



# Treatment, Storage, and Disposal Facility Audit Program Plan and Reference Guide



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## Topics of Discussion



- Development and Purpose
- Use
- Program Quality Assurance
- Audit Types
- Implementing Procedures
- Audit Concentrations
- Sections of the Document & Audit Concentration Lines of Inquiry
- Appendices
- Audit Tools Worth Re-Emphasizing



## Document Development and Purpose: Administrative Procedure (AD-1)



- Last Edition signed in Fiscal Year 2016
- Audit Program Procedures
- Contract Support Tasks Outlined
- Updated Every 2 Years

United States Department of Energy



*Department of Energy Consolidated  
Audit Program (DOECAP)  
Policies and Practices*

**Administrative Procedure  
(AD-1)  
Revision 3.0**

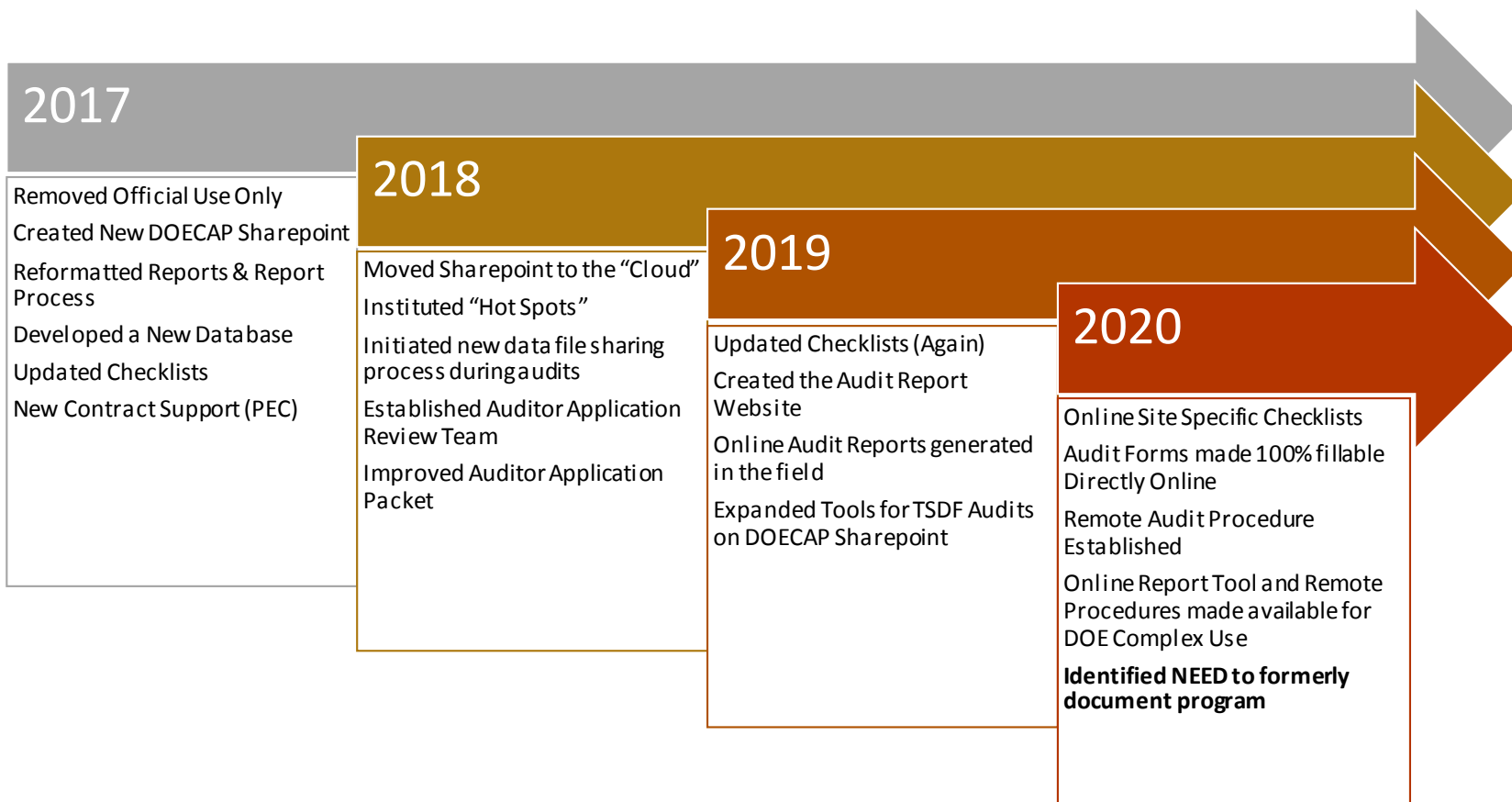
Approved:

  
Jorge Ferrer, DOECAP Manager

1/13/14  
Date



## Document Development and Purpose: Evolution of TSDF Audit Program





## Document Development and Purpose: Intent of the Guide: “Use the FORCE”



- **F**ocus audits toward Operations and Performance
- **O**bjectively Access a sites capabilities to safely and accurately perform their contractual obligations
- **R**educe the overall burden on both the Auditor and the TSDf Site without losing critical delivery of a quality audit
- **C**onsolidate our approach and consolidate the information collected and shared during an audit to include pre-audit materials
- **E**valuate and Improve upon the audit process and its deliverables



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## TSDF Audit Program Plan and Reference Guide



Department of Energy  
Consolidated Audit Program



Treatment, Storage, and Disposal Facility  
Audit Program Plan  
and  
Reference Guide

July 2020

Includes:

- Program Details
- Stakeholder Roles and Responsibilities
- Program Procedures
- Checklist Lines of Inquiry (LOI)
- LOI Narratives
- (Citation) References
- Site Description Sheets
- Site Information Sheets
- Auditor Requirements
- And more....



## Purpose



- Assists Department of Energy (DOE) sites and commercial TSDFs in identifying and understanding:
  - Roles, responsibilities, and overall performance expectations of both TSDF and DOECAP Auditors
  - DOECAP Program Procedures
  - Reference tools used to prepare and conduct audits
  - Checklist lines of inquiry
  - Internal and external resources for additional information
- Developed by a collaboration of DOE federal employees, DOE contract staff, and TSDF representatives from across the country
- Promotes audit program consistency

***NOTE: This document does not establish new requirements, and any existing conditions referenced are from DOE Orders, best management industry practices, or federal, state, or contractual obligations***



Question: Who Will Use This Document?

Answer: DOECAP TSDF Stakeholders



## **DOECAP Stakeholder Roles and Responsibilities for:**

- Analytical Services Program Manager
- Lead Auditor
- Auditor
- Auditor-in-Training (AIT)
- DOE Site/Field Element Manager Point of Contact (POC)
- DOE Complex Sites Federal and Contractor POCs
- DOE Complex Sites Maintenance & Operation Contractor POCs as applicable
- DOE-Contracted Commercial TSDF





## Roles and Responsibilities: Example



### *Auditor*

- Participates in DOECAP audits, as requested;
- Attends the pre-audit conference call;
- Reviews the information provided by the audited facilities;
- Requests additional information, as needed, to support the audit by notifying the Lead Auditor by email;
- Immediately notifies the facility supervisor or manager if a possible imminent safety hazard is identified;
- Promptly notifies the Lead Auditor of any possible Priority I finding identified;
- Conducts the audit as an official representative of DOE, in an objective, unbiased manner, and avoids any actions that could constitute the appearance of a conflict of interest;
- Promptly notifies the Lead Auditor of possible findings or observations identified;
- Develops and inputs all assigned concentration new findings and observations, open findings, and closed finding decisions into the online reporting tool in a timely manner for review by other team members;
- Notifies Lead Auditor concentration section of the report is ready for approval in advance of the audit out-brief meeting;
- Updates and enters all checklist responses for the assigned concentration;
- Reviews checklist for completion by the TSDF and seeks clarification on any discretionary or missing responses;
- Returns or properly disposes of (i.e., shreds, deletes) any confidential documentation from the TSDF;
- Provides guidance to AIT, allowing them to perform interviews, write findings/observations and complete checklist;
- Provides AIT evaluations, as requested;
- Responds to requests for audit report clarification or additional information; and
- Participates in DOECAP TSDF conference calls and training.



## TSDF Audit Program Quality Assurance Methods



### Management Assessments

- Results from observations or participation in DOECAP audits;
- Review and summary of evaluations submitted by audited facilities and auditors; and
- Feedback received from DOE Analytical Services Program (ASP) Annual Training Workshop participants.

### Quality Improvement

- Annual Review
- Trends Analysis



## Audit Types



### **Initial Audit**

- First-time, comprehensive audit of the facility.

### **Continuing Audit**

- Subsequent annual audits are scheduled as continuing audits.

### **Regulatory Agency Review**

- Performed at the discretion of the ASPM and/or the Lead Auditor to assess the facility's regulatory compliance (federal and state) since the last DOECAP audit or upon request from the DOE Complex.

### **Surveillance**

- Limited audit scope conducted for cause, such as the closure of a Priority 1 finding, or upon request from the DOE Complex.

### **Closure Audit**

- Ensures that DOE waste is disposed of appropriately and that records are preserved.

### **Remote Audit**

- Implemented when it is not possible to perform an onsite audit.



## Audit Concentrations



### Concentrations

**Quality Assurance Management Systems**

**Transportation Management**

**Environmental Compliance**

**Industrial and Chemical Safety**

**Waste Operations**

**Radiological Control**

**Sampling and Analytical Data Quality**



## Sections of the Document & Audit Concentration Lines of Inquiry



### **The TSDF Audit Program Plan and Reference Guide has 19 Sections & 5 Appendices: Sections 12 -19: Audit Concentration Lines of Inquiry**

- 1.0 Purpose
- 2.0 Use of This Document
- 3.0 TSDF Audit Program
- 4.0 Quality Assurance
- 5.0 Audit Criteria
- 6.0 Documents and Records
- 7.0 DOECAP TSDF Implementing Procedures
- 8.0 Stakeholder Participation
- 9.0 Audit Checklists, Types, and Logistics
- 10.0 Audit Finding Levels
- 11.0 Audit Concentrations
- 12.0 Quality Assurance Management Systems
- 13.0 Sample and Data Quality
- 14.0 Waste Operations
- 15.0 Environmental Compliance and Permitting
- 16.0 Radiological Control
- 17.0 Industrial and Chemical Safety
- 18.0 Transportation Management
- 19.0 TSDF Closure
- Appendix A: Site Information Sheet
- Appendix B: DOECAP TSDF Implementing Procedures
- Appendix C: Definitions
- Appendix D: References Sheet
- Appendix E: Acronym List



## Example Checklist Lines of Inquiry with Narrative



### 14.0 Waste Operations

The success of any waste treatment, storage, and/or disposal operation frequently relies on the procedures being established and implemented. Significant planning resources are anticipated for use in identifying alternatives and establishing a path that is both efficient and cost-effective. In many instances, waste disposition (processing, storage, treatment, and disposal) is a documented part of cleanup agreements with regulators and is of interest to stakeholders. The following LOIs are for clarification on what DOECAP auditors are looking to assess at DOE contracted commercial TSDF or hazardous waste facilities.

Subsection	Subsection Number	Checklist Line of Inquiry	Narrative
14.1 General	14.1 (a)	Does the facility have the necessary and applicable permits and licenses to perform the DOE operations for which they support?  EC Primary  (RCRA, TSCA, Radioactive Material License)	The facility shall have the necessary and applicable permits and licenses to perform the operations for which they support the DOE complex.  EC Primary  (RCRA, TSCA, Radioactive Material License)
14.1 General	14.1 (b)	Does the facility control entry to the active portion of the facility at all times? Does the TSDF have a combination of adequate fencing, natural barriers, guarded gates, and/or 24-hour surveillance systems to guard against unknowing/unauthorized entry to the facility?  40 CFR 264.14	The TSDF shall control entry to the active portion of the facility at all times. The TSDF shall have a combination of adequate fencing, natural barriers, guarded gates, and/or 24-hour surveillance systems to guard against unknowing/unauthorized entry to the facility.  40 CFR 264.14
		Does the facility have "Danger - Unauthorized Personnel Keep Out" (or similar wording) signs at each	The facility shall have "Danger - Unauthorized Personnel Keep Out" (or similar



# Appendices

## Appendix A: Site Information Sheet



- Facility Description
- Recordkeeping
- Audits/Surveillances Performed Since Last DOECAP Audit
- Current Permits and Licenses
- Updates to Programs and Plans
- Site Points of Contact and Responsibility
- List of Current DOE Waste Contracts and Contract Point of Contact
- Reduces number of routinely asked checklist questions

**Appendix A: Site Information Sheet**

Facility Description						
Site Name: Bear Creek Operations			Total Facility Size and Acreage: Approximately 96 acres/approximately 240,000 square feet of operation workspace.			
Actual Property Owner: EnergySolutions						
Full-Time Employees: 208			Physical Address: 1560 Bear Creek Road, Oak Ridge, TN 37830			
Facility Operating Hours:						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
7:00-5:00	7:00-5:00	7:00-5:00	7:00-5:00	Closed	Closed	Closed
Has the facility recently modified or constructed new equipment that could be used for management of DOE Waste? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>						
What improvements or changes to the facility are planned? Facility upgrades planned for 2020: Q1- Clansman Grinder which is an upgrade to our process for shield block surface grinding. Current process uses a swinger grinder with employee interface so upgrade puts operator behind a cab. Q1- MM Furnace PLC upgrade which will help our operator/machine interface. Q1- RMS dewatering platform gets us an actual working structure that employees can hook up dewatering hoses and verify processes gauges. Q2- Site Resurfacing includes plans to address areas around the facility in need of repaving due to surface area degradation. Q2-Vibration analysis equipment purchase which will monitor changes in pumps and motors bearing life. Q3-Incinerator Unit A baghouse upgrades which will replace current baghouse. Q4- Mold shop crane hoist replacement. Q4- Purchase of Articulating Lift to service site needs.						
Recordkeeping						
Please indicate location for the following records:						
Environmental Compliance Monitoring Records: Environmental Manager's Network						
Training Records: Training Office/OnBase						
Waste Transportation Manifests/Bills of Lading: OnBase						
Non-Conformance Shipments: EWT (Enterprise Waste Tracking)						
RCRA Operating Records: <a href="#">Click here to enter text</a>						



## TSDF Implementing Procedures



- **B.1 The Use of the DOECAP SharePoint and DOECAP Audit Reports Website to Support DOECAP Operations for TSDFs and DOECAP Auditors**
- **B.2 DOECAP Training Requirements for Auditors and Observers**
- **B.3 (a) DOECAP Code of Conduct**
- **B.3 (b) Standard DOECAP Confidentiality Agreement**
- **B.4 Pre-Audit Preparation**
- **B.5 Use of Checklists for TSDF Audits**
- **B.6 Requirements of Writing Findings and Observations**
- **B.7 Conduct at the TSDF Audit and Compiling Draft Report**
- **B.8 DOECAP Remote Audit Procedure for Treatment, Storage, and Disposal Facilities**





## TSDF Implementing Procedures: Example B.2 DOECAP Training Requirements for Auditors and Observers



- Describes the required process to recruit, train, and retain subject matter experts
- DOECAP Training Requirements for Auditors and Observers
  - Lead Auditors must be DOE federal employees
  - Subject matter experts complete the DOECAP qualifications package to be approved by Federal Panel
  - Prerequisites for each concentration are listed in the reference guide
  - Recommended training and certifications

Functional Area	Experience	Education	Recommended Training and Certifications
Quality Assurance	QA of production work Quality management experience	BS/BA Quality Assurance or associate's degree equivalent in physical chemical biological sciences or quality management	<ul style="list-style-type: none"> <li>• NQA1 Auditor or</li> <li>• Certified Quality Assurance Certificate Program or</li> <li>• ISO 9001:2015 Lead Auditor courses</li> </ul>
Sampling and Data	Analytical lab work Data validation Quality management	Bachelor's degree in physical chemical or biological sciences	<ul style="list-style-type: none"> <li>• Laboratory Accreditation Requirements</li> <li>• Chemical Hygiene</li> <li>• Ventilation controls</li> <li>• Laboratory Quality Assurance Chemical Hygiene Officer certification</li> </ul>
Waste Operations	Work with hazardous material Experience managing or supporting radiological or hazardous waste program	Associate's degree coursework in chemistry/biology	<ul style="list-style-type: none"> <li>• RCRA Hazardous Waste Training</li> <li>• DOT Hazardous Materials Regulations</li> <li>• Hazardous Materials Manager Certification</li> <li>• OSHA HAZWOPER Training</li> </ul>



## TSDf Implementing Procedures B.2 DOECAP Training Requirements for Auditors and Observers (continued)

Functional Area	Experience	Education	Recommended Training and Certifications
Environmental Compliance	<p>Performance of work managed in accordance with environmental permits</p> <p>Ability to read and understand TSDf Part B Permits and Radioactive License basics</p> <p>Prior experience participating in an environmental media audit</p>	Bachelor's Degree in physical chemical or biological sciences	<ul style="list-style-type: none"> <li>• DOT HMR</li> <li>• RCRA training</li> <li>• Radiation worker training</li> <li>• Certified Hazardous Materials Manager</li> <li>• Certified Environmental Specialist</li> </ul>
Radiological Control	<p>Familiarity with DOE Directive on Radioactive Waste Management</p> <p>Radiation worker training</p> <p>Use of radiation detection instrumentation</p> <p>Low level radioactive &amp; mixed waste management</p>	BS Environmental Health, Health Physics, or Physics	<ul style="list-style-type: none"> <li>• Health Physicist or</li> <li>• Industrial Hygienist or</li> <li>• Radiation Safety Officer</li> <li>• Certification in any of these three areas</li> </ul>
Industrial and Chemical Safety	<p>Health and Safety technician</p> <p>Respirator Safety</p> <p>OSHA required safety recordkeeping</p>	BS Environmental Health, Chemistry or Biology BS Physics	<ul style="list-style-type: none"> <li>• DOT HMR</li> <li>• Industrial Hygienist</li> <li>• Safety Professional</li> <li>• Associated Certifications 10- and 30-hour OSHA General Industry courses</li> </ul>
Transportation Management	<p>Work with hazardous chemicals</p> <p>Shipping receiving of hazardous materials</p>	Associates Degree with basic courses in biology, chemistry	<ul style="list-style-type: none"> <li>• DOT HMR</li> <li>• EPA's Electronic Hazardous Waste Manifest training</li> <li>• DOT HMR specialized class in radioactive material</li> </ul>



## Appendices

### Appendix C: Definitions



**Auditor**

**Audit Facility**

**Audit Discipline or Scope**

**Auditor-In-Training (AIT)**

**Checklist**

**Continuing Audit**

**Department of Energy**

**DOECAP Audit**

**DOECAP Management Oversight**

**Initial Audit**

**Lead Auditor**

**Observation**

**Observer**

**Open Finding**

**Point of Contact**

**Priority I Finding**

**Priority II Finding**

**Quality Systems Manual (QSM)**

**Site Description Sheet**



## Appendices

### Appendix D: References Sheet



Reference	Description
<a href="#">ASTM E 898</a>	A method which will enable the user to develop information concerning the precision and accuracy of weighing instruments.
<a href="#">Compressed Gas Association Standard for Safe Handling of Compressed Gases in Containers - 12th Edition</a>	Accepted good practices for safe handling of compressed gases in containers.
<a href="#">DoD/DOE Quality System Manual, v5.3</a>	Provides baseline requirements for the establishment and management of quality systems for laboratories performing analytical testing services for the Department of Defense (DoD) and the Department of Energy (DOE).
<a href="#">DOE O 414.1D</a>	Defines roles and responsibilities for providing quality assurance for DOE products and services.
<a href="#">DOE O 460.2A</a>	Establishes requirements and responsibilities for management of DOE including National Nuclear Security Administration (NNSA), materials transportation and packaging to ensure the safe, secure, efficient packaging and transportation of materials, both hazardous and nonhazardous.
<a href="#">DOE O 460.1D</a>	Establishes safety requirements for the proper packaging and transportation of offsite shipments and onsite transfers of hazardous materials, including radioactive materials.
<a href="#">DOE M 460.2-1A</a>	Establishes standard transportation practices for the DOE and NNSA to use in planning and executing offsite shipments of radioactive materials and waste.
<a href="#">EPA SW-846 Chapter 1</a>	Provides an understanding of environmental data and the need for quality.
<a href="#">EPA SW-846 Chapter 9</a>	Addresses the development and implementation of a scientifically credible sampling plan for a solid waste and the documentation of the chain of custody for such a plan. The information presented in this section is relevant to the sampling of any solid waste, which has been defined by the Environmental Protection Agency in its regulations for the identification and listing of hazardous wastes to include solid, semisolid, liquid, and contained gaseous materials.
<a href="#">ISO 9001</a>	Internationally recognized standard for creating, implementing, and maintaining a Quality Management System.



Reference	Description
<a href="#">NOA-1</a>	Provides requirements and guidelines for the establishment and execution of quality assurance programs during siting, design, construction, operation, and decommissioning of nuclear facilities.
<a href="#">10 CFR 19</a>	The regulations in this part establish requirements for notices, instructions, and reports by licensees and regulated entities to individuals participating in Nuclear Regulatory Commission (NRC)-licensed and regulated activities and options available to these individuals in connection with Commission inspections of licensees and regulated entities, and to ascertain compliance with the provisions of the Atomic Energy Act of 1954, as amended, titles II and IV of the Energy Reorganization Act of 1974, and regulations, orders, and licenses thereunder.
<a href="#">10 CFR 20</a>	(a) The regulations in this part establish standards for protection against ionizing radiation resulting from activities conducted under licenses issued by the NRC. These regulations are issued under the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended.  (b) It is the purpose of the regulations in this part to control the receipt, possession, use, transfer, and disposal of licensed material by any licensee in such a manner that the total dose to an individual (including doses resulting from licensed and unlicensed radioactive material and from radiation sources other than background radiation) does not exceed the standards for protection against radiation prescribed in the regulations in this part.
<a href="#">10 CFR 850</a>	This part provides for establishment of a chronic beryllium disease prevention program that supplements and is deemed an integral part of the worker safety and health program.
<a href="#">29 CFR 1910</a>	The legislative purpose of this provision is to establish, as rapidly as possible and without regard to the rule-making provisions of the Administrative Procedure Act, standards with which industries are generally familiar, and on whose adoption interested and affected persons have already had an opportunity to express their views. Such standards are either (1) national consensus standards on whose adoption affected persons have reached substantial agreement, or (2) Federal standards already established by Federal statutes or regulations.
<a href="#">40 CFR 63</a>	National emission standards for hazardous air pollutants for source categories.
<a href="#">40 CFR 68</a>	This part sets forth the list of regulated substances and thresholds, the petition process for adding or deleting substances to the list of

Reference	Description
	regulated substances, the requirements for owners or operators of stationary sources concerning the prevention of accidental releases, and the State accidental release prevention programs approved under section 112(r). The list of substances, threshold quantities, and accident prevention regulations promulgated under this part do not limit in any way the general duty provisions under section 112(r)(1).
<a href="#">40 CFR 112</a>	Sets forth requirements for the prevention of, preparedness for, and response to oil discharges at specific non-transportation-related facilities.
<a href="#">40 CFR 122</a>	The regulatory provisions contained in this part implement the National Pollutant Discharge Elimination System Program of the Clean Water Act.
<a href="#">40 CFR 129</a>	(a) The provisions of this subpart apply to owners or operators of specified facilities discharging into navigable waters.  (b) The effluent standards or prohibitions for toxic pollutants established in this subpart shall be applicable to the sources and pollutants hereinafter set forth, and may be incorporated in any NPDES permit, modification, or renewal thereof, in accordance with the provisions of this subpart.  (c) The provisions of 40 CFR parts 124 and 125 shall apply to any NPDES permit proceedings for any point source discharge containing any toxic pollutant for which a standard or prohibition is established under this part.
<a href="#">40 CFR 261</a>	This part identifies those solid wastes which are subject to regulation as hazardous wastes under parts 262 through 265, 268, and parts 270, 271, and 124 of this chapter and which are subject to the notification requirements of section 3010 of RCRA.
<a href="#">40 CFR 262</a>	The regulations in this part establish standards for generators of hazardous waste as defined by 40 CFR 260.10.



## Appendices

### Appendix E: Acronym List



ASPM-Analytical Services Program Manager	LOI-Lines of Inquiry	RPDA-Risk Based Disposal Approval
AIT-Auditor in Training	M-Manual	RPP-Radiation Protection Program
CAA-Clean Air Act	M&TE-Measurement and Test Equipment	SA-Sampling and Analytical Data
CERCLA-Comprehensive Environmental Response, Compensation and Liability Act	MRA-Mutual Recognition Arrangement	SARA-Superfund Amendments and Reauthorization
CD-Certificate of Disposal	MSDS-Material Safety Data	SDS-Safety Data Sheets
CFR-Code of Federal Regulations	NESHAP-National Emissions Standards for Hazardous Air Pollutants	SME-Subject Matter Expert
CWA-Clean Water Act	NNSA- National Nuclear Security Administration	SPCC-Spill Prevention, Control and Countermeasure
DoD-Department of Defense	NPDES-National Pollutant Discharge Elimination System	TCLP-Toxicity Characteristic Leaching Procedure
DOE-Department of Energy	NQA-Nuclear Quality Assurance	TLD- Thermoluminescent Dosimeter
DOECAP-Department of Energy Consolidated Audit Program	NRC-Nuclear Regulatory Commission	TM-Transportation Management
DOT-Department of Transportation	O-Order	TSDF-Treatment, Storage, and Disposal Facility
EC-Environmental Compliance	OSHA-Occupational Safety and Health Administration	TSCA-Toxic Substances Control Act
EPA-Environmental Protection Agency	PCB-Polychlorinated biphenyl	WAP-Waste Analysis Plan
EPCRA-Emergency Planning and Community Right-to-Know Act	POC-Point of Contact	WO-Waste Operation
FRP-Facility Response Plan	PPE-Personal Protective Equipment	
FY-Fiscal Year	PSN-Proper Shipping Name	
HCl-Hydrogen Chloride	PT-Proficiency Testing	
IATA-International Air Transportation Association	QA-Quality Assurance	
IC-Industrial and Chemical Safety	QAP-Quality Assurance Program	
ISO-International Organization for Standardization	QSM-Quality Systems Manual	
IT- Information Technology	RCRA-Resource Conservation and Recovery Act	
LDR-Land Disposal Restrictions	RC-Radiological Control	
	RML-Radioactive Materials License	

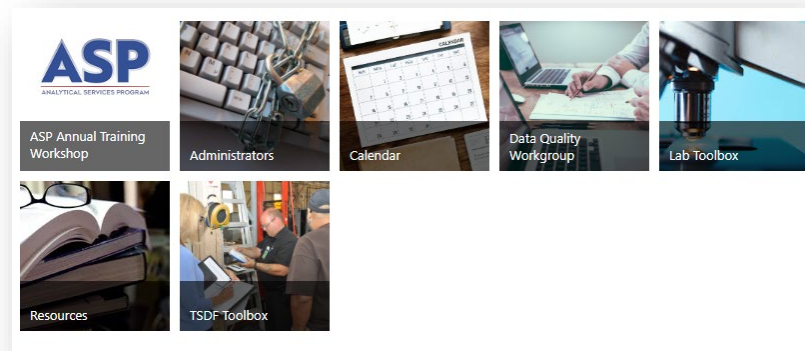


## Audit Tools Worth Re-Emphasizing



### DOECAP SharePoint

- Auditors and TSDF representatives are given access
  - Calendar of scheduled audits
  - DOECAP archived presentations and meetings
  - TSDF uploads all requested documentation to their folder
  - Procedures and completed checklists
  - Auditors review TSDF documentation for audit preparation



### DOECAP Audit Reports Website

- TSDF completes site specific checklists
- Auditors review and comment on completed checklists
- Auditors enter findings and observations
- TSDF enters correct action plans for findings
- Audit report is generated
- Corrective Action Plans can be directly uploaded by the TSDF



# Questions