

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, 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 2014 status for DOE operations on ORR. Several facilities at ETTP and the Oak Ridge Science and Technology Park 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 xxvii and xxviii 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 2014 status, and references to the report sections that provide more detailed information.

2.2 External Oversight and Assessments

Inspections of ORR environmental activities conducted by regulatory agencies during 2014 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.tennessee.gov/environment/section/remediation>.

Table 2.1. Applicable environmental laws/regulations and 2014 status

Regulatory program description	2014 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 2014, all activities on ORR were conducted in accordance with CAA requirements. One NOV was issued to UT-Battelle, LLC, by TDEC for failure to notify TDEC of the demolition of two small structures (each about 300 ft ²). Although the facilities did not contain asbestos, the regulations require TDEC be notified before any building demolition.	3.3.5 4.3.3 5.3.3
CERCLA provides a regulatory framework for remediation of the release or threat of release of hazardous substances from past practices on ORR.	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. No NOV's were issued for CERCLA-related ORR actions during 2014.	3.3.11 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 100% was achieved by all three major ORR sites in 2014.	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 5.2.1.4.2
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 2014, DOE facilities on ORR were operated in accordance with emergency planning and reporting requirements.	3.3.14 4.3.9 5.3.10
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 2014, 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 NRHP. Proposed activities are reviewed to determine potential adverse effects on these properties, and methods to avoid or minimize harm are identified. During 2014, activities on ORR were in compliance with NHPA requirements.	3.3.4 4.3.2 5.3.2

Table 2.1 (continued)

Regulatory program description	2014 status	Report sections
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 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.	Surveys for the presence of wetlands are conducted on a project or program as-needed basis through NEPA and other reviews. 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 5.3.12
RCRA governs the generation, storage, handling, and disposal of hazardous wastes. RCRA also regulates USTs 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 2014 a TDEC inspection at Y-12 identified three alleged violations related to the use of an incorrect checklist, missing labels, and improper labeling. A 2014 inspection at ORNL also identified three alleged violations, which were related to an open satellite waste container, an open 90-day accumulation area container, and the locating of this 90-day accumulation area in the vicinity of heavy equipment operation. The alleged issues identified at Y-12 and ORNL were immediately corrected, and there was no environmental insult associated with these issues. No RCRA violations or concerns were cited for ETTP operations in 2014.	3.3.9 4.3.6 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.	3.3.8 4.3.5 5.3.5
TSCA regulates the manufacture, use, and distribution of all chemicals.	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 2014, there were no TSCA-related NOV's issued for ORR activities.	3.3.13 4.3.8 5.3.9

Table 2.1 (continued)

Regulatory program description	2014 status	Report sections
Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) protects bald and golden eagles by prohibiting, except under certain specified conditions, the taking or possession of and commerce in such birds. The act imposes criminal and civil penalties for any such actions.	Bald eagles are known to frequent ORR year-round. Currently there are two active bald eagle nests on ORR that are protected in accordance with this act.	1.3.6.2
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
Migratory Bird Treaty Act protects migratory birds by governing the taking, killing, possession, transportation, and importation of such birds, including their eggs, parts, and nests and any product, manufactured or not, from such items.	ORR hosts numerous migratory birds that are protected under this act.	1.3.6.2
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 2014</i> summarizes ORR environmental activities during 2014 and characterizes 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 4.8.5 5.8.5
DOE O 436.1, <i>Department Sustainability</i> , provides requirements and responsibilities for managing sustainability within DOE to ensure the department carries out its missions in a sustainable manner that addresses national energy security and global environmental challenges and advances sustainable, efficient, and reliable energy for the future.	DOE contractors on ORR have developed SSPs and have implemented EMSs 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	2014 status	Report sections
<p>DOE O 458.1, <i>Radiation Protection of the Public and the Environment</i>, issued in June 2011, 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.</p>	<p>In 2014 DOE O 458.1 was the primary contractual obligation for radiation protection programs for UT-Battelle, LLC; B&W Y-12; and CNS. (In July 2014, CNS assumed responsibility for management and operation of the Y-12 Complex, replacing B&W Y-12.) In 2014, DOE O 458.1 was added to the UCOR contract for non-CERCLA activities while DOE 5400.5 remains the primary contractual obligation for CERCLA activities. 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 2014 dose to a hypothetically exposed member of the public from all ORR potential exposure pathways combined would be 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.</p>	<p>4.3.13 5.3.13 Chap. 7</p>
<p>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 2014.</p>	<p>DOE O 5400.5 is the primary radiological ARAR for most CERCLA activities across ORR and is expected to remain in force until the CERCLA decision documents are reissued or revised. In addition, DOE O 5400.5 continues to be a contractual obligation under the current UCOR contract. 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 2014 dose to a hypothetically exposed member of the public from all ORR potential exposure pathways combined would be about 3 mrem.</p>	<p>Chap. 7</p>
<p>EO 13186, <i>Responsibilities of Federal Agencies to Protect Migratory Birds</i>, identifies the responsibilities of federal agencies to promote the conservation of migratory bird populations.</p>	<p>An MOU was entered into by DOE and FWS that meets the requirements under Section 3 of EO 13186. ORR hosts numerous migratory birds that are present either seasonally or year-round. This MOU, which was updated in September 2013, strengthens migratory bird conservation on ORR through enhanced collaboration between DOE and FWS.</p>	<p>1.3.6.2</p>

Table 2.1 (continued)

Regulatory program description	2014 status	Report sections
<p>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.</p>	<p>In 2014 “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 2014.</p>	<p>3.2.4 4.2.6.3 5.2.1.4</p>
<p>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.</p>		

^aDOE. 2014. *2014 Strategic Sustainability Performance Plan*. US Department of Energy, Washington, DC.

Acronyms

ARAR = applicable, relevant, and appropriate requirement
 B&W Y-12 = Babcock & Wilcox Technical Services Y-12, LLC
 CAA = Clean Air Act
 CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
 CNS = Consolidated Nuclear Security, LLC
 CWA = Clean Water Act
 DOE = US Department of Energy
 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
 ETTP = East Tennessee Technology Park
 FFA = Federal Facility Agreement
 FFCA = Federal Facilities Compliance Agreement
 FWS = US Fish and Wildlife Service
 GI = green infrastructure
 ISMS = integrated safety management system
 LID = low impact development

MOU = memorandum of understanding
 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
 NRHP = National Register of Historic Places
 ORNL = Oak Ridge National Laboratory
 ORR = Oak Ridge Reservation
 PCB = polychlorinated biphenyl
 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
 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, 2014

Date	Reviewer	Subject	Issues
ORNL (including UT-Battelle, LLC; UCOR; Isotek; and WAI activities)			
March 19	COR	CFTF Wastewater Inspection	0
April 30	TDEC	UST Compliance Inspection	0
May 12–13	TDEC	Annual RCRA Inspection for ORNL	3
May 12–13	TDEC	Annual RCRA Inspection of UCOR Areas at ORNL	0
June 19	TDEC	Annual CAA Inspection for ORNL and CFTF	0
June 19	TDEC	Annual CAA Title V Inspection of UCOR Sources at ORNL	0
July 16	TDEC	Follow-Up Inspection from the FY 2013 Compliance Evaluation Inspection of CWA/NPDES Programs	0
September 23	COR	CFTF Wastewater Inspection	0
November 13	TDEC	Annual TWPC CAA Inspection	0
October 21–22	TDEC	Annual RCRA Inspection of ORNL at Y-12 Facilities	0
December 16	Knox County	Annual CAA Inspection for NTRC	0
ETTP			
January 23	TDEC	K-1423-A, B, and E Dikes Closure Inspection	0
February 24	TDEC	Annual RCRA Compliance Inspection	0
April 21	TDEC	Container Processing Facility Closure Inspection	0
May 14	EPA	Rad-NESHAPs site visit (⁹⁹ Tc)	0
September 24	TDEC	Inspection of ETTP USTs	0
Y-12 Complex			
March 20	COR	Semiannual Industrial Pretreatment Compliance Inspection	0
June 10	TDEC	Process Waste Treatment Complex Inspection	0
July 15–16	TDEC	Annual CAA Inspection	0
August 19– September 11	TDEC	NPDES Compliance Evaluation Inspection	0
September 30	COR	Semiannual Industrial Pretreatment Compliance Inspection	0
October 13	TDEC	ORR Landfills Inspection	
October 21–22	TDEC	Annual RCRA Inspection	3
October 22–23	TDEC	Annual RCRA Inspection of UCOR Areas at Y-12	0
November 17	TDEC	Follow-up RCRA Inspection	0
December 18	USACE and TDEC	UPF Wetland and Stream Mitigation Activities	0

Acronyms

CAA = Clean Air Act	RCRA = Resource Conservation and Recovery Act
CWA = Clean Water Act	TDEC = Tennessee Department of Environment and Conservation
CFTF = Carbon Fiber Technology Facility	TWPC = Transuranic Waste Processing Center
COR = City of Oak Ridge	UCOR = URS CH2M Oak Ridge LLC
EPA = US Environmental Protection Agency	UPF = Uranium Processing Facility
ETTP = East Tennessee Technology Park	USACE = US Army Corps of Engineers
Isotek = Isotek Systems LLC	UST = underground storage tank
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	
Rad-NESHAPs = National Emission Standards for Hazardous Air Pollutants for Radionuclides	

2.3 Reporting of Oak Ridge Reservation Spills and Releases

Comprehensive Environmental Response, Compensation, and Liability Act (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 2014 there were no releases of hazardous substances exceeding an RQ at Y-12, ETTP, or ORNL and no reported fish kills or oil sheens at ETTP or ORNL. There were three reportable occurrences related to Y-12 water programs (Section 4.5.1): (1) an oil sheen was observed on upper EFPC within the Y-12 Complex, (2) an upset condition led to material from a stack being dispersed onto a building roof and the area adjacent to the building, and (3) minnow-sized dead fish were observed in EFPC.

2.4 Notices of Violations and Penalties

TDEC conducted an annual RCRA inspection of operations at ORNL on May 12–13, 2014. Three alleged violations were observed during the inspection. The three issues identified were an open satellite waste container, an open 90-day accumulation area waste container, and locating the 90-day accumulation area in the vicinity of heavy equipment operation. All issues were immediately corrected and were verified to be corrected by the TDEC inspector. There was no environmental insult associated with these issues.

In addition, an NOV was issued to UT-Battelle by TDEC on December, 11, 2014, for failure to notify TDEC of the demolition of two small structures (each about 300 ft²). Although the facilities did not contain asbestos, the regulations require TDEC to be notified before any building demolition.

TDEC conducted its annual hazardous waste compliance inspection at the Y-12 Complex October 21–22, 2014. Three alleged violations were observed during the inspection. The three issues identified were using an incorrect checklist, not having labels visible on containers in a RCRA waste storage area, and having unlabeled containers in a RCRA waste storage area. There was no potential for environmental insult as a result of these issues. All issues were immediately corrected; use of the correct form was implemented and labeling was corrected. A follow-up inspection to confirm all issues were resolved was conducted by TDEC on November 17, 2014.

No other environmental NOV, penalties, or consent orders were issued on the reservation during 2014.

2.5 Community Involvement

2.5.1 Public Comments Solicited

To keep the public informed of comment periods and other matters related to cleanup activities on ORR, DOE publishes online notices (<http://energy.gov/ore/services/community-engagement>), conducts public meetings, and issues notices in local newspapers as appropriate. A construction permit for a steam plant boiler replacement project was posted for public comment by TDEC on October 15, 2014. As part of the ETTP storm water NPDES permit renewal process, a public notice (Public Notice MMXIV-022) on the final draft copy of the permit was posted from December 15, 2014, to January 19, 2015, to advise the

public of proposed permit actions and to solicit comments and information necessary to evaluate the potential impact of the proposed activities.

On January 29, 2014, a public meeting was held at the DOE Information Center, Oak Ridge, to solicit public comments on the ETTP part B permit renewal application for the hazardous waste permit (TNHW-117) and the hazardous waste corrective action document renewal (TNHW-121), which encompasses the entire ORR. A presentation was given to explain the permitting process and describe the permitted units. In addition, information on the hazardous waste corrective action document was provided that covered the ORR CERCLA areas of concern and solid waste management units. A community impact statement that gave greater detail on how hazardous waste will be characterized, stored, and treated was also provided.

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.energy.gov/ORSSAB>.

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. An online catalog that can be used to search for DOE documents by author, title, date, and other fields is available at <http://www.oakridge.doe.gov/external/Home/PublicActivities/DOEInformationCenter/tabid/126/Default.aspx>.

2.5.3.1 Telephone Contacts

- Agency for Toxic Substances and Disease Registry: 1-800-232-4636
- 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
- EPA Region 4: 1-800-241-1754
- ORSSAB: 865-241-4583, 865-241-4584, 1-800-382-6938 (option 4)
- TDEC, DOE Oversight Division: 865-481-0995

2.5.3.2 Internet Sites

- Agency for Toxic Substances and Disease Registry: <http://www.atsdr.cdc.gov>
- American Recovery and Reinvestment Act: <http://www.energy.gov/recovery-act>
- DOE Main Website: <http://www.energy.gov>
- DOE ORO EM Program: <http://www.oakridge.doe.gov/external/Programs/EnvironmentalManagement/tabid/42/Default.aspx>
- DOE Information Center: <http://www.oakridge.doe.gov/external/Home/PublicActivities/DOEInformationCenter/tabid/126/Default.aspx>
- EPA Region 4: <http://www.epa.gov/region4>
- ETPP: <http://www.ettpreuse.com/default.htm>
- ORNL: <https://www.ornl.gov/>
- ORSSAB: <http://www.energy.gov/ORSSAB>
- TDEC: <http://www.tennessee.gov/environment/>
- TDEC, DOE Oversight Division: http://www.tn.gov/environment/remediation_energy-oversight.shtml
- Y-12 National Security Complex: <http://www.y12.doe.gov/>

2.6 References

DOE. 2014. *2014 Strategic Sustainability Performance Plan*. US Department of Energy, Washington, DC.