

Chapter 2 - Compliance Summary and Community Involvement

DOE operations on the 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 discussed with the respective regulatory agencies. The following sections summarize the major environmental statutes and 2016 status for DOE operations on the 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 xxiv and xxv 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 2016 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 2016 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 the 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/topic/rem-oak-ridge-reservation-clean-up>

Table 2.1 Applicable Environmental Laws/Regulations and 2016 Status

Regulatory Program Description	2016 Status	Report Section
<p>CAA and corollary State of Tennessee requirements regulate the release of air pollutants through permits and air quality limits. Emissions of airborne radionuclides are regulated by EPA via rad-NESHAPs authorization. Greenhouse gas emissions inventory tracking and reporting are regulated by EPA and DOE internal oversight.</p>	<p>ETTP was in full compliance with CAA regulations and permit conditions in 2016. One CAA regulatory inspection of the asbestos compliance program was performed by TDEC in 2016 at ETTP and no regulatory violations or concerns were noted by TDEC during the inspection. State permit to operate an air contaminant source—internal combustion engine—powered emergency generators and fire water pump amended 11-22-2016.</p> <p>ORNL had no UT-Battelle CAA violations and no Isotek, UCOR, or NWSol CAA violations or exceedances in 2016.</p> <p>All CAA reporting requirements were met at Y-12 during CY 2016, and there were no permit violations or exceedances during the report period.</p>	<p>3.3.5 4.3.3 5.3.3</p>
<p>CERCLA provides a regulatory framework for remediation of the release or threat of release of hazardous substances from past practices on the ORR.</p>	<p>The 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 the ORR.</p> <p>The on-site CERCLA Environmental Management Waste Management Facility (EMWMF) is operated by UCOR for DOE. Located in Bear Creek Valley, EMWMF is used for disposal of waste resulting from CERCLA cleanup actions on the ORR, including ORNL.</p> <p>EMWMF is an engineered landfill that accepts low-level radioactive, hazardous, asbestos, and PCB wastes and combinations of the aforementioned wastes in accordance with specific waste acceptance criteria under an agreement with state and federal regulators. No NOV's were issued for CERCLA-related ORR actions during 2016.</p>	<p>3.3.11 4.3.7 5.3.8</p>

Table 2.1 Applicable Environmental Laws/Regulations and 2016 Status

Regulatory Program Description	2016 Status	Report Section
<p>CWA seeks to protect and improve surface water quality by establishing surface water standards enabled by a system of permits.</p> <p>Wastewater discharges are regulated by NPDES permits issued by TDEC.</p>	<p>During 2016, ORR operations were conducted in compliance with contractual and regulatory environmental requirements, and there were no National Pollutant Discharge Elimination System (NPDES) notice of violations.</p> <p>In 2016, compliance with ETPP NPDES storm water permit TN0002950 was determined by more than 150 laboratory analyses, field measurements, and flow estimates. The NPDES permit compliance rate for all discharge points for 2016 was 100%.</p> <p>In 2016, compliance with the ORNL NPDES permit was determined by about 2,300 laboratory analyses and field measurements. The NPDES permit limit compliance rate for all discharge points for 2016 was greater than 99%.</p> <p>During 2016, the Y-12 Complex continued its excellent record for compliance with the NPDES water discharge permit.</p>	<p>3.3.6 4.3.4 5.3.4</p>
<p>EISA § 438 establishes requirements for federal agencies to reduce storm water runoff from development projects to protect water resources.</p>	<p>To comply with EISA, a variety of storm water management techniques referred to as GI or LID practices have been implemented on the ORR. The ORNL, Y-12 and ETPP sites sustainability plans, documentation and goals for sustainability projects and indicate the ORR is in compliance with EISA § 438.</p>	<p>4.2.6.8 5.2.1.5</p>
<p>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.</p>	<p>ETPP had no reportable releases of hazardous substances or extremely hazardous substances, as defined by EPCRA, in 2016.</p> <p>The Y-12 Complex submitted reports in 2016 in accordance with requirements under EPCRA Sections 302, 303, 311, 312, and 313. For 2016, ORNL exceeded the reporting threshold and reported on the otherwise use of nitric acid and the manufacture of nitrate compounds.</p>	<p>3.3.14 4.3.9 5.3.10</p>

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Regulatory Program Description	2016 Status	Report Section
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 2016, DOE planning and decision-making activities on the ORR were conducted in accordance with NEPA requirements.	3.3.4 4.3.2 5.3.2
NHPA provides protection for the nation's historic resources by establishing a comprehensive national historic preservation policy.	The 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 2016, activities on the ORR were in compliance with NHPA requirements.	1.3.10 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 the ORR is conducted in accordance with 10 CFR 1022 and EO 11990, Protection of Wetlands. About 243 ha (600 acres) of wetlands have been identified on the ORR; most are classified as forested palustrine, scrub/shrub, and emergent wetlands.	1.3.6 4.2.6 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.	<p>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. TDEC made a total of four regulatory oversight, assessments, inspections, and site visits at East Tennessee Technology Park, 2016 and no issues or violations were discovered.</p> <p>EPA Region 4 and TDEC conducted inspections of the Y-12 facility and discovered two issues with a container of light bulbs. The container was not labelled or dated and these issues were corrected immediately.</p> <p>TDEC performed a UST compliance inspection at ORNL in November 2016, and two findings were cited by TDEC as a result of the inspection. Both findings were resolved within 60 days, as required by TDEC.</p>	3.3.9 4.3.6 5.3.6

Table 2.1 Applicable Environmental Laws/Regulations and 2016 Status

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SDWA establishes minimum drinking water standards and monitoring requirements.	The City of Oak Ridge supplies potable water to the facilities on the ORR and is responsible for all SDWA requirements. In 2016, ORNL's water system residual chlorine levels, bacterial constituents, and disinfectant by-products were all within acceptable limits. In 2016, the Y-12 Complex potable water system received a sanitary survey score of 98 out of a possible 100 points and retained its approved status for potable water with TDEC.	3.3.8 4.3.5 5.3.5
TSCA regulates the manufacture, use, and distribution of a number of toxic chemicals.	PCB waste generation, transportation, disposal, and storage at ETTP is regulated under EPA ID number TN0890090004. In 2016, ETTP operated eight PCB waste storage areas in ETTP generator buildings, and when longer term storage of PCB/radioactive wastes were necessary, RCRA-permitted storage buildings were used. Y-12 Complex operations involving TSCA-regulated materials were conducted in accordance with TSCA regulations and ORR PCB FFCA. PCB waste generation, transportation, and storage at ORNL are reported under EPA ID TN1890090003. In 2016, UT-Battelle operated 12 PCB waste storage areas.	3.3.13 4.3.8 5.3.9
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 the ORR year-round.	1.3.6
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.	The 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
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.	The ORR hosts numerous migratory birds that are protected under this act.	1.3.6

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Regulatory Program Description	2016 Status	Report Section
DOE O 231.1B, Environment, Safety and Health Reporting, 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 2016</i> summarizes ORR environmental activities during 2016 and characterizes environmental performance.	All Chapters 5.3.9
DOE O 435.1, Change 1, Radioactive Waste Management, 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 the ORR to ensure compliance with this DOE order.	
DOE O 436.1, Department Sustainability, 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 the 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. In 2016, ORR contractors were recognized for excellence in pollution prevention and sustainability programs with multiple awards, which are described in Chapters 3, 4, and 5.	3.2 4.2 5.2
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.	There are no known significant doses from discharges of radioactive constituents from the ORR other than those reported. U.S. Department of Energy (DOE) Order 458.1, Radiation Protection of the Public and the Environment (DOE 2011), limits the ED that an individual may receive from all exposure pathways from all radionuclides released from the ORR during 1 year to no more than 100 mrem. The 2016 maximum ED was about 3% of the limit given in DOE O 458.1. Clearance of property from ORNL, ETPP and the Y-12 Complex was conducted in accordance with approved procedures that comply with DOE O 458.1	Chapter 7

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Regulatory Program Description	2016 Status	Report Section
EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, 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. The 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 the ORR through enhanced collaboration between DOE and FWS.	1.3.8
EO 13693, Executive Order -- Planning for Federal Sustainability in the Next Decade, instructs federal agencies to increase efficiency and improve their environmental performance, which will protect our planet for future generations and save taxpayer dollars through avoided energy costs.	In 2015, EO 13693, Planning for Federal Sustainability in the Next Decade, superseded EO 13514 and established a new Scope 1 and Scope 2 total reduction target of 40% by 2025. 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 2016.	3.2.4 4.2.3 5.2.1

Acronyms:

ARAR = applicable, relevant, and appropriate requirement
 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
 EMWMF = Environmental Management Waste Management Facility
 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
 rad-NESHAPs = National Emission Standards for Hazardous Air Pollutants for radionuclides
 RCRA = Resource Conservation and Recovery Act
 SARA = Superfund Amendments and Reauthorization Act
 SDWA = Safe Drinking Water Act
 SP = site sustainability plan
 STP = sewage treatment plant
 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, 2016			
Date	Reviewer	Subject	Issues
ORNL (including UT-Battelle, LLC; UCOR; Isotek; and NWSol activities)			
March 7	COR	CFTF Wastewater Inspection	0
April 12-13	TDEC	Annual RCRA Inspection for ORNL (including TWPC)	0
April 12	COR	CFTF Wastewater Monitoring	0
September 7	COR	CFTF Wastewater Inspection	0
October 24	TDEC	Annual CAA Inspection for ORNL and CFTF	0
November 17	TDEC	UST Compliance Inspection	2
ETTP			
March 7	TDEC	Annual RCRA Compliance Inspection	0
August 2	TDEC	RCRA Facility Closure Inspection	0
August 24-25	TDEC	Asbestos Accreditation Inspection	0
December 7	TDEC	RCRA Facility Closure Inspection	0
December 14	TDEC	Underground Storage Tank Inspection	0

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Date	Reviewer	Subject	Issues
Y-12 Complex			
February 23	TDEC	Biennial Survey of Potable Water System	1
March 29	COR	Semiannual Industrial Pretreatment Compliance Inspection	0
August 15-17	EPA/TDECCOR	Annual RCRA Hazardous Waste Compliance Inspection	2
August 30	COR	Semiannual Industrial Pretreatment Compliance Inspection	0
Acronyms:		RCRA = Resource Conservation and Recovery Act	
CAA = Clean Air Act		TDEC = Tennessee Department of Environment and Conservation	
CFTF = Carbon Fiber Technology Facility		TNHW = Tennessee Hazardous Waste Permit	
COR = City of Oak Ridge		TWPC = Transuranic Waste Processing Center	
D&D = decontamination and decommissioning		UCOR = URS CH2M Oak Ridge LLC	
ETTP = East Tennessee Technology Park		NWSol = North Wind Solutions, LLC	
Isotek = Isotek Systems LLC		Y-12 Complex = Y-12 National Security Complex	
NPDES = National Pollutant Discharge Elimination System			
ORNL = Oak Ridge National Laboratory			

2.3 Reporting of Oak Ridge Reservation Spills and Releases

CERCLA hazardous substances are substances considered to be harmful to human health and the environment. Many are commonly used substances that are harmless in normal uses but can be dangerous when released. CERCLA establishes reportable quantities (RQ) for hazardous substance releases. 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]).

2.4 Notices of Violations and Penalties

Environmental NOV's, penalties, or consent orders were not reported on the reservation during 2016 except the NOV's for USTs listed in Table 2.1

2.5 Community Involvement

Many community involvement activities were provided by and/or supported by the DOE and its contractors in 2016 across a diverse range of subjects and activities. These included, but were not limited to, ETTP historic interpretation efforts, Manhattan Project National Historical Park public meetings and engagement, American Museum of Science and Energy community meetings hosted by the City of Oak

Ridge, ETPP airport public meetings, public comment periods for draft environmental assessments, and Community Relations Council meetings. During 2016 organizations such as Great Smoky Mountains National Park, the East Tennessee Foundation, Oak Ridge Associated Universities Science Bowl, America Recycles Day activities, and local charities benefited from DOE and its contractors' efforts.

2.5.1 Public Comments Solicited

To keep the public informed of comment periods and other matters related to cleanup activities on the ORR, DOE publishes online notices (<http://energy.gov/ore/services/community-engagement>), conducts public meetings, and issues notices in local newspapers as appropriate. Information regarding environmental policy and DOE's commitment to providing sound environmental stewardship practices and keeping the public informed is available to the public via sponsored forums and public documents such as this report.

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://doeic.science.energy.gov>.

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 Information Center: <http://doeic.science.energy.gov>
- EPA Region 4: <http://www.epa.gov/region4>
- ETTP: <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/section/rem-remediation/energy-oversight.shtml>
- Y-12 National Security Complex: <http://www.y12.doe.gov/>

2.6 References

DOE 2016. *2016 Strategic Sustainability Performance Plan*. US Department of Energy, Washington, DC