

5.2 Environmental Remediation



This section provides information about federal statutes and regulations related to environmental remediation.

5.2.1 Comprehensive Environmental Response, Compensation, and Liability Act

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During 1980, CERCLA was enacted to address response, compensation, and liability for past releases or potential releases of hazardous substances, pollutants, and contaminants to the environment. During 1986, CERCLA was extensively amended by the *Superfund Amendments and Reauthorization Act*, which made federal facilities subject to the provisions of CERCLA. EPA is the lead regulatory agency responsible for oversight of the DOE's implementation of CERCLA. There is significant overlap between the state RCRA corrective action program (Section 5.1.2) and the CERCLA program. Many waste management units at Hanford are subject to remediation under both programs. The CERCLA program is implemented via 40 CFR 300, *National Oil and Hazardous Substances Pollution Contingency Plan*, which establishes procedures for characterization, evaluation, and remediation. The Tri-Party Agreement (Ecology et al. 1989) addresses CERCLA implementation at the Hanford Site and is generally consistent with the national contingency plan process. There are several remediation activities under way at the Hanford Site that are accomplished using the CERCLA process (e.g., remedial investigation in the 200 Areas, and cleanup in the 100 and 300 Areas).

5.2.2 Hanford Site Institutional Controls Plan

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Section 4.2 of the *Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions* (DOE/RL-2001-41) requires the DOE Richland Operations Office to conduct an annual assessment regarding the performance of the institutional controls described in the plan. The plan calls for a focused and periodic self-assessment and reporting of institutional controls to (1) assess the performance of institutional controls to ensure their effectiveness and (2) identify the need to make any adjustments to the institutional controls based on performance findings. Initially, the plan required an assessment be conducted on an annual basis within 12 months of its issuance and a report be submitted to EPA and the Washington State Department of Ecology as a primary Tri-Party Agreement document as described in Section 9.2.1 of the Tri-Party Agreement (Ecology et al. 1989). This institutional controls assessment addresses objectives outlined in the assessment plan by conducting a performance-based review of selected areas of institutional controls located within the four National Priorities List sites at the Hanford Site. An assessment team primarily comprising DOE staff is usually designated and the assessment team reviews any prior institutional controls self-assessments and performance reviews and the contractor's oversight program as it pertains to this activity.

The *Site Wide Institutional Controls Annual Assessment Report for Hanford CERCLA Response Actions* (DOE/RL-2004-56), issued in 2004, identified inconsistent use of institutional control language and/or terms used in Hanford Site decision and supporting documentation



for CERCLA response actions. An institutional control dictionary and language was developed to standardize the institutional control language and/or terms used at the Hanford Site. The language and/or terms used in the guidance document are not intended as legal or environmental regulatory requirements, nor are they intended to be inconsistent with them. They are meant to be used only as language and/or terms for purposes of identifying and/or addressing institutional controls. Institutional control language and/or terms used in Hanford Site decision and supporting documentation for CERCLA response actions may be found in, but are not limited to: CERCLA records of decisions, remedial design and remedial action work plans, cleanup verification packages, waste site reclassification forms, and waste identification data system listings. This guidance document is intended for “post-remediation” actions, as defined under CERCLA. Where appropriate, however, institutional controls may also be used during remediation as applicable under CERCLA.

The 2004 institutional controls assessment report (DOE/RL-2004-56) also identified the need to evaluate the effectiveness of the surveillance and maintenance program for facilities in the 300 Area. The surveillance and maintenance activities for 300 Area facilities are performed by multiple contractors (e.g., Bechtel Hanford, Inc., and Fluor Hanford, Inc.) and the Pacific Northwest National Laboratory. Currently, Fluor Hanford, Inc. is responsible for the majority of the facilities located in the 300 Area; however, in October 2004, Fluor Hanford, Inc. transitioned 16 facilities to Bechtel Hanford, Inc. In response to the report, the DOE Richland Operations Office evaluated the effectiveness of the 300 Area surveillance and maintenance program. The primary reasons DOE conducted this evaluation were because: the 300 Area is located very close to a populated area, potential hazards exist, and area entry controls could potentially be breached. The evaluation indicated that the existing 300 Area surveillance and maintenance program is sufficiently protective of human health and the environment such that imposing formal institutional controls is unnecessary. Virtually no systematic concerns or major physical problems, such as broken fences and gates, or damaged signs, were observed with existing access controls. New safety portals (under design) and new construction in the 300 Area will provide additional entry controls above and beyond current warning devices such as signs and fences.

5.2.3 CERCLA and Washington Administrative Code Reportable Releases to the Environment

L. P. Diediker

Releases that are reportable to the state and/or EPA include spills or discharges of hazardous substances or dangerous waste to the environment, other than releases permitted under state or federal law. Releases of hazardous substances that are continuous and stable in quantity and rate but exceed specified limits must be reported as required by CERCLA Section 103(f)(2).

Reporting of spills or non-permitted discharges of dangerous waste or hazardous substances to the environment is required (WAC 173-303-145). That requirement applies to spills or discharges onto the ground, into groundwater, the surface water (e.g., Columbia River), or into the air such that human health or the environment are threatened, regardless of the quantity of dangerous waste or hazardous substance.

One reportable release occurred on the Hanford Site during 2004, which was a mercury spill in the 100-B/C Area. The spill occurred on September 11, 2004, and involved approximately 51 kilograms (113 pounds) of mercury. During CERCLA remediation of a waste burial ground, a 25.4-centimeter- (10-inch-) diameter by 1.22-meter- (4-foot-) long metal cylinder was discovered that was leaking mercury. After a determination was made that the spill exceeded the reportable quantities listed in 40 CFR 302, *Designation, Reportable Quantities and Notification*, it was reported to DOE, EPA, and the National Response Center. The spilled material was cleaned up without incident in accordance with established procedures.

5.2.4 Washington Administrative Code Groundwater Monitoring

M. J. Hartman

Groundwater monitoring was required for three regulated, non-RCRA waste facilities in 2004. The 200 Area Treated



Effluent Disposal Facility and the State-Approved Land Disposal Site are monitored under state discharge permits (WAC 173-216). The Solid Waste Landfill is monitored for the requirements of WAC 173-304, *Minimum*

Functional Standards for Solid Waste Handling. Wells near these facilities were monitored in 2004 for waste constituents specified in the facility permits.

