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**Meeting Minutes
Interim Status Dangerous Waste Tank Systems
Hanford Federal Facility Agreement and Consent Order
Milestone M-32-00**

**PROJECT MANAGERS MEETING
February 26, 1996 and March 1, 1996**

The undersigned indicate by their signatures that these meeting minutes reflect the actual occurrences of the above dated Project Managers Meeting (PMM).

E. M. Greager

Date: 4/11/96

E. M. Greager, Contractor Representative, Westinghouse Hanford Company

D. E. Jackson

Date: 4-15-96

D. E. Jackson, Project Manager, Department of Energy, Richland Operations Office

R. W. Wilson

Date: 4/11/96

R. W. Wilson, Unit Manager, Washington State Department of Ecology



Purpose: Discuss current status and issues related to Milestone M-32-00.

Meeting minutes are attached. The minutes are comprised of the following:

- Attachment 1 - Agenda
- Attachment 2 - Summary of Discussion, Agreements and Actions
- Attachment 3 - Attendance List
- Attachment 4 - 219-S Facility Presentation
- Attachment 5 - 340 Complex Presentation
- Attachment 6 - T Plant Presentation
- Attachment 7 - DST Presentation; Integrity Assessments
- Attachment 8 - DST Presentation; Transfer Facility Compliance Plan
- Attachment 9 - Tri-Party Agreement Milestone M-32-00

**MILESTONE M-32-00
PROJECT MANAGERS MEETING
February 26, 1996 and March 1, 1996**

Agenda

February 26, 1996
200E/2704HV/G229

- 8:00 - 9:30 **219-S Facility** (Paul Carter)
- Project W-178 - Project Status
 - Reasons for Rescoping
 - Recommended Option
 - M-32-02
- Project W-087 - Project Schedule
- 9:30 - 11:00 **340 Facility** (Roger Szelmeczka)
- 340 Complex Presentation
 - Change Control Request M-32-95-01
 - RLWS Operations Plans

March 1, 1996
200E/2704HV/G230

- 1:00 - 2:00 **T Plant** (Glen Triner)
- Project W-259 - Bob Wilson's questions
- 2:00 - 4:00 **Double-Shell Tanks** (Keith Scott)
- Program Overview
 - Status of DST Integrity Assessment Activities
 - DST Waste System Assessment Activities Tentative Schedule
 - Status of DST Ultrasonic Examination Equipment
 - Tank Selection Criteria
 - Funding and Milestones
 - Transfer Facility Compliance Plan Status (Bob Gustavson)

MILESTONE M-32-00
PROJECT MANAGERS MEETING
February 26, 1996 and March 1, 1996

Summary of Discussion, Agreements and Actions

- 219-S: Mr. R. Paul Carter (RL) provided the presentation for the 219-S Facility (see attachment 4).

Project W-178: Paul gave an overview of the scope, schedule, and major accomplishments of Project W-178, the secondary containment upgrade for the 219-S Facility. He also discussed the factors causing the project rescope.

Basically, contamination, radiological levels, and decontamination activities exceeded the original estimate in the conceptual design report (CDR). This condition came about due to several circumstances, some of which had a cascading effect, i.e., one event led to another. The items that caused the rescope include: revisions to the Radcon Manual (resulting in a lower allowable exposure to personnel); sand within the cells that acted as shielding during pre-construction radiological surveys which indicated lower dose rates than experienced during construction; conditions within cells A and B which required decontamination; the need to perform cell work on mask (thereby limiting worker effectiveness); and the need to dispose of demolition materials as mixed waste (a tank overflow, which occurred after the CDR estimate was prepared, caused debris to become F-listed waste).

Paul described both the Phase I and Phase II configurations for the rescope project. Phase I would be carried out with an expanded scope in order to minimize the impact to operations. Phase II would be put on hold until the proposed rescope configuration and additional funding was approved. Paul stated that Ecology's agreement would be necessary for the rescope Phase I configuration and use of the facility under these conditions. This would leave the 219-S tank system in a less than fully compliant state. Tri-Party Agreement M-32-02 will require re-negotiations.

Project W-087: As requested, Ms. Alisa Huckaby (Ecology) was given a copy of Project W-087's schedule.

Mr. Mike Hall (WHC) informed Ecology of a temporary situation involving leak detection on some pipelines from the 11-A hot cells. The leak detector panel is being relocated as part of the facility's upgrades. This will cause the piping to be without leak detection for two days. This work will be taking place within the next 30 days.

ACTION: Provide original Project W-178 estimate to Alisa. (*A copy of the estimate was delivered to Ecology on April 10, 1996.*)

ACTION: Provide information on "contained-in" efforts at 222-S and the impacts to Project W-178 to Alisa. This information will be available in about 3-4 weeks.

ACTION: Provide Alisa with Project W-178's schedule for Phase I. (*A copy of the schedule was delivered to Ecology on April 10, 1996.*)

ACTION: Notify Alisa if the leak detector panel work leaves the pipelines without leak detection for longer than two days. (*Leak detector panel work was completed within two days.*)

- 340/RLWS: Mr. Roger Szelmeczka (WHC) began by describing the function and configuration of the 340 Complex. Next, Roger outlined the current condition of the 340 Complex and RLWS. Some of the details given during this part of the presentation (see attachment 5) follow.

While the 340 Complex currently lacks a written integrity assessment, one is being performed on the 340 Vault tanks, 340-A tanks, and on the RLWS downstream of valve box #9. This assessment is scheduled for completion by September 1996.

Compliance issues at the Complex are: the 340 Vault floor and the 340-A catch basin and sump are not coated; annual integrity testing is not performed on the 340 Complex tank system; the RLWS upstream of valve box #9 is not in the scope of the 340 Facility integrity assessment and has not been tested recently; and some tank system components can't be visually inspected due to ALARA.

As stated in previous meetings, Roger mentioned that the generator buildings are visually inspected within 24 hours of a transfer. And, Project W-302 is not expected to be implemented.

The change control form, M-32-95-01, was also discussed and put on hold until RL is able to provide Ecology a date by which time the 340 Facility will not longer accept waste. Mr. Greg Sinton (RL) mentioned that RL expects to be able to determine this date in the near term.

Roger brought up two other compliance issues. The first, which has been discussed with Ecology before, deals with the 340 Facility receiving waste from a permitted unit. Roger stated that this will likely continue until closure of the facility.

The second issue deals with the <90-day clock time limit for shipment of waste from the facility. This time restriction only allows the Facility about 60 days to accumulate waste. Meeting the <90-day clock means that 5-6 shipments must be made each year which in turn results in a lot of flush water. He suggested that the 340 Facility manage its waste by volume instead, again until closure of the RLWS. This approach would lower the number of shipments to a maximum of 1-2 shipments a year. Ms. Jeanne Wallace (Ecology) indicated that this approach could be possible given an approved compliance schedule which included a date to cease operations at the 340 Facility. Roger mentioned that until the change control request is resubmitted, the 340 Complex would continue current operations.

ACTION: Identify "cease accepting waste" date for the 340 Facility.

- T Plant: Mr. Glen Triner (WHC) was available to respond to Mr. Bob Wilson's (Ecology) previously submitted questions (see attachment 6) on Project W-259 (tank system upgrades). A briefing on the Project W-259 rescope had been given to Ecology on January 24, 1996. As Bob was not able to attend that meeting, he provided T Plant with a list of questions for discussion during the PMM.

Along with the presentation, Glen pointed out that the canyon could be used to perform some minor treatment activities. These activities would be those that would need the canyon for contamination control, for its overhead crane, or because of the headroom it provided. Project W-259 will handle all decontamination activities that T Plant has been asked to perform, but will not support these minor treatment activities.

Glen stated that Project W-259 underwent a Value Engineering Study which identified the most efficient, cost-effective method to provide a compliant tank system for T Plant's needs. He gave Ecology a copy of WHC-SD-W259-ER-001, "T Plant Secondary Containment and Leak Detection Upgrades," Rev.0, dated October 1995 (also provided to Ms. Laura Cusack [Ecology] during the January 24, 1996 meeting).

Mr. Mark Ramsay (RL) mentioned that unless Tri-Party Agreement M-33 negotiations identified a new mission for the canyon, it would most likely be shutdown.

ACTION: Provide a copy of the Value Engineering (VE) Study report to Laura. *(A copy of the VE study report was delivered to Ecology on April 10, 1996.)*

ACTION: Add Laura to the distribution list for notification of the 60% and 90% design review meetings on Project W-259. *(A 60% design review meeting will not be held. Laura has been added to the 30% and 90% design review notification list.)*

- DST: **Assessments:** Mr. Keith Scott (WHC) provided an overview and status (see attachment 7) of the DST integrity assessment activities.

Among the activities that have been accomplished are the integrity assessment of the 242-A Evaporator and the 244-U Double Contained Receiver Tanks (DCRTs), visual examinations of all the 28 double-shell tanks (DSTs) and of 29 pits, leak tests of 14 transfer lines and the Tank Structural Integrity Panel (TSIP) review of the DST integrity assessment strategy. Also, the DST design standard evaluation portion of the integrity assessment is nearing completion.

Keith outlined the proposed assessment activities for FY 96 through FY 99. Future target actions will be based on these activities. While listing the activities to be completed in each fiscal year, he explained that if conditions precluded the completion of certain activities in one fiscal year, they would be substituted by an activity scheduled for another fiscal year. Keith mentioned that the 242-A Evaporator will have to be shut-down during its re-assessment. He also indicated that catch tanks have been added to the scope of the assessments since they are no longer being upgraded by one of the DST upgrade projects. As some of the catch tanks may end up being abandoned, they are scheduled for later in FY 98 in order to allow time for the decision to be made. This prevents unnecessary work should some of the tanks be abandoned.

Currently, two Ultrasonic (UT) Examination equipment designs are being evaluated. The Raytheon equipment needs modifications/testing in order to ensure reliable field use. The Savannah River equipment will detect wall thinning and pitting only and will require modification to Hanford's deployment equipment. An evaluation report, which also considers the possibility of removing equipment for examination or performing further visual examinations, will be prepared. Mr. Bill Jenkins (WHC) advised that this report was expected to be completed by March 31, 1996 and that it would be forwarded to Ecology.

The DST selection criteria, as listed in the presentation handout, was discussed next. Examinations will begin with Tank AW-103. This tank was chosen because it has the highest sludge levels. The next tank will be selected after the first examination.

The TSIP's future involvement was discussed. Funding for this Panel has not been identified for FY 97. Mr. Dale Jackson (RL) said that he would look into the funding situation and into alternatives to the Panel. Laura stated that the Panel is a key element to Ecology agreeing to deferring UT testing on all 28 DSTs until the results of the UT tests on the initial six tanks have been evaluated (by the Panel). Mr. Casey Ruud (RL) mentioned that it took a year to get Ecology to agree to using the Panel. Dale pointed out that there is some confusion over the commitment on the Panel review. This issue was deferred until the next PMM, when more information would be available.

Transfer Facility Compliance Plan: Mr. Bob Gustavson (WHC) updated Ecology on the status of the DST waste transfer system.

This presentation (see attachment 8) briefly reviewed the Compliance Plan as it was issued in June 1994 and the reasons it has changed, i.e., as the various DST upgrade projects change, so does the scope of the Compliance Plan. Bob stated that a revised Compliance Plan would be available by July 31, 1996 and that it would include: an update on the waste transfer system status; a status of the upgrade projects; and would identify integrity assessment activities for the waste transfer system.

ACTION: Provide Laura with a copy of the 244-U DCRT Integrity Assessment Report (IAR). *(A copy of the 244-U DCRT IAR was delivered to Ecology on April 10, 1996.)*

ACTION: Provide Laura with a copy of the 242-A Evaporator Integrity Assessment Report. *(A copy of the 242-A Evaporator IAR was delivered to Ecology on April 10, 1996.)*

ACTION: Provide Laura with information on the 29 pit examinations. *(A copy of the pit examination data sheets were delivered to Ecology on April 10, 1996.)*

ACTION: Determine what FY 97 and FY 98 integrity assessment budget information is available and inform Mr. Alex Stone (Ecology). Mark will complete this action.

ACTION: As soon as reasonably possible, provide Laura with the supporting document that evaluates the integrity assessments' UT equipment alternatives.

ACTION: Provide Laura with the revised Transfer Facility Compliance Plan soon after its issuance on July 31, 1996.

Attachment 3
Attendance List

M-32-00 PROJECT MANAGER MEETING

FEBRUARY 26, 1996

219-S Facility

NAME	ORGANIZATION	TELEPHONE	MSIN
Una Sherwood	WHE - RCRA Field Services	4-6391	H6-20
Bob Wilhoi	ECOLGY	736-3031	219-54-4476
Alisa D. Huckaby	Ecology	736-3034	B5-18
Paul Carter	DOE - ASP	376-0016	57-55
MIKE HALL	WHE - 222-S LABS	373-5719	T6-12
DALE JACKSON	DOE - EAP	376-4851	A5-15
Don Buckles	WHE - PROJECTS	378-3862	R3-35
John Beyer	WHE - Projects	372-3913	R3-35
MICHAEL COLLIPS	DOE - PROJECT MGMT	376-6536	A5-18
Eric Greager	WHE - RCRA Field Services	376-3132	H6-20

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M-32-00 PROJECT MANAGER MEETING

FEBRUARY 26, 1996

340 Complex

NAME	ORGANIZATION	TELEPHONE	MSIN
Ana Sherwood	WAC	6-6391	H6-20
Eric Greager	WAC	376-3132	H6-20
DALE JACKSON	DOE - EAP	376-4851	A5-15
Eligabeth BOLDERS	DOE - WPD	373-9276	S7-55
Greg Sinton	DOE - WPD	373-7939	S7-55
Randy Szemecza	WAC - 300 LEE	373-4200	L6-05
Bub Carlson	ECOLOGY	736-3031	219-54-4020
Ron Phillips	PNNL	372-3691	P7-79
Clint Stuart	Ecology	736-3010	B5-18
Jeanne Wallace	Ecology	736-3011	B5-18
MIKE McCoy	PNNL	376-1483	P7-79
STAN L. JONES	PNNL	376-7449	P7-57

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M-32-00 PROJECT MANAGERS MEETING
MARCH 1, 1996

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NAME	ORGANIZATION	PHONE	MSIN
A. Sherwood	RFS	6-6391	H6-20
Bob Haggard	RFS	6-3783	H6-20
Glen Trunk	SWD	2-6771	
Bob Wilson	ECOLOGY	736-3031	B5-18
Laura Busack	ECOLOGY	736-3038	
Eric Greager	WRC/ES	376-3132	H6-20
DALE JACKSON	DOE/RL/EAP	376-4151	A5-15
Mark French	DOE/WPD	373-9863	S7-55
FRANK CALAPRISTO	WRC/PAI	376-6693	B2-35
Treta Ravencraft	WRC/TWRS	373-9275	S4-44

M-32-00 PROJECT MANAGERS MEETING
MARCH 1, 1996

DST - Integrity Assessments / PMM

NAME	ORGANIZATION	PHONE	MSIN
Keith Scott	WHC	376-5445	45-52
Bill Jenkins	WHC	373-2009	82-24
Bob Wilson	ECOLOGY	736-3031	B5-18
Laura Cusack	Ecology	736-3038	B5-18
Mark Ramsay	RL	376-7924	57-54
Bill Eibe	WHC	373-9328	5501
Treta Ravenscraft	WHC	373-9275	54-44
Bob Gustavson	WHC	373-5090	R1-51
Fenggang Ma	Ecology	736-3035	B5-18
Alex Stone	Ecology	736-3018	B5-18
Alisa Huckaby	Ecology	736-3034	B5-18

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Attachment 4

219-S Facility Presentation

**W-178, 219-S Secondary
Containment Upgrade**

**TEC - \$2.6M
PWE - \$5.1M**

- **Analytical Services Program**
- **Scope**

Provides the necessary facility modifications to satisfy the Washington Administrative Code (WAC) 173-303 requirements for Treatment, Storage, and Disposal (TSD) facilities as well as Resource Recovery and Conservation Act (RCRA). This work involves the 219-S Facility located in the 200 West Area and is in support of the 222-S Laboratory operations.

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- **Schedule**
 - Design is 100% scheduled and 100% complete
 - Procurement 100% scheduled and 100% complete
 - Construction is 20% scheduled and 21% complete
 - Project completion schedule and forecast is TBD

- **Contingency**
 - Current contingency amount is \$560K

- **Major Accomplishments**
 - Installed cell B liner and tank 104
 - Finished fabrication of instrument panels
 - Completed shop functional test of panels
 - Continued fabrication of Phase I pipe spools

- **Issues/Proposed Actions**

- **Contamination and radiological levels have significantly exceeded the CDR estimate.**
- **CDR estimate assumed A cell and B cell would not require decontamination.**

Both factors have already impacted the schedule and have caused the PWE to exceed the authorized TEC. The definitive design estimate was performed using as found field conditions versus historical data as used in CDR. WHC has formally recommended the completion of Phase I work interfacing with Project W-087 and required for plant operation. Phase II, the balance of the project, will be put on hold.

- **Summary of TEC increase and causes**

- **Changes to radiological environment**

- Engineering and Inspection	\$ 385K
- SWP labor burden	784K
- Step off pad support	296K
- Tank 101 and 102 decon	103K
- Weather enclosure	36K
- Additional Tech. Services	163K
- Added material for decon of tanks	35K
- Waste classification	109K
Total	\$1911K

- Summary of TEC increase and causes (cont.)

- Other changes

- Definitive design underrun	\$(28K)
- Procurement underrun	(45K)
- Mechanical and piping labor	(24K)
- Cell A and B liner labor	100K
- Added electrical labor	138K
- Added sump pumps	6K
- S/S liners	158K
- Electrical materials	84K
- Piping materials	92K
- Equipment rental	92K
- Project management	88K
Total	\$ 642K

- **Changes to radiological environment**
 - **Revised Radcon Manual (December 9, 1994)**
 - **HPT to take daily air samples and set up local alarming dosimetry prior to craft entry**
 - **Locked high rad area adds additional dosimetry requirements which add to the dress out time (finger rings, SID for each knee, separate 5 chip at chest level, individual alarming dosimetry)**
 - **CDR estimate assumed rad levels too low for burnout. Radcon manual lowered allowable annual exposure to 500 mrem increasing the risk of burnout. At the time of the CDR estimate, the WHC-CM-4-10 manual allowed 1000 mrem annual exposure.**

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- **Changes to radiological environment (cont.)**
 - **Radiological surveys show higher than expected results**
 - **Pre construction survey taken on February 23, 1995, shows a high dose rate of 500 mrad/h at floor level. On October 12, 1995, laborers assigned to cleaning the bottom of cell B experienced a high of 3500 mrad/h and 1500 mR/h at the floor. These labors were required to be rotated every 20 minutes to assure exposure limits were not exceeded.**
 - **After cell B pit cleaned but prior to liner installed, December 20, 1995, survey shows a high of 1250 mrad/h at knee level (still in excess of February 23, 1995 survey).**

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- **Changes to radiological environment (cont.)**
 - **CDR estimate assumed cell A and B would not require decon**
 - **CDR estimate used 15% burden (no mask) to cell A and B labor after liner installed. In reality, contamination levels and presence of alpha requires the use of assault masks (256% burden) for all cell A and B work.**
 - **Cell B was sprayed with soil cement to fix the contamination to the cell walls, floors, tank 103, piping and conduit prior to proceeding with phase I construction. Contamination levels fluctuate as demolition continues.**

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- **Changes to radiological environment (cont.)**
 - **CDR estimate assumed cell A and B would not require decon (cont.)**

**February 22, 1995, max reading 5600
dpm/100cm² alpha for removable levels**
**July 20, 1995, max reading 56000
dpm/100cm² alpha for removable levels**
**October 13, 1995, max reading 14000
dpm/100cm² alpha for removable levels**

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- **Changes to radiological environment (cont.)**
 - **CDR estimate assumed demolition materials to be low level waste**
 - **Waste must be disposed of as mixed waste which has a higher burial cost than low level.**
 - **High radiation levels of waste is causing burial drums to be over packed with lead in order to comply with 100 mr/hr maximum survey requirement for mixed waste. This contributes to additional volume as well as added labor. Due to high background, surveys cannot be performed until drum is hoisted out of the pit.**

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- **Other changes**
 - **Liner labor and material increased during definitive design to accommodate seismic requirements of securing tanks, 14 gauge vs 1/4" and 1/2".**
 - **Electrical materials and labor increased due to additional sump pump detection, larger transformer, electric heat to replace steam heat, replacement of instrumentation, control panels faces and wiring associated with new arrangement of panel faces.**
 - **Additional sumps (2) identified during definitive design.**
 - **Interim phases piping materials changed from flexible hose to standard wall pipe.**
 - **Equipment rental not addressed by CDR estimate.**
 - **Increased involvement of project management due to larger scope and delayed start of Phase II.**

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- **Current Directions**

- Proceed with Phase I in an expanded scope in order to minimize impact to operations.
- Phase II put on hold pending change request approval and additional funding received.

- **Phase I Configuration**

- S/S liner for spare space in cell B
- New tank 104 installed in cell B spare space
- Tank 102, 103, 104, and operating gallery sump pump
- Liquid level detection for tank 104, 103, and 102
- Temporary transfer pumps for tank 104
- Tank 101 taken out of service
- Tank 104 temporarily piped to receive waste

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- **Phase I Configuration (cont.)**
 - **Tank 103 temporarily piped to receive waste from tank 104**
 - **Compressed air and electrical solenoid controls for the temporary transfer pumps, sump pumps, and tank 102 sump pump**
 - **219-S electric heaters installed**

- **Phase I TEC \$2.4M**
 - **\$2.6M funding level**
 - **\$1.5M CTD (cost to date)**

- **Phase II work to be placed on hold**
 - **Tanks 101 and 102 removed from cell A and integrity assessment performed**
 - **S/S liner for cell A**
 - **Reinstall and seismically restrain tanks 101 and 102**
 - **Install transfer pump between tanks 101 and 102**
 - **Liquid level detection for tanks 101**
 - **Compressed air and electrical solenoid controls for tank 101 and 102 transfer pump**
 - **Bring tank 101 back on service to receive waste along with tank 104**
 - **Bring tank 102 on line to treat waste**
 - **Remove tank 103 from service**
 - **Reinstall tank 104 to tank 103 transfer pump from tank 104 to tank 102**

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- Phase II work to be placed on hold (cont.)
 - Disconnect tank 103 electrical and instrumentation
 - Remove steam piping

- Phase II TEC \$2.7M

- Potential funding sources
 - HEC project management fund
 - Uncommitted TWRS funds
 - Other DOE sites
 - Future budget year

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- **Direction from here**
 - **Continue with Phase I**
 - **Place Phase II on hold**
 - **Forward change request to RL**
 - **Revised estimate with escalation factors to be furnished by ICF KH no later than March 15, 1996, based upon March 1, 1996, CTD vs physical progress.**
 - **WHC to prepare Rev. 1 change request using new March 15, 1996, estimate to complete.**
 - **Prepare validation plans using new March 15, 1996 estimate.**

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Attachment 5

340 Complex Presentation

HANFORD FACILITY
340 COMPLEX

M-32-00 Project Managers Meeting
February 26, ~~1995~~
1996

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OUTLINE

- 340 Complex/Associated RLWS
- 340 Complex Compliance Issues
- Management Strategy
- Recent Activities
- Future Plans

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340 COMPLEX/ASSOCIATED RLWS

Purpose of 340 Waste Handling Facility:

- Central collection point for the RLWS. The RLWS is a network of tanks and piping connected to five laboratory buildings in the 300 Area.
- Provides safe and convenient disposal pathway for radioactive liquid wastes from facilities undergoing closure and D&D.
- Packages and ships solid LLW for small generators and facilities undergoing closure and D&D in the 300 Area.
- After accumulation in the 340 tank system, waste is sampled, analyzed, and pumped into stainless steel railroad tank cars for shipment to the 204-AR receiving facility.

340 COMPLEX/ASSOCIATED RLWS

300 Area Laboratories served by the RLWS:

324 Waste Technology Engineering Laboratory

-development and study of waste treatment technologies

325 Applied Chemistry Laboratory

-analytical and process development

326 Material Sciences Laboratory

-analytical and instrument development

327 Post-Irradiation Testing Laboratory

-specialized organic and radiochemical analyses, currently addressing K-Basin issues

329 Chemical Sciences Building

-specialized organic and radiochemical analyses

340 COMPLEX/ASSOCIATED RLWS

Two effluent systems feed the 340 tank system:

- Retention Process Sewer (RPS)
 - single-wall SS pipeline to TEDF via the 307 Basins
 - *potentially* contaminated with non-dangerous rad material
 - rad detectors with automatic diverter stations
 - diverter stations equipped with remote and local alarms
 - discharges to RLWS during upset conditions
 - upsets involve only radioactive contamination
 - waste acceptance criteria ensure non-dangerous effluent

340 COMPLEX/ASSOCIATED RLWS

■ Radioactive Liquid Waste System (RLWS)

- designed for management of radioactive liquid waste
 - some designated "Dangerous Waste"
 - includes RPS diversions
- two single-wall tanks in concrete vault
- six single-wall tanks in concrete catch basin (340-A)
- double-wall underground pipelines with valve boxes
- railcar loadout facility (340-B East)
- RLWS transfers to 340 are pre-approved and documented

340 COMPLEX COMPLIANCE ISSUES

Tank Integrity Issues

- No written integrity assessment on tanks or piping
- Annual integrity testing is not performed
- 340 Tank Integrity Assessment Plan is being implemented
- Integrity assessment report will be issued September 1996

340 COMPLEX COMPLIANCE ISSUES

Status of 340 Integrity Assessment

- 340 Vault tanks
 - passed static leak test and ultrasonic testing
 - sump passed static leak test

- 340-A
 - tanks passed static leak test and ultrasonic testing

- Transfer piping
 - 340-A to vault transfer lines passed in-service leak test
 - railcar transfer lines passed in-service leak test
 - railcar sump drain lines passed pneumatic leak test
 - vault transfer piping passed ultrasonic testing

340 COMPLEX COMPLIANCE ISSUES

Secondary Containment

■ 340 Vault

- single-wall tanks and piping in coated concrete vault
- resurfaced vault floor is not coated
- water stops not verified for all joints

■ 340-A

- single-wall tanks in concrete catch basin
- catch basin and sump not coated
- water stops specified in design documentation

■ Transfer piping

- SS in FRP encasement for all buried pipelines
- concrete valve-boxes for single-wall pipe at junction points
(water stops and coating not required for valve-boxes)
- single-wall pipes in generator buildings

340 COMPLEX COMPLIANCE ISSUES

Leak Detection

- 340 Vault
 - leak detector in sump
- 340-A
 - leak detector in sump
 - influent alarm in vault tanks
- Transfer piping
 - leak detectors in valve boxes
 - visually inspect generator buildings each operating day
- Remote and local alarms for all leak detectors
- Some components can't be visually inspected due to ALARA

340 COMPLEX MANAGEMENT STRATEGY

- Complete 340 tank integrity assessment
 - integrity assessment report will be completed in 1996
 - identify schedule to address assessment deficiencies

- Strategy for remaining issues
 - visual inspection within 24 hours in generator buildings
 - maintain double-wall piping for underground RLWS
 - maintain tank overflow controls
 - maintain continuous leak detection
 - inspect leak detection monitoring equipment data daily
 - maintain 24 hour spills/leak removal capability

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340 COMPLEX RECENT ACTIVITIES

- Project W-345 upgraded 307 Basins
 - recycled 4,000 pounds of excess lead from shielding
- Replaced steam heat w/ electric heat system
 - eliminated 3M gallon/year liquid discharge to soil column
- Extensive decon in 340-A, 340 Vault and other areas
 - reduced radiation zones by 10,396 ft²
- Project W-353 upgrading RPS radiation detectors
- Investigate shipping 340 waste to 200 Area ETF for WMin

RESULTS OF VALUE ENGINEERING STUDIES

- Project W-302 has been tabled
 - not expected to be implemented

- DOE-RL is developing alternate RLWS management strategy
 - close buildings 324 and 327
 - cease RLWS discharges by 2000
 - provide waste accumulation/loadout capability at 325

- 340 may support near-term D&D of radioactive facilities

FUTURE MILESTONE ACTIVITIES FOR THE 340 COMPLEX

M-32-00 Project Managers Meeting
February 26, ~~1995~~
1996

OUTLINE

- RLWS Compliance Issues
- Compliance Options
- Preferred Strategy

RLWS Compliance Issues

- 1) Some RLW received from permitted RCRA storage unit(s)
- 2) Difficulty managing waste within 90-day constraints
 - Shipments needed every 2 months
 - 3 weeks to isolate tank, sample, analyze, receive and interpret results, load and ship railcar
 - 3 to 5 days to unload tanker at TSD
 - allows ~60 days to accumulate waste in 340 tanks
 - While one tank is isolated for shipment, the other is accumulating waste on a new 90-day clock

RLWS Compliance Issues

30-day extensions result from circumstances beyond the control of 340 Facility

- Maintaining certified railcars
- Schedule conflicts with other priority Tank Farm work
 - increased remediation and upgrades in tank farms
- Operational interruptions
 - work shutdowns due to safety problems (tank vapors)
 - rain/snow generate spurious sump alarms
 - equipment failures at 204-AR unloading facility
 - pump problems
 - jumper connections

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RLWS Compliance Issues

Three Options Considered:

- 1) Continue status quo.
- 2) Pursue RCRA storage permit.
- 3) Manage 340 tank waste by volume instead of calendar.

RLWS Compliance Issues

Option 1: Continue status quo.

- regulators growing weary of 30-day extension requests
- is reactive rather than proactive compliance
- generates negative public perception
- doesn't fix the problem

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RLWS Compliance Issues

Option 2: Pursue RCRA storage permit.

- schedule does not support facility needs
- cost not justified for short-term facility mission
 - \$1-2M permitting costs
 - \$1M/year increased operating costs
- not supported by regulators in previous attempts

RLWS Compliance Issues

Option 3: Manage 340 tank waste with volume limits.

- 90-day clock does not allow efficient operations
 - tank waste generation has decreased over time
 - most RLWS is not dangerous waste
 - do not utilize capacity of tanks or railcars
- Would result in 2-3 shipments per year instead of 6
- Operate without submittal of Form 2
- Operate in this manner until facility is closed

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Attachment 6

T Plant Presentation

M32 PROJECT MANAGERS MEETING

RESPONSE TO ECOLOGY QUESTIONS

ON THE RESCOPING OF W-259

(TPA MILESTONE: M-32-03-T06)

G. C. Triner
March 1, 1996

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W-259 QUESTIONS & ANSWERS

Question #1

- **What is gained by the project W-259 rescope?**
 - ▶ **Project completes early**
 - ▶ **Reduces project costs by 50%**
 - ▶ **Improves efficiency of decon activities**

W-259 QUESTIONS & ANSWERS

Question #2

- **What activities/waste remain in the canyon?**
 - ▶ **Equipment storage**
 - ▶ **Residual sludge/liquids in the tank system**
 - ▶ **PWR fuel storage**
 - ▶ **Minor treatment activities**

W-259 QUESTIONS & ANSWERS

Question #3

- **What will be the canyon's future mission?**
 - ▶ **PWR fuel storage**
 - ▶ **M-33 milestone activities**
 - ▶ **or possibly Decommissioning**

W-259 QUESTIONS & ANSWERS

Question #4

- **Can 2706-T and the rescoped project handle all the work scope of the original design?
"In other words, will the rescoped project get the "Best-Bang-For-The-Buck" "**
- ▶ **Yes**
- ▶ **Increased efficiency**
- ▶ **Better use of facilities**

W-259 QUESTIONS & ANSWERS

Question #5

- **Dependent on the canyon's future mission, will spending a little bit more now be wiser and take care of the canyon issues that may be left unresolved by the rescoped project?**
 - ▶ **No**
 - ▶ **Cost does not warrant upgrade**

W-259 QUESTIONS & ANSWERS

Question #6

- **Were the overall long-term cost/needs of T Plant considered when project W-259 was rescopeed?**
 - ▶ **ABSOLUTELY**
 - ▶ **Canyon work is extremely inefficient**
 - ▶ **Rescope is more cost effective**
 - ▶ **No funding for canyon decon in FY'98**

W-259 QUESTIONS & ANSWERS

Question #7

- **Budget on the rescope Project W-259**
An example given: Has the plant considered the cost of a new tank design vs. acquiring a commercial tank?
 - ▶ **Yes**
 - ▶ **All aspects were evaluated**
 - ▶ **Most cost effective path chosen**

W-259 QUESTIONS & ANSWERS

Question #8

- **What will be the operational cost of maintaining the canyon and of maintaining 2706-T once project W-259 is complete? In other words, are we going to see any significant changes in cost?**
 - ▶ **Not until fuel is removed**
 - ▶ **Maintenance costs will shift slightly from canyon to 2706-T**

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Attachment 7

DST Presentation; Integrity Assessments

DOUBLE-SHELL TANK WASTE SYSTEM INTEGRITY ASSESSMENT MEETING AGENDA

March 1
~~FEBRUARY 20, 1996~~

Status of all DST integrity assessment activities

Status of the ultrasonic equipment for DST examinations

Tank selection criteria for UT examination

Funding:

- **DOE-HQ tank structural integrity panel**
- **DST waste systems integrity assessments**

Status of the Transfer Facility Compliance Plan

Funding and milestones

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DOUBLE-SHELL TANK WASTE SYSTEM INTEGRITY ASSESSMENT

PROGRAM OVERVIEW

The Integrity Assessment Program:

- **Evaluates the design adequacy (including corrosion protection) and current condition of waste systems**
- **Obtains an independent PE review of the completed assessment (the tank structural integrity panel completed in-process reviews and provided written guidance to carry the program to completion)**

The program's estimated completion date is 1999

STATUS OF DST INTEGRITY ASSESSMENT ACTIVITIES

Completed activities:

- **242-A Evaporator Assessment Report**
- **Visual examination of all 28 DSTs**
- **29 pit examinations**
- **14 transfer line leak tests**
- **244U DCRT Assessment Report**
- **DST design evaluation, near completion**
- **The tank structural integrity panel review and comment on our tank examination plans**

DST WASTE SYSTEM ASSESSMENT ACTIVITIES TENTATIVE SCHEDULE

FY 1996

- AW103 Ultrasonic Examination¹, (depending on equipment availability)
- 244A Double Contained Receiver Tank, July
- 241-S-304 Catch Tank, August
- Eight Transfer Line Leak Tests²

¹ Equipment for the ultrasonic examination of the DST steel liners is in development. Six representative tanks are to be examined by September 1999. After the first tank is examined, the remaining tanks to be examined will be selected based on the tank selection criteria, WHC-SD-WM-ER-529, and the results of the inspection of the first tank, AW103.

² Tests conducted during routine operation will be documented

DST WASTE SYSTEM ASSESSMENT ACTIVITIES TENTATIVE SCHEDULE (cont)

FY 1997

- Tank Ultrasonic Examination (number examined depends on equipment)
- 244BX Double Contained Receiver Tank³
- A-350 Lift Station
- 241-U-301 Catch Tank³
- 241-ER-311 Catch Tank
- 241-AX-152 Catch Tank
- Finish Pits and Pit Equipment⁴
- Eight Transfer Line Leak Tests

³ If ultrasonic inspection of Tank AW103 is performed in 1997, these other facilities will be moved from a 1997 assessment to a 1996 assessment to keep each year of activity at a manageable level.

⁴ Pits that are open for maintenance will be examined.

DST WASTE SYSTEM ASSESSMENT ACTIVITIES TENTATIVE SCHEDULE (cont)

FY 1998

- **Tank Ultrasonic Examination (number examined depends on equipment)**
- **244S Double Contained Receiver Tank**
- **242A Evaporator (second assessment)**
- **204AR Waste Unloading Facility**
- **244CR**
- **241-TX-302C Catch Tank**
- **241-AZ-151 Catch Tank**

DST WASTE SYSTEM ASSESSMENT ACTIVITIES TENTATIVE SCHEDULE (cont)

FY 1999

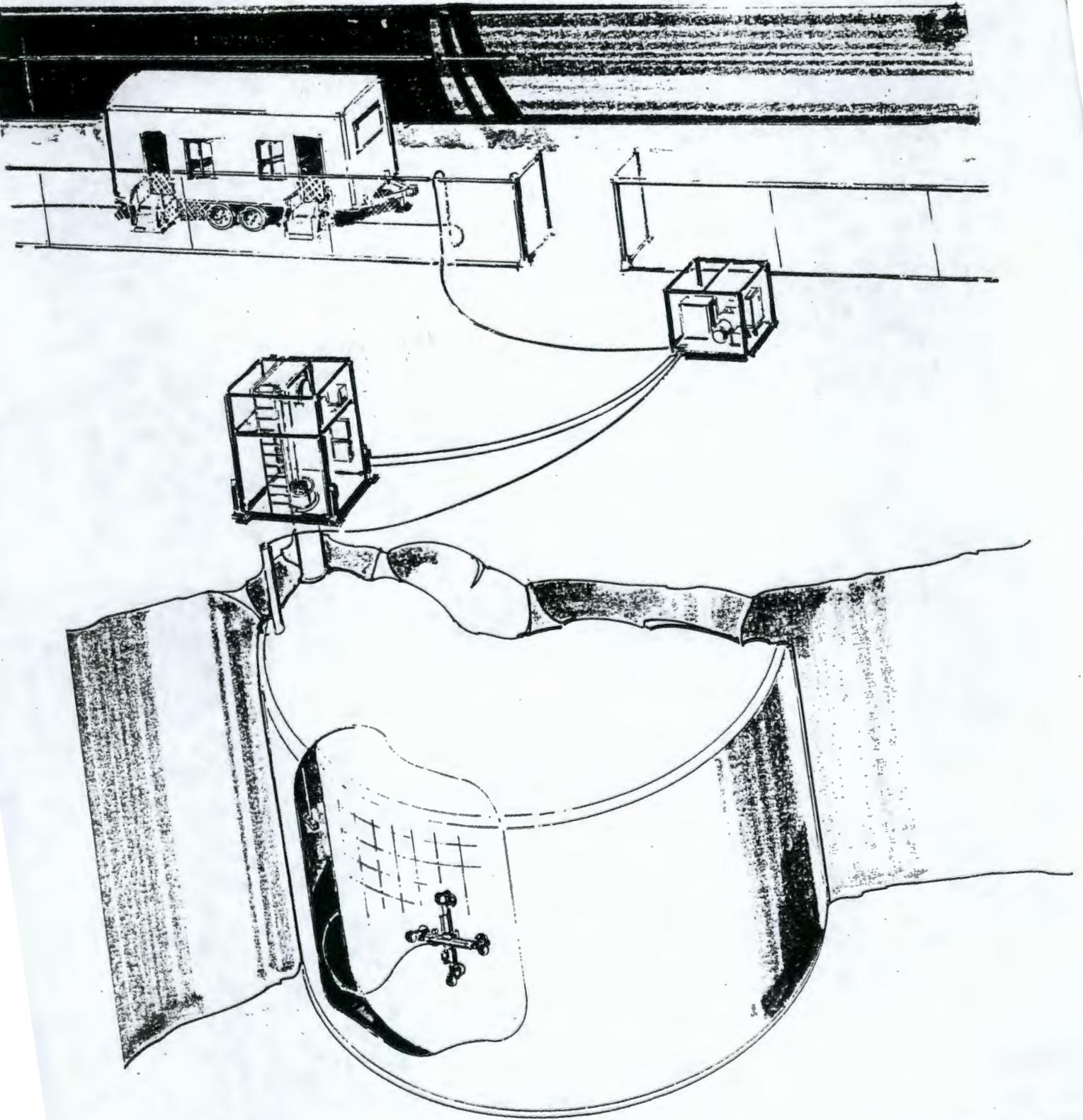
- **Tank Ultrasonic Examination (number examined depends on equipment)**
- **244TX Double Contained Receiver Tank**
- **241-UX-302 Catch Tank**
- **241-A-302A Catch Tank**
- **241-EW-151 Catch Tank**

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STATUS OF DST ULTRASONIC EXAMINATION EQUIPMENT

- **Equipment Selection - Raytheon and Savannah River Designs**
 - **Raytheon (DSTI) equipment delivered in September 1995, design modifications needed for reliable field use**
 - **Savannah River Design - Magnetic wheeled crawler, straight beam ultrasonic (detect wall thinning/pitting)**
- **Evaluating the pros and cons of the equipment**

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REDZONE
ROBOTICS, INC.

Double Shell Tank
Inspection System

CAUTION

Magnetic Wheeled Crawler for Ultrasonic Examinations

UT Calibration Block

UT Transducer

Camera and Lights

9613426-2076



TANK SELECTION CRITERIA

- **Age, temperature, corrosion inhibitor levels, deviation from typical tank waste, steady waste level, tank steel, other chemical species, and waste type**
 - **WHC-SD-WM-ER-259, provides directions for selecting representative tanks**
- **Begin examinations with tank AW103**
- **Select next tank after the first examination**

FUNDING AND MILESTONES

Integrity Assessments

- **First, complete the tank integrity assessment planning basis**
- **Then, select milestones from scheduled activities**

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Attachment 8

DST Presentation; Transfer Facility Compliance Plan

TWRS TRANSFER FACILITY
COMPLIANCE PLAN

Current revision issued in June 1994 to satisfy Tri-Party Agreement Milestone M-32-04-T04

Described the overall compliance status of the TWRS Double-Shell Tank (DST) waste transfer system

Identified projects and upgrades planned (1994) to bring non-compliant portions of DST waste transfer system into compliance

TWRS TRANSFER FACILITY
COMPLIANCE PLAN
(7/94 to Present)

Direction and scope of several projects has changed significantly since 1994

Project W-028 for addition of new compliant lines from B-Plant to TWRS was canceled due to revised B-Plant shutdown strategies and identified waste transfer alternatives

Project W-314 for upgrade of major portion of DST waste transfer system was re-aligned

TWRS TRANSFER FACILITY
COMPLIANCE PLAN
(Future Revision)

Revise TWRS Transfer Facility Compliance Plan by July 31, 1996 to include:

Update waste transfer system compliance status

Current status of system replacement and upgrade projects

Addition of DST Waste Transfer System Integrity Assessment interim status compliance activities

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Attachment 9

Tri-Party Agreement M-32-00

**Interim Status Dangerous Waste Tank Systems Hanford Federal
Facility Agreement and Consent Order Milestone
M-32**

M-32-00 Complete Identified Dangerous Waste Tank Sept. 99
Corrective Actions.

Completion of interim milestone tasks may identify the need for additional actions or interim milestones in the future. The reports and deficiency correction schedules prepared to satisfy current milestones will be used to identify any appropriate new interim milestones. Any new interim milestones will subsequently be established via the change process in Section 12 of the Action Plan.

Tank integrity assessments will not be required for terminal cleanout of the Plutonium-Uranium Extraction Plant, except for Tanks F18, U3, and U4. Integrity assessments for Tanks F18, U3, and U4 have been completed.

M-32-01 Complete Plutonium Finishing Plant (PFP) Tank Dec. 94
Interim Status Actions.

Stabilization activities at the Plutonium Finishing Plant (PFP), dependent on evaluation of alternatives under the National Environmental Policy Act, will be limited to a liquid waste generation of 300,000 gallons or less to the 241-Z tank system. The waste is temporarily stored in the 241-Z Tank System prior to transfer to the Double-Shell Tank Farms. Following any such stabilization activity, the PFP will not initiate any additional mission(s), except as described below, that results in the discharge of waste to the 241-Z tanks prior to completion of tank system upgrades necessary for compliance with state and federal dangerous waste regulations.

Glove-box scale, laboratory, plant maintenance, and miscellaneous support activities necessary for safe, secure storage of materials and protection of personnel and the environment will continue. With exception of the stabilization activities, discharge to 241-Z will be limited to 50,000 gallons per year until compliance is achieved or terminal cleanout is completed. Any terminal cleanout discharge requirements in excess of 50,000 gallons per year will be reviewed and approved by the three parties prior to implementation.

M-32-01-T01	Complete and submit integrity assessment report for PFP interim status tank system. Provide a schedule to address any deficiencies described in the report related to tank system compliance (Deficiencies not addressed in this schedule will be addressed in the compliance strategy of target action M-32-01-T02).	Oct. 93
M-32-01-T02	Submit proposed compliance strategy for remaining dangerous waste tank system issues.	June 94
M-32-01-T03	Complete construction of piping upgrades between 234-5Z, 236-Z and 241-Z Tank System (Project C-031H).	Dec. 94
M-32-02	Complete 219-S Tank Interim Status Actions.	Sept. 97
M-32-02-T01	Provide notification of completion of Definitive Design for Project W-178 - Construction of Interim Status Tank System Upgrades for 219-S Tank System.	Jan. 96
M-32-02-T02	Upgrade existing transfer lines to meet secondary containment requirements.	Sept. 97
M-32-03	Complete T Plant Tank Actions.	Sept. 99
M-32-03-T01	Implement periodic visual inspection and static leak test program for 2706-T and 211-T tanks.	Oct. 93
M-32-03-T02	Complete Conceptual Design Report (Project W-259) for T Plant tank system upgrades.	Apr. 94
M-32-03-T03	Submit schedule for completion of T Plant tank system upgrades (Project W-259).	June 94
M-32-03-T04	Complete modification of 2706-T Staging Pad to eliminate accumulation of precipitation.	June 94
M-32-03-T05	Install level indication device for 211-T tank.	June 94
M-32-03-T06	Complete scheduled upgrades to T Plant tank system (Project W-259).	Sept. 99
M-32-04	Complete Double-Shell Tank Interim Status Tank Actions.	June 94
M-32-04-T01	Submit design standards review for one tank farm.	Sept. 93
M-32-04-T02	Prepare and submit report documenting non-destructive examination equipment development and implementation plans.	Sept. 93
M-32-04-T03	Complete all DST visual examination and prepare and submit reports.	Sept. 93
M-32-04-T04	Complete and submit the Transfer Facility Compliance Plan.	June 94
M-32-04-T05	Submit to Ecology a final plan and schedule for completion of the Double-Shell Tank integrity assessments.	June 94

M-32-05	Complete 242-A Evaporator Interim Status Tank Actions.	1 Month after hot restart
M-32-05-T01	Complete and submit integrity assessment report for the 242-A Evaporator interim status tank system. Provide a schedule to address any deficiencies described in the report related to tank system compliance.	1 Month after hot restart
M-32-06	Complete 244-AR Vault Interim Status Tank Actions.	Prior to restart
M-32-06-T01	Complete and submit integrity assessment report and identified upgrades for 244-AR Vault interim status tank system (except that DST transfer lines that penetrate the 244-AR Vault will continue to be used). Provide a schedule to address any deficiencies described in the report related to tank system compliance.	Prior to restart
M-32-07	Complete B Plant Interim Status Tank Actions.	June 96
M-32-07-T01	Identify additional dangerous waste tanks and ancillary equipment that will be routinely used during cleanout and stabilization activities. Submit schedule to perform integrity assessments on identified additional dangerous waste tanks and ancillary equipment. B Plant will not accept any waste for treatment, except waste generated as a result of on-going B Plant/WESF operations, without completion of tank integrity assessments and completion of upgrades necessary for compliance with WAC 173-303-640 or an applicable permit on systems used for the treatment, storage or disposal of the waste.	Apr. 94
M-32-07-T02	Complete and submit integrity assessment plan for Tanks 25-1, 25-2, 23-1, concentrator E-23-3, and identified ancillary equipment.	Oct. 94
M-32-07-T03	Complete and submit integrity assessment report for Tanks 25-1, 25-2, 23-1, concentrator E-23-3, and ancillary equipment as identified in the integrity assessment plan. Provide a schedule to address any deficiencies described in the report related to tank system compliance. The integrity assessment report of the low level waste concentrator, E-23-3, and the concentrated waste receiver, TK-23-1, will be completed only if their operation is planned beyond December 1995. The determination to include these two tanks in the integrity assessment report will be made by October 1994.	Dec. 95

M-32-07-T04	<p>Consolidate organic solvent waste into two tanks and perform external visual inspection and structural integrity test of these tanks and associated tank supports.</p> <p>Continue daily monitoring of overflow/leak detection devices (e.g., tank level detection, high level alarms) until organic solvent waste is removed from the B Plant canyon. No additional visual inspections, integrity tests, or secondary containment upgrades will be performed unless required by the new interim milestone proposed by target action M-32-07-T05.</p>	Dec. 95
M-32-07-T05	Perform operations to separate radionuclides from the organic solvent waste to support disposition of the waste to an offsite disposal facility, or compliant interim storage.	June 96
M-32-07-T06	<p>Provide a plan and schedule for transferring the aqueous waste, generated during operations to separate radionuclides from the organic solvent waste, from the B Plant canyon to the Tank Farms double shell tanks.</p> <p>After completion of target action M-32-07-T06, continue daily monitoring of overflow/leak detection devices (e.g., tank level detection, high level alarms) until aqueous waste is removed from B Plant and transferred to the Tank Farms double shell tanks for long term storage. No additional visual inspections, integrity tests, integrity assessments, or secondary containment upgrades will be performed in FY 1996.</p>	Feb. 96
M-32-08	Complete Grout Interim Status Tank Actions.	Prior to processing DST waste
M-32-08-T01	Complete and submit integrity assessment report for Grout interim status tank system. Complete activities required to correct any deficiencies described in the report related to tank system compliance.	Prior to processing DST waste

Interim Status Dangerous Waste Tank Systems
Hanford Federal Facility Agreement and Consent Order
Milestone M-32-00

Project Managers Meeting Minutes
February 26, 1996 and March 1, 1996

NOTE: This supersedes previous issued information due to incomplete presentation in Attachment 5. May 17, 1996

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