

## 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 2013 status for DOE operations on ORR. Several facilities at ETPP 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 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 2013 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 2013 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/remediation\\_energy-oversight.shtml](http://www.state.tn.us/environment/remediation_energy-oversight.shtml).

Table 2.1. Applicable environmental laws/regulations and 2013 status

Regulatory program description	2013 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 2013, all activities on ORR were conducted in accordance with CAA requirements.	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 2013.	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 greater than 99% was achieved by all three major ORR sites in 2013. Discharges to surface water at ETTP are governed by NPDES permits. A compliance rate of 100% was achieved at ETTP in 2013.	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 2013, 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 2013, 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 2013, 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	2013 status	Report sections
<b>ORR Floodplain Management Programs</b> 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
<b>ORR Protection of Wetlands Programs</b> 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
<b>RCRA</b> 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 2013 a TDEC inspection at the Y-12 Complex identified three alleged violations related to an open satellite waste container, an unlabeled satellite waste container, and unlabeled used oil containers. The issues, which were administrative in nature with no identified potential for environmental insult, were immediately corrected. No other RCRA violations or concerns were cited for ORR in 2013.	3.3.9 4.3.6 5.3.7
<b>SDWA</b> 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
<b>TSCA</b> 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 2013, 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	2013 status	Report sections
<b>Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d)</b> 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
<b>Endangered Species Act</b> 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
<b>Migratory Bird Treaty Act</b> 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 is host to a diversity of migratory birds that are protected under this act.	1.3.6.2
<b>DOE O 231.1B, <i>Environment, Safety and Health Reporting</i></b> , 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 2013</i> summarizes ORR environmental activities during 2013 and characterizes environmental performance.	All chapters
<b>DOE O 435.1, <i>Change 1, Radioactive Waste Management</i></b> , 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
<b>DOE O 436.1, <i>Department Sustainability</i></b> , 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 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	2013 status	Report sections
<b>DOE O 458.1, <i>Radiation Protection of the Public and the Environment</i></b> , 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.	In 2013 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 2013 dose to a hypothetically exposed member of the public from all ORR sources could have been about 5 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
<b>DOE O 5400.5, <i>Radiation Protection</i></b> , 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 2013.	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 2013 dose to a hypothetically exposed member of the public from all ORR sources could have been about 5 mrem.	Chap. 7
<b>EO 13186, <i>Responsibilities of Federal Agencies to Protect Migratory Birds</i></b> , identifies the responsibilities of federal agencies to promote the conservation of migratory bird populations.	An MOU was entered into by DOE and FWS that meets the requirements under Section 3 of EO 13186. ORR is host to a diversity of migratory birds that are present either seasonally or year-round. This MOU strengthens migratory bird conservation on ORR through enhanced collaboration between DOE and FWS.	1.3.6.2
<b>EO 13423, <i>Strengthening Federal Environmental, Energy, and Transportation Management</i></b> , 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 2013 “site sustainability plans” addressed the requirements of EOs 13423 and 13514 and DOE’s <i>Strategic Sustainability Performance Plan</i> . <sup>a</sup> 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 2013.	3.2.3 4.2.6.3 5.2.1.4
<b>EO 13514, <i>Federal Leadership in Environmental, Energy, and Economic Performance</i></b> , 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)**

<sup>a</sup>DOE. 2013. *2013 Strategic Sustainability Performance Plan*, Report to the White House Council on Environmental Quality and Office of Management and Budget. US Department of Energy, Washington, DC.

**Acronyms**

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  
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, 2013**

Date	Reviewer	Subject	Issues
<b>ORNL</b> (including UT-Battelle, LLC; UCOR; Isotek; and WAI activities)			
February 19	City of Oak Ridge	CFTF Wastewater Inspection	0
June 10–11	TDEC	Annual RCRA Inspection for ORNL	0
August 6	Knox County	Annual CAA Inspection for NTRC	0
August 9	TDEC	Annual CAA Inspection for ORNL and CFTF	0
September 26–30	TDEC	NPDES Compliance Evaluation Inspection	0
September 30	City of Oak Ridge	CFTF Wastewater Inspection	0
October 23	TDEC	Annual TWPC CAA Inspection	0
November 4–5	TDEC	Annual RCRA Inspection of ORNL at Y-12 Facilities	0
<b>ETTP</b>			
January 24	TDEC	Inspection of ETTP USTs	0
February 11–12	TDEC	Annual RCRA Inspection	0
September 30	TDEC-Knoxville	CNF NPDES Compliance Evaluation Inspection	0
October 24	EPA Region 4	TSCA Incinerator—PCB Site Visit	0
<b>Y-12 Complex</b>			
March 14	City of Oak Ridge	Semiannual Industrial Pretreatment Compliance Inspection	0
June 19–20	TDEC-Knoxville	Annual CAA Inspection	0
August 7	City of Oak Ridge	Semiannual Industrial Pretreatment Compliance Inspection	0
November 4–5	TDEC	Annual RCRA Inspection	3

**Acronyms**

CAA = Clean Air Act	RCRA = Resource Conservation and Recovery Act
CFTF = Carbon Fiber Technology Facility	TDEC = Tennessee Department of Environment and Conservation
CNF = Central Neutralization Facility	TSCA = Toxic Substances Control Act
EPA = Environmental Protection Agency	TWPC = Transuranic Waste Processing Center
ETTP = East Tennessee Technology Park	UCOR = URS   CH2M Oak Ridge LLC
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	
PCB = polychlorinated biphenyl	

**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

\*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.

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 2013 there were no releases of hazardous substances exceeding an RQ or observed oil sheens at the Y-12 Complex, ETTP, or ORNL.

There were three fish kills at ORNL in 2013. These occurred on July 31, 2013; October 4, 2013; and October 6, 2013, with the number of dead organisms from each event ranging from 5 to 74 fish and invertebrates. All three events were attributed to inadequate dechlorination of cooling water discharges. Mechanical and administrative improvements have been made to guard against future occurrences. There was also a reportable occurrence due to a potable water line break that occurred at the Y-12 Complex on June 8, 2013. 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

TDEC conducted an annual RCRA inspection of operations at the Y-12 Complex on November 4–5, 2013. Three alleged violations were observed during the inspection. The three issues identified were an open satellite waste container, an unlabeled satellite waste container, and unlabeled used oil containers. All issues were immediately corrected and were verified to be corrected by the TDEC inspector. These issues were of an administrative nature, and there was no potential for environmental insult. No other NOV, penalties, or consent orders were issued on the reservation during 2013.

## 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 a monthly newsletter, *Public Involvement News* ([http://www.ucor.com/public\\_involvement\\_news.html](http://www.ucor.com/public_involvement_news.html)). DOE also keeps the public informed by publishing notices in local newspapers and conducting public meetings. In addition, the ORNL National Pollutant Discharge Elimination System (NPDES) permit renewal draft was posted for public comment by TDEC on December 16, 2013.

### 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, 865-241-4584, or 1-800-382-6938.

### 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](http://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: <http://www.energy.gov>
- DOE ORO Home Page: <http://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.ettpreuse.com/default.htm>
- Agency for Toxic Substances and Disease Registry: <http://www.atsdr.cdc.gov>
- EPA Region 4: <http://www.epa.gov/region4>
- TDEC: <http://www.state.tn.us/environment/>
- TDEC, DOE Oversight Division: [http://www.tn.gov/environment/remediation\\_energy-oversight.shtml](http://www.tn.gov/environment/remediation_energy-oversight.shtml)
- DOE Information Center: <http://www.oakridge.doe.gov/external/PublicActivities/InfoCenter/tabid/126/Default.aspx>
- American Recovery and Reinvestment Act: <http://www.recovery.gov> and [www.energy.gov/recovery](http://www.energy.gov/recovery)

## 2.6 References

DOE. 2013. *2013 Strategic Sustainability Performance Plan*, Report to the White House Council on Environmental Quality and Office of Management and Budget. US Department of Energy, Washington, DC.

