

# *Project Baseline Summary Report*

Data Source: **EM CDB**

Operations/Field Office: **River Protection**

Site Summary Level: **Office of River Protection**

Project **RL-TW01 / Tank Waste Characterization**

Report Number: **GEN-01b**

Print Date: **3/9/2000**

HQ ID: **0203**

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## **General Project Information**

### **Project Description Narratives**

#### **Purpose, Scope, and Technical Approach:**

**Purpose:** The Tank Waste Characterization Project was established to characterize the Hanford Site high-level radioactive waste and to ensure safe storage and retrieval / disposal of this waste. This waste is stored in large, underground, radioactive waste storage double-shell tanks (DSTs) and single-shell tanks (SSTs). The work involved is to plan, sample, analyze, and report tank waste contents. Activities include; program management, characterization data development, sampling equipment, acquire samples and measurements, and sample analyses.

**Scope:** Specific project scope from the Hanford Site technical baseline is provided below in terms of the systems that the project has responsibility for.

#### **Tank Farm System**

· **Sample and Characterize Tank Waste:** Tank waste contents are to be characterized to ensure an acceptable level of public and worker health and safety in conjunction with safe storage of waste, and safe and cost-effective waste retrieval. This waste is stored in large, underground, radioactive waste storage double-shell tanks (DSTs) and single-shell tanks (SSTs). Objectives include the development of plans to characterize tank waste, acquire samples and measurements of the tank waste, analyze the tank waste samples, and report tank contents.

Samples of waste in a double-shell tank (DST) or single-shell tank (SST) are obtained and shipped to a laboratory for analysis of selected physical and chemical properties. Sampling includes accessing the tank, obtaining a sample, restoration of the tank containment, placement of the sample in a shipping container, and shipment to a laboratory. This is a cyclic process. A cycle begins when the need for a sample is identified and continues until the sample is delivered to the laboratory receiving area, analyzed and the results assessed (where applicable).

The Waste Characterization Project consists of the following activities: Project Management, Characterization Data Development, Sampling Equipment, Acquire Samples and Measurements, and Sample Analyses.

Project Management provides management of the project and scope includes project management, which includes environmental, health, safety, quality assurance, radiological control, and Facility Evaluation Board support; and financial control.

Characterization Data Development develops technical bases and provides information management. Scope includes characterization data review activities; characterization basis planning and scheduling; tank characterization reports; management and upgrades of tank characterization data; and historical data, models and inventory.

Sampling Equipment provides analysis of equipment and operational techniques and implements improvements to optimize sampling efficiency. Scope includes characterization equipment engineering; removal, storage and disposal of Long-Length Contaminated Equipment (LLCE); and storage of inactive sampling equipment.

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Acquire Samples and Measurements performs specific sampling methodologies for sampling tank contents and for sampling vapor in tank dome spaces. Scope includes: obtaining physical samples by core sampling, grab sampling, and vapor sampling; and maintenance of sampling equipment.

Sample Analyses performs timely sample analyses to support safe storage and disposal of tank wastes; develops and implements new or improved analytical methods; and maintains analytical capabilities. Samples will be received, analyzed, archived/stored or disposed. A laboratory analysis report will be issued to document results. In addition, analysis and packages for shipment will be prepared for samples shipped to private vendors where applicable. Scope includes accomplish laboratory capability upgrades; maintain laboratory capability; provide sample archive storage and disposal; and samples analysis for core, grab, and vapor samples.

The Characterization Project integrates all TWRS tank waste information needs in developing the Project schedule and workscope. Because of this integration, any individual activity on the Project schedule frequently supports more than one TWRS program or project. Because of this, there is not a one-to-one correlation between Characterization Project Work Breakdown Structure and items on the TWRS Integrated Priority List. In addition, the TWRS information needs are defined in a Waste Information Requirements Document submitted annually to Ecology. The Tri-Party Agreement Change Order M-44-97-03 allows the program to set and change priorities of tanks to maximize the benefit to TWRS program. If needed, internal project approved (Characterization Project Director) change control will be utilized for tank sequence changes.

Technical Approach: The technical approach and technology initiatives for the Project to accomplish the Hanford Strategic Plan end point targets are identified below.

· Technical Approach - Tank Waste Characterization: The activities to complete waste characterization efforts are implemented in the following sequence:

1. Assess information needs and determine what additional waste data is required through Data Quality Objectives (DQOs) sponsored by the Safety Issue Resolution Program, Tank Farm Operations Program, and the Disposal Program.
2. Evaluate need for additional information and provide technical basis for the waste data requirements.
3. Select method to obtain information.
4. Maintain sampling equipment and deploy new equipment to ensure samples are collected.
5. Determine meaningful sampling requirements confidence.
6. Acquire samples and measurements of the tank waste contents and to transport samples to the laboratory for analyses.
7. Analyze samples collected and determine when sample results meet data needs.
8. Conduct a data assessment to determine when all tank characterization information is complete.
9. Provide tank characterization report documenting tank content information.

### Project Status in FY 2006:

Tank Farm System

· Waste Characterization to support retrieval of tank waste for privatization continues for identified tank samples. The supply will include core and

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## **Project Description Narratives**

grab sampling for waste feed delivery and safe operations. These requirements will be updated continually in the TPA required Waste Information Requirements Document. Management of the existing tank contents database will be utilized for supporting retrieval and vitrification requirements.

### **Post-2006 Project Scope:**

Tank Farm System

· Waste Characterization to support retrieval of tank waste for privatization continues for identified tank samples. The supply will include core and grab sampling for waste feed delivery and safe operations. These requirements will be updated continually in the TPA required Waste Information Requirements Document. Management of the existing tank contents database will be utilized for supporting retrieval and vitrification requirements.

### **Project End State**

Specific work activities to close the facilities under this Project to be performed by others at the end of this Project's mission are identified below. Tank Farm System

Work associated with facility performed by Tank Farm Operations:

Transition Tank Farm Facilities

Maintain Safe & Compliant Tank Farm System

Maintain Safe & Compliant Waste Within Tank Farm System

Work associated with facility performed by Retrieval:

Deliver Waste Feed

D&D Tank Farm Facility

Retrieve SST Waste

Work associated with facility performed by Tank Safety Issue Resolution:

Establish & Maintain Safety Authorization Basis

### **Cost Baseline Comments:**

Estimates supporting the Tank Waste Remediation Systems (TWRS) fiscal year (FY) 2001 Project Baseline Summaries (PBS) estimate were developed using Activity-Based Cost (ABC) estimating methodology consistent with the "Hanford Cost Estimating and Scheduling Guide," DOE/RL-97-90, Revision 0.

The TWRS (FY) 2001 PBS is a product of the development of the technical scope, schedule and cost baselines. The scope, schedule and cost baselines are interrelated and have been integrated. The Hanford Site Technical Baseline requirements have been incorporated in the TWRS Technical Baseline

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## Project Description Narratives

through development of TWRS technical specifications. Level 0 and Level 1 work logics were developed to define the activities and interfaces necessary to meet the technical requirements. For much of the TWRS work, Technical Basis Review (TBR) data packages were then prepared to decompose the Level 1 activities to a detailed, executable task level and document scope and resources necessary to complete the work. Activities and resources from the TBRs were input to Primavera (P3) to prepare the TWRS detailed baseline schedule. Pricing of the estimate was performed in P3 using standard rates and factors developed by the FDH Chief Financial Officer and approved by DOE for forward pricing purposes. The resource-loaded schedules are traceable to the TBR data packages. Costs generated by P3 were developed using the DOE-approved planning rates and were manually escalated using the DOE-approved escalation rates.

Due to significant variations in the current phases of the TWRS projects and available data and scope definition, many estimating techniques have been utilized in development of the cost estimate. They include definitive, parametric, analogy, trend analysis, level of effort and engineering judgement. ABC estimates for the scope of work have been prepared at the lowest level of detail practical. As expected, the level of scope definition and estimate detail is greatest for the near-term activities and less well defined in later years. Through the annual planning process and change control, the execution year and outyear estimate basis will continue to be refined, updated and validated.

The Estimate Basis is contained in numerous technical scope, schedule and cost baseline and supporting documents including TBR data packages.

### Safety & Health Hazards:

Successful characterization of waste will allow for a safe and successful remediation of the tank waste. Until that time, a potential for respirable sized radiological contaminants released to the atmosphere exists and a breach in the containment of the tank could result in two or three involved workers receiving a dose that could exceed regulatory limits.

### Safety & Health Work Performance:

Tank waste contents will be characterized to ensure an acceptable level of public and worker health and safety in conjunction with safe storage of waste, and safe cost-effective waste retrieval/disposal.

The Characterization Project provides support to maintain minimum safe storage of waste within the SSTs and DSTs. This includes sampling for Operating Safety Document (OSD) requirements for maintenance of caustic conditions to minimize tank corrosion, to support SST stabilization and other waste transfers between tanks, support to SST flammable gas program to better understand phenomenological effects of gas retention in various types of tank waste, to support privatization and evaporator efforts, to support identification of organic issues, to understand the phenomenological effects of organic complexant solubility and aging (decomposition), and support for the development of TCRs.

Activities are required to control existing material, waste, and facilities in a safe, stable condition. No remediation will occur unless determined to be safety related.

### PBS Comments:

Waste characterization activities of the SSTs and DSTs is a highly visible project with the Washington State Department of Ecology and the Environmental Protection Agency, as commitments have been made to these agencies as parties to the Tri-Party Agreement milestone M-44-00. In

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## Project Description Narratives

addition, DNFSB Recommendation 93-5 has many commitments associated with waste characterization.

Technology needs for the Characterization Project varies. These needs are supported by EM-50 Program (Office of Science and Technology) funding, and are as follows (in priority order):

- (1) Large Sample Hot Cell DSC/TGA Based Energetics Measurements;
- (2) In-Core Sampling for Off Riser Capability;
- (3) Technetium-99 Analysis in Low Level Waste Feed; and
- (4) Rapid Speciation of Organic Acids and Complexants.

The target level funding reflected in Section B.1 is different than the baseline budget contained in this PBS, and reflects reductions in scope that would be taken from this project if needed enhanced performance targets are not realized for the site to meet the overall anticipated funding level. Specific impacts in FY 1999 and their consequences would be:

Deletion of the Large Volume Sampler \$607K in FY99: this work was needed for privatization pretreatment facility, (this work would have lowered the radiation dosage an employee would acquire while collecting a large number of grab samples and would have decreased operating costs when large sample volume was needed).

### Baseline Validation Narrative:

The site contractor prepared a detailed Activity Based Cost (ABC) estimate in FY 1996 (supporting documents - reference 1 and 2). The RL project manager subsequently contracted the company Project Time and Cost, specialists in the field of ABC estimates, to validate that estimate. Project Time and Cost personnel performed an extensive review of the ABC estimate and subsequently validated the Characterization Project estimate (supporting document, reference 3).

## General PBS Information

**Project Validated?** Yes **Date Validated:** 9/1/1996

**Has Headquarters reviewed and approved project?** Yes

**Date Project was Added:** 12/1/1997

### Baseline Submission Date:

### FEDPLAN Project?

Drivers:	CERCLA	RCRA	DNFSB	AEA	UMTRCA	State	DOE Orders	Other
			Y				Y	Y

## Project Identification Information

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## General PBS Information

**DOE Project Manager:** J.E. Kinzer  
**DOE Project Manager Phone Number:** 509-376-7591  
**DOE Project Manager Fax Number:** 509-372-1215  
**DOE Project Manager e-mail address:** jackson\_e\_kinzer@rl.gov  
**Is this a High Visibility Project (Y/N):** Y

## Planning Section

### Baseline Costs (in thousands of dollars)

	<b>1997-2006 Total</b>	<b>2007-2070 Total</b>	<b>1997-2070 Total</b>	<b>1997</b>	<b>Actual 1997</b>	<b>1998</b>	<b>Actual 1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	
PBS Baseline (current year dollars)	399,297	338,689	737,986	57,706	54,898	48,317	42,431	40,784	40,673	64,043	59,342	28,176	22,651	19,136	18,469	
PBS Baseline (constant 1999 dollars)	382,537	235,939	618,476	57,706	54,898	48,317	42,431	40,784	39,836	61,375	55,646	25,852	20,336	16,810	15,875	
PBS EM Baseline (current year dollars)	399,297	338,689	737,986	57,706	54,898	48,317	42,431	40,784	40,673	64,043	59,342	28,176	22,651	19,136	18,469	
PBS EM Baseline (constant 1999 dollars)	382,537	235,939	618,476	57,706	54,898	48,317	42,431	40,784	39,836	61,375	55,646	25,852	20,336	16,810	15,875	
	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011- 2015</b>	<b>2016- 2020</b>	<b>2021- 2025</b>	<b>2026- 2030</b>	<b>2031- 2035</b>	<b>2036- 2040</b>	<b>2041- 2045</b>	<b>2046- 2050</b>	<b>2051- 2055</b>	<b>2056- 2060</b>	<b>2061- 2065</b>	<b>2066- 2070</b>
PBS Baseline (current year dollars)	18,321	18,668	17,122	16,902	86,380	96,346	84,950	0	0	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	15,409	15,363	13,787	13,317	63,787	63,812	50,464	0	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	18,321	18,668	17,122	16,902	86,380	96,346	84,950	0	0	0	0	0	0	0	0	0

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	2007	2008	2009	2010	2011- 2015	2016- 2020	2021- 2025	2026- 2030	2031- 2035	2036- 2040	2041- 2045	2046- 2050	2051- 2055	2056- 2060	2061- 2065	2066- 2070
PBS EM Baseline (constant 1999 dollars)	15,409	15,363	13,787	13,317	63,787	63,812	50,464	0	0	0	0	0				

## Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.00%	0.00%	0.00%	2.10%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%
2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%			

## Project Reconciliation

### Project Completion Date Changes:

Previously Projected End Date of Project: 9/30/2001

Current Projected End Date of Project: 9/30/2025

Explanation of Project Completion Date Difference (if applicable):

### Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	212,794	Actual 1997 Cost:	54,898	Actual 1998 Cost:	42,431
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	115,465	Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):			3,118
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	118,583				

### Project Cost Changes

Cost Adjustments    Reconciliation Narratives

Cost Change Due to Scope Deletions (-):

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## Project Reconciliation

Cost Reductions Due to Efficiencies (-):

Cost Associated with New Scope (+):

Cost Growth Associated with Scope Previously Reported (+):

Cost Reductions Due to Science & Technology Efficiencies (-):

Subtotal: 118,583

Additional Amount to Reconcile (+): 393,870

Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars): **512,453**

## Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
COMPLETE DELIVERY OF INFORMATION REQUIREMENTS IDENTIFIED IN WIRD	T01-01-104	9/30/2002	9/30/2002	9/30/2002			Y				
COMPLETE INPUT FOR HLW TANKS PER WIRD FY 2000	T01-00-106	9/30/2000	9/30/2000	9/30/2000			Y				
COMPLETE INPUT FOR HLW TANKS PER WIRD FY 2001	T01-01-103	9/30/2001	9/28/2001	9/30/2001			Y				
COMPLETE INPUT FOR HLW TANKS PER WIRD FY99	T01-99-145	9/30/1999	9/30/1999	9/30/1999			Y				
ISSUE CHAR DELIVERABLES CONSISTENT WITH WIRD DEVELOPED FOR FY00	T01-00-105	9/30/2000	9/29/2000	9/30/2000			Y				
ISSUE CHAR DELIVERABLES CONSISTENT WITH WIRD DEVELOPED FOR FY01	T01-01-102	9/30/2001	9/28/2001	9/30/2001			Y				
ISSUE CHAR DELIVERABLES CONSISTENT WITH WIRD DEVELOPED FOR FY99	T01-99-144	9/30/1999	9/20/1999	9/30/1999			Y				
SUBMIT DRAFT WIRD FOR FY 2001 TO ECOLOGY	T01-00-103	6/30/2000	6/30/2000	6/30/2000			Y				
SUBMIT DRAFT WIRD FOR FY 2000 TO ECOLOGY	T01-99-102	6/30/1999	6/15/1999	6/30/1999			Y				

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Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
SUBMIT FINAL WIRD FOR FY 2000 TO ECOLOGY	T01-99-100	8/31/1999	8/23/1999	8/31/1999			Y				
SUBMIT FINAL WIRD FOR FY 2001 TO ECOLOGY	T01-00-104	8/31/2000	8/31/2000	8/31/2000			Y				
DESIGN LARGE VOLUME SAMPLER	T01-98-168	9/30/1999	9/30/1999		12/31/2049						
CORE SAMPLE 10 REMAIN TKS IN SUPT OF DNFSB 93-5 IMPL PLAN, REV 1	T01-97-185	9/30/1999	9/30/1999		12/31/2049						
COMPLETE ALL FY98 DELIVERABLES FOR DNFSB	T01-97-190	9/30/1999	9/30/1999		12/31/2049						
UPDATE TANK CONTENT MODELS (5.6.3.1i)	T01-99-138	12/31/1998	12/31/1998			12/31/1998		Y			
VAPOR SAMPLING OF ALL SSTs	T01-00-101	12/31/1999	12/31/1999					Y			
Ltr Reporting Compl of Vapor Sampling of all DST's	T01-01-101	12/31/2000	12/31/2000					Y			
COMPLETION OF CORE SAMPLING OF ALL TANKS (5.6.3.1J)	T01-03-301	12/31/2002	12/31/2002					Y			
ISSUE CHAR DELIVERABLE CONSISTENT WITH WIRD DEVELOPED FOR FY02	T01-02-200	9/30/2002	9/30/2002	9/30/2002			Y				
SUBMIT DRAFT WIRD FOR FY 2002 TO ECOLOGY	T01-01-106	6/29/2001	6/29/2001	8/31/2001			Y				
SUBMIT FINAL WIRD FOR FY 2002 TO ECOLOGY	T01-01-107	8/31/2001	8/31/2001	8/31/2001			Y				
COMPLETE INPUT FOR HLW TANKS PER WIRD FY 2002	T01-02-201	9/30/2002	9/30/2002	9/30/2002			Y				
DNFSB 93-5 5.6.3.1.G COMPLETION OF HIGH PRIORITY TNKS SMPL & ANAL	T01-98-160	3/31/1998	3/31/1998			3/27/1998		Y			
COMPLETE HIGH PRIORITY TANKS SAMPLING AND ANALYSIS (5.6.3.1G)	T01-98-140	9/29/2000	9/29/2000			3/27/1998					
Begin Tank Waste Characterization Project	PBS-97-001		2/28/1997								
PBS Mission Completion	PBS-MC-001		9/30/2025								

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PBS Project End	PBS-PE-001		9/30/2025								
Begin Tank Waste Safety Issue Resolution Project	PBS-97-002		2/28/1997								

## Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critical Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
COMPLETE DELIVERY OF INFORMATION REQUIREMENTS IDENTIFIED IN WIRD	T01-01-104										Hanford Federal Facility Agreement and Consent Order change control form M-44-97-03, commitment M-44-00A, "Complete delivery of information requirements as identified in the annually submitted WIRD."
COMPLETE INPUT FOR HLW TANKS PER WIRD FY 2000	T01-00-106										Hanford Federal Facility Agreement and Consent Order change control form M-44-97-03, commitment M-44-16D, "Complete input of Characterization Information for HLW tanks for which sampling and analysis were completed per the FY 2000 WIRD into electronic dat
COMPLETE INPUT FOR HLW TANKS PER WIRD FY 2001	T01-01-103										Hanford Federal Facility Agreement and Consent Order change control form M-44-97-03, commitment M-44-16E, "Complete input of Characterization Information for HLW tanks for which sampling and analysis were completed per the FY 2001 WIRD into electronic dat
COMPLETE INPUT FOR HLW TANKS PER WIRD FY99	T01-99-145										Hanford Federal Facility Agreement and Consent Order change control

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Milestone/Activity	Field Milestone Code	Critical Decision	Critical Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
ISSUE CHAR DELIVERABLES CONSISTENT WITH WIRD DEVELOPED FOR FY00	T01-00-105										form M-44-97-03, commitment M-44-16C, "Complete input of Characterization Information for HLW tanks for which sampling and analysis were completed per the FY 1999 WIRD into electronic dat
ISSUE CHAR DELIVERABLES CONSISTENT WITH WIRD DEVELOPED FOR FY01	T01-01-102										Hanford Federal Facility Agreement and Consent Order change control form M-44-97-03, commitment M-44-15D, "Issue Characterization deliverables consistent with Waste Information Requirements Document (WIRD) developed for FY 2000."
ISSUE CHAR DELIVERABLES CONSISTENT WITH WIRD DEVELOPED FOR FY99	T01-99-144										Hanford Federal Facility Agreement and Consent Order change control form M-44-97-03, commitment M-44-15E, "Issue Characterization deliverables consistent with Waste Information Requirements Document (WIRD) developed for FY 2001."
SUBMIT DRAFT WIRD FOR FY 2001 TO ECOLOGY	T01-00-103										Hanford Federal Facility Agreement and Consent Order change control form M-44-97-03, commitment M-44-13D, Submit draft WIRD to Ecology for FY 2001. The Tank Waste Remediation

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## Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critical Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
SUBMIT DRAFT WIRD FOR FY 2000 TO ECOLOGY	T01-99-102										System (TWRS) information needs are defined in a Waste Information Requirements  Hanford Federal Facility Agreement and Consent Order change control form M-44-97-03, commitment M-44-13C, "Submit Draft WIRD to Ecology for FY 2000."
SUBMIT FINAL WIRD FOR FY 2000 TO ECOLOGY	T01-99-100										The Tank Waste Remediation System (TWRS) information needs are defined in a Waste Information Requirem  Hanford Federal Facility Agreement and Consent Order change control form M-44-97-03, commitment M-44-14C, "Submit Final WIRD for FY 2000 to Ecology."
SUBMIT FINAL WIRD FOR FY 2001 TO ECOLOGY	T01-00-104										The Tank Waste Remediation System (TWRS) information needs are defined in a Waste Information Requirem  Hanford Federal Facility Agreement and Consent Order change control form M-44-97-03, commitment M-44-14D, Submit Final WIRD for FY 2001 to Ecology.  The Tank Waste Remediation System (TWRS) information needs are defined in a Waste Information Requiremen

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# Project Baseline Summary Report

Data Source: **EM CDB**

Operations/Field Office: **River Protection**

Site Summary Level: **Office of River Protection**

Project **RL-TW01 / Tank Waste Characterization**

Report Number: **GEN-01b**

Print Date: **3/9/2000**

HQ ID: **0203**

## Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critical Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
DESIGN LARGE VOLUME SAMPLER	T01-98-168									Y	
CORE SAMPLE 10 REMAIN TKS IN SUPT OF DNFSB 93-5 IMPL PLAN, REV 1	T01-97-185									Y	
COMPLETE ALL FY98 DELIVERABLES FOR DNFSB	T01-97-190									Y	
UPDATE TANK CONTENT MODELS (5.6.3.1i)	T01-99-138										DOE/RL-94-0001, Rev. 1, Recommendation 93-5 Implementation Plan, Commitment 5.6.3.1.i, "Update Tank Contents Model or Define Limitations of the Models." Existing models for estimating tank contents are based primarily on historical records, process knowl
VAPOR SAMPLING OF ALL SSTs	T01-00-101										DOE/RL-94-0001, Rev. 1, Recommendation 93-5 Implementation Plan, Commitment 5.4.3.4.d, "Letter reporting completion of vapor sampling of all single-shell tanks (SSTs)."
Ltr Reporting Compl of Vapor Sampling of all DST's	T01-01-101										DOE/RL-94-0001, Rev. 1, Recommendation 93-5 Implementation Plan, Commitment 5.4.3.4.f, Letter reporting completion of vapor sampling of all double-shell tanks (DSTs)."
COMPLETION OF CORE SAMPLING OF ALL TANKS (5.6.3.1J)	T01-03-301										DOE/RL-94-0001, Rev. 1, Recommendation 93-5 Implementation Plan, Commitment 5.6.3.1.j, "Letter reporting

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Project **RL-TW01 / Tank Waste Characterization**

Report Number: **GEN-01b**

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## Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critical Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
ISSUE CHAR DELIVERABLE CONSISTENT WITH WIRD DEVELOPED FOR FY02	T01-02-200										completion of core sampling of all tanks." Minimum of two cores per tank for those tanks requiring cores (assumes no repeat sampling). Any cores tak  Hanford Federal Facility Agreement and Consent Order change control form M-44-97-03, commitment M-44-15F, "Issue Characterization deliverables consistent with Waste Information Requirements Document (WIRD) developed for FY 2002."
SUBMIT DRAFT WIRD FOR FY 2002 TO ECOLOGY	T01-01-106										Hanford Federal Facility Agreement and Consent Order change control form M-44-97-03, Commitment M-44-13E, "Submit Draft WIRD to Ecology for FY 2002."  The Tank Waste Remediation System (TWRS) information needs are defined in a Waste Information Require
SUBMIT FINAL WIRD FOR FY 2002 TO ECOLOGY	T01-01-107										Hanford Federal Facility Agreement and Consent Order change control form M-44-97-03, commitment M-44-14E, Submit Final WIRD for FY 2002 to Ecology.  The Tank Waste Remediation System (TWRS) information needs are defined in a Waste Information Requiremen
COMPLETE INPUT FOR HLW	T01-02-201										Hanford Federal Facility Agreement

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Operations/Field Office: **River Protection**

Print Date: **3/9/2000**

Site Summary Level: **Office of River Protection**

HQ ID: **0203**

Project **RL-TW01 / Tank Waste Characterization**

## Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critical Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
TANKS PER WIRD FY 2002											and Consent Order change control form M-44-97-03, commitment M-44-16F, "Complete input of Characterization Information for HLW tanks for which sampling and analysis were completed per the FY 2002 WIRD into electronic dat
DNFSB 93-5 5.6.3.1.G COMPLETION OF HIGH PRIORITY TNKS SMPL & ANAL	T01-98-160										
COMPLETE HIGH PRIORITY TANKS SAMPLING AND ANALYSIS (5.6.3.1G)	T01-98-140										
Begin Tank Waste Characterization Project	PBS-97-001			Y							Administrative input to document the start of this PBS.
PBS Mission Completion	PBS-MC-001					Y					Administrative input to document the mission completion of this PBS.
PBS Project End	PBS-PE-001				Y						Administrative input to document the project end of this PBS.
Begin Tank Waste Safety Issue Resolution Project	PBS-97-002			Y							Administrative input to document the start of this PBS.

## Performance Measure Metrics

Category/Subcategory	Units	1997-2006 Total	2007-2070 Total	1997-2070 Total	Actual Pre-1997	Planned 1997	Actual 1997	Planned 1998	Planned 1999	Planned 2000	Planned 2001	Planned 2002	Planned 2003	Planned 2004
<b>Tech.</b>														
<b>Deployed</b>	Ntd	2.00	0.00	2.00							2.00			

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# Project Baseline Summary Report

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Project **RL-TW01 / Tank Waste Characterization**

Category/Subcategory	Units	Planned 2004	Planned 2005	Planned 2006	Planned 2007	Planned 2008	Planned 2009	Planned 2010	Planned 2011 - 2015	Planned 2016 - 2020	Planned 2021 - 2025	Planned 2026 - 2030	Planned 2031 - 2035
<b>Tech.</b>													
Deployed	Ntd												
Category/Subcategory	Units	Planned 2036 - 2040	Planned 2041 - 2045	Planned 2046 - 2050	Planned 2051 - 2055	Planned 2056 - 2060	Planned 2061 - 2035	Planned 2066 - 2070	Exceptions	Lifecycle Total			
<b>Tech.</b>													
Deployed	Ntd									2.00			

## Technology Needs

Site Need Code: RL-WT01

Site Need Name: Technetium-99 Analysis in Hanford Tank Waste and Contaminated Tank Farm Areas

Focus Area Work Package ID: WT-11-01

Focus Area Work Package: Constituent Separation and Analysis

Focus Area: TFA

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both): Both

### Technologies

Cost Savings (in thousands of dollars)

Range of Estimate

### Related CCP Milestones

### Related Waste Streams

Agree?

Change?

02113: HLW-20 - Sludge, Salt, Liquid

Y

N

# Project Baseline Summary Report

Data Source: **EM CDB**  
 Operations/Field Office: **River Protection**  
 Site Summary Level: **Office of River Protection**  
 Project **RL-TW01 / Tank Waste Characterization**

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## Technology Needs

**Site Need Code:** RL-WT09  
**Site Need Name:** Representative Sampling and Associated Analysis to Support Operations and Disposal  
**Focus Area Work Package ID:** WT-01-01      **Focus Area Work Package:** Transfer Line/Unplugging/Feed Analysis  
**Focus Area:** TFA      **Agree with Technology Link:** Y  
**Benefits (Cost, Risk Reduction, Both):** Cost

<u>Technologies</u>	<u>Cost Savings (in thousands of dollars)</u>	<u>Range of Estimate</u>
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Variable Depth Fluidic Sampler  
 At-Tank Sampling for High-Level Waste

<u>Related CCP Milestones</u>	<u>Related Waste Streams</u>	<u>Agree?</u>	<u>Change?</u>
	02113: HLW-20 - Sludge, Salt, Liquid	Y	N

## Technology Deployments

<u>Deployment Status</u>	<u>Deployment Year</u>		
	<u>Planned</u>	<u>Forecast</u>	<u>Actual Date</u>
<b>Technology Name:</b> Variable Depth Fluidic Sampler			
Potential Deployment	2001		
<b>Technology Name:</b> At-Tank Sampling for High-Level Waste			
Potential Deployment	2001		