

6.2 Federal and State Environmental Regulations

Under the Supremacy Clause of the U.S. Constitution (Article VI, Clause 2), activities of the federal government are ordinarily not subject to regulation by the states unless Congress creates specific exceptions. Congress has created exceptions with respect to environmental regulation and provisions in several federal laws giving specific authority to the states to regulate federal activities affecting the environment. These waivers (or partial waivers) of sovereign immunity appear in Section 118 of the CAA, Section 313 of the CWA, Section 1447 of the SDWA, Section 6001 of RCRA, and Section 120 of CERCLA/SARA. The Federal Facilities Compliance Act is an amendment to RCRA that makes the RCRA waiver of sovereign immunity more explicit. Many Washington State programs, with respect to the environmental regulation of Hanford Site facilities under the preceding statutes, are coordinated with the U.S. Environmental Protection Agency (EPA) Region 10 office.

Federal and state environmental regulations that may apply to operations at the Hanford Site have been promulgated under the CAA, CWA, SDWA, RCRA, CERCLA, SARA, AEA, LLWPA, NWPA, under other federal statutes, and under relevant state statutes.

Several of the more important existing federal and state environmental regulations are discussed briefly below. These regulations are grouped according to environmental media.

6.2.1 Air Quality

The federal Clean Air Act and the Washington Clean Air Act (Revised Code of Washington [RCW] 70.94) provide the statutory basis for air quality regulation of Hanford Site activities. The federal CAA establishes a floor or minimum level of requirements. State requirements can exceed, i.e., be more stringent than, federal requirements.

- 40 Code of Federal Regulations (CFR) 50, “National Primary and Secondary Ambient Air Quality Standards.” EPA regulations in 40 CFR 50 set national ambient air quality standards for sulfur oxides, particulate matter, carbon monoxide, ozone, nitrogen dioxide, and lead. The standards are not directly enforceable, but other enforceable regulations are based on the standards. Washington’s ambient air standards are at Washington Administrative Code (WAC) 173-470 through 173-481 and include standards for radionuclides and fluorides. The Hanford Site is within an area that is in attainment with or is unclassifiable for all national ambient air quality standards (40 CFR 81.348).
- 40 CFR 51-52, State Implementation Plans (SIPs). EPA regulations in 40 CFR 51-52 establish the requirements for SIPs and record the approved plans. The SIPs are directed at the control of emissions for which federal ambient air standards exist. Information on the Washington SIP is available at: <http://yosemite.epa.gov/r10/airpage.nsf/webpage/SIP+-+WA+Table+of+Contents?OpenDocument>.
- 40 CFR 60, “Standards of Performance for New Stationary Sources.” EPA regulations in 40 CFR 60 provide standards for the control of the emission of pollutants to the atmosphere. Construction or modification of an emissions source in an attainment area such as Hanford can require a prevention of significant deterioration (PSD) of air quality permit under 40 CFR 52.21 and WAC 173-400-141.

- 40 CFR 61, “National Emission Standards for Hazardous Air Pollutants” (NESHAP); 40 CFR 63, “National Emission Standards for Hazardous Air Pollutants for Source Categories.” EPA hazardous emission standards in 40 CFR 61 provide for the control of the emission of hazardous pollutants to the atmosphere. Standards in 40 CFR 61 Subpart H apply specifically to the emission of radionuclides from DOE facilities. Emissions of radionuclides (other than radon-220 and radon-222) to the ambient air from DOE facilities are not to exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/yr (0.1 mSv/yr) (40 CFR 61.92). Standards in 40 CFR 61 Subpart Q apply to the emission of radon from DOE facilities. No source at a DOE facility is to emit more than 20 picocuries per square meter per second (pCi/(m²-s)) (1.9 pCi/(ft²-s)) of radon-222 as an average for the entire source into the air (40 CFR 61.192). Approval to construct a new facility or to modify an existing one may be required under 40 CFR 61.07. Emission standards for sources of hazardous air pollutants designated in the 1990 CAA amendments appear at 40 CFR 63.
- 40 CFR 70, “State Operating Permit Programs.” These regulations provide for the establishment of comprehensive state air quality permitting programs. All major sources of air pollutants including hazardous air pollutants are covered. Washington’s operating permit regulations appear at WAC 173-401.
- 40 CFR 93 Subpart B, “Determining Conformity of General Federal Actions to State or Federal Implementation Plans.” The general conformity requirements require that actions of federal agencies are to comply with state implementation plans designed to achieve national ambient air quality standards.
- WAC 173-400 through 173-495, Washington State Air Pollution Control Regulations. Ecology air pollution control regulations, promulgated under the Washington CAA appear in WAC 173-400 through 173-495 and are available at <http://www.ecy.wa.gov/laws-rules/ecywac.html#air>. These regulations include emission standards, ambient air quality standards, and the standards in WAC 173-460, “Controls for New Sources of Toxic Air Pollutants.” The State of Washington has delegated much of its authority under the Washington CAA to the BCAA. However, except for certain air pollution sources (e.g., asbestos removal, fugitive dust, and open burning) administered by the BCAA, Ecology continues to administer air pollution control requirements for the Hanford Site.
- WAC 246-247, “Radiation Protection--Air Emissions.” Washington DOH regulations in WAC 246-247 contain standards and permit requirements for the emission of radionuclides to the atmosphere.
- Regulation 1 of the Benton Clean Air Authority can be accessed at: <http://www.bcaa.net/RegPol.htm>.

6.2.2 Water Quality

The CWA and the Washington Water Pollution Control Act provide the statutory basis for the regulation of water quality in Washington State. The CWA established the National Pollutant Discharge Elimination System (NPDES) to limit the amount of pollutants that could be discharged.

- 40 CFR 121, “State Certification of Activities Requiring a Federal License or Permit.” These regulations provide for state certification that any activity requiring a federal water permit, i.e., a

NPDES permit or a discharge of dredged or fill material permit, will not violate state water quality standards.

- 40 CFR 122, “EPA Administered Permit Programs: The National Pollutant Discharge Elimination System.” EPA regulations in 40 CFR 122 (and also in 40 CFR 125 and 129) apply to the discharge of pollutants from any point source into waters of the United States. These regulations also apply to the discharge of storm waters (40 CFR 122.26) and the discharge of runoff waters from construction areas over 0.02 km² (0.008 mi²) in size into waters of the United States. NPDES permits may be required by 40 CFR 122. EPA has not delegated to the State of Washington the authority to issue NPDES permits at the Hanford Site.
- 40 CFR 141, “National Primary Drinking Water Regulations.” EPA drinking water standards in 40 CFR 141 apply to Columbia River water at community water supply intakes downstream of the Hanford Site. Standards in 40 CFR 141.16 apply indirectly to releases of radionuclides from DOE facilities (and also non-DOE facilities) to the extent that the releases impact community water systems. The average annual concentration of beta particle and photon radioactivity from man-made radionuclides in drinking water are not to produce an annual dose equivalent to the body or any internal organ greater than 4 mrem (0.04 mSv) in a year. Maximum contaminant levels in community water systems of 5 pCi/L (0.18 Bq/L) of combined radium-226 and radium-228; 15 pCi/L (0.56 Bq/L) of gross alpha particle activity, including radium-226 but excluding radon and uranium; and 30 µg/L for uranium are specified in 40 CFR 141.66. The average annual concentration of beta particle and photon radioactivity from man-made radionuclides in drinking water must not produce an annual dose equivalent to the total body or any internal organ greater than 4 mrem/yr (0.04 mSv/yr) [40 CFR 141.66(d)].
- 40 CFR 144-147, Underground Injection Control Program. EPA regulations in 40 CFR 144-147 apply to the underground injection of liquids and wastes and may require a permit for any underground injection. In Washington State, EPA has approved Ecology regulations in WAC 173-218, “Underground Injection Control Program,” to operate in lieu of the EPA program. The Ecology regulations provide standards and permit requirements for the disposal of fluids by well injection.
- 10 CFR 1022, “Compliance with Floodplain/Wetlands Environmental Review Requirements.” DOE regulations in 10 CFR 1022 implement Executive Orders 11988 and 11990 and apply to DOE activities that are proposed to take place either in wetlands or in floodplains.
- 33 CFR 322-323, 40 CFR 230-233. Construction or placement of structures in the Columbia River and work in the Columbia River, as well as the discharge of dredged or fill material into the Columbia River, require permits under these U.S. Army Corps of Engineers and EPA regulations.
- WAC 173-160. Under WAC 173-160, DOE provides notification to Ecology for water-well drilling on the Hanford Site.
- WAC 173-216, “State Waste Discharge Permit Program.” Ecology regulations in WAC 173-216 establish a state permit program for the discharge of waste materials from industrial, commercial, and municipal operations into ground and surface waters of the state. Discharges covered by NPDES or WAC 173-218 permits are excluded from the WAC 173-216 program. DOE has agreed to meet the requirements of this program at the Hanford Site for discharges of liquids to the ground.

- WAC 332-30, “Aquatic Land Management.” Where applicable, DOE will obtain an aquatic land use lease or permit from the Washington Department of Natural Resources for the placement of structures in the Columbia River on lands owned by the State of Washington. The U.S. Government owns most of the riverbed along the Hanford Site to the line of navigation.
- WAC 246-272-08001 and 246-272-09001. These regulations, administered by the Washington DOH, contain permit requirements for onsite sewage systems.
- WAC 246-290. These regulations, administered by the Washington DOH, contain requirements applicable to water systems providing piped water for human consumption.

6.2.3 Hazardous Waste Management

Regulation of hazardous wastes at Hanford is conducted under RCRA, CERCLA, the Tri-Party Agreement, and the Washington State Hazardous Waste Management Act.

- 40 CFR 300, “National Oil and Hazardous Substances Pollution Contingency Plan.” EPA CERCLA regulations in 40 CFR 300 apply to the cleanup of inactive hazardous waste disposal sites, the cleanup of hazardous substances released into the environment, the reporting of hazardous substances released into the environment, and natural resource damage assessments. Four areas of the Hanford Site (100, 200, 300, and 1100) were listed on the EPA’s National Priorities List (NPL) in November 1989. The 1100 Area was subsequently delisted. Placement on the list requires DOE, in consultation with EPA and Washington State, to conduct remedial investigations and feasibility studies leading to a Record of Decision (ROD) on the cleanup of inactive waste disposal sites at Hanford. Standards for cleanup under CERCLA are “applicable or relevant and appropriate requirements” (ARARs), which may include both federal and state laws and regulations. In anticipation of Hanford’s being placed on the NPL, DOE, EPA, and Ecology signed the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) on May 15, 1989. This agreement describes the cleanup responsibilities and authorities of the three parties under CERCLA (and RCRA), and also provides for permitting of the treatment, storage, and disposal of hazardous wastes under RCRA. The Tri-Party Agreement has been amended a number of times (<http://www.hanford.gov/tpa/tpahome.htm>).
- 40 CFR 260-268 and 270-272, Hazardous Waste Management. EPA RCRA regulations in 40 CFR 260-268 and 270-272 apply to the generation, transport, treatment, storage, and disposal of hazardous wastes (but not to source, by-product, or special nuclear material [i.e., not in general to radioactive wastes]), and apply to the hazardous component of hazardous radioactive mixed wastes (but not to the radioactive component) owned by DOE. RCRA regulations (40 CFR 268) require treatment of many hazardous wastes before they can be disposed of in landfills (land disposal restrictions). RCRA permits are required for the treatment, storage, or disposal of hazardous wastes. The regulations also require cleanup (corrective action) of any RCRA facility from which there is an unauthorized release before a RCRA permit is granted. Ecology has been authorized by EPA to administer the RCRA program within Washington. Ecology has oversight authority for RCRA corrective actions at Hanford under the Tri-Party Agreement.
- 40 CFR 280-281, Underground Storage Tanks. EPA has regulations in 40 CFR 280-281 issued under RCRA Subtitle IX that apply to new and existing underground storage tanks containing petroleum or substances regulated under CERCLA (except for hazardous wastes regulated under RCRA). New tanks must meet strict design and operating standards. Owners of new tanks must notify the applicable regulatory agency and certify compliance with the regulations. The

regulations require the reporting, investigation, and cleanup of releases from underground tanks. EPA has authorized Washington State to administer the underground storage tank program. Washington's requirements are in RCW 90.76 and WAC 173-360.

- WAC 173-303, "Dangerous Waste Regulations." EPA has authorized the State of Washington through Ecology to conduct its own dangerous waste regulation program in lieu of major portions of the RCRA interim and final permit program for the treatment, storage, and disposal of hazardous wastes. Ecology is also authorized to conduct its own program for the hazardous portion of radioactive - mixed wastes. The state regulations include both standards and permit requirements, as well as a larger universe of covered materials than the federal hazardous waste program.

6.2.4 Species Protection

- 50 CFR 10-24, 222, 402, and 450-453, Species Protection Regulations. Regulations under the Endangered Species Act, the Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act in 50 CFR 10-24 apply to the protection of plant and animal species on the Hanford Site. Regulations in 50 CFR 17, 81, 222, 223, 402, and 450-453 apply to endangered or threatened species. Section 7 of the Endangered Species Act (16 USC 1536) requires that federal agencies 1) utilize their authority in furtherance of the purposes of the Act by carrying out programs for the conservation of listed endangered and threatened species, and 2) consult with appropriate federal agencies to ensure that any action carried out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat for such species. The Fish and Wildlife Coordination Act [16 USC 662(a, h)] requires that a federal agency consult with the U.S. Fish and Wildlife Service and the state agency exercising administration over wildlife if any body of water over 0.04 km² (0.016 mi²) in size is to be modified by a federal agency, or a licensee or permittee of the agency, for any purpose. The purpose of this consultation is to prevent loss and damage to wildlife resources.

6.2.5 Historic and Cultural Resource Preservation

The DOE policy on management of cultural resources (DOE 2001a) provides that:

DOE will uphold [the NHPA, the Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act] by preserving, protecting, and perpetuating cultural resources for future generations in a spirit of stewardship to the extent feasible given the agency's mission and mandates. To do this, DOE will implement management accountability for compliance with federal statutes, executive orders, treaties, DOE orders, and implementation guidance. The Department also ensures that DOE contractors are obligated to implement DOE programs and projects in a manner that is consistent with this Policy and that reflects this commitment in site management contracts.

The background statement in "Management of Cultural Resources at Department of Energy Facilities" (DOE 2001b) further states that:

DOE recognizes the cultural and scientific value of the resources that may exist on the properties under its management or over which it has direct or indirect control. Therefore, DOE has implemented a program to protect these resources and ensure that all DOE facilities and programs comply with all existing cultural resource executive orders, laws, and regulations.

The DOE management document (DOE 2001b) defines cultural resources to include “historic properties” as defined in the NHPA, “archaeological resources” as defined in the Archaeological Resources Protection Act of 1979, and “cultural items” as defined in the Native American Graves Protection and Repatriation Act.

The NHPA authorizes the Secretary of the Interior to maintain a National Register of Historic Places (16 USC 470a[a][1]). Federal agencies are to consider the effect of their actions on properties included in or eligible for inclusion in the Register and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such actions (16 USC 470f).

The Archaeological Resources Protection Act of 1979 prohibits the excavation of material remains of past human life that have archaeological interest and are at least 100 years old without a permit from the appropriate federal land manager or an exemption (16 USC 470bb, 470ee).

The Native American Graves Protection and Repatriation Act prohibits the intentional excavation or removal of human remains or cultural items without a written permit, and prescribes protective measures and repatriative actions to be taken in the event that human remains or cultural items are discovered inadvertently (25 USC 3001 *et seq.*).

Additional information is available by contacting the Department of Energy, Richland Operations Office, Hanford Cultural and Historic Resources Program or by accessing the Hanford website at <http://www.hanford.gov/doe/culres/index.htm>.

6.2.6 Land Use

The Hanford Reach National Monument was created on June 9, 2000, by a proclamation (65 FR 37253) signed by President Clinton under the authority of the Antiquities Act. The Monument includes 792.6 km² (306 mi²) of federally owned land making up a portion of the Hanford Site. The principal components of the Monument are:

- the Fitzner-Eberhardt Arid Lands Ecology Reserve Unit,
- the McGee Ranch and Riverlands Unit,
- the Saddle Mountain National Wildlife Refuge Unit,
- the quarter-mile study strip along the south and west sides of the Columbia River corridor as designated by the Hanford Reach Study Act (Hanford Reach Study Act [1988] as amended by Public Law 104-333),
- the federally owned islands within the portion of the Columbia River included in the Monument,
- and the Hanford Sand Dune Field Unit.

The U.S. Fish and Wildlife Service (USFWS) manages approximately 67,000 ha (166,000 ac) of Monument lands that are within the Fitzner-Eberhardt Arid Lands Ecology Reserve Unit and the Wahluke Slope (Wahluke Unit and Saddle Mountain Unit) under permit from DOE. DOE manages the remainder of the Monument. The June 9, 2000, proclamation does not affect the responsibilities and authority of

DOE on Hanford Site lands nor does it affect DOE activities on lands not included within the Monument boundaries. In a separate memorandum^(a) to the Secretary of Energy, DOE was directed by the President to protect the natural values of the Hanford Site land not included within the Monument. DOE and USFWS signed a Memorandum of Understanding on June 14, 2001, covering management responsibilities for the Monument. USFWS issued a Notice of Intent to prepare a comprehensive conservation plan and associated EIS for the Monument in June 2002 (67 FR 40333).

In September 1999, DOE issued the Final Hanford Comprehensive Land-Use Plan Environmental Impact Statement (DOE 1999). The ROD issued in November 1999 (64 FR 61615) states that the purpose of the land-use plan and its implementing policies is to facilitate decision making about the Hanford Site's uses and facilities over at least the next 50 years. The ROD adopts the Preferred Alternative land-use maps, designations, policies, and implementing procedures as described in the 1999 EIS and designates the Central Plateau (200 Areas) for Industrial-Exclusive use. In November 1999, USFWS signed a Record of Decision documenting USFWS's adoption of the DOE's Final Comprehensive Land Use Plan.

6.2.7 Other

- 40 CFR 191, “Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes.” EPA regulations in 40 CFR 191 provide environmental standards for the management, storage, and disposal of spent nuclear fuel, high-level radioactive wastes, and transuranic radioactive wastes at high-level or transuranic waste disposal sites.
- 40 CFR 355, 370, and 372. These regulations implement the federal Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA was signed into law in October 1986 as part of the Superfund Amendments and Reauthorization Act.
- 40 CFR 700-799, TSCA Regulations. EPA’s regulations in 40 CFR 700-799 implement TSCA and, in particular, regulate polychlorinated biphenyls (PCBs) and dioxins and partially regulate asbestos.
- 40 CFR 1500-1508, Council on Environmental Quality. The CEQ regulations in 40 CFR 1500 to 1508 implement NEPA.
- 10 CFR 830, “Nuclear Safety Management.” Part 830 contains nuclear safety management requirements applicable to DOE contractors.
- 10 CFR 835, “Occupational Radiation Protection.” These DOE rules establish radiation protection standards, limits, and program requirements for protecting individuals from ionizing radiation resulting from DOE activities.
- 10 CFR 1021, “National Environmental Policy Act Implementing Procedures.” DOE regulations in 10 CFR 1021 set out procedures that DOE uses to comply with section 102(2) of NEPA and the CEQ regulations for implementing the procedural provisions of NEPA (40 CFR parts 1500-1508). The DOE regulations supplement, and are to be used in conjunction with, the CEQ regulations.

^(a) The memorandum is available at <http://clinton6.nara.gov/2000/06/2000-06-09-memorandum-on-hanford-reach-national-monument.html>.

- 49 CFR 171-179, Hazardous Materials Regulations. These Department of Transportation regulations apply to the handling, packaging, labeling, and shipment of hazardous materials offsite, including radioactive materials and wastes.
- WAC 173-60, “Maximum Environmental Noise Levels.” These regulations contain maximum permissible environmental noise levels in Washington. Additionally, the Occupational Safety and Health Administration has regulations covering noise exposure of occupational workers at 29 CFR 1910.95.