

**Hanford Federal Facility Agreement and Consent Order  
(Tri-Party Agreement)**

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**Proposed Tri-Party Agreement Modifications**

related to:

**Hanford Site High-Level Radioactive**

**Waste Tank Interim Stabilization Program**

**and**

**Interim Stabilization Consent Decree**

Public Comment Period  
March 3, 1999 to May 3, 1999



*Hanford Federal Facility Agreement and Consent Order  
(Tri-Party Agreement)*

Proposed Tri-Party Agreement Modifications

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## **Proposed Changes to the Hanford Site High-Level Radioactive Waste Tank Interim Stabilization Program**

### **Request for Public Comment**

Your review and comment is requested on proposed changes to the U.S. Department of Energy (DOE) High-Level Radioactive Waste Tank Interim Stabilization Program. The proposed changes remove the single-shell-tank interim-stabilization program from the scope of the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement or TPA) and replace it with schedules and associated agreements to be filed as a court enforceable "consent decree." The proposed agreement will accelerate the removal of remaining pumpable liquids from DOE's single-shell high-level radioactive waste storage tanks and ensure that priority is given to removing pumpable liquids which pose the greatest environmental risk first. Under the proposed changes, a court enforceable legal document called a "consent decree" containing new work schedules and associated agreements will take the place of existing work schedules in the TPA. Outdated TPA work schedules will be deleted. Following consideration of public comment the consent decree will be submitted to a federal judge for approval and filing with the court. The court-ordered consent decree will then replace the language in the TPA pertaining to tank interim stabilization.

The Tri-Parties are seeking public comment on these proposed changes from March 3 through May 3, 1999. All public comments will be considered and responded to before final decisions are made. Because these proposed changes are consistent with DOE's current project schedule and expected funding, public meetings are not currently scheduled. Should substantial public interest indicate a need for meetings, the Tri-Parties will respond accordingly.

If you would like to review the proposed modifications and the consent decree, please visit the public information repository nearest you or review the documents at the Tri-Party Agreement homepage: <http://www.hanford.gov/tpa/tpahome.htm>.

To request a copy of the proposed modifications and consent decree, or to submit comments either written or electronically, contact:

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If you require additional information, call the Hanford Cleanup toll-free line at (800) 321-2008.

## **Background**

In 1978, DOE initiated interim-stabilization activities at its 149 single-shell tanks located on the Hanford Site Central Plateau in the 200 Area. The purpose of interim stabilization is to remove remaining pumpable liquids in single-shell tanks to reduce the risk of leaks. During interim stabilization, single-shell tank liquids are pumped and transferred to double-shell tanks, which have no history of leakage. To date, 119 of the 149 single-shell tanks have been interim stabilized. One single-shell tank (C-106) is planned as a retrieval demonstration and will not be interim stabilized. Twenty-nine single-shell tanks remain to be interim stabilized and are the subject of these proposed changes.

Sixty-seven (67) of DOE's single-shell tanks have or are suspected to have leaked more than one million gallons of radioactive waste to area soils and groundwater. Of these, 65 have already been interim stabilized or are in process.

Single-shell-tank interim stabilization was included in the Tri-Party Agreement in 1989, and a significant amount of progress has been made in recent years. However, progress has been far from that expected by the agencies. A number of issues have contributed to increasing dissatisfaction and recognition of the need to accelerate the program. These include slow progress in resolving safety issues such as the potential for the presence of flammable gas; the need for safety equipment upgrades; the need for improvements in project management practices; cuts to the interim stabilization budget, and increasing concern over documented groundwater contamination at 8 of DOE's 12 single-shell tank farms.

By mid-1997, it became apparent that the existing TPA schedule for completing interim stabilization of the remaining single-shell tanks would not be met, and that project delays would continue. Changes DOE proposed to near-term Interim Milestones M-41-22 (which required initiating interim stabilization of six additional single-shell tanks by September 30, 1997) and M-41-23 (which required initiating interim stabilization of eight single-shell tanks by March 31, 1998) were disapproved by Ecology in February and March 1998, respectively. On June 8, 1998, Governor Gary Locke and Washington State Attorney General Christine Gregoire notified DOE that Washington State intended to file suit against DOE for failing to meet Interim Milestones M-41-22 and M-41-23. Subsequent to this notice, DOE, Ecology, U. S. Department of Justice and Washington Attorney General's Office staff began discussing the potential for accelerating the program and for filing revised schedules as a consent decree in an attempt to avoid further delay.

## **Principal Issues**

Proposed milestone changes to the Tri-Party Agreement delete uncompleted interim stabilization milestones and targets. In an agreement among the Tri-Parties, a new and aggressive plan governing the pumping of high-level radioactive waste tanks has been developed as a consent decree to be filed with and enforceable by the courts.

One of the highest priorities in the new plan includes pumping tanks that contain complex organic wastes. Such wastes, if released to the environment, could mobilize radioisotopes, causing them to migrate faster through area soils to groundwater beneath the Hanford Site. Earlier pumping schedules focused on pumping tanks with the highest volume of liquid waste first. The new plan also changes the order in which the tanks will be pumped, shifting the near-term focus away from some tank farms and towards others. There are also emergency pumping plans in place to turn immediate attention to any tank should it begin to leak.

### New Strategy

Washington State and the U.S. Department of Energy have approved a draft consent decree that will establish court-enforceable, technically sound schedules for pumping liquid nuclear waste out of DOE's remaining 29 (unstabilized) single-shell tanks. The agreement comes eight months after the Governor and the state Attorney General threatened to sue DOE for failing to meet its commitment to stabilize the tanks. After negotiations became deadlocked, Secretary of Energy Bill Richardson met with Governor Locke and Attorney General Gregoire in October 1998 to reach agreement on legal provisions of the consent decree. Since then, a joint technical team representing Ecology, DOE, and DOE contractors have developed a schedule that will be included in the decree. In addition, changes are proposed to delete out of date single-shell-tank interim stabilization milestones from the Tri-Party Agreement.

Key elements of the proposed consent decree include:

- Pumping the tanks that pose the greatest environmental risk first, thus providing additional protection for the Columbia River and public health.
- Accelerating the schedule for pumping so that 98 percent of approximately 6.2 million gallons of remaining pumpable liquid is removed by September 30, 2003, with the final two percent scheduled to be removed by September 30, 2004.
- Increasing DOE funding to a level that will support successful execution of the new schedule for tank stabilization.

### Description of Proposed Consent Decree Schedules for the Completion of Single-Shell Tank Interim Stabilization

Tank Number	Description	
	Pumping to be Initiated by:	Projected Pumping Completion Date:
T-104	Already initiated	May 30, 1999
T-110	Already initiated	May 30, 1999
SX-104	Already initiated	December 30, 2000
SX-106	Already initiated	December 30, 2000
S-102	July 30, 1999	March 30, 2001
S-106	July 30, 1999	March 30, 2001

**Description of Proposed Consent Decree Schedules (Cont.)**

<b>Tank No.</b>	<b>Pumping to be initiated by:</b>	<b>Projected Pumping Completion Date:</b>
S-103	July 30, 1999	March 30, 2001
U-103	June 15, 2000	April 15, 2002
U-105	June 15, 2000	April 15, 2002
U-102	June 15, 2000	April 15, 2002
U-109	June 15, 2000	April 15, 2002
A-101	October 30, 2000	September 30, 2003
AX-101	October 30, 2000	September 30, 2003
SX-105	March 15, 2001	February 28, 2003
SX-103	March 15, 2001	February 28, 2003
SX-101	March 15, 2001	February 28, 2003
U-106	March 15, 2001	February 28, 2003
BY-106	July 15, 2001	June 30, 2003
BY-105	July 15, 2001	June 30, 2003
U-108	December 30, 2001	August 30, 2003
U-107	December 30, 2001	August 30, 2003
S-111	December 30, 2001	August 30, 2003
SX-102	December 30, 2001	August 30, 2003
U-111	November 30, 2002	September 30, 2003
S-109	November 30, 2002	September 30, 2003
S-112	November 30, 2002	September 30, 2003
S-101	November 30, 2002	September 30, 2003
S-107	November 30, 2002	September 30, 2003
<b>Other Consent Decree Commitments include the Following:</b>		
C-103	No later than December 30, 2000, DOE will determine whether the organic layer and pumpable liquids will be pumped from tank C-103 together or separately, and will establish a deadline for initiating pumping of this tank. The parties will incorporate the initiation deadline into this schedule as provided in Section VI of the decree.	
<b>Percentage of Pumpable Liquids Remaining to be Removed:</b>		
93% of Total Liquid	September 30, 1999	
38% of Organic Complexed Pumpable Liquids	September 30, 2000	
5% of Organic Complexed Pumpable Liquids	September 30, 2001	
18% of Total Liquid	September 30, 2002	
2% of Total Liquid	September 30, 2003	
<b>Completion of Interim Stabilization.</b> DOE will complete interim stabilization of all 29 remaining single shell tanks by September 30, 2004.		

## Description of Proposed Milestone Change to the Tri-Party Agreement

(The following Tri-Party Agreement milestones will be deleted following public comment and approval of the consent decree by the court)

Milestone Number	Due Date	Description
M-41-00	9/30/00	<p>Complete single-shell tank interim stabilization</p> <p>Complete interim stabilization activities for all single-shell tanks except 241-C-106 (to be retrieved in accordance with milestone M-45-03). Complete intrusion prevention for all single-shell tanks except 241-C-106.</p> <p>This is dependent upon the following assumptions:</p> <ol style="list-style-type: none"> <li>(1) Safety studies will be completed with the objective of allowing pumping in accordance with interim milestones.</li> <li>(2) Work commences in the tank farms on October 1, 1993, for interim stabilization preparations, as required by the milestone schedule. During the stand down in tank farms, schedules for the following interim milestones may be affected: M-41-01, M-41-02, M-41-10, M-41-15, and M-41-16. Every effort will be made to recover the original schedule as specified below.</li> </ol> <p>Interim milestones for the start of pumping and target milestones for completion for each group of tanks will be reviewed and affirmed annually with Ecology and EPA. Upon start of pumping, efforts to continue pumping will be continuously supported so that pumping is conducted as expeditiously as practical. If pumping is interrupted to a degree that jeopardizes the target milestone, the Unit (Project) managers shall meet in an effort to agree on a recovery plan. If such an agreement cannot be made at the Unit (Project) Manager level, a formal recovery plan will be prepared and submitted to Ecology and EPA for approval that supports the major milestone date of September 2000, if technically achievable.</p>
M-41-22	9/30/97	Start interim stabilization of six single-shell tanks.
M-41-23	3/31/98	Start interim stabilization of eight single-shell tanks.
M-41-24	9/30/98	Start interim stabilization of nine single-shell tanks.
M-41-25	3/31/99	Start interim stabilization of three single-shell tanks.
M-41-26	9/30/99	Start interim stabilization of two single-shell tanks.
M-41-27	9/30/00	Complete salt well pumping of single-shell tanks.
M-41-27-T03	9/30/98	Complete salt well pumping of five single-shell tanks.
M-41-27-T04	9/30/99	Complete salt well pumping of eight single-shell tanks.
M-41-27-T05	9/30/00	Complete salt well pumping of 16 single-shell tanks.
M-40-07	6/30/95	<p>Commence Operation of a Vapor Treatment System in Tank 241-C-103.</p> <p>Provide a report documenting Operational Test Procedure Results and commence permitted operation of a vapor treatment system for tank 241-C-103, unless otherwise agreed to by the parties following submittal of the Engineering Evaluation of Alternatives (EEA) for treatment of tank 241-C-103 vapor space. The EEA will document the need and options for treatment of potentially hazardous/toxic vapors being discharged from the tank 241-C-103 vapor space. All pertinent characterization data will be considered,</p>

		<p>including: meteorological, area, source, personnel monitoring, aqueous/organic layer analysis, vapor characterization, estimates of the vapor characterization after removal of the organic layer, and the schedule for this removal. Once selected, design procurement, and permitting will be initiated.</p> <p>Operation of this vapor treatment system is anticipated to provide relief from worker restrictions at Tank 241-C-103 in regard to noxious vapor emissions (provided characterization of other C Farm Tanks does not identify other potential sources of noxious vapors.)</p>
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## **Hanford Public Information Repository Locations**

### **Portland**

Portland State University  
 Branford Price Millar Library  
 Tri-Party Information Repository  
 651 SW Hall, 5<sup>th</sup> Floor  
 (503) 725-3690  
 Attn: Michael Bowman

### **Richland**

U.S. Department of Energy  
 Public Reading Room  
 Washington State University, Tri-Cities  
 Consolidated Information Center,  
 Room 101L  
 2770 University Drive  
 (509) 376-8583  
 Attn: Terri Traub

### **Seattle**

University of Washington  
 Suzzallo Library  
 Government Publications Room  
 (206) 543-4664  
 Attn: Eleanor Chase

### **Spokane**

Gonzaga University  
 Tri-Party Information Repository  
 Foley Center  
 East 502 Boone  
 (509) 323-3839  
 Attn: Connie Scarpelli

### **For more information, please contact:**

#### **George Sanders**

U.S. Department of Energy  
 P.O. Box 550 (A5-15)  
 Richland, WA 99352  
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#### **Roger Stanley**

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 P.O. Box 47600  
 Olympia, WA 98504-7600  
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**or call the Hanford Cleanup Toll-Free Line: (800)-321-2008**

Hanford Federal Facility Agreement and Consent Order  
Tentative Agreement on the  
Removal of Hanford High Level Waste Tank Interim Stabilization  
Requirements from the Scope of the  
Hanford Federal Facility Agreement and Consent Order



**TENTATIVE AGREEMENT ON  
THE REMOVAL OF HANFORD HIGH LEVEL WASTE TANK  
INTERIM STABILIZATION REQUIREMENTS FROM THE SCOPE OF THE  
HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER**

The Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement or TPA), as amended, includes requirements governing the removal of pumpable liquid waste (interim stabilization) from the U. S. Department of Energy's (DOE's) Single-Shell tanks (SSTs). These requirements are largely contained within the Tri-Party Agreement's Major milestone series M-41-00, and, in the case of SST C-103, at TPA interim milestone M-40-07.

Over this past year the Washington Department of Ecology (Ecology) and the DOE have worked with one another in an effort to reach agreement on revised interim stabilization program requirements designed to avoid further project delay, to effectively drive completion of the interim stabilization project, and to reduce risks sooner. To this end, Ecology, DOE, the Washington Attorney Generals' Office, and the U.S. Department of Justice have reached tentative agreement under which a revised schedule for the completion of SST interim stabilization will be implemented, not through the Tri-Party Agreement, but through a consent decree filed with the United States District Court for the Eastern District of Washington.

Once the interim stabilization consent decree is finalized, the U. S. Environmental Protection Agency (EPA), DOE, and Ecology have agreed to delete interim stabilization program requirements from the scope of the Tri-Party Agreement. A copy of a draft TPA change request deleting current TPA interim stabilization requirements is attached.

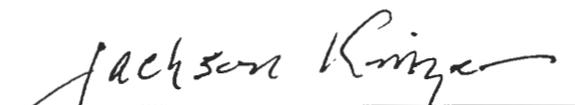
This change request will be submitted to the public for review and comment for a 60-day period at the same time as public comment on the State and DOE's proposed interim stabilization consent decree (i.e., There will be one unified public comment process).

Copies of these proposed agreements will be forwarded to the Tribes and Hanford stakeholders, and will be available for review at the Tri-Parties public information repositories. Specific public comment dates will be coordinated to ensure Hanford Advisory Board opportunity for review and comment. DOE, Ecology and EPA expect that final signatures will take place by May 28, 1999.

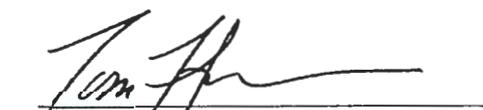
Tentative Agreement on the Removal of Hanford High Level Waste Tank  
Interim Stabilization Requirements from the Scope of the Hanford Federal  
Facility Agreement and Consent Order

DOE, Ecology, and EPA further agree that this Tri-Party Agreement modification will become final unless DOE, Ecology, or EPA determines that changes are necessary as a result of public comment. Should DOE, Ecology, or EPA determine that changes to proposed modifications are necessary and unanimous agreement is not reached, the changes will be subject to dispute. In this event, DOE, Ecology and EPA will attempt to resolve the dispute, beginning at the Inter Agency Management Integration Team (IAMIT) level as provided for in Article VIII of the Tri-Party Agreement.

Signed this 24th day of February, 1999

  
\_\_\_\_\_  
Jackson Kinzer, Acting Manager  
Office of River Protection  
U. S. Department of Energy

  
\_\_\_\_\_  
James C. Hall, Acting Manager  
U. S. Department of Energy  
Richland Field Office

  
\_\_\_\_\_  
Tom Fitzsimmons, Director  
State of Washington  
Department of Ecology

  
\_\_\_\_\_  
Chuck Clarke, Regional Administrator  
U. S. Environmental Protection Agency  
Region 10

c:M-41-Decree AIP Feb2399.doc

**Hanford Federal Facility Agreement and Consent Order**

**Change Request**

**M-41-99-01**

<b>Change Number</b> - DRAFT - M-41-99-01	<b>Federal Facility Agreement and Consent Order</b> <b>Change Control Form</b> <b>Do not use blue ink. Type or print using black ink.</b>	<b>Date</b> 02/23/99
<b>Originator</b> Ecology		<b>Phone</b>
<b>Class of Change</b> <input checked="" type="checkbox"/> I - Signatories <span style="margin-left: 150px;"><input type="checkbox"/> II - Executive Manager</span> <span style="margin-left: 150px;"><input type="checkbox"/> III - Project Manager</span>		
<b>Change Title</b> Deletion of uncompleted milestones and target dates from the Department of Energy's high-level radioactive waste tank interim stabilization program (M-41-00) and interim milestone M-40-07 from the scope of the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement).		
<b>Description/Justification of Change</b> Following difficulties which have repeatedly delayed the completion of interim stabilization of the Department of Energy's (DOE's) high level radioactive waste (HLW) Single-Shell Tanks (SST), DOE and Ecology have agreed that requirements for completion should be filed as a consent decree with the United States District Court for the Eastern District of Washington (See Consent Decree # _____, ___date___). Consequently, DOE, Ecology, and EPA have agreed to delete the SST interim stabilization program from the scope of the Tri-Party Agreement. In doing so, the remaining milestones and target dates within TPA major milestone series M-41-00, and TPA interim milestone M-40-07, are hereby deleted. This deletion and other associated TPA modifications are as follows.  This Change Request makes the following Tri-Party Agreement modifications (shown only as either shaded new text or deleted <del>strikeout</del> text):  1. Tri-Party Agreement Appendix A (Definition of Terms):  Interim Stabilization (as pertains to Single-Shell Tanks): Is the removal of pumpable supernatant and interstitial liquid from SST systems into DST systems. As much liquid as practicable will be removed. Supernatant is free standing liquid. Interstitial liquid is that liquid in the waste matrix contained within the pore spaces of the salts and sludges, some of which is capable of gravity drainage while the rest is held by capillary forces.		
<b>Impact of Change</b> Deletion of uncompleted milestones and target dates within DOE's SST interim stabilization program (M-41-00 series) and Interim Milestone M-40-07 from the scope of the Tri-Party Agreement		
<b>Affected Documents</b> The Hanford Federal Facility Agreement and Consent Order, as amended, and Hanford site internal planning, work authorization, and budget documents (e.g., Project Management Plans, Baseline Change Control Documents and Multi Year Work Plans).		
<b>Approvals</b>		
_____ DOE	_____ Date	___Approved___ Disapproved
_____ EPA	_____ Date	___Approved___ Disapproved
_____ Ecology	_____ Date	___Approved___ Disapproved

Description/Justification of Change Cont.

Remaining uncompleted milestones and associated target dates for interim stabilization of DOE's Single-Shell Tanks are deleted from the scope of the Tri-Party Agreement. Specific milestones and target dates deleted are listed below in item 3 below, "Agreement Appendix D: Work Schedule." Regulatory requirements covering the interim stabilization program may be found within Consent Decree # \_\_\_\_\_ (DOE and Ecology \_\_\_\_\_ date \_\_\_\_\_).

2. Agreement Action Plan Section 11.8: TANK WASTE REMEDIATION SYSTEM CRITICAL PATH PROCESS

Tank waste remediation milestones will be established using a critical path process as described in this section. The tank waste remediation program will be established and managed as an integrated system and shall include all activities associated with waste characterization, retrieval/closure, ~~tank stabilization~~, pretreatment, treatment of high-level and low-level tank waste, acquisition of new tanks, and the multi-purpose storage complex. The parties will develop detailed operating procedures and implement the critical path milestone system on a trial basis, in April 1994, with full implementation by September 30, 1994.

3. Agreement Appendix D: WORK SCHEDULE

M-41-00                      COMPLETE SINGLE SHELL TANK INTERIM STABILIZATION.                      9/30/2000

LEAD AGENCY:              COMPLETE INTERIM STABILIZATION ACTIVITIES FOR ALL  
ECOLOGY                      SINGLE SHELL TANKS EXCEPT 241-C-106 (TO BE RETRIEVED IN  
   ACCORDANCE WITH MILESTONE M-45-03). COMPLETE  
   INTRUSION PREVENTION FOR ALL SINGLE SHELL TANKS EXCEPT  
   241-C-106.

THIS IS DEPENDENT UPON THE FOLLOWING ASSUMPTIONS:

(1) ~~SAFETY STUDIES WILL BE COMPLETED WITH THE  
OBJECTIVE OF ALLOWING PUMPING IN ACCORDANCE WITH  
INTERIM MILESTONES.~~

(2) ~~WORK COMMENCES IN THE TANK FARMS ON OCTOBER 1,  
1993, FOR INTERIM STABILIZATION PREPARATIONS, AS  
REQUIRED BY THE MILESTONE SCHEDULE. DURING THE STAND  
DOWN IN TANK FARMS, SCHEDULES FOR THE FOLLOWING  
INTERIM MILESTONES MAY BE AFFECTED: M-41-01, M-41-02, M-  
41-10, M-41-15 AND M-41-16. EVERY EFFORT WILL BE MADE TO  
RECOVER THE ORIGINAL SCHEDULE AS SPECIFIED BELOW.~~

~~INTERIM MILESTONES FOR START OF PUMPING AND TARGET  
MILESTONES FOR COMPLETION FOR EACH GROUP OF TANKS  
WILL BE REVIEWED AND AFFIRMED ANNUALLY WITH ECOLOGY  
AND EPA. UPON START OF PUMPING, EFFORTS TO CONTINUE  
PUMPING WILL BE CONTINUOUSLY SUPPORTED SO THAT  
PUMPING IS CONDUCTED AS EXPEDITIOUSLY AS PRACTICAL. IF  
PUMPING IS INTERRUPTED TO A DEGREE THAT JEOPARDIZES THE  
TARGET MILESTONE, THE UNIT (PROJECT) MANAGERS SHALL  
MEET IN AN EFFORT TO AGREE ON A RECOVERY PLAN. IF SUCH~~

Description/Justification of Change Cont.

~~AN AGREEMENT CANNOT BE MADE AT THE UNIT (PROJECT) MANAGER LEVEL, A FORMAL RECOVERY PLAN WILL BE PREPARED AND SUBMITTED TO ECOLOGY AND EPA FOR APPROVAL THAT SUPPORTS THE MAJOR MILESTONE DATE OF SEPTEMBER 2000, IF TECHNICALLY ACHIEVABLE.~~

M 41-22	<del>START INTERIM STABILIZATION OF 6 SINGLE SHELL TANKS.</del>	<del>9/30/1997</del>
M 41-23	<del>START INTERIM STABILIZATION OF 8 SINGLE SHELL TANKS.</del>	<del>3/31/1998</del>
M 41-24	<del>START INTERIM STABILIZATION OF 9 SINGLE SHELL TANKS.</del>	<del>9/30/1998</del>
M 41-25	<del>START INTERIM STABILIZATION OF 3 SINGLE SHELL TANKS.</del>	<del>3/31/1999</del>
M 41-26	<del>START INTERIM STABILIZATION OF 2 SINGLE SHELL TANKS.</del>	<del>9/30/1999</del>
M 41-27	<del>COMPLETE SALT WELL PUMPING OF SINGLE SHELL TANKS.</del>	<del>9/30/2000</del>
M 41-27-T03	<del>COMPLETE SALT WELL PUMPING OF 5 SINGLE SHELL TANKS.</del>	<del>9/30/1998</del>
M 41-27-T04	<del>COMPLETE SALT WELL PUMPING OF 8 SINGLE SHELL TANKS.</del>	<del>9/30/1999</del>
M 41-27-T05	<del>COMPLETE SALT WELL PUMPING OF 16 SINGLE SHELL TANKS.</del>	<del>9/30/2000</del>
M 40-07	<del>COMMENCE OPERATION OF A VAPOR TREATMENT SYSTEM IN TANK 241-C-103.</del>	<del>6/30/1995</del>

~~PROVIDE A REPORT DOCUMENTING OPERATIONAL TEST PROCEDURE RESULTS AND COMMENCE PERMITTED OPERATION OF A VAPOR TREATMENT SYSTEM FOR TANK 241-C-103, UNLESS OTHERWISE AGREED TO BY THE PARTIES FOLLOWING SUBMITTAL OF THE ENGINEERING EVALUATION OF ALTERNATIVES (EEA) FOR TREATMENT OF TANK 241-C-103 VAPOR SPACE. THE EEA WILL DOCUMENT THE NEED AND OPTIONS FOR TREATMENT OF POTENTIALLY HAZARDOUS/TOXIC VAPORS BEING DISCHARGED FROM THE TANK 241-C-103 VAPOR SPACE. ALL PERTINENT CHARACTERIZATION DATA WILL BE CONSIDERED, INCLUDING: METEOROLOGICAL, AREA, SOURCE, PERSONNEL MONITORING, AQUEOUS/ORGANIC LAYER ANALYSIS, VAPOR CHARACTERIZATION, ESTIMATES OF THE VAPOR CHARACTERIZATION AFTER REMOVAL OF THE ORGANIC LAYER, AND THE SCHEDULE FOR THIS REMOVAL. ONCE SELECTED, DESIGN PROCUREMENT, AND PERMITTING WILL BE INITIATED.~~

~~OPERATION OF THIS VAPOR TREATMENT SYSTEM IS ANTICIPATED TO PROVIDE RELIEF FROM WORKER RESTRICTIONS AT TANK 241-C-103 IN REGARD TO NOXIOUS VAPOR EMISSIONS (PROVIDED CHARACTERIZATION OF OTHER C FARM TANKS DOES NOT IDENTIFY OTHER POTENTIAL SOURCES OF NOXIOUS VAPORS).~~

**Hanford High-Level Radioactive Waste Tank**

**Interim Stabilization**

**Consent Decree**

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4 Attorney General of Washington  
5 P.O. Box 40117  
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UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF WASHINGTON

STATE OF WASHINGTON,  
DEPARTMENT OF ECOLOGY,

Plaintiff,

v.

UNITED STATES  
DEPARTMENT OF ENERGY,

Defendant.

NO.

CONSENT DECREE

I. INTRODUCTION

WHEREAS, Plaintiff State of Washington, Department of Ecology ("State") has alleged violations of the Hanford Federal Facility Agreement and Consent Order by Defendant United States Department of Energy ("DOE"); and

WHEREAS, on May 15, 1989, DOE and the Washington Department of Ecology entered into the Hanford Federal Facility Agreement and Consent Order ("HFFACO"). One of the requirements of the HFFACO is that DOE remove liquid waste from several large underground single-shell storage tanks located at DOE's Hanford site. Pumping high-level radioactive waste from single-shell tanks into double shell tanks poses many technical and safety challenges. A

1 number of these challenges have arisen since the HFFACO was signed. DOE has  
2 previously requested and the State has agreed to a number of schedule extensions  
3 using procedures specified in the HFFACO. The original schedule in the  
4 agreement called for pumping the liquid radioactive hazardous waste out of the  
5 tanks by 1995. Thereafter, the schedule has been extended several times. The  
6 most recent schedule called for the completion of tank pumping by September 30,  
7 2000; and

8 WHEREAS, to date, approximately 45% of the liquid wastes originally  
9 stored in single-shell tanks have been pumped into double-shell tanks since the  
10 tank pumping program began in 1976. The HFFACO contains milestones for  
11 transferring the remaining liquid wastes from single-shell tanks into double-shell  
12 tanks. Interim milestones M-41-22 and M-41-23 required that pumping be  
13 initiated for 6 tanks by September 30, 1997, and for 8 more tanks by March 31,  
14 1998. DOE did not meet either of these two milestones, and believes that it will  
15 not meet the remainder of the tank pumping milestones; and

16 WHEREAS, the parties wish to resolve this action without litigation and  
17 have, therefore, agreed to entry of this Consent Decree without adjudication of the  
18 issues contained herein. This Decree is filed to resolve potential litigation between  
19 the State and DOE regarding the missed milestones as well as all other remaining  
20 milestones in the HFFACO in the interim stabilization series (M-41) and to  
21 establish a judicially enforceable schedule for pumping liquid radioactive  
22 hazardous waste from single-shell tanks as identified in the schedule in  
23 Section IV-A.

24 NOW THEREFORE, it is hereby ordered, adjudged, and decreed as  
25 follows:

26





1 Site. DOE reserves the right to require Ecology's representatives to be  
2 accompanied by an escort while on the Hanford Site. DOE shall provide escorts  
3 in a timely manner.

## 4 VI. AMENDMENT OF DECREE

### 5 A. Amendment Process.

6 1. This Decree may be amended by mutual agreement of the State  
7 and DOE upon approval by the Court. The party proposing the amendment  
8 shall provide the proposal in writing to the other party, along with a  
9 justification for the amendment. Proposals to amend the schedule shall be  
10 submitted in accordance with, and shall be evaluated under the criteria  
11 described in, paragraphs B through G, below. Within ten (10) working days  
12 of receipt (except as provided in Section VI-F), the other party shall notify  
13 the party proposing the amendment whether or not the amendment is  
14 acceptable. If the amendment is acceptable, the parties shall submit the  
15 amendment to the Court for its approval. If the amendment is not  
16 acceptable to the other party, the other party shall explain in writing its  
17 reasons for disapproving the amendment. In such an event, the party  
18 proposing the amendment may invoke the dispute resolution procedures of  
19 this Decree.

20 2. The time periods in Section VI may be extended by mutual  
21 agreement of the parties.

22 B. Amendment of Schedule. The schedule in Section IV-A shall be  
23 amended only if (1) a request for amendment is timely, and (2) good cause exists  
24 for the amendment.  
25  
26

1 C. Timeliness. To be timely, a request must be submitted to the other  
2 party either (1) when it is DOE requesting the schedule amendment, within ten  
3 (10) working days of a determination by DOE that it is unable to meet the deadline  
4 for which the amendment is sought; and (2) when it is the State requesting the  
5 schedule amendment, within ten (10) working days of a determination that an  
6 amendment is necessary.

7 D. Good Cause. "Good cause" for schedule amendment exists when the  
8 schedule cannot be met due to circumstances or events either (1) unanticipated in  
9 the development of the schedule in Section IV-A of this Consent Decree, or (2)  
10 anticipated in the development of the schedule, but which have a greater impact on  
11 the schedule than was predicted at the time the schedule was developed (hereafter  
12 referred to as "circumstances and events"). However, in any case, good cause  
13 does not exist if DOE can nonetheless meet the existing schedule by responding  
14 with reasonable diligence to such circumstances or events. Likewise, good cause  
15 does not exist if DOE could have met the existing schedule if it had responded  
16 with reasonable diligence to the circumstance(s) or event(s) when it occurred.  
17 Budget requests, funding levels and efficient management practices are  
18 appropriate considerations in determining whether reasonable diligence exists.  
19 The exercise of reasonable diligence is not expected to normally require an  
20 expenditure of funds beyond those set out in Attachment B to this Decree  
21 (Projected Fiscal Year Funding Requirements for Work Required Under this  
22 Decree), unless additional expenditures are necessitated by inefficient  
23 management practices.

24 1. a. Both parties to this Consent Decree understand that to  
25 develop this schedule, assumptions had to be made in the Interim  
26 Stabilization Project Plan about events or unforeseen circumstances

1 that might arise which could affect the schedule. As part of this  
2 process, further assumptions had to be made about the likelihood of  
3 such events or unforeseen circumstances occurring, and if they did  
4 occur, what effect that might have on the schedule.

5 b. The schedule assumes that, to some extent, unforeseen  
6 events will occur, or unforeseen circumstances will be discovered. A  
7 certain amount of "allowance" is built into the interim stabilization  
8 project plan underlying the schedule to allow DOE to respond to such  
9 events and circumstances and still meet the schedule. However, it is  
10 possible that unexpected events and/or circumstances will arise  
11 whose effect on the schedule exceeds this allowance.

12 c. If events or circumstances occur that will delay the  
13 completion of work beyond the deadlines in the schedule, and the  
14 delay cannot be or could not have been avoided by DOE responding  
15 to the event or circumstance with reasonable diligence, then "good  
16 cause" exists for extending the schedule. Although such events or  
17 circumstances cannot, by their nature, be fully anticipated and  
18 controlled, the parties can identify in advance three general types of  
19 such events and/or circumstances:

20 (1) *Safety concerns.* In the past, unforeseen safety  
21 concerns have arisen that have required extending the schedule.  
22 Depending on the nature of unforeseen safety concerns and the  
23 time required to address those concerns, such safety concerns  
24 may constitute "good cause."

25 (2) *Unknown technical obstacles.* The wastes  
26 contained within each tank or group of tanks have their own

1 unique characteristics. Sometimes, previously unknown waste  
2 characteristics present technical obstacles to pumping the  
3 tanks. Depending on the nature of the technical problem and  
4 the time required to address the problem, such unknown  
5 obstacles may constitute "good cause."

6 (3) *Equipment failures.* The assumptions underlying  
7 the schedule anticipate that some failures of certain kinds of  
8 equipment will occur. DOE has built time into the schedule to  
9 respond to some level of equipment failures. However, it is  
10 possible that equipment failures will take place beyond what is  
11 anticipated in the assumptions underlying the schedule.  
12 Depending on the frequency and type of equipment failures,  
13 such failures may constitute "good cause."

14 2. In any request for amendment, DOE shall identify the good  
15 cause that, in its view, justifies amendment. If the State agrees that good  
16 cause exists, the parties shall agree to an appropriate amendment. If the  
17 State does not agree that good cause exists, DOE may invoke the dispute  
18 resolution process set forth in Section VIII of this Decree.

19 E. **Force Majeure.** The parties agree that some events are of such a  
20 magnitude that they will be presumed to justify amendment. Extensions of the  
21 schedule shall be equal to the number of days during which work is interrupted  
22 due to *force majeure* events. These events include, but are not limited to:

- 23 1. Acts of God, fire, war, insurrection, civil disturbance, or  
24 explosion;  
25 2. Significant adverse weather conditions that could not have  
26 been reasonably anticipated;

- 1           3.     Restraint by court order;
- 2           4.     Inability to obtain, at reasonable cost and after exercise of
- 3           reasonable diligence, any necessary authorizations, approvals, permits or
- 4           licenses due to action or inaction of any governmental agency or authority
- 5           other than DOE or its authorized contractors;
- 6           5.     Any strike or similar work stoppage resulting from labor
- 7           dispute; and
- 8           6.     Unavailability or insufficiency of funds due to a shut-down of
- 9           the federal government or to the absence of an approved budget for DOE by
- 10          the beginning of a fiscal year.

11          Any amendment requested on the grounds that one of the events listed  
12 above has occurred will be granted unless the State does not agree that a *force*  
13 *majeure* event has occurred. DOE may pursue dispute resolution regarding this  
14 determination under Section VIII of this Decree. If the dispute is not resolved by  
15 mutual agreement of the parties, DOE may seek court review, and if the Court  
16 determines that, under the pertinent facts and circumstances, the event does  
17 constitute a *force majeure* event, the Court shall approve the requested extension.

18          Whenever a *force majeure* event occurs, DOE shall exercise its best efforts  
19 to complete the affected work in accordance with the original schedule.

20          F.     **Unforeseen Safety Concerns.** If a previously unknown safety  
21 concern raised as an unreviewed safety question arises that affects or will likely  
22 affect the schedule in Section IV-A, DOE shall take the following steps:

- 23           1.     Within three (3) working days of the declaration of an
- 24           unreviewed safety question, notify Ecology that an issue exists, the nature
- 25           of the issue, and any actions taken in accordance with the facility
- 26           authorization procedures.

1           2.     No more than 45 days after the notification in Section VI-F-1,  
2 DOE shall develop and submit to Ecology a Safety Issue Resolution Plan  
3 (SIRP) that identifies the following:

- 4           a.     the issue and its technical basis, its probability of  
5 occurrence, consequences of occurrence, and any threat to human  
6 health and the environment that would result if DOE adhered to the  
7 schedule in Section IV-A in light of the safety issue;
- 8           b.     the impacts that the safety issue will have on the  
9 schedule in Section IV-A;
- 10          c.     required administrative, procedural, technical, and  
11 operational issues that must be resolved in order for work to continue;
- 12          d.     a schedule and necessary resources to resolve the safety  
13 issue in order to allow the resumption of work in the event that work  
14 was stopped because of the safety issue;
- 15          e.     the management process to be used to resolve the safety  
16 issue;
- 17          f.     any pertinent information not already provided to  
18 Ecology; and
- 19          g.     a request for a schedule amendment as set forth in  
20 Section VI-G below. In the event that the impact on the schedule  
21 cannot be adequately determined until the analysis of the unreviewed  
22 safety question is completed, DOE will advise Ecology of its initial  
23 estimate of schedule impact and a date by which it will submit the  
24 required request for schedule amendment.

25           3.     If Ecology agrees, based on the information provided in the  
26 SIRP and any other information, whether oral or written, provided by DOE,

1 that good cause exists for a schedule amendment, the mutual agreement of  
2 the parties to the amendment will be sent to the Court for approval. In the  
3 event that Ecology does not agree that good cause exists, DOE may invoke  
4 the dispute resolution procedures in Section VIII.

5 G. **Proposals to Amend.** Any proposal to amend the schedule shall be  
6 submitted in writing to the other party and shall specify the following:

- 7 1. The particular deadline(s) for which the amendment is sought;
- 8 2. The length of the extension(s) sought;
- 9 3. The good cause or *force majeure* event that is the basis for the  
10 amendment; and
- 11 4. Any other requirement of this Consent Decree or of the  
12 HFFACO that would be affected if the proposal to amend the schedule were  
13 accepted.

14 Any proposal to amend any other provision of this Consent Decree shall be in  
15 writing and shall identify:

- 16 1. Those portions of the Consent Decree to be amended;
- 17 2. The proposed new language to be included in the Consent  
18 Decree; and
- 19 3. The reason for the proposed amendment.

## 20 VII. FUNDING

### 21 A. **Funding relating to implementing the schedule.**

22 DOE agrees to advise the State of its efforts to obtain the appropriated  
23 funding necessary to implement this Decree. If DOE asserts that appropriated  
24 funds necessary to fulfill an obligation under this Decree are not available, the  
25 parties agree to utilize the dispute resolution procedures of Section VIII to discuss  
26

1 | whether the State will, in its sole discretion, agree to make appropriate  
2 | adjustments to the deadlines for obligations that require the payment or obligation  
3 | of such funds. If no agreement is reached, the Parties agree that in any judicial  
4 | proceeding to enforce the terms of this Decree and/or to find DOE in contempt for  
5 | failure to comply or for delay in compliance with such terms, DOE may raise as a  
6 | defense that its failure or delay was caused by the unavailability of appropriated  
7 | funds. The State disagrees that lack of appropriations or funding is a valid  
8 | defense. However, DOE and the State agree and stipulate that it is premature at  
9 | this time to raise and adjudicate the existence of such a defense. This provision  
10 | does not constitute a waiver by DOE that its obligations under this Decree are  
11 | subject to the provisions of the Anti-Deficiency Act, 31 U.S.C. § 1341, nor does it  
12 | constitute a waiver by the State that DOE's obligations under this Decree are not  
13 | subject to the Anti-Deficiency Act.

14 |       **B. Funding relating to milestones in the HFFACO.**

15 |       If DOE does not have adequate funding to comply with this Decree and all  
16 | of the requirements of the HFFACO, DOE will likely request extensions of some  
17 | current HFFACO milestones for work that it believes is of a lower priority than  
18 | the work to be performed under this Decree. The State will review such requests  
19 | in good faith and will grant such requests when it deems it appropriate to do so  
20 | under the terms of the HFFACO, and, when required, EPA concurs.

21 |       Nothing in the above paragraph shall be used to constrict in any way  
22 | DOE's, EPA's, or Ecology's rights under the HFFACO. In particular, nothing in  
23 | the above paragraph shall supercede or amend the procedures set forth in  
24 | paragraphs 148 and 149 of the HFFACO.

1 **VIII. RESOLUTION OF DISPUTES**

2 A. The parties recognize that a dispute may arise regarding the proper  
3 interpretation of this Decree or whether or how the Decree should be amended. If  
4 such a dispute arises, the parties will endeavor to settle it by good faith  
5 negotiations among themselves. If the parties cannot resolve the issue within a  
6 reasonable time, not to exceed forty calendar days, then any party may seek  
7 appropriate relief from the Court. Either party may request a meeting among  
8 technical and/or management representatives from their respective organizations,  
9 including the Interagency Management Integration Team at any time during the  
10 dispute resolution.

11 B. If the dispute is not resolved, either party may petition the Court for  
12 relief. Motions seeking appropriate relief from the Court shall be filed within  
13 thirty (30) calendar days of the end of the period provided for in Section VIII-A.

14 C. **Applicability Of Deadlines During Dispute Resolution.** Deadlines  
15 established in the schedule in Section IV-A shall continue in force unless and until  
16 changed by the Court. Notwithstanding the foregoing sentence, if DOE has  
17 requested an extension of a deadline, DOE shall not be deemed to be in violation  
18 of that deadline while DOE's request is being evaluated. This period shall run  
19 from the time of DOE's notification in Section VI-A through the date on which the  
20 Court acts on the request.

21 **IX. COVENANT NOT TO SUE**

22 A. The State hereby covenants not to bring any civil, judicial, or  
23 administrative action against DOE, its officials or employees, or its contractors or  
24 their subcontractors, their officials, or employees, with respect to matters covered  
25 by this Decree. "Matters covered" by this Decree are requirements for interim  
26



1 necessary or appropriate for the construction or modification of this Decree, or to  
2 effectuate or enforce compliance with its terms, or to resolve disputes in  
3 accordance with Section VIII, Resolution of Disputes.

4 **XI. CONSTRUCTION AND USE OF CONSENT DECREE**

5 **A. Construction of Consent Decree.** This Consent Decree is the  
6 product of negotiation by the parties. Both parties contributed to its drafting. In  
7 any dispute over the meaning of any provision of this Consent Decree, the parties  
8 shall be treated as having contributed equally to the drafting of that provision.

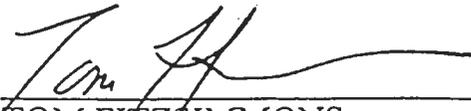
9 **B. Restrictions On Use In Other Proceedings.** It is DOE's position  
10 that, until waiver or exhaustion of its appeal rights regarding a particular milestone  
11 under the HFFACO, the State may not bring a judicial action regarding that  
12 milestone. The State disagrees with this position. In order to reach agreement on  
13 this Consent Decree with the State, without adjudicating this issue, DOE hereby  
14 waives its appeal rights under the HFFACO to the Pollution Control Hearings  
15 Board with respect to the remaining  
16 M-41 milestones for interim stabilization of the single-shell tanks. Moreover, the  
17 parties agree that neither this Consent Decree, nor any of its provisions, may be  
18 used in any future proceeding by DOE, the State, or any other party to determine  
19 or resolve this issue.

20  
21 **XII. EFFECT OF DECREE ON HFFACO MILESTONES**

22 Upon entry of this Decree, the State covenants not to enforce the series M-  
23 41 Single-Shell Tank Interim Stabilization Milestones and Milestone M-40-07 in  
24 the HFFACO. After entry of this Decree, the parties, with EPA's concurrence,  
25 will amend the HFFACO to delete the M-41 milestones in their entirety and to  
26 delete Milestone M-40-07.

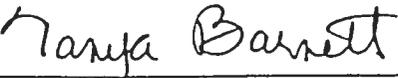


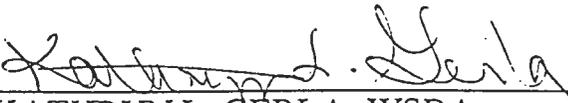
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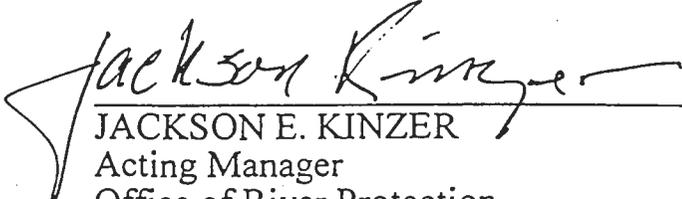
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26 \...interim fed suit/consent decree final

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**CONSENT DECREE  
ATTACHMENT A**

Following is the schedule for pumping liquid waste from the remaining twenty-nine (29) single-shell tanks. This schedule is enforceable pursuant to the terms of the Decree except for the "Projected Pumping Completion Dates" which are estimates only and not enforceable.

	<b>Tank Designation</b>	<b>Pumping Initiated</b>	<b>Projected Pumping Completion Date</b>
1.	T-104	Already initiated	May 30, 1999
2.	T-110	Already initiated	May 30, 1999
3.	SX-104	Already initiated	December 30, 2000
4.	SX-106	Already initiated	December 30, 2000
5.	S-102	July 30, 1999	March 30, 2001
6.	S-106	July 30, 1999	March 30, 2001
7.	S-103	July 30, 1999	March 30, 2001
8.	U-103*	June 15, 2000	April 15, 2002
9.	U-105*	June 15, 2000	April 15, 2002
10.	U-102*	June 15, 2000	April 15, 2002
11.	U-109*	June 15, 2000	April 15, 2002
12.	A-101	October 30, 2000	September 30, 2003
13.	AX-101	October 30, 2000	September 30, 2003
14.	SX-105	March 15, 2001	February 28, 2003
15.	SX-103	March 15, 2001	February 28, 2003
16.	SX-101	March 15, 2001	February 28, 2003
17.	U-106*	March 15, 2001	February 28, 2003
18.	BY-106	July 15, 2001	June 30, 2003
19.	BY-105	July 15, 2001	June 30, 2003
20.	U-108	December 30, 2001	August 30, 2003
21.	U-107	December 30, 2001	August 30, 2003

	<b>Tank Designation</b>	<b>Pumping Initiated</b>	<b>Projected Pumping Completion Date</b>
22.	S-111	December 30, 2001	August 30, 2003
23.	SX-102	December 30, 2001	August 30, 2003
24.	U-111	November 30, 2002	September 30, 2003
25.	S-109	November 30, 2002	September 30, 2003
26.	S-112	November 30, 2002	September 30, 2003
27.	S-101	November 30, 2002	September 30, 2003
28.	S-107	November 30, 2002	September 30, 2003
29.	C-103	No later than December 30, 2000, DOE will determine whether the organic layer and pumpable liquids will be pumped from Tank C-103 together or separately, and will establish a deadline for initiating pumping of this tank. The parties will incorporate the initiation deadline into this schedule as provided in Section VI of the Decree.	

\*Tanks containing organic complexants.

**Completion of Interim Stabilization.** DOE will complete interim stabilization of all 29 single-shell tanks listed above by September 30, 2004.

**Percentage of Pumpable Liquid Remaining to be Removed.**

93% of Total Liquid	9/30/1999
38% of Organic Complexed Pumpable Liquids	9/30/2000
5% of Organic Complexed Pumpable Liquids	9/30/2001
18% of Total Liquid	9/30/2002
2% of Total Liquid	9/30/2003

The "percentage of pumpable liquid remaining to be removed" is calculated by dividing the volume of pumpable liquid remaining to be removed from tanks not yet interim stabilized by the sum of the total amount of liquid that has been pumped and the pumpable liquid that remains to be pumped from all tanks.

The parties to this Decree recognize that the "remaining pumpable liquids" volume is a best projection and may vary. By October 31, 1999 and each year thereafter until the work is completed, the DOE will include in its final quarterly report for the fiscal year the following information:

- The volume of pumpable liquid actually removed for the previous year;
- Cumulative volume to date.

This information will be utilized to assess compliance with the milestones above. Also included in this quarterly report will be an updated projection of the pumpable liquids remaining in the tanks addressed by this Decree. This updated projection will be used to assess future compliance with these milestones. The current projection is that the tanks contain approximately 6.2 million gallons of "remaining pumpable liquid." The addition of dilution water to tanks shall not be counted towards the pumpable liquid volume or the liquid volume remaining to be removed.

DOE currently estimates approximately 900,000 gallons of organic complexed pumpable liquids are contained in tanks U-103, U-105, U-102, U-109, and U-106.

**Definition of "Initiate."** For purposes of this Decree, tank pumping is "initiated" when actual pump operation has commenced, and the pumping achieves a 60% operating efficiency over a 72-hour consecutive period, and transfers a total of not less than 500 gallons.

**Definition of "Interim Stabilized."** For purposes of this Decree, a single-shell tank has been "interim stabilized" and tank pumping may be discontinued when the tank contains less than 50,000 gallons of drainable interstitial liquid and less than 5,000 gallons of supernatant liquid. In addition, if jet pumping is used,

the pump flow must be at 0.05 gpm or less before pumping may be discontinued. If a major equipment failure occurs at a tank that contains less than 50,000 gallons of drainable interstitial liquid and less than 5,000 gallons of supernatant, then DOE may, after consulting with Ecology, consider the tank interim stabilized.

**CONSENT DECREE  
ATTACHMENT B**

**PROJECTED FISCAL YEAR FUNDING REQUIREMENT  
FOR WORK REQUIRED UNDER THIS DECREE**

FY99	\$29,471,000
FY00	35,052,000
FY01	32,841,000
FY02	30,176,000
FY03	23,254,000
FY04	9,372,000