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

00-ORL-011

OCT 28 1999

Mr. Michael A. Wilson, Program Manager
Nuclear Waste Programs
State of Washington
Department of Ecology
P. O. Box 47600
Olympia, Washington 98504



Dear Mr. Wilson:

TRANSMITTAL OF THE YEAR END QUARTERLY REPORT IN SUPPORT OF THE SINGLE-SHELL TANK (SST) INTERIM STABILIZATION CONSENT DECREE

The attachments have been submitted in compliance with the Quarterly Reporting (Attachment 1) and the Year End Reporting (Attachment 2) requirements established in the SST Interim Stabilization Consent, No. CT-99-5076-EFS, filed with the U.S. District Court on September 30, 1999. The attachments provide documentation that all Fiscal Year 1999 Consent Decree commitments have been met and that the program is on schedule with the future Consent Decree commitments.

Also reflected in these reports is an updated projection of the pumpable liquids remaining, which will be used to assess future compliance with Consent Decree commitments. This projection has changed the pumpable liquids volume from 6.2 million gallons to 4.0 million gallons. The revised volume estimates have previously been reviewed with the Washington State Department of Ecology staff.

Attachment 3 provides the FY99 Year End Status for the working schedule.

If you have any questions concerning this deliverable, please contact me on (509) 376-6888 or Dana Bryson, Director, Operations Program Division, on (509) 372-0947.

Sincerely,

George H. Sanders, Program Manager
Office of Regulatory Liaison

ORL:HRM

Attachments

cc: See page 2

Mr. Michael A. Wilson
00-ORL-011

-2-

OCT 28 1999

cc w/attachs:

J. R. Wilkinson, CTUIR

S. Dahl, Ecology

C. Ruud, Ecology

R. F. Stanley, Ecology

A. Valero, Ecology

D. R. Sherwood, EPA

J. S. Hertzell, FDH

M. B. Reeves, HAB

P. Sobotta, NPT

M. L. Blazek, OOE

R. Jim, YN

TPA Administrative Record, FDH

ATTACHMENT 1

Consent Decree Reporting Data

CONSENT DECREE REPORTING DATA

ITEM 1: ACCOMPLISHMENTS AND ISSUES

FOURTH QUARTER ACCOMPLISHMENTS (FY 1999)

Completed the 244-U Bypass. This work was not included in the project plan but was evaluated and it was determined that the by-pass would eliminate a number of problems associated with using the 244-U DCRT. It is expected to improve both operating efficiency and pumping rates.

Completed the U farm infrastructure upgrade to support pumping of U-103. There had been no pumping activities in this tank farm for many years, so much of the infrastructure (electrical, water, instrumentation) needed to be upgraded or repaired. The infrastructure work to support other tank pumping will be minimal.

Scope expanded to include dilution systems for U Farm. The Project Plan was prepared on the basis that dilution systems would not be required for U Farm tanks. Sample analysis performed since then has indicated that dilution is required for all U Farm tanks to reduce the potential for line plugging.

Completed the preparations, and initiated pumping in U-103. This includes installation control system, two flammable gas monitors, design, the fabrication and installation of a new dilution system, installation of the pump assembly, jumpers and leak detectors in a number of valve pits, hydro-testing transfer lines, and connecting the controls systems with all other interconnected tanks.

Performed a second cross site transfer. The first cross site transfer was completed last spring. All the available space in DST SY-102 had been used and the second cross site transfer in August was required to allow continuation of the Interim Stabilization program.

Performed a complete re-evaluation of the volumes of pumpable SST wastes. The basis for the original volume estimates was reviewed in detail. The data updated to reflect information currently available from core sampling activities and was restructured to better reflect the jet pumping activities. This refinement resulted in reducing the total estimated pumpable volume by 2.2 million gallons to 4 million gallons.

Pumped eight SSTs. Eight SSTs were pumped during the quarter transferring 105 K gallons of waste in to SY-102, including 12 K gallons of organic waste from U-103.

Completion of a "Reliability, Accessibility, Maintainability" analysis. This is a study of equipment failure with recommendations to improve performance.

Initiated preparations for U-105 startup. The initial fabrication and procurement activities are well underway, and some field work has been started.

SIX MONTH LOOK AHEAD

Initiate pumping in three additional U Farm tanks, U-105, U-102, and U-109.

Continue pumping the tanks in S/SX Farm and U Farm. SX-104, T-104 and T-110 are currently being evaluated to determine whether the Interim Stabilization criteria have been met.

Complete stabilization on four tanks (S-106, SX-104, T-104, T-110)

ISSUES AND RECOVERY

1. The total operating efficiency (TOE) has been lower than anticipated. It has been impacted by problems with the DCRTs, and a variety of problems with pumping equipment (FGMs, pump/jumper assembly, dilution system, etc.).

The West Area DCRTs have been by-passed.

Testing and quality assurance of fabrications are being tightened.

Design modifications are being implemented.

Alternative equipment is being evaluated.

Changes to Authorization Basis requirements are being evaluated.

A critical material list has been completed and an inventory is currently being established.

Operator training is being upgraded to address specific issues.

2. Corrective maintenance exceeded our estimates by about 40%.

Critical components are being reviewed for improvements or replacement with more reliable parts.

Additional staff is being added.

A team is being organized to focus on the overall pumping performance, including corrective maintenance.

The assignment of maintenance support personnel to shift operations is being evaluated.

3. Inflow rates for some tanks has been less than predicted. This has limited our total volumes in FY 1999, and may impact future volume performance.

Conditions are being documented to use in forecasts and to update the models that predict pumping rates.

4. The chemical evaluation of U Farm waste indicates that some precipitation may occur during waste transfers to the DCRT even if optimal dilution is maintained.

Transfer lines are being flushed weekly to minimize the risk of plugging the line.

5. The Authorization Basis (AB) requires shutdown of all interconnected tanks under a variety of circumstances that may have a significant impact on operating efficiencies.

The assumptions of the AB are being reviewed to determine what actions can be taken to maintain the safety envelope but mitigate the impact on operating efficiencies.

ITEM 2: SCHEDULE COMPLIANCE

FY 1999 CONSENT DECREE MILESTONES

All of the Consent Decree Milestones for FY 1999 have been met:

1. Initiate pumping of S-102, S-103, and S-106 by 7/30/99. Pumping start criteria was met for each tank on the dates listed below:

S-102	3/25/99
S-103	6/11/99
S-106	4/25/99
2. Reduce the pumpable liquid remaining to 93% of the original volume by 9/30/99. The pumpable liquid remaining has been reduced to 88% of the estimated original 4 million gallons.

CONSENT DECREE SCHEDULE STATUS

The Interim Stabilization Project has met or exceeded all of the schedule requirements of the Consent Decree. The Project is currently on schedule, or ahead of schedule to meet each of the future milestones that is specified in the Consent Decree.

ITEM 3: SCHEDULE RECOVERY ACTIONS

Not Applicable. LMHC is currently on or ahead of the schedule requirement identified in the Consent Decree. No specific recovery action is needed other than addressing the emerging issues identified in Item 1.

ITEM 4: BUDGET/COST STATUS

The FY 1999 budget was \$28.6 million, and the FY 1999 costs totaled \$31.7 million for a negative variance of 15%. Several of the major contributors to the overrun were the infrastructure and tank starts in S Farm, the costs of the initial cross site transfer, the U Farm upgrades, and the extended pumping of the two T Farm Tanks. It is expected that future costs will be in line with Project Plan estimates.

The budget for FY 2000 is \$35.0 million. This is consistent with the Project Plan, and with the anticipated scope of work for FY 2000.

ITEM 5: DOE DIRECTIVES

No directives were received from ORP that directly impacted the operation of the Interim Stabilization Project.

ATTACHMENT 2

Tank Waste Volumes

VOLUME REPORT

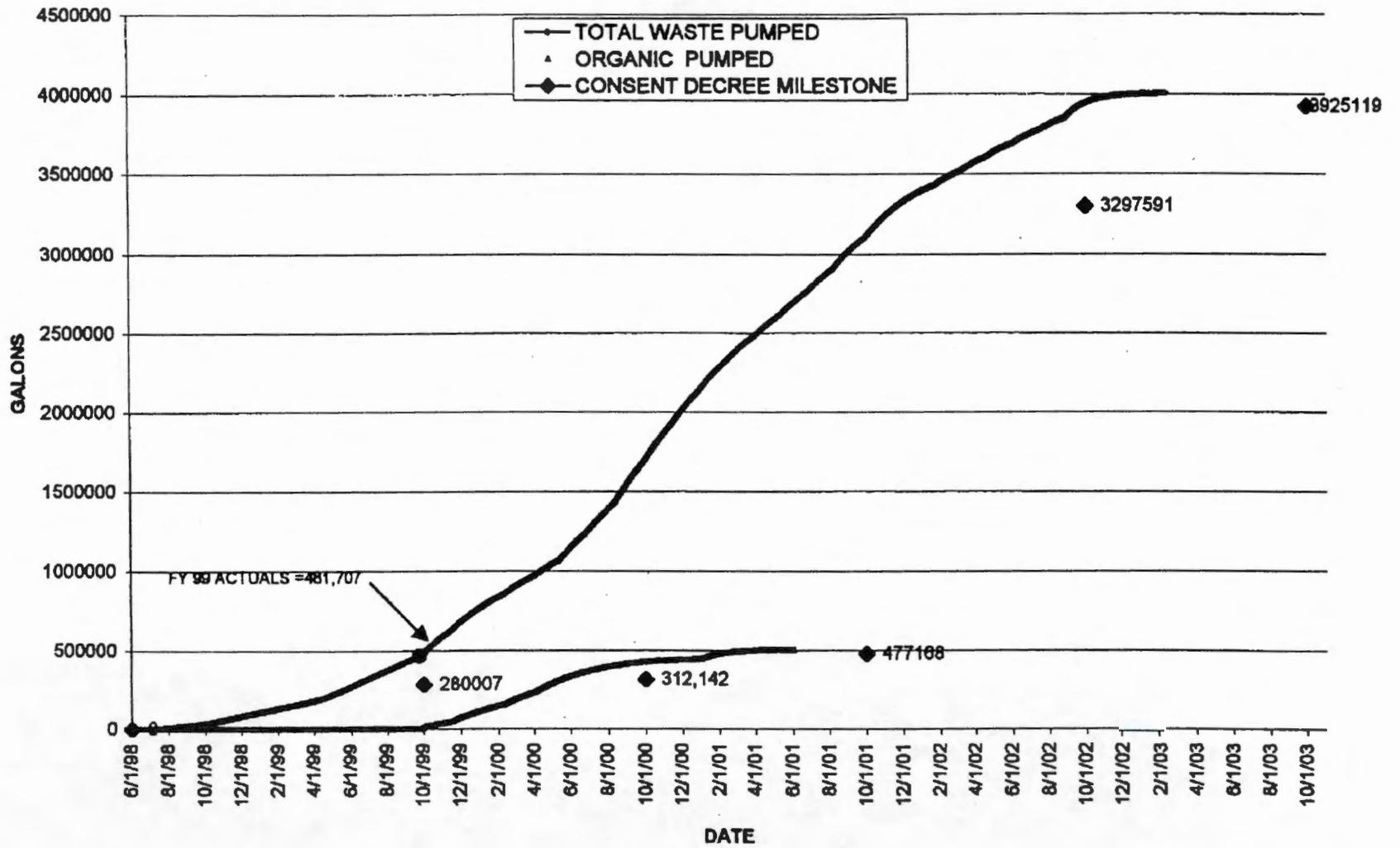
The estimate of the initial waste volume is now 4.0 million gallons including 0.5 million gallons of organic waste. This reduction from the original estimate 6.2 million gallons is a result of a more detailed evaluation of historical pumping data and waste categories (i.e. supernate versus interstitial liquids), and updates to the best basis estimates of tank contents. The basis for this volume is documented in HNF-2978, Revision 1 referenced in the letter above.

The following volumes of SST waste have been transferred into DSTs:

FY 1999, fourth quarter	105 K gallons
FY 1999, total	430 K gallons
Project (6/1/98-9/30/99)	482 K gallons

The estimated remaining pumpable waste volume in the SSTs is 3.5 million gallons.

WASTE TRANSFERS



ATTACHMENT 3

FY 1999 Year End Status

Activity Description	Current Start	Current Finish	FY99												FY00			
			A	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	N
	01OCT98A	30SEP99A	01OCT98A															30SEP99A
Maintenance and Operation T-104	01OCT98A	30SEP99A	01OCT98A															30SEP99A
Equipment Removal T-104	28JUL99A	20DEC99											20DEC99	28JUL99A				
	01OCT98A	30SEP99A	01OCT98A															30SEP99A
Maintenance and Operation T-110	01OCT98A	30SEP99A	01OCT98A															30SEP99A
Compatibility Assessments T-110	17MAY99A	28MAY99A											17MAY99A	28MAY99A				
Tests of Transfer Lines T-110	03MAY99A	19MAY99A											03MAY99A	19MAY99A				
Equipment Removal T-110	13AUG99A	20JAN00													20JAN00	13AUG99A		
	01OCT98A	04OCT99	01OCT98A															04OCT99
Maintenance and Operation SX-104	01OCT98A	30SEP99A	01OCT98A															30SEP99A
Compatibility Assessments SX-104	25JAN99A	19FEB99A											25JAN99A	19FEB99A				
Tests of Transfer Lines SX-104	21JUN99A	05OCT99													05OCT99	21JUN99A		

 Early Bar
 Progress Bar
 Critical Activity

TC0A

SST IS Rev. 3 Working Schedule
FY99 Year End Status

Sheet 1 of 11

Prepared by LaVonda Kallogg 376-2101

Date	Revision	Checked	Approved

Activity Description	Current Start	Current Finish	FY98		FY99										FY00				
			A	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	N	
Plates S-103	01OCT98A	01APR99A			01OCT98A													01APR99A	
er S-103	01OCT98A	14APR99A			01OCT98A													14APR99A	
Assessment S-103	26MAR99A	15APR99A																26MAR99A	15APR99A
	15APR99A	04OCT99																15APR99A	04OCT99
Maintenance and Operation S-103	15APR99A	30SEP99A																15APR99A	30SEP99A
9/99																			
Availability Assessment S-103	08FEB99A	06MAY99A																08FEB99A	06MAY99A
Pit Jumpers S-103	01OCT98A	20MAY99A			01OCT98A														20MAY99A
Cr Lines for SA-219	01OCT98A	20NOV98A			01OCT98A														20NOV98A
S-103	04JAN99A	15APR99A																04JAN99A	15APR99A
Test PIC Sk d S-103	01OCT98A	20MAY99A			01OCT98A														20MAY99A
er Plates S-103	01OCT98A	23APR99A			01OCT98A														23APR99A
er S-103	01OCT98A	21MAY99A			01OCT98A														21MAY99A
Assessment S-103	23APR99A	20MAY99A																23APR99A	20MAY99A
	04JUN99A	04OCT99																04JUN99A	04OCT99
Maintenance and Operation S-103	04JUN99A	30SEP99A																04JUN99A	30SEP99A

Activity Description	Current Start	Current Finish	FY98		FY99												FY00		
			A	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	N	
Incompatibility Assessment U-109	01OCT99	11NOV99																11NOV99	01OCT99
Over P.C. Jumpers U-109	06JUL99A	20OCT99																20OCT99	06JUL99A
Transfer Lines for U-109	22MAR99A	25OCT99																	
Transfer U-109	22MAR99A	24SEP99A																	24SEP99A
SM U-109	01MAR99A	05OCT99																	05OCT99
& Test PIC Shd U-109	01MAR99A	14OCT99																	14OCT99
Over Plates U-109	01MAR99A	19AUG99A																	19AUG99A
Under U-109	12FEB99A	28OCT99																	
	01MAR99A																		
	17SEP99A	14OCT99																	14OCT99
Implement NOCs A-101	23MAR99A	25OCT99																	
Train	15MAR99A	25MAR99A																	
Implement NOCs SX-105	06JUL99A	03NOV99																	
Software Screen SX-105	10MAR99A	22OCT99																	

Activity Description	Current Start	Current Finish	FY98		FY99												FY00		
			A	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	N	
Compatibility Assessment SX-105	01OCT99	07APR00																07APR00	01OCT99
Valve Pit Jumpers SX-105	01OCT99	28OCT99																28OCT99	01OCT99
Transfer Lines for SX-105	01OCT99	22NOV99																22NOV99	01OCT99
Dilution System SX-105	01OCT99	21OCT99																21OCT99	01OCT99
FBM SX-105	01OCT99	18NOV99																18NOV99	01OCT99
Oil & Test PIC Skid SX-105	01OCT99	10DEC99																10DEC99	01OCT99
Cover Pallets SX-105	17MAR99A	28OCT99																28OCT99	17MAR99A
Jumpers SX-105	10MAR99A	20DEC99																20DEC99	10MAR99A
A-Farm	17SEP99A	14OCT99																17SEP99A	14OCT99
Vegetation Implement NOCs BY 105	12APR99A	18DEC99																18DEC99	12APR99A
Implement Cutting Tool & Method BY 105	01OCT98A	30NOV99																01OCT98A	30NOV99
Saltwell Screen S-111	23OCT98A	25OCT98A																23OCT98A	25OCT98A
Saltwell Screen S-109	28OCT98A	27OCT98A																28OCT98A	27OCT98A

Activity Description	Current Start	Current Finish	FY99												FY00				
			A	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	N	
	18MAR99A																		
	15APR99A																		
	07OCT98A																		
for SX Farm Pumping	01OCT98A	25JUN99A																	
ature Upgrades for SX-Farm	01OCT98A	10MAR00																	
ature Upgrades for U-Farm	01FEB99A	07OCT99																	
Y-102 to East Area DSTs	01OCT98A	16SEP99A																	
Waste Stream Dilution Systems	01OCT98A	18NOV99																	
ah Portable Exhausters	01OCT98A	06JAN00																	
ire Flammable Gas Monitors (FGMs)	01OCT98A	04OCT99																	
and Fabricate PIC Skids	02NOV98A	10SEP99A																	
g Crews	01OCT98A	30SEP99A																	
ice and Operability Checks	01OCT98A	30SEP99A																	
ts of DCRIs to DSTs	01OCT98A	30SEP99A																	

Activity ID	Activity Description	Current Start	Current Finish	FY98		FY99										FY00			
				A	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	N
- 230 060	Emergency Pumping Plans for New Leakers	01OCT98A	28OCT99	01OCT98A													28OCT99		
- 230 075	Prepare General NOC for Interim Stabilization	01OCT98A	27APR99A	01OCT98A	27APR99A														
- 230 098	Prepare AB Enhancements to Support I/S	01OCT98A	20AUG99A	01OCT98A	20AUG99A														
- 230 099	Review Appr. AB Enhancements to Support I/S	02AUG99A	29SEP99A										02AUG99A		29SEP99A				
- 230 071	Provide Engineering Studies to Support I/S	01OCT98A	02FEB00	01OCT98A															
- 230 067	Provide Interim Stabilization Personnel Training	01OCT98A	30SEP99A	01OCT98A													30SEP99A		
- 230 070	Provide I/S Program Mgr. & Tech Functions	01OCT98A	31DEC98	01OCT98A															