment period)

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**Issues**

*ABN*

*INTEREST*

- Conflict of ~~issue~~ resolution
- EPA and Ecology Interface
- Early categorization of findings and recommendations
  - √WHC and COE Charter
  - √DOE-RL Charter
  - √EPA and Ecology Charter
  - √HQ DOE and/or HQ EPA Charter

**Notes:**

**ISSUES:**

1. Resolution of Conflict Of Interest determination (determines actual start date).
2. Equitable and responsive Interface with EPA and Ecology during the study.
3. Clear Identification of findings and recommendations into four "responsibility" categories as early in the study as possible. Categories are:
  - a. Within WHC and COE charter to implement
  - b. Within DOE-RL charter
  - c. Within EPA and Ecology local charter
  - d. HQ DOE and/or HQ EPA charter

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**Points of Contact**

- DOE - Julie Erickson
- EPA - Paul Day
- Ecology -
- WHC - Tom Wintczak
- COE - John Stewart
- EMO - Don Kane
- Others - For Value Engineering Link  
For DOE Orders Study Link

**Notes:**

**POINTS OF CONTACT:**

DOE-RL	Julie Erickson	376-3603
EPA	Paul Day	376-6623
Ecology		
WHC	Tom Wintczak	376-0902
COE	John Stewart	376-9101
EMO	Don Kane	376-0259

**OTHERS**

DOE-RL	Nancy Werdel - - - -	376-5500	Value Engr
WHC	Ron Cote - - - - -	376-5398	Value Engr.
PNL	Paul Hendrickson -	376-4253	DOE Orders

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SCHEDULE OPTIMIZATION STUDY OF  
REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS)  
WORK AT HANFORD  
FOR  
U.S. DEPARTMENT OF ENERGY, FIELD OFFICE, RICHLAND

STATEMENT OF WORK

1.0 TASK STATEMENT

Environmental Management Operations (EMO) will provide a Schedule Optimization Study of the Remedial Investigation/Feasibility Study (RI/FS) work at Hanford. EMO will specifically examine the four regulator approved work plans (300 FF-1, 300 FF-5, 1100 EM-1, and 200 BP-1), but the results will be applicable for any of the Hanford work plans now under development or targeted for future development. EMO will also submit a proposal to implement the study recommendations which will accompany the study report.

2.0 BACKGROUND

EMO was asked by U.S. Department of Energy, Field Office, Richland (DOE-RL) in 1990 to review the Hanford Past Practices Cost Model developed by Westinghouse Hanford Company (WHC). EMO provided that analysis in a report entitled "Evaluation of the Hanford RI/FS Cost Projections." That effort focused on the scope, cost, and regulatory drivers associated with the WHC model and its inherent assumptions. It also touched on some of the Activity Data Sheets (ADSs) associated with the Environmental Restoration (ER) program, specifically the first 41 Operable Unit (OU) RI/FS ADSs. Topics examined included program and project management, laboratory operations, regulatory interfaces, and other "services" that Hanford contractors provide to the ER program. Much of the knowledge gained and the findings and recommendations presented in that report will be relevant to this Schedule Optimization Study.

EMO was subsequently asked by DOE-RL in 1991 to undertake a study entitled "Scope and Cost Analysis of Selected Hanford Activity Data Sheets." In this study currently nearing completion, EMO and four of its subcontractors (CH2M Hill, IT Corporation, Bechtel Environmental, and Engineering-Science) examined some 38 ADSs that represented support functions to the ER program, including decommissioning and decontamination (D&D). This study is focused on reviewing the scope description and back-up scope documentation of each ADS as to adequacy in describing the work to be undertaken and whether or not that scope was sufficient for the work to be cost estimated. Next, EMO examined the cost estimate data and associated back-up to judge its adequacy and how well it tracked the scope statement. EMO also took a broader view of the entire ADS process as it existed on Hanford in 1991 as the FY 1992 program and FY 1993 ADS based budget were put together. EMO will prepare conclusions and offer recommendations on the ADS process as it effects the ER program. Knowledge and insight gained in this study will be relevant to the Schedule Optimization Study.

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The current requirement for a review of the Schedule Optimization Study of the RI/FS work at Hanford is based on an issue arising from a Tri-Party Agreement (TPA) dispute resolution process. The U.S. Army Corps of Engineers (COE) is responsible for the 1100 EM-1 OU and had requested a schedule extension from the TPA Dispute Resolution Committee (DRC). The DRC granted the extension but stated that the potential existed for significantly increasing the efficiency of the Hanford RI/FS activities and shortening the schedule instead of extending it. Consequently, the DRC requested and DOE-RL agreed that a study would be undertaken to examine the processes that govern schedules in place for RI/FS work at Hanford, focusing on the 1100 EM-1, 200 BP-1, 300 FF-1, and 300 FF-5 OUs. These specific OUs would be used as vehicles to analyze the processes that would lead to accelerated RI/FS schedules at Hanford. The DRC specified that the proposed study should not assume there are areas that have prescribed time periods associated with them, but, rather should challenge all areas governed by DOE, EPA, and Ecology. The end result will be the identification of areas that are preventing accelerated completion of RI/FS activities. Specific recommendations for overcoming these deficiencies will be outlined. Furthermore, the DRC parties agreed to implement the recommendations made in the study.

### 3.0 TASK EXECUTION

This task will be accomplished by the same EMO subcontractors employed for the ADS study and the RI/FS Cost Model Study. Specifically, these are CH2M Hill, IT Corporation, Bechtel Environmental, and Engineering-Science. The task will be structured around the specific tasks contained in the four referenced approved work plans and other generic tasks normally associated with RI/FS work plans. That structure lends itself to an organized analysis and is well understood by the Hanford contractors, the COE, and all three TPA parties. Specific assignments will be made to EMO subcontractors based on expertise, but in general, all four contractor's expertise and experience will be jointly employed on the major issues and on DOE-Headquarters (HQ) and regulatory roles in the RI/FS. One of the four subcontractors will be selected to print the draft and final documents.

The four phases of this work are discussed below.

#### 3.1 PHASE I - ORGANIZE AND DESIGN THE STUDY STRUCTURE AND PLAN

The team leaders from EMO and the four subcontractors will be assembled for a kick-off meeting with DOE-RL to confirm the scope and tentative design structure for the study. Detailed schedules for interviews with appropriate Hanford contractors, the COE and the regulators (EPA and Ecology) will be outlined. Following this, specific assignments to individual EMO subcontractors based upon expertise and experience will be made. To prepare for the study activity, EMO and its subcontractors will review all four approved RI/FS work plans and pertinent TPA documents that drive the four work plans. The team will then review the results of the Cost Model Study and the ADS study and determine which of those study recommendations have been implemented, are being implemented, and remain to be implemented. The team will also review any other documents, such as the EPA study, that offer recommendations for improving the RI/FS schedule.

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### 3.2 PHASE II -- CONDUCT THE SCHEDULE OPTIMIZATION STUDY

Using the proposed study structure, interviews and work sessions will be conducted with WHC, Kaiser, PNL, and any subcontractors who had a major role in preparing the four work plans and in the execution that has occurred to date. EMO will also examine the draft work plan tasks and schedules being prepared for two of the 100 Area OUs if they are available during the study period. Many of the interviews and work sessions will be conducted concurrently whenever possible to compress the time required to get a comprehensive understanding of the issues involved and to prepare the report. EMO will meet with the regulators towards the end of the study period. It is anticipated that at least one of these working sessions will be conducted in Seattle (Region X) and at least one will be held in Lacey (Ecology). EMO also intends to review the RI/FS program at INEL, and perhaps other DOE or Superfund sites where the TPA members believe that there is evidence of having achieved significant reductions in the time required for RI/FS activities. Where interaction with staff at DOE-HQ or EPA Headquarters is warranted and directed by DOE, EMO will conduct those interviews and work sessions focused on specific issues identified by the TPA participants as requiring review to support implementation recommendations.

### 3.3 PHASE III -- PREPARE THE DRAFT AND FINAL REPORT

EMO will finalize the study findings, outline specific recommendations, and detail any generic issues that result from the study. Finally, EMO will prepare a draft report for DOE. After DOE and its designated reviewers have commented on the draft report, EMO will respond to those comments and issue a cleared, final report.

### 3.4 PHASE IV -- PROPOSE AN IMPLEMENTATION PLAN FOR THE REPORT RECOMMENDATIONS

EMO will outline a detailed approach to allow the TPA members to implement the recommendations contained in the "Findings and Recommendations" portion of the report. EMO's tentative approach is to use a Task Force composed of the TPA members, the four Hanford contractors, and other stakeholders. The Task Force will be empowered to prioritize the recommendations and implementation actions and then carry them out within their parent organizations. EMO will serve as executive director to this Task Force and will track all actions from recommendation to full implementation. EMO will formally submit a proposal to DOE-RL for the implementation plan when the draft report is provided to DOE-RL.

## 4.0 SCOPE

Under this proposal, EMO will examine the tasks contained in each of the four work plans (1100-EM-1, 200 BP-1, 300 FF-1, and 300 FF-5) and two 100 Area work plans (if available) to answer the following questions:

- 9 2 1 2 1 9 3 1 2 3 8
- A. What are the regulatory requirements for the tasks in the work plans? What are the TPA and/or DOE-RL requirements for the tasks in the work plans? Are there any tasks that have been excluded that are normally required by RCRA/CERCLA guidance or understood to be part of good RI/FS practices? Why were they excluded? Are there tasks in the work plan that are not normally required and why are they included?
  - B. What is the scope of each task? What is the schedule associated with each task and what determines this schedule? What is the critical path for each task and between paths? What assumptions were used in building the schedule and are these assumptions justified?
  - C. What are the issues that drive the schedules, including regulatory requirements and data quality objectives? Can the schedules be compressed with a goal of 30 to 36 months from approval and what issues are associated with compressing the schedules? What are the incremental compressions associated with each issue? What are the root cause issues prohibiting compression?
  - D. What is the minimum schedule for each task that could be achieved at Hanford and how is this justified based on specific experiences throughout the U.S. Superfund Program and at other DOE sites? What is the overall minimum schedule that could be achieved for each of the four work plans? Does the compressed schedule still meet fundamental regulatory requirements and still provide good data?
  - E. What are the approximate cost differentials associated with compressed individual tasks and the overall RI/FS compressed schedule?
  - F. What would be the steps required to implement changes recommended in the study report?

## 5.0 DELIVERABLES

EMO will provide DOE and appropriate Hanford contractors immediate feedback during the study period on a one-on-one basis and again in summary form at the end of the interactive study period. At the end of the interactive study period and before issuance of the draft report, EMO will make a presentation to DOE on the tentative findings and recommendations. We understand that DOE plans to keep EPA and Ecology informed of the study progress and receive their comments on the tentative findings and conclusions prior to EMO issuing the draft study report. EMO will support DOE in this effort as appropriate. EMO will then provide DOE with 40 copies of the draft study report and 40 copies of a cleared, final report. EMO will also provide DOE with a briefing capability to be given to the DRC during the period immediately after delivery of the draft report and 15 days after delivery of the final report. Finally, EMO will provide DOE with a plan to implement the recommendations contained in the report in the form of a proposal.

## 6.0 TIME OF PERFORMANCE

EMO will provide a time phased spend plan and firm study design within one week of receiving notice-to-proceed. The following schedule will be followed for implementation:

February 1, 1992	DOE issues Notice-to-Proceed and full funding.
Week 1	EMO mobilizes team, lays out all documents to be included in the study, and meets with Hanford contractors to outline the study/work session schedules.
Week 2	EMO integrates the study team with the interview/work session schedules, the team reviews the four work plans, the ADS report, the cost study report, and other documents relating to RI/FS schedules at Hanford.
Weeks 3,4,5,6 & 7	EMO conducts detailed interviews and working sessions with Hanford contractors and COE at Hanford.
Weeks 8 & 9	EMO conducts detailed interviews and working sessions with EPA and Ecology at Hanford and in Lacey and Seattle as appropriate. EMO will also conduct interviews and work sessions at DOE-HQ and EPA-HQ if directed by DOE-RL. EMO will also completes any final interviews and addresses any outstanding issues.
Weeks 10,11,12, & 13	EMO prepares the draft report.
Weeks 14 & 15	EMO and subcontractor senior management reviews the report and delivers it to DOE after the review. EMO delivers a plan for implementing the report recommendations to DOE in the form of a proposal. EMO briefs DOE on the report and implementation plan as required.
Weeks 16,17,18 & 19	DOE reviews the draft report and provides comments to EMO.
Weeks 20,21 & 22	EMO addresses and resolves comments and prepares the final report.
Week 23	EMO delivers draft report to DOE and briefs if required.

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**Complete Liquid Effluent Treatment  
Facilities/Upgrades  
For All Phase I Streams**

**Milestone M-17-00**

**January 22, 1992**

ATTACHMENT 4

# Milestone Description

**M-17-00A** Complete liquid effluent treatment facilities/upgrades for all Phase I effluent streams. Interim milestones for Phase I effluent streams include the development and implementation of an impact assessment methodology, sampling and analysis plans, treatment system design and construction commitments, interim flow restrictions and dates for ceasing discharges.

**Deliverables** Deliverables include the completion and submittal of sampling and analysis plans to the EPA and Ecology for approval. Also, interim operation restrictions, in particular flow restrictions and flow measurement, are included for priority effluent streams. Implementation of treatment facilities/upgrades for Phase I effluent streams is the ultimate deliverable.

**Baseline** Complete treatment facilities/upgrades for Phase I effluent streams by June 1995.

## Milestone Description

**M-17--00B  
(Proposed)**

**Complete implementation of BAT/AKART for all Phase II liquid effluent streams. Interim milestones for Phase II effluent streams include the development and implementation of an impact assessment methodology, sampling and analysis plans, completion of BAT/AKART analysis, interim flow restrictions and dates for ceasing discharges.**

**Deliverable(s)**

**Deliverables include the completion and submittal of sampling and analysis plans to the EPA and Ecology for approval. Also, interim operating restrictions, in particular flow restrictions, are applied to some Phase II effluent streams. BAT/AKART analysis are scheduled for completion and submittal to the EPA and Ecology for approval, with ultimate implementation of the recommended treatment technologies.**

**Baseline**

**Implement BAT/AKART for all Phase II Streams by 10/97.**

## Accomplishments for the last 3 months

- All M17 interim milestones completed on time

<u>Interim Milestone</u>	<u>Description</u>	<u>Due Date</u>
M 17- 13	Environmental Assessment Methodology	Oct 91
M 17- 06A	Flow restrictions to 300 PT	Dec 91
M 17- 40 (proposed)	Cease discharge 216- S- 10	Oct 91
M 17- 16B (proposed)	Install flume for PFP Wastewater	Dec 91
M 17- 11L	Install fibermist eliminator at UO <sub>3</sub> plant	Dec 91
M 17- 11I	Flow restrictions to 216- U- 14 ditch to 800 gpm	Dec 91

## Accomplishments for the last 3 months (Continued)

- Resolved issues associated with 300 Area Process Trench Milestone
- Major Liquid Effluent Treatment & Disposal Projects (C-018H) on schedule:
  - Issued contract to build the Project to Japan Gas Company (JGC)
  - Met with EPA on delisting petition for C-018H. Developed strategy to accommodate early submittal of delisting petition
  - Continued pilot plant activities using cold mock-up feed
- 200 Area Treated Effluent Disposal System Project W-049H
  - Completed Value Engineering Study for W-049H. Regulator participation was useful
  - Disposal Site Evaluation Report submitted to Ecology
- 300 Area Treated Effluent Disposal System Project L-045
  - Issued design contract (CH<sub>2</sub>M Hill)

## Planned Action for Next 6 Months

Submit fifteen (15) Sampling and Analysis Plans to EPA and Ecology for Review

1-31-92	T-Plant wastewater	M-17-41A
1-31-92	2724-W Laundry wastewater	M-17-34A
1-31-92	222-S Laboratory wastewater	M-17-39A
1-31-92	2101-M Laboratory wastewater	M-17-43B
1-31-92	B Plant chemical sewer	M-1704A
4-30-92	241-A tank farm cooling water	M-17-32A
4-30-92	244-AR vault cooling water	M-17-33
4-30-92	242-A Evaporator steam condenser	M-17-31
4-30-92	242-A Evaporator cooling water	M-17-30
4-30-92	B Plant cooling water	M-17-27
4-30-92	284-W Power Plant wastewater	M-17-38A
4-30-92	234-E Power Plant wastewater	M-17-37
4-30-92	183-D Filter backwash wastewater	M-17-36
4-30-92	400 Area secondary cooling water	M-17-44
4-30-92	T Plant laboratory wastewater	M-17-42A

Develop plan to reroute 1325-N effluents (1-31-92) M-17-15C

Submit N Reactor BAT/AKART evaluation to EPA and Ecology (1-31-92) M-17-15B

## Planned Action for Next 6 Months (continued)

- **Cease discharge of three (3) waste stream**
  - **Eliminate HVAC 2 through 9 cooling water from 2101-M laboratory sewers (1-31-92) M-17-43A**
  - **Cease discharge of B-Plant chemical sewers to 216-B-67 trench & reroute to 216-B-3 pond system via B-Plant cooling water sewers (2-28-92) M-17-04B**
  - **Cease discharge of 216-U-14 ditch surface contamination control water (2-28-92) (TPA - none)**
- **Submit 1325-N-WDF discharge elimination plan to EPA and Ecology (1-31-92) M-17-15C**
- **Complete construction of 2724-W laundry effluent wastewater treatment projects (1-31-92) M-17-34B**
- **Submit A/E Design Construction Schedule for C-018H 242-A Evaporator/PUREX Condensate Treatment Facility Design-Construction Schedule to EPA and Ecology (2-28-92) M-17-14A**
- **Submit 300 Area Process Trenches Shut Down Plan to EPA & Ecology (4-30-92)**

## Planned Action for the Next 6 Months (Continued)

Submit  $\text{UO}_3/\text{U}$  Plant Wastewater Reroute Feasibility Study to EPA & Ecology  
(5-31-92, M-17-17C)

Reroute cooling water & steam condensate from the PUREX facility:

- Reroute PUREX steam condensate to the chemical sewers (6-30-92)  
M-17-22A
- Reroute PUREX cooling water to the chemical sewers (6-30-92) M-17-23A
- Complete PUREX reconfiguration and source control to minimize discharge  
(6-30-92) M-17-24A

Submit N-Reactor NPDES permit modification to EPA & Ecology (6-30-92)  
M-17-15D

Initiate Project C-018H hot feed pilot plant testing (6-30-92) M-17-14B  
(See Issues Section for further status)

- Officially issue Change Package M-17-91-05, Major Renegotiation to Regulators,  
use public comment of TPA Annual Update to satisfy change package  
requirements.

## Milestone Assessment

- **Schedule**
  - **Milestones on schedule**
  
- **Technical Scope**
  - **Ongoing Reviews with the EPA and Ecology of Sampling and Analysis Plans and Impact Assessment Methodology will improve the quality of final submittal**
  
  - **BAT/AKART evaluations in progress and on schedule**

# M-17-00 Financial Status through December 1991

FY 1992

<u>FYTD Budget</u>	<u>FYTD Cost</u>	<u>Spending Variance</u>	<u>Annual Budget</u>
\$5,341K	\$4,994K	\$347K	\$76,532K

\* Does not include \$1900K for acceleration of Phase II Project

## Issues

- **HEC/EA approval needed by 4-15-92 to support treatment project milestones**
- **Laundry privatization will require TPA interim milestone modification if qualified vendor found. (Elimination of M17-35 B-D)**
- **Impact of 242-A Evaporator restart on Project C-018H**
  - **Strategy to Accommodate September Startup of 242-A Evaporator**
    - **Hot pilot plant testing starts 11/30/92 instead of 8/31/92**
    - **Extend testing with synthetics through 11/30/92**
    - **Conduct hot testing from 12/1/92 through 6/30/93**
    - **Prepare RCRA Part B, 216 permit and delisting applications using more synthetic test data, resulting in less hot data**
    - **Program assumes an increased risk of applying for a permit based on performance with synthetics which may not be attainable with real waste**

## Issues (Continued)

- **Strategy to Accommodate 18 - 24 month review of delisting petition**
  - **EPA agrees that petition information may be supplemented without a restart of the review cycle**
  - **Initial petition submittal will be made in October 1992 instead of August 1993, 24 months prior to startup**

## Land Disposal Restrictions

<b>M-26-03</b>	<b>Cease discharge of 242-A Evaporator process condensate effluent to LERF units by December 1994</b>	<b>On Schedule</b>
<b>M-26-04</b>	<b>Remove all hazardous waste residues from the 242-A Evaporator LERF units by June 1995</b>	<b>On Schedule</b>

ATTENDEES

TPA MILESTONE MANAGEMENT REVIEW

FED/ROOM 780

JAN. 22, 1992

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<u>NAME</u>	<u>ORGANIZATION</u>	<u>MAILSTOP</u>
<u>F.T. CALAPRISTI</u>	<u>WHC / TPAI</u>	<u>B2-35</u>
<u>Lee Olson</u>	<u>MACTEC</u>	<u>946-0176</u>
<u>K. Michael Thompson</u>	<u>DOE-RL / EAP</u>	<u>A5-19</u>
<u>T.B. VENEZIANO</u>	<u>WHC / RR</u>	<u>B2-35</u>
<u>EA</u> <u>Liz Bracken</u>	<u>DOE-ERD</u>	<u>A5-6</u>
<u>LARRY<sup>D</sup> AARNOLD</u>	<u>WHC / TPAI</u>	<u>B2-35</u>
<u>Paul Day</u>	<u>EPA</u>	<u>B5-01</u>
<u>S.H. Wisball</u>	<u>DOE</u>	<u>A5-19</u>
<u>Rick<sup>D</sup> Wojtaszek</u>	<u>WHC / ER</u>	<u>L4-92</u>
<u>LARRY GORTON</u>	<u>ERCON</u>	
<u>Lee Little</u>	<u>DOE</u>	<u>A5-22</u>
<u>RE. Lerch</u>	<u>WHC / Env. Div</u>	<u>B2-35</u>
<u>DON<sup>A</sup> KANE</u>	<u>EMO</u>	<u>B1-40</u>



## DISTRIBUTION

Arnold, L. D.	WHC	B2-35
Baumann, M. A.	WHC	B3-62
Bracken, E. A.	DOE-RL	A5-6
Calapristi, F. T.	WHC	B2-35
Day, P. T.	EPA	B5-01
Erickson, J. K.	WHC	R1-48
*Giomi, J. I.	WHC	H4-18
Goldstein, L.	Ecology	PV-11, Olympia
Kane, D. A.	PNL	B1-40
Kelley, D. E.	WHC	R1-48
Lerch, R. E.	WHC	B2-35
Little, L. E.	DOE-RL	A5-22
Olson, L.	MATEC	1933 Jadwin, Richland
Thompson, K. M.	DOE-RL	A5-19
Veneziano, T. B.	WHC	B2-35
Wisness, S. H.	DOE-RL	A5-19
Wojtasek, R. D.	WHC	L4-92
EDMC	WHC	H4-22

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\*Copy coverage for ETS actions

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