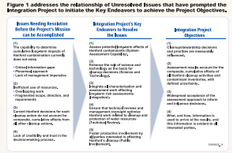
Groundwater / Vadose Zone Integration Project - LRP

Introduction

The Columbia River is a Class A water system which ranks as one of the best water resources in the country for agricultural, commercial, and recreational uses. However, contaminants from nearly a half century of plutonium production could threaten the continued health of the river and those who depend on it now and in the future.

To address this situation, the Groundwater/Vadose Zone Integration Project was established by the DOE in late 1997. DOE Undersecretary Moniz directed that the project be science-based, that it include strong participation from the DOE national laboratories, and that it incorporate a multi-tiered technical review process.

Figure 1 addresses the relationship of Unresolved Issues that have prompted the Integration Project to initiate the Key Endeavors to achieve the Project Objectives.



This Long Range Plan is a graphical representation of the key elements and interrelationships of the Integration Project's Science & Technology (S&T) Roadmap, milestones and decision points. The primary purpose of this Long Range Plan is a tool to communicate the overall scope, schedule and summary level interfaces. The Long Range Plan structure is aligned with the five key endeavors as shown in Figure 1. While the Long Range Plan is useful for communicating with the Hanford Site and other stakeholders, it is primarily a tool for the Integration Project Team, DOE and Contractor Management and other project participants.

Planning Assumptions and Constraints

The primary planning assumptions and associated constraints for the GW/VZ Integration Project are as follows:

- Major milestones/decisions have been defined in accordance with existing Hanford Site baseline or DOE-RL specific guidance.
- The Hanford Site baseline represent a compliance case (i.e., funding required to maintain compliance).
- DOE guidance has provided the following major milestones/ decisions:
  - The SAC will be used for waste site remediation options assessments in 2004
  - Production mode retrieval of single shell tank contents begins in 2011/12
  - An impacts assessment will be required three years prior to start of production mode single shell tank retrieval in order to provide lead time to complete regulatory decisions and site preparations.
  - Tank farm closure and waste remediation (canyon disposition initiative) will be complete in FY 2061
  - 200 Area waste site characterization will proceed in accordance with the 200 Area Implementation Plan
  - The system assessment capabilities will be sufficient to support the 200 Area wastes sites decisions.
  - The SAC will serve as the tool for the next update of the Composite Analysis

The Hanford Site compliance baseline provides the basis to understand the schedule and funding issues of compliance for both the near and long term. The DOE RL guidance provides a general framework of key decision points that can be used as a tool for the Integration Project planning. However, the combination of these two drivers and their relationship to a funding constrained baseline for the Hanford Site remains uncertain.

- For the June, 1999 revision of the LRP, no CH-MO funding will be assumed beyond the current budget year. In the FY 2000 revision of the CHRIP projects and feedback on the CH-MO budget for FY 2001, additional guidance will be provided to the Integration Project.

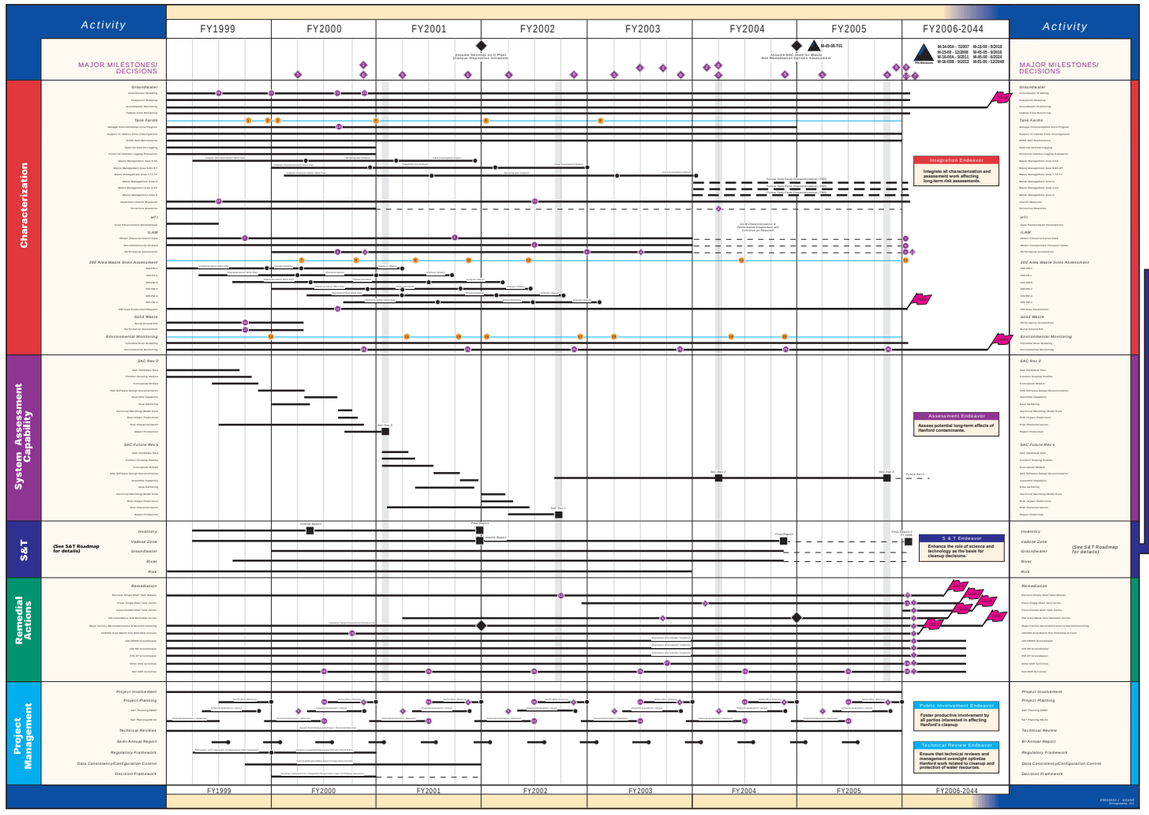
While some of the S&T work scope identified in the S&T roadmap will be funded through the Integration Project, the majority of the S&T planning has been constrained by the funding available through the Integration Project.

FY 2000 Opportunities

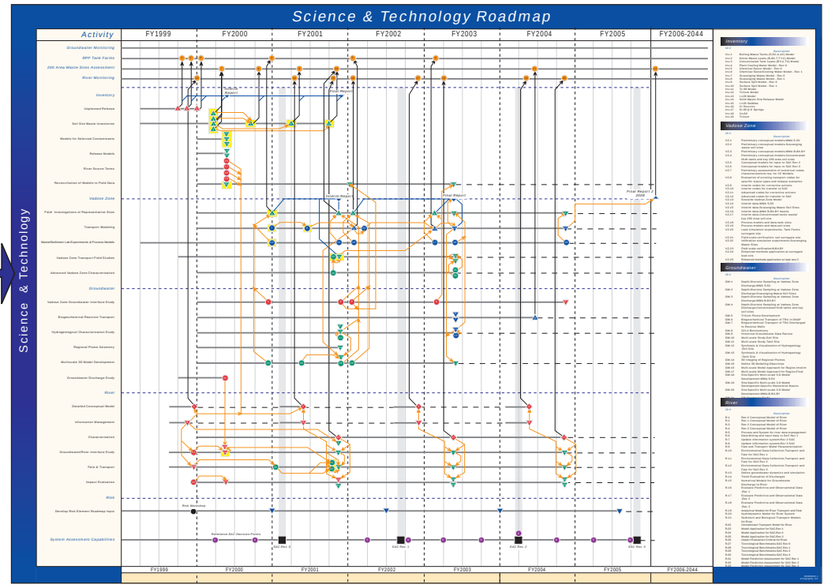
The Integration Project is focusing on the following areas for its FY 2000 detailed planning:

- The collection of field data will follow sampling and analysis plans based on agreements between the Integration Project representatives for all the associated projects, S&T, regulators, and stakeholders.
- The development of conceptual models is common to many of the projects and will be coordinated.
- Requirements for a consistent approach in conducting performance/risk assessments will be developed for all Hanford Projects.
- A common set of inventory, vadose zone, groundwater and river data will be developed to support assessments and decision controls, to support Hanford Site modeling and performance assessments.
- Vadose zone and groundwater monitoring activities will be integrated across the Hanford Site.
- Currently, assessment and cleanup activities are operating under numerous and sometimes overlapping regulatory requirements. Additionally the current baselines do not optimize the characterization or cleanup. DOE has initiated discussions with regulators on potential changes to regulatory requirements and agreements for cleanup at the Hanford Site. In FY 2000, the DOE would like to begin negotiating changes to the 200 Area characterization activities.

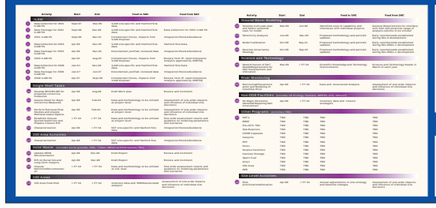
NOTE:
Funding is not shown on this version of the Long Range Plan since the FY 2000 planning has been initiated based on funding guidance that varies from the baseline issued in December, 1998. Funding will be summarized on the Long Range Plan in the next revision when near term planning is approved and the multi-year planning is complete.



Science & Technology Roadmap



SAC Interaction with Site Activities



SAC Decision Points

TPA Milestones

- M-45-05-T01 - 12/2000 Submit Tank Closure Plan for Tank Farm Closure Demo in Ecology
- M-05-004 - 7/2007 Complete Fuel/Sludge/Debris Water Removal from K-Basins
- M-45-00 - 12/2006 Complete Remedial Actions for all Tank Farms
- M-16-00A - 9/2022 Complete Remedial Actions for all 200 Area Operable Units
- M-16-00B - 9/2012 Complete Remedial Actions for all 200 Area Operable Units
- M-16-01 - 9/2018 Complete Remedial Actions for all Non- Tank Farms Operable Units
- M-45-03 - 9/2018 Retrieve Waste from all Single Shell Tanks
- M-45-00 - 12/2024 Complete Closure of all Single Shell Tanks
- M-91-00 - 12/2040 Complete Facility Handling of TRU/TRUM/ILLW and GTCC Waste

LEGEND

- Dotted line indicates the activity will continue as required
- Input to Hanford Site Projects
- Activity Node
- Major Integration Project Products
- SAC Interactions
- SAC Decision Points
- Down triangle indicates that the primary head is in the SAC
- Up triangle indicates that the primary head is in the Projects
- Diamond indicates head to both SAC and Projects
- Circle indicates that the head is to another Project
- Number in triangle/circle is reference for the products described in the S&T Roadmap and S&T inputs to projects
- FY 2000 S&T Priorities

S&T Activity Color Indicates the Lead
RED - Projects
BLUE - Science and Technology
GREEN - Shared Lead