

2. Compliance Summary and Community Involvement

DOE operations on ORR are required to be in conformance with environmental standards established by a number of federal and state statutes and regulations, executive orders (EOs), DOE orders, contract-based standards, and compliance and settlement agreements. Principal among the regulating agencies are EPA and TDEC. These agencies issue permits, review compliance reports, participate in joint monitoring programs, inspect facilities and operations, and oversee compliance with applicable regulations.

When environmental concerns or problems are identified during routine operations or during ongoing self-assessments of compliance status, the issues are typically discussed with the regulatory agencies. The following sections summarize the major environmental statutes and 2012 status for DOE operations on ORR. A number of facilities at ETTP and ORSTP sites have been leased to private entities over the past several years through the DOE Reindustrialization Program. The compliance status of these lessee operations is not discussed in this report.

Because of different permit reporting requirements and instrument capabilities, various units of measure are used in this report. The list of units of measure and conversion factors provided on pages xxv and xxvi is intended to help readers convert numeric values presented in this document as needed for specific calculations and comparisons.

2.1 Laws and Regulations

Table 2.1 summarizes the principal environmental standards applicable to DOE activities on the reservation, the 2012 status, and references to the report sections that provide more detailed information.

2.2 External Oversight and Assessments

Inspections of ORR environmental activities by regulatory agencies were conducted during 2012 and are summarized in Table 2.2. This table does not include internal DOE or DOE contractor assessments, audits, or evaluations.

The State of Tennessee also conducts a program of independent monitoring and oversight of DOE activities on ORR through the Tennessee Oversight Agreement (TOA). TOA is a voluntary agreement between DOE and the State of Tennessee and is designed to assure the citizens of Tennessee that their health, safety, and environment are being protected through existing programs and substantial new commitments by DOE. More information on TOA and reporting of monitoring conducted under TOA is available at <http://www.state.tn.us/environment/doeo/>.

Table 2.1. Applicable environmental laws/regulations and 2012 status

Regulatory program description	2012 status	Report sections
CAA and Tennessee environmental conservation laws regulate the release of air pollutants through permits and air quality limits. Emissions of airborne radionuclides are regulated by EPA via NESHAPs authorizations. Greenhouse gas emissions inventory tracking and reporting are regulated by EPA.	In 2012, an NOV was issued for failure to conduct an initial VEE for an ORNL permitted stack emission point and for failure to report the missed VEE as a deviation in subsequent semiannual and annual Compliance Certification Reports.	3.3.5
		4.3.3
		5.3.3
CERCLA provides the regulatory framework for remediation of releases of hazardous substances and of inactive hazardous waste disposal sites.	ORR has been on the EPA NPL since 1989. The ORR FFA initiated in 1992 among EPA, TDEC, and DOE establishes the framework and schedule for developing, implementing, and monitoring remedial actions on ORR. CERCLA §121 requires a review of remedial actions “that result in any hazardous substances, pollutant, or contaminant remaining at the site . . . to assure that human health and the environment are being protected.” Five-year reviews are required for sites that have contamination left in place above unrestricted land use cleanup criteria. The third reservationwide Five-Year Review was conducted in 2011. Twenty-seven actions were evaluated and most were deemed to be protective (or will be protective) of human health and the environment. Two sites, Bear Creek Valley and upper East Fork Poplar Creek, were determined to not be protective of human health and the environment; however, institutional controls are in place to prevent human exposure. There were no NOV’s issued for CERCLA-related ORR actions during 2012.	3.3.10
		4.3.7
		5.3.8
CWA seeks to protect and improve surface water quality by establishing standards and a system of permits. Wastewater discharges are regulated by NPDES permits issued by TDEC.	Discharges to surface water at each of the three major ORR sites are governed by NPDES permits. A compliance rate of greater than 99% was achieved by all three major ORR sites in 2012.	3.3.6
		4.3.4
		5.3.4
EISA § 438 establishes requirements for federal agencies to reduce storm water runoff from development projects to protect water resources.	To comply with EISA a variety of storm water management techniques, referred to as GI or LID practices, have been implemented on ORR. The site sustainability plans and associated reporting provide data on sustainability projects and support EISA § 438 compliance.	4.2.6.8
		5.2.1.4.10
EPCRA, also referred to as SARA Title III, requires reporting emergency planning information, hazardous chemical inventories, and environmental releases of certain toxic chemicals to federal, state, and local authorities.	In 2012, DOE facilities on ORR were operated in accordance with emergency planning and reporting requirements.	3.3.12
		4.3.9.2
		5.3.10

Table 2.1. (continued)

Regulatory program description	2012 status	Report sections
NEPA requires consideration of how federal actions may impact the environment and an examination of alternatives to the actions. NEPA also requires that decisions include public input and involvement through scoping and review of NEPA documents.	During 2012, DOE activities on ORR were conducted in accordance with NEPA requirements.	3.3.4 4.3.2 5.3.2
NHPA provides protection for the nation's historical resources by establishing a comprehensive national historic preservation policy.	ORR has several facilities eligible for inclusion in the <i>National Register of Historic Places</i> . Proposed activities are reviewed to determine potential adverse effects on these properties, and methods to avoid or minimize harm are identified. During 2012, activities on ORR were in compliance with NHPA requirements.	3.3.4 4.3.2 5.3.2
ORR Floodplain Management Programs are established to avoid, to the extent possible, adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.	ORR floodplain management programs incorporate management and protection goals into planning, regulatory, and decision-making processes through each site's NEPA program. Goals include flood-loss reduction, minimization of the impact of floods, and the restoration and preservation of ORR floodplains. Floodplain management on ORR is conducted in accordance with 10 CFR 1022 and EO 11988, <i>Floodplain Management</i> .	3.3.4 4.3.2 5.3.2
ORR Protection of Wetlands Programs are implemented to minimize the destruction, loss, or degradation of ORR wetlands and to preserve and enhance their beneficial value.	Protection of about 243 ha (600.5 acres) of ORR wetlands was implemented through each site's NEPA program, and surveys for the presence of wetlands are conducted on a project or program as-needed basis. Wetland protection on ORR is conducted in accordance with 10 CFR 1022 and EO 11990, <i>Protection of Wetlands</i> .	1.3.6.1 3.3.4 4.3.2
RCRA governs the generation, storage, handling, and disposal of hazardous wastes. RCRA also regulates underground storage tanks containing petroleum and hazardous substances, universal waste, and recyclable used oil.	The Y-12 Complex, ORNL, and ETTP are defined as large-quantity generators of hazardous waste because each generates more than 1,000 kg of hazardous waste per month. Each site is also regulated as a handler of universal waste. In addition, several permits have been issued for hazardous waste management units on ORR. During 2012 an alleged violation was identified by EPA Region 4 and TDEC during an inspection at the Y-12 Complex for CERCLA project Investigative Derived Waste stored for more than 1 year from the initial date of generation. A TDEC-Knoxville Office UST auditor completed a compliance inspection of the UST system at Y-12. An NOV was received for a past due line tightness test.	3.3.8 4.3.6.1 5.3.7
SDWA establishes minimum drinking water standards and monitoring requirements.	The City of Oak Ridge supplies potable water to the facilities on ORR and meets all regulatory requirements for drinking water.	3.3.7 4.3.5 5.3.5

Table 2.1. (continued)

Regulatory program description	2012 status	Report sections
The Endangered Species Act prohibits activities that would jeopardize the continued existence of an endangered or threatened species or cause adverse modification to a critical habitat.	ORR is host to several plant and animal species that are categorized as endangered, threatened, or of special concern and that are protected in accordance with this act.	1.3.6.2
TSCA regulates the manufacture, use, and distribution of all chemicals.	The ORR facilities manage TSCA-regulated materials, including PCBs. The ORR PCB FFCA between EPA and DOE continues to provide a mechanism to address legacy PCB-use issues across ORR. The agreement specifically addresses the unauthorized use of PCBs, storage and disposal of PCB waste, PCB spill cleanup and/or decontamination, PCBs mixed with radioactive materials, PCB research and development, and records and reporting requirements for ORR. EPA is updated annually on the status of DOE actions with regard to management and disposition of PCBs covered under the ORR PCB FFCA. In 2012, a subcontractor to a former DOE EM prime contractor at ETPP received an NOV for failure to make the initial one-time notification of PCB Waste Activity as required by 40 CFR 761.205(b) for transporters of PCB waste.	3.3.11 4.3.8 5.3.9
DOE O 231.1B, <i>Environment, Safety and Health Reporting</i> , ensures timely collection, reporting, analysis, and dissemination of information on environment, safety, and health issues.	The <i>Oak Ridge Reservation Annual Site Environmental Report for 2012</i> will summarize ORR environmental activities during 2012 and characterize environmental performance.	All chapters
DOE O 435.1, Change 1, <i>Radioactive Waste Management</i> , is implemented to ensure that all DOE radioactive waste is managed in a manner that protects workers, public health and safety, and the environment.	Waste certification programs that are protective of workers, the public, and the environment have been implemented for all activities on ORR to ensure compliance with this DOE order.	3.8.1 4.8.3 5.8.9
DOE O 436.1, <i>Department Sustainability</i> , was approved in May 2011 and cancels DOE O 450.1A, <i>Environmental Protection Program</i> , and DOE O 430.2B, <i>Departmental Energy, Renewable Energy and Transportation Management</i> . DOE O 436.1 requires SSPs that identify a site's contributions toward meeting DOE's sustainability goals and an EMS that conforms to the ISO 14001:2004 standard.	DOE contractors on ORR have developed SSPs and have implemented environmental management systems that are incorporated with the contractors' ISMSs to promote sound stewardship practices and to ensure compliance with this DOE order.	3.2 4.2 5.2

Table 2.1. (continued)

Regulatory program description	2012 status	Report sections
DOE O 458.1, <i>Radiation Protection of the Public and the Environment, issued in June 2011</i> , canceled DOE O 5400.5 and was established to protect members of the public and the environment against undue risk from radiation. This order established standards and requirements for operations of DOE and DOE contractors.	In 2012 DOE O 458.1 was the primary contractual obligation for radiation protection for UT-Battelle, LLC, and B&W Y-12, and DOE O 5400.5 was the primary contractual obligation for UCOR. A dose assessment, performed to ensure that the total dose to members of the public from all DOE ORR pathways did not exceed the 100 mrem annual limit established by this order estimated the maximum 2012 dose to a hypothetically exposed member of the public from all ORR sources could have been about 3 mrem. Clearance of property from ORNL and the Y-12 Complex was conducted in accordance with approved procedures that comply with DOE O 458.1.	4.3.11 5.3.13 Chap. 7
DOE O 5400.5, <i>Radiation Protection</i> , was established to protect members of the public and the environment against undue risk from radiation. This order established standards and requirements for operations of DOE and DOE contractors. This order has been substantially canceled by DOE O 458.1 but remained a contractual obligation for UCOR in 2012.	A dose assessment, performed to ensure that the total dose to members of the public from all DOE ORR pathways did not exceed the 100 mrem annual limit established by this order estimated the maximum 2012 dose to a hypothetically exposed member of the public from all ORR sources could have been about 3 mrem.	Chap. 7
EO 13423, <i>Strengthening Federal Environmental, Energy, and Transportation Management</i> , instructs federal agencies to conduct their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically, and fiscally sound; integrated; continuously improving; efficient; and sustainable manner.	In 2012 “site sustainability plans” addressed the requirements of EOs 13423 and 13514 and DOE’s <i>Strategic Sustainability Performance Plan</i> . ^a Progress toward achieving DOE sustainability goals is summarized in this report. ORR activities complied with the planning and reporting requirements of these executive orders in 2012.	3.2.3 4.2.6.3 5.2.1.4
EO 13514, <i>Federal Leadership in Environmental, Energy, and Economic Performance</i> , expands on the energy reduction and environmental performance requirements for federal agencies identified in EO 13423 and establishes an integrated strategy toward sustainability in the federal government to make reduction of greenhouse gas emissions a priority for federal agencies.		

Table 2.1. (continued)

^aDOE. 2012. *2012 Strategic Sustainability Performance Plan*, Report to the White House Council on Environmental Quality. US Department of Energy, Washington, DC.

Abbreviations

B&W Y-12 = Babcock & Wilcox Technical Services Y-12, LLC
 CAA = Clean Air Act
 CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
 CWA = Clean Water Act
 DOE = US Department of Energy
 DOE EM = DOE Office of Environmental Management
 EISA = Energy Independence and Security Act
 EMS = environmental management system
 EO = executive order
 EPA = US Environmental Protection Agency
 EPCRA = Emergency Planning and Community Right-to-Know Act
 ETP = East Tennessee Technology Park
 FFA = federal facility agreement
 FFCA = Federal Facilities Compliance Agreement
 GI = green infrastructure
 ISMS = integrated safety management system
 LID = low impact development
 NEPA = National Environmental Policy Act

NESHAPs = National Emission Standards for Hazardous Air Pollutants
 NHPA = National Historic Preservation Act
 NOV = Notice of Violation
 NPDES = National Pollutant Discharge Elimination System
 NPL = National Priorities List
 ORNL = Oak Ridge National Laboratory
 ORR = Oak Ridge Reservation
 PCBs = polychlorinated biphenyls
 RCRA = Resource Conservation and Recovery Act
 SARA = Superfund Amendments and Reauthorization Act
 SDWA = Safe Drinking Water Act
 SSP = site sustainability plan
 TDEC = Tennessee Department of Environment and Conservation
 TSCA = Toxic Substances Control Act
 UCOR = URS | CH2M Oak Ridge LLC
 UST = underground storage tank
 VEE = Visible Emission Evaluation
 Y-12 Complex = Y-12 National Security Complex

Table 2.2. Summary of regulatory environmental evaluations, audits, inspections, and assessments conducted at Oak Ridge Reservation, 2012

Date	Reviewer	Subject	Issues
ORNL (including UT-Battelle, LLC; UCOR; Isotek; and WAI activities)			
January 4	Knox County	Construction Permit Inspection for NTRC	0
February 6	TDEC	Inspection of ORNL Underground Storage Tanks	0
March 22	TDEC	Follow-Up RCRA Inspection	0
May 14	Knox County	Annual CAA Inspection for NTRC	0
July 31	TDEC	Annual CAA Inspection	1
November 13–15	TDEC	Annual RCRA Inspection of UT-Battelle Facilities at Y-12 Complex	0
ETTP			
February 13–14	TDEC	Annual RCRA Compliance Inspection	0
September 25	TDEC-Knoxville	CNF NPDES Compliance Evaluation Inspection	0
October 25	TDEC	TSCA Incinerator—PCB Site Visit	0
Y-12 Complex			
January 31	TDEC-Knoxville	Underground Storage Tank Compliance Inspection	1 ^a
February 28	City of Oak Ridge	Semiannual Industrial Pretreatment Compliance Inspection	0
June 18–21	EPA Region 4 and TDEC	Multimedia Environmental Compliance Audit	0 ^b
August 8–9	TDEC-Knoxville	Annual CAA Compliance Audit	0
September 18	EPA Region 4	SPCC Plan	0 ^c
September 18	City of Oak Ridge	Semiannual Industrial Pretreatment Compliance Inspection	0
November 13–15	TDEC	Annual RCRA Inspection	0

^aThe underground storage tanks have been removed. See Section 4.3.6.1.

^bSee Section 2.4 for information related to an alleged violation related to CERCLA project Investigative Derived Waste.

^cA statement of correction was issued to address alleged SPPC deficiency. See Section 4.3.9.1.

Abbreviations

CAA = Clean Air Act	RCRA = Resource Conservation and Recovery Act
CNF = Central Neutralization Facility	SPCC = Spill Prevention Control and Countermeasures
EPA = Environmental Protection Agency	TDEC = Tennessee Department of Environment and Conservation
ETTP = East Tennessee Technology Park	TSCA = Toxic Substances Control Act
Isotek = Isotek Systems LLC	UCOR = URS CH2M Oak Ridge LLC
NPDES = National Pollutant Discharge Elimination System	WAI = Wastren Advantage, Inc.
NTRC = National Transportation Research Center	Y-12 Complex = Y-12 National Security Complex
ORNL = Oak Ridge National Laboratory	
PCB = polychlorinated biphenyl	

2.3 Reporting of Oak Ridge Reservation Spills and Releases

CERCLA hazardous substances are substances that are considered to be severely harmful to human health and the environment. Many are commonly used substances that are harmless in their normal uses but are quite dangerous when released. CERCLA establishes a corresponding reportable quantity (RQ) for each hazardous substance. Any hazardous substance release exceeding an RQ triggers reports to the

National Response Center,* the State Emergency Response Center, and community coordinators. Discharges of oil must be reported if they “cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines” [40 CFR 110.3(b)].

During CY 2012 there were no releases of hazardous substances exceeding an RQ or observed oil sheens at the Y-12 Complex, ETTP, or ORNL. There was a reportable occurrence due to a potable water line break that occurred at the Y-12 Complex on September 6, 2012. Chlorinated water from the point of the break entered the storm drain system and resulted in a fish kill (see Section 4.5.1).

2.4 Notices of Violations and Penalties

The TDEC Division of Air Pollution Control issued a notice of violation (NOV) to UCOR on August 31, 2012, for failure to conduct an initial Visible Emission Evaluation (VEE) at stack 3039 at ORNL and to report this omission as a deviation in the corresponding Semiannual and Annual Compliance Certification Reports for Permit Number 568860. This permit was originally issued to the previous contractor at stack 3039 who failed to perform the VEE and to report the missed test as a deviation. However, UCOR was the operator on the permit at the time the deviation was identified. Consequently, upon discovery, a VEE was conducted, and UCOR submitted the revised Semiannual and Annual Compliance Certification Reports to the Division of Air Pollution Control. No further enforcement actions were taken.

An NOV in the PCB regulatory area with an associated consent agreement and civil penalty was issued to a subcontractor at ETTP during 2012. On November 19, 2012, a subcontractor to a former DOE ETTP prime contractor received an NOV for failure to make the initial one-time notification of PCB waste activity as required by 40 CFR 761.205(b) for transporters of PCB waste. The issue was identified during an on-site inspection that occurred on June 28, 2011. The NOV was issued to the subcontractor’s commercial hazardous waste transportation identification number and not the DOE ETTP site transportation identification number. On March 6, 2013, EPA issued a consent agreement and final order to the subcontractor with an associated civil penalty of \$2,840.

From June 18 to 21, 2012, EPA Region 4 and TDEC jointly conducted a Resource Conservation and Recovery Act (RCRA) Compliance Evaluation Inspection of operations at the Y-12 Complex as a component of a multimedia inspection. During the inspection of a UCOR CERCLA project waste storage area, questions were raised concerning the storage of two 55 gal drums of hazardous waste that had been stored for slightly more than 1 year from the initial date of generation. The drums were containers of investigation-derived waste purge water generated from groundwater sampling in support of Y-12 Complex CERCLA projects. The EPA and TDEC staff noted the containers were being stored in an environmentally protective manner and were provided the pertinent CERCLA project decision documents, which did not include the administrative storage time periods noted in 40 CFR 268.50 as applicable or relevant and appropriate requirements.

Based upon the regulator recommendations at the time of the inspection, the two containers were shipped for disposal at an on-site ORR wastewater treatment facility soon after the inspection dates. As a follow-up to the inspection, TDEC issued an inspection report that identified this issue as an alleged violation, and EPA issued its inspection report identifying this issue as an apparent violation. As previously noted, the waste was disposed soon after the inspection dates and no subsequent enforcement actions were taken.

- No NOVs, penalties, or consent orders were issued to UT-Battelle during 2012.
- No NOVs, penalties, or consent orders were issued to WAI or Isotek during 2012.

*The National Response Center (<http://www.nrc.uscg.mil/nrcback.html>) is the sole federal point of contact for reporting oil, chemical, radiological, biological, and etiological releases into the environment anywhere in the United States and its territories.

- An NOV was received from the TDEC Division of Underground Storage Tanks for deficiencies observed during a January 31, 2012, compliance inspection of the East End Fuel Station at the Y-12 Complex. (See Section 4.3.6.1.)

2.5 Community Involvement

2.5.1 Public Comments Solicited

Public input and comments were solicited on a variety of proposed actions, documents, and plans in 2012 including the following.

- Public comment sought and public meeting held for the proposed termination of hazardous waste permits TNHW-015 and TNHW-133 at ETTP
- Public meeting was held on the reapplication permits for postclosure permits at the Y-12 Complex for the Bear Creek and upper EFPC hydrogeologic regimes

To keep the public informed of comment periods and other matters related to cleanup activities on ORR, DOE publishes a monthly newsletter, *Public Involvement News* (http://www.ucor.com/public_involvement_news.html). DOE also keeps the public informed by publishing notices in local newspapers and conducting public meetings.

2.5.2 Oak Ridge Site Specific Advisory Board

The Oak Ridge Site Specific Advisory Board (ORSSAB) is a federally appointed citizens' panel that provides independent advice and recommendations to the DOE Oak Ridge Environmental Management (EM) Program. The board was formed in 1995 and is composed of up to 22 members chosen to reflect the diversity of gender, race, occupation, views, and interests of persons living near the DOE ORR. Members are appointed by DOE and serve on a voluntary basis without compensation.

Information on recommendations the board has made since its establishment, minutes of board and committee meetings, and other information are available on the ORSSAB website at <http://www.oakridge.doe.gov/em/ssab/>.

Videos of the first hour of recent board meetings are posted on YouTube at <http://www.youtube.com/user/ORSSAB>.

Additional information may be obtained by calling 865-241-4583 or 865-241-4584.

2.5.3 DOE Information Center

The DOE Information Center, located at 1 Science.Gov Way, Oak Ridge, Tennessee, is a one-stop information facility that maintains a collection of more than 40,000 documents describing environmental activities in Oak Ridge. The center is open Monday through Friday, 8 a.m. to 5 p.m. The DOE ORO website (www.oakridge.doe.gov) includes a "Public Activities" tab that links to a page with descriptions of DOE ORO program activities for the general public. The "Online Catalog" tab, under the "DOE Information Center" tab on the Public Activities page, can be used to search for DOE documents by author, title, date, and other fields. The "New Documents" tab provides links to recently published documents.

2.5.3.1 Telephone Contacts

- DOE Information Center: (865) 241-4780; toll free 1-800-382-6938 (option 6)
- DOE Public Affairs Office: (865) 576-0885
- DOE ORO Public Information Line: 1-800-382-6938
- ORSSAB: (865) 241-4583, (865) 241-4584, 1-800-382-6938
- TDEC, DOE Oversight Division: (865) 481-0995
- EPA Region IV: 1-800-241-1754
- Agency for Toxic Substances and Disease Registry: 1-800-232-4636

2.5.3.2 Internet Sites

- DOE Main Website: www.energy.gov
- DOE ORO Home Page: www.oakridge.doe.gov
- DOE ORO EM Program: <http://www.oakridge.doe.gov/external/Programs/EnvironmentalManagement/tabid/42/Default.aspx>
- ORSSAB: <http://www.oakridge.doe.gov/em/ssab/default.htm>
- ETPP: <http://www.etppreuse.com/default.htm>
- Agency for Toxic Substances and Disease Registry: www.atsdr.cdc.gov
- EPA: www.epa.gov/region4/
- TDEC: www.state.tn.us/environment/
- TDEC, DOE Oversight Division: <http://www.state.tn.us/environment/doeo/>
- DOE Information Center: www.oakridge.doe.gov/info_cnr
- American Recovery and Reinvestment Act: www.recovery.gov and www.energy.gov/recovery

2.6 Reference

DOE. 2012. *2012 Strategic Sustainability Performance Plan*, Report to the White House Council on Environmental Quality. US Department of Energy, Washington, DC.