Waste Treatment and Immobilization Plant (WTP)

Oregon Hanford Cleanup Board

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Project Manager

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Office of River Protection

Agenda

- **Safety**
- **Quality**
- **Technical Topics and Risks**
- **Cost Topics and Performance**
- **Schedule Topics and Performance**

BNI Safety Performance

- **Satisfactory safety performance since March 2001**
- **Over 14 million hours worked with two lost workday cases since start of WTP construction**
- **37 recordable injuries since project inception**
- **7 reportable occurrences during CY 2003**
  - **In early December, a mis-wired 480V heater plug resulted in a worker receiving an electrical shock – the most significant safety event on the Project to date**

Quality - Construction

- **Low concrete strength tests - RESOLVED**
  - **9 concrete placements affected**
  - **Root causes were identified (fly ash and fineness of cement grind) and corrective measures taken**
- **Field fabrication deficiencies (Rebar)**
  - **Inadequate configuration control of drawings and inattention to detail**
  - **Confirmatory checks did not identify before placement**
  - **Root causes identified and corrective measures taken**

Technology Risks

- **Pulse Jet Mixers (PJMs)**
- **Cesium Ion Exchange Resin and System Design**

Pulse Jet Mixers (PJMs)

Purpose

- PJMs are used to mix waste in 40 holding/processing tanks
  - Mixing for waste homogeneity
  - Prevent solids settling
  - Aides in release of H_2

Risk

- Not proven for mixing non-Newtonian fluids - 7 vessels impacted (2 in HLW, 5 in PT). No known issues with Newtonian fluids

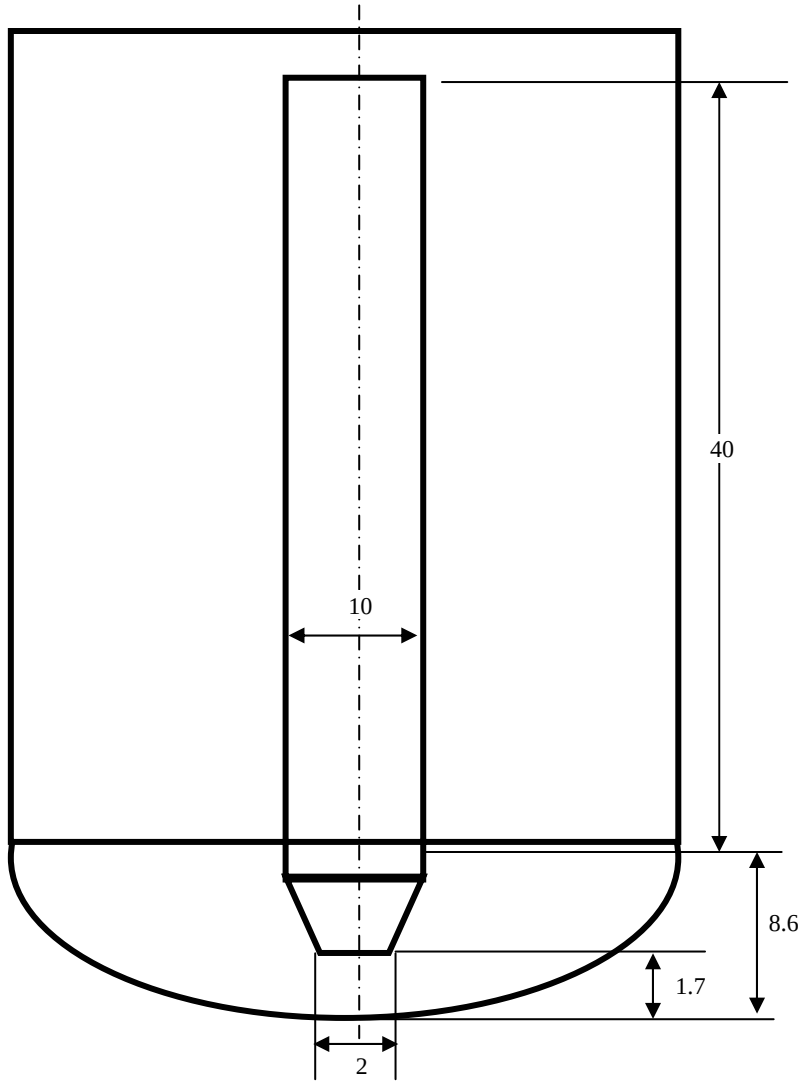
Significant R&T effort since late spring 2003

- Proved the initial BNI design would not completely mix
- Proved PJM technology will work with non-Newtonian fluids but requires 4 to 5X BNI originally planned air volume
- Finalizing H_2 retention and release rates

Pulse Jet Mixers (PJMs)

- **PJM Optimization Program Pursuing 5 Options**
  - Vessels Sparging
  - Recirculation Pumps
  - Convert to Acid Flowsheet for Melter Feed
  - Run Dilute Feed Material in Pretreatment Facility
  - Eliminate 2 of 7 processing vessels
- **Complete Down Select NLT February 27, 2004**
- **Finalize design parameters by March 2004**
- **Evaluating cost and schedule impacts**

Tank for Small-Scale, 4 PJM Parameter Verification



(Note: units: inches)

Cesium Ion Exchange Resin and System Design

- **Purpose**
  - Ion exchange resins are used in Pretreatment facility to remove cesium
- **Initial Risks**
  - New resin design (SuperLig 644)
  - High pressure differential top to bottom unproven cycle performance
  - Single supplier/manufacturer and supplier owns intellectual property
- **Status**
  - Half-scale tests validated 11 cycles with no adverse column dP
  - Hydrogen buildup concerns have slowed finalization of design
  - Alternative resin form results are encouraging but not proven

SL644 Resin

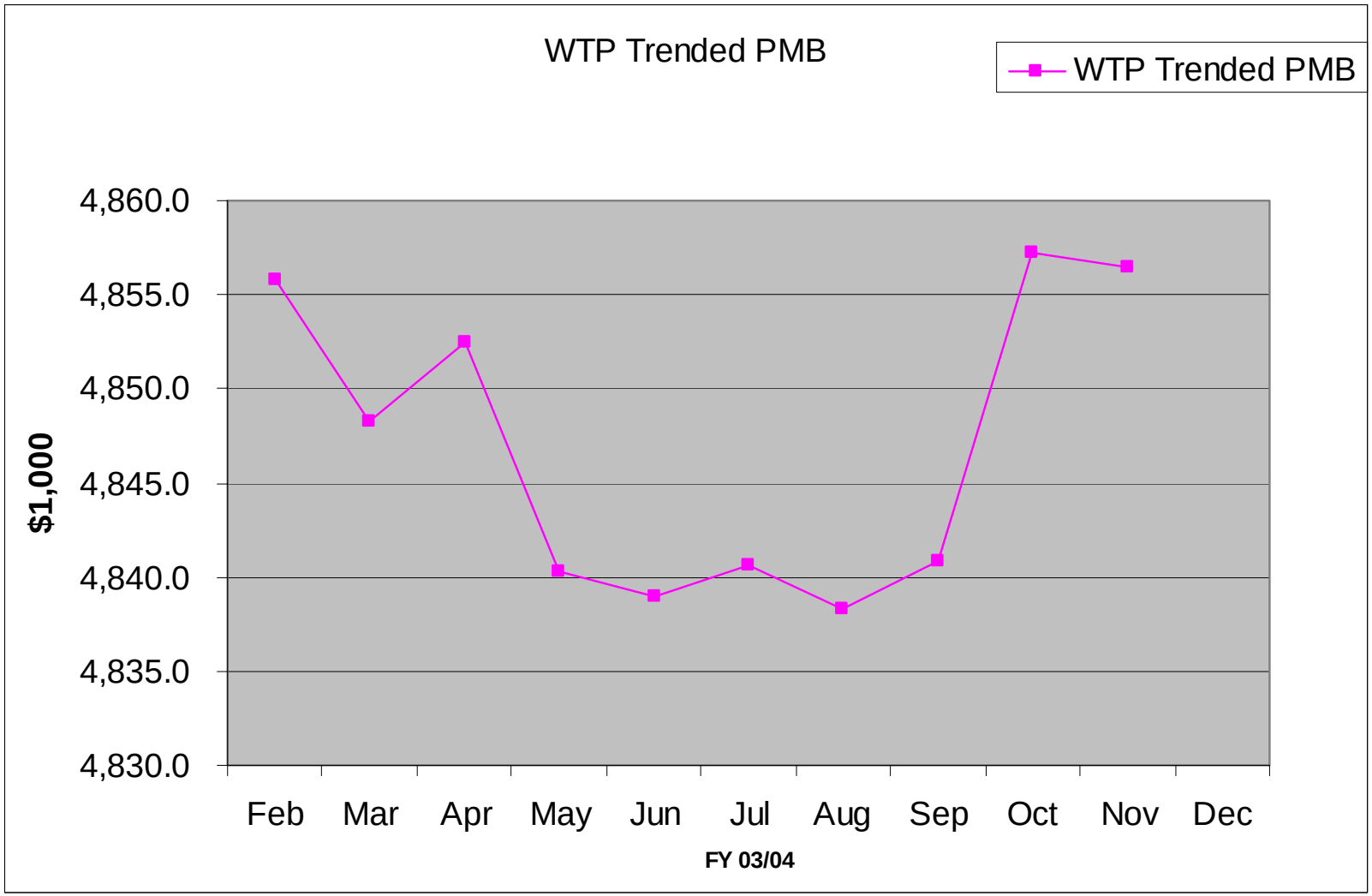
WTP Project Cost Topics

- Project Cost Facts – Refresher

WTP EPC (PMB)	4,856M
EPC Contingency	550M
TPRA	100M
BNI Fee	225M
Previous Transition Cost	50M
	5,781M

- BNI Annual Estimate at Completion Update – due March 2004
- Reprogramming in FY04 to replace $11.5M of the $22.5M Congressional reduction
- FY04 Funding legislation requires USACOE to conduct independent cost estimate of Project – due April 2004

Performance Management Baseline (PMB) (trend since rebaselining effort)



WTP Key Schedule Milestones

High-Level Waste Facility

- Complete walls to grade construction — August 2004
- Complete slab at grade — January 2005

Low Activity Waste Facility

- Complete +3’ elevation slab — March 2004
- Set all +3’ elevation major process vessels — July 2004

Pretreatment Facility

- Set 1st LAW feed receipt vessel — May 2004
- Start pipe module preassembly — August 2004

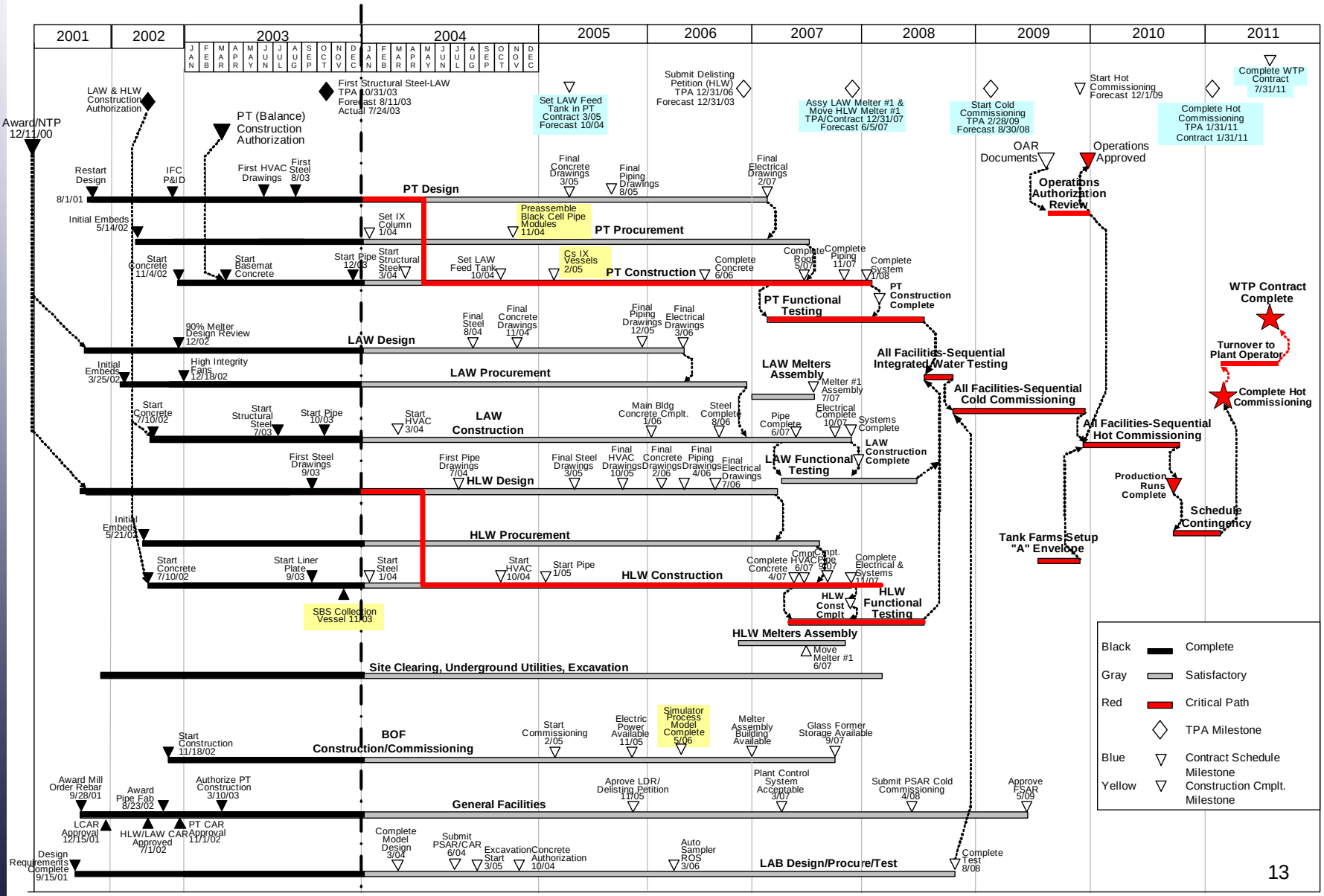
Balance of Facilities

- Complete “dry-in” of simulator building — June 2004

Analytical Laboratory

- Begin site work — June 2004
- Begin Construction — September 2004

WTP Project Overview (December 2003)



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WTP Construction Site (December 2003)

High Level Waste Facility

Low Activity Waste Facility

Pretreatment Facility