

***Final Tank Closure and Waste Management
Environmental Impact Statement for the
Hanford Site, Richland, Washington
(Final TC & WM EIS)***

**U.S. Environmental Protection Agency (EPA), Region 10
Foreword**

After receiving the EPA comments on the *Draft TC & WM EIS*, the U.S. Department of Energy (DOE) wrote to the EPA, inviting the EPA to be a cooperating agency in the development of this *Final TC & WM EIS*. The two agencies signed a memorandum of understanding (MOU) in April 2011 to formalize the EPA's involvement as a cooperating agency and to define each agency's roles and responsibilities in the preparation of this final EIS. Prior to entering into the MOU, the EPA participated in two meetings organized by DOE, in April and October of 2010, to discuss the EPA's comments on the draft EIS and DOE's preliminary plans to address them.

The EPA was not involved in the development of the preliminary final EIS beyond the April and October 2010 meetings. When preliminary final EIS documents were released for review in August 2011, the limited timeframes for review necessitated our focused review on DOE's draft responses to the EPA's draft EIS comments and issues that the EPA considered important to address in this final EIS. This Foreword, therefore, reflects only a limited review of the preliminary and draft final EIS documents. Based on our limited review, the EPA has the following concerns regarding this *Final TC & WM EIS*:

Tank Closure and Waste Management

The EPA notes that the results of analyses of all Tank Closure alternatives in the preliminary and draft final EISs, including DOE's Preferred Alternative for tank closure, Tank Closure Alternative 2B, predict sustained release of contaminants to the environment, particularly to the vadose zone and to groundwater within the EIS analysis area. While we recognize the technical challenges associated with analyzing and addressing this problem, and that there are multiple sources of contaminants over time, we remain concerned about the potential impacts of sustained contaminant release to the vadose zone in the study area and migration to groundwater. We understand that the models used in this EIS to analyze impacts were developed in a process that included peer review. However, present and future users of the models should be aware of any limitations of the models, and assumptions employed in these analyses. We agree with statements in the preliminary and draft final EISs stating that, "these models are complex and rely on assumptions that are subject to a large degree of uncertainty...." At present, we collectively do not have enough information to accurately predict how various contaminants migrate through soils and groundwater, nor when peak groundwater impacts will occur. However, the best site-specific data should be incorporated into the assumptions, especially when the models are being used to inform site-specific decisions.

The EPA will continue to coordinate with DOE and the Washington State Department of Ecology (Ecology) to address contamination issues through our relevant authorities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Resource Conservation and Recovery Act (RCRA); and Hanford Federal Facility Agreement and Consent Order, also known as the Tri-Party Agreement (TPA). The TPA currently identifies groundwater in the study area as an operable unit, which will be addressed under CERCLA.

The EPA's comments on the preliminary final EIS addressed the relationship of this EIS to permitting requirements of Ecology's authorized dangerous waste program. We appreciate the changes made to this final EIS in response. The EPA believes that this EIS can serve as a set of bounding analyses reasonably expected to reflect the environmental performance requirements that Ecology may

establish through the permitting process. In this context, the EPA would support an approach to tank closure that includes landfill and clean closure components analyzed in this EIS. The EPA will continue to work closely with Ecology in support of that agency's authorized dangerous waste permitting program.

Secondary- and Offsite-Waste Disposal

This final EIS indicates that disposal of secondary and offsite waste on site at Hanford would continue to show significant impacts of the release of technetium-99 into the vadose zone and groundwater. To prevent additional contamination of the vadose zone and groundwater from such disposal, DOE will need to establish waste acceptance criteria and appropriate treatment technologies to reduce or immobilize contaminants in the wastes, primarily technetium-99 and iodine-129. For example, the steam reforming waste performance is still associated with a high degree of uncertainty, suggesting that steam reforming technology remains immature and requires more improvements. Similarly, iodine-129 is very volatile and cannot be easily converted to immobilized low-activity waste glass.

Next Steps

The EPA's role and responsibilities as a cooperating agency in the development of this final EIS are distinct from its obligations under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, which require the EPA to review and comment in writing on the environmental impacts of major Federal actions, including actions that are the subject of draft and final EISs under NEPA. The EPA intends to carry out this independent authority in a review of the publicly released version of this final EIS. In addition, the EPA's role as a cooperating agency is separate from, and not intended to duplicate or replace the EPA's regulatory roles, including those under RCRA, CERCLA, and the TPA. We will continue to carry out these responsibilities in coordination with other agencies as appropriate.