



Groundwater Update

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HANFORD SITE GROUNDWATER NUMBERS

12 billion gallons of contaminated groundwater treated



171 tons of contaminants removed in all pump and treat systems since the facilities began operating



1.95 billion of gallons of groundwater treated in 2014



62 tons of contaminants removed in 2014



Groundwater Key Focus Areas

- Expand pump and treat systems
 - Continue pump and treat operations
 - Install and connect new and existing wells to maximize remediation effectiveness
 - Install uranium treatment system
- Continue progress on decision documents
- Groundwater strategy: stop key contaminants from entering the river and eventually clean up groundwater to drinking water standards



200 West Groundwater Pump and Treatment Facility – online and treating groundwater



Installing aquifer sampling tubes

Groundwater Accomplishments

FY 2014 Accomplishments

Soil & Water Remediation – Groundwater

- Continued integration of site-wide groundwater and vadose zone cleanup activities; groundwater contamination monitoring, operations, maintenance, and necessary modifications of existing remediation systems; and deployment of chemical and biological treatment to select areas in support of final remedies
 - *Extracted and treated 1.95 billion gallons of groundwater, removing 62 tons of contaminants*
 - *Initiated construction of the uranium treatment system and well network as required by the 200-UP-1 Record of Decision (ROD)*
- Continued progress toward completing decision documentation for the Comprehensive Environmental Response, Compensation, and Liability Act Remedial Investigation/Feasibility Study process to obtain the ROD for the 100/300 Areas located in the River Corridor and the 200 Area located in the Central Plateau
 - *Obtained the 100-F Reactor Area and 300 Area RODs*
- Provided site-wide and other support services



100-F Area



300 Area

Groundwater Accomplishments

FY 2014 Accomplishments

2014 Annual Groundwater Report

- 100-HR-3
 - Further reduction in 20 ug/L river shoreline impact (cleanup level in 1996 Interim ROD).
 - Maximum concentrations of hexavalent chromium detected in wells by end of 2014 was less than 500
- 100-KR-4
 - Reduction in high concentration hexavalent chromium via pump-and-treat operation
 - Reduction in length of river impacted by 20 ug/L contour (cleanup level from 1996 Interim ROD)
- 100-ZP-1
 - Area of carbon tetrachloride above 2,000 ug/L reduced to 0 m²
 - Reduction in overall area of carbon tetrachloride plume since 2012

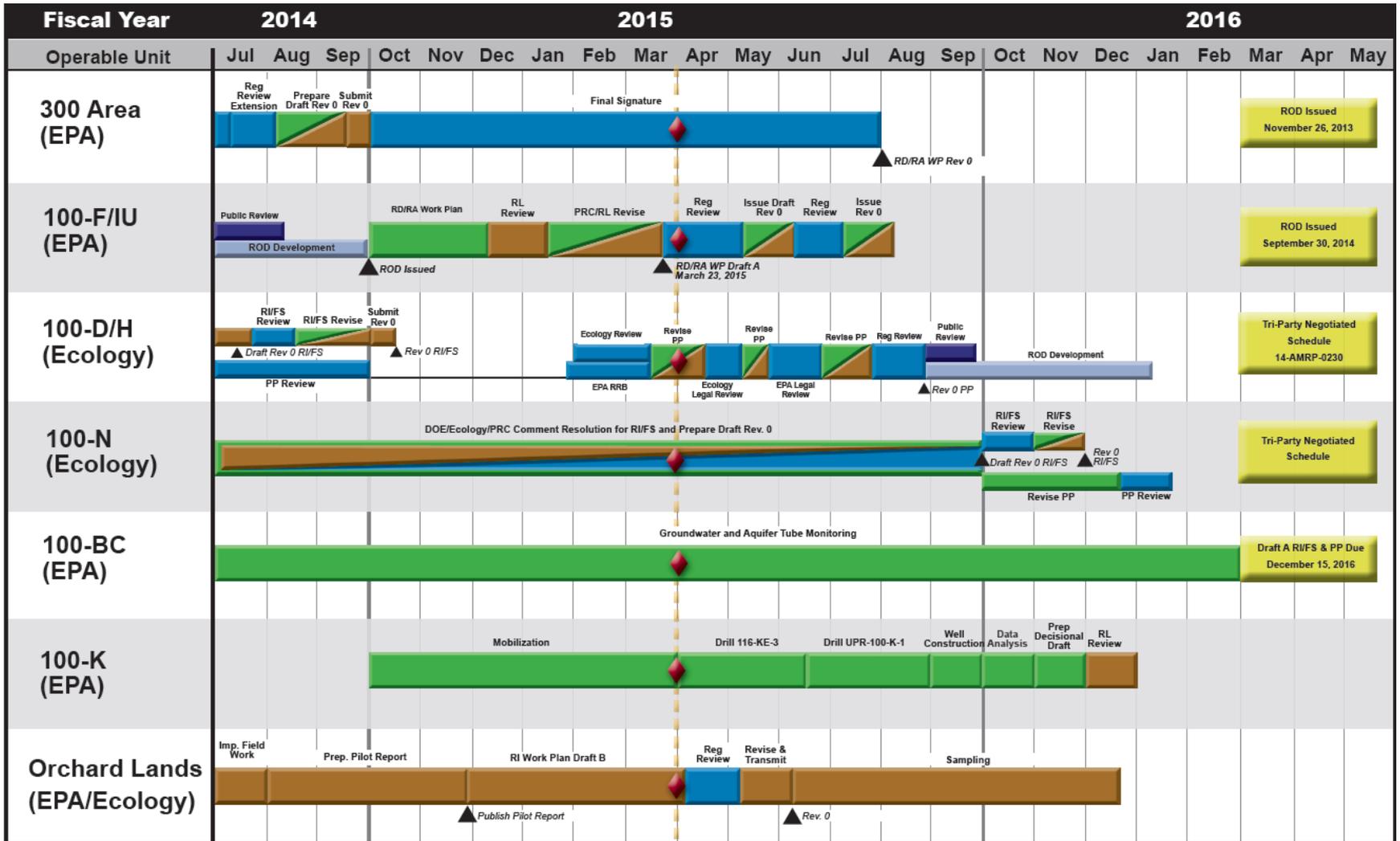


100-DX Pump and Treatment Facility



200 West Pump and Treatment Facility

CERCLA Decision Documents Path Forward



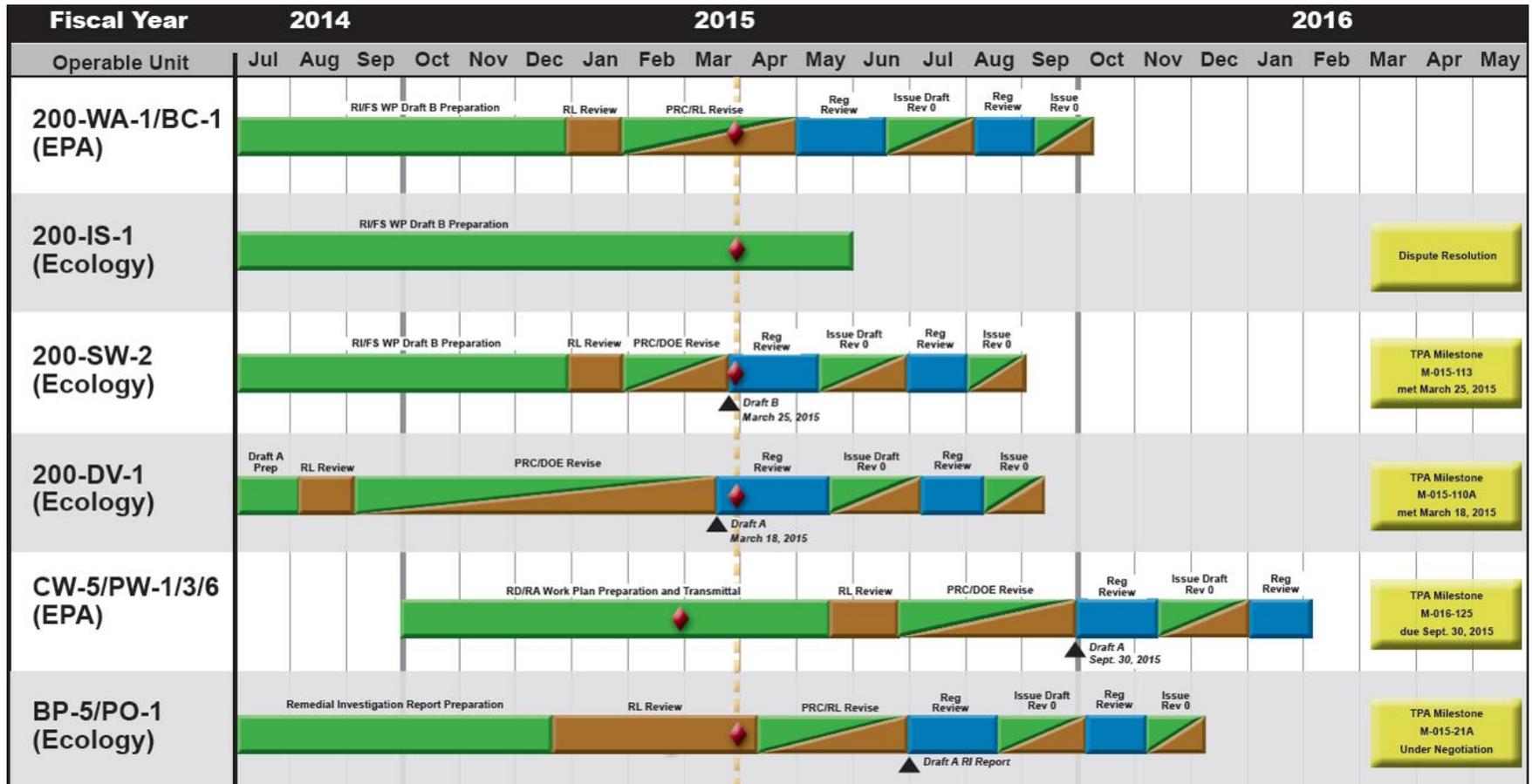
March 31, 2015



■ - Regulatory Agency
 ■ - DOE
 ■ - CHPRC
 ◆ - Progress to Date



CERCLA Decision Documents Path Forward



■ - Regulatory Agency
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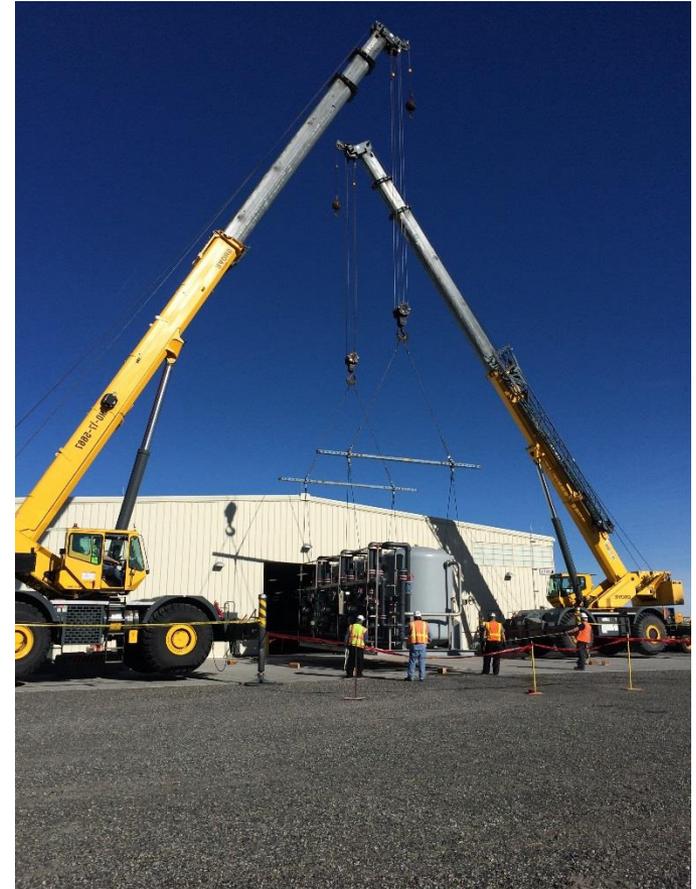


Groundwater Accomplishments

Recent (FY 2015) Accomplishments

Soil & Water Remediation – Groundwater

- Approximately 1.2 billion gallons of groundwater treated so far in FY15, ahead of the fiscal year to date target of 1.05 billion gallons
- Pump and treat throughputs have increased to nearly 5,000 gallons per minute
- TPA milestone M-015-113, “Submit Draft B 200-SW-2 RFI/CMS/RI/FS Work Plan to Ecology” was completed March 24, 2015 ahead of schedule (due March 31, 2015)
- TPA Milestone M-015-110A, “Submit RCRA FI/CMS & RI/FS Work Plan for 200-DV-1 Operable Unit” was completed March 19, 2015 ahead of schedule (due March 31, 2015)



*Workers offload the uranium treatment skid at
200 West Pump and Treatment Facility*

Groundwater

FY 2015 Work In Progress

- Construction of the uranium treatment system at the 200 West Pump and Treatment Facility
- Construction of a pipeline from the 200 East Area to the 200 West Area to treat 200 East groundwater
- Remedial investigation for the orchard lands in the River Corridor.



Uranium treatment skid and influent tank installation at 200 West Pump and Treatment Facility

Groundwater Planned Activities

Planned Activities through FY 2016

Soil & Water Remediation – Groundwater

- Continue integration of site-wide groundwater and vadose zone cleanup activities; groundwater contamination monitoring; as well as operations, maintenance, and necessary modifications of existing remediation systems
- Continue operation of the River Corridor and Central Plateau Area Pump and Treatment Facilities for treatment of at least 2.1 billion gallons of contaminated groundwater (removing uranium, carbon tetrachloride, nitrates, hexavalent chromium and technetium-99)
- Continue to support well drilling commitments in Tri-Party Agreement milestone M-024
- Continue progress on completing the groundwater characterization and supporting decision documentation needed for Comprehensive Environmental Response, Compensation, and Liability Act requirements and to obtain final remediation Records of Decision for operable units in the River Corridor and Central Plateau
- Continue remedial investigation for the orchard lands in the River Corridor



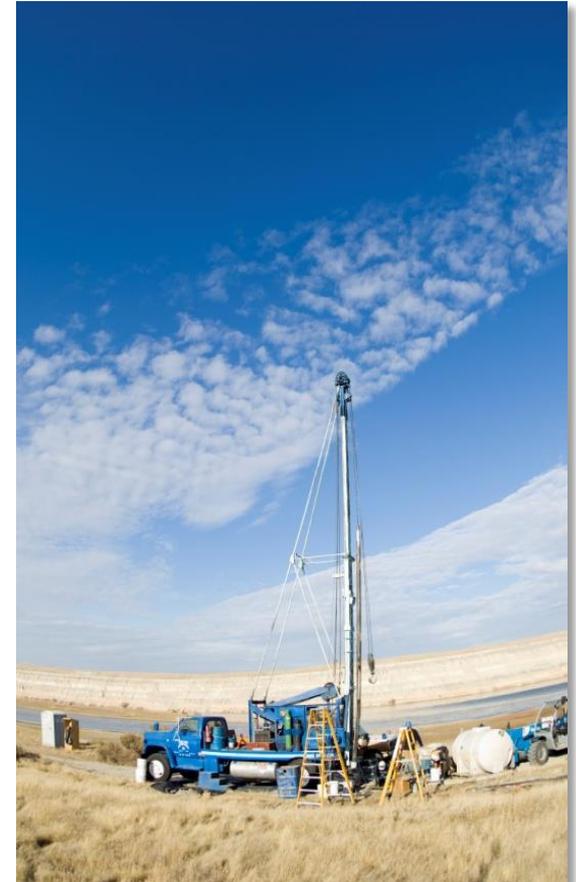
Workers install groundwater monitoring wells

Groundwater Planned Activities

FY 2017 Work Descriptions

Soil & Water Remediation – Groundwater

- Continue integration of site-wide groundwater and vadose zone cleanup activities; groundwater contamination monitoring; as well as operations, maintenance, and necessary modifications of existing remediation systems
- Continue operation of the River Corridor and Central Plateau Area Pump and Treatment Facilities for treatment of at least 2.1 billion gallons of contaminated groundwater (removing uranium, carbon tetrachloride, nitrates, hexavalent chromium and technetium-99)
- Continue to support well drilling commitments in Tri-Party Agreement milestone M-024
- Continue progress toward completing decision documentation for the Comprehensive Environmental Response, Compensation, and Liability Act Remedial Investigation/Feasibility Study process to obtain the final RODs for the 100/300 Areas located in the River Corridor and the 200 Area located in the Central Plateau
- Support apatite barrier actions at 100-NR-2 and uranium sequestration at 300-FF-5 Operable Units in support of interim/final remedies to stop strontium-90 and uranium from reaching the Columbia River



Workers drill wells along the Columbia River