

## Occupational Safety Competency 2.1

---

**Competency 2.1** Occupational safety personnel shall demonstrate a working level knowledge of occupational safety-related requirements of Department of Energy (DOE) Orders such as the following:

- DOE 3790.1B, Federal Employee Occupational Safety and Health Program
- DOE 3791.2A, Federal Employee Motor Vehicle Safety Program
- DOE 4330.4A, Maintenance Management Program
- DOE 4700.1, Project Management System
- DOE 5000.3B, Occurrence Reporting and Processing of Operations Information
- DOE 5480.1B, Environment, Safety and Health Program for Department of Energy Operations
- DOE 5480.3, Safety Requirements for the Packaging and Transportation of Hazardous Materials, Hazardous Substances, and Hazardous Wastes
- DOE 5480.4, Environmental Protection, Safety, and Health Protection Standards
- DOE 5480.5, Safety of Nuclear Facilities
- DOE 5480.7A, Fire Protection
- DOE 5480.8A, Contractor Occupational Medical Program
- DOE 5480.9A, Construction Project Safety and Health Management
- DOE 5480.10, Contractor Industrial Hygiene Program
- DOE 5480.19, Conduct of Operations Requirements for DOE Facilities
- DOE 5480.20, Personnel Selection, Qualification, Training, and Staffing Requirements at DOE Reactor and Non-Reactor Nuclear Facilities
- DOE 5480.23, Nuclear Safety Analysis Reports
- DOE 5480.29, Employee Concerns Management System
- DOE 5481.1B, Safety Analysis and Review System
- DOE 5482.1B, Environment, Safety and Health Appraisal Program
- DOE 5483.1A, Occupational Safety and Health Program for DOE Contractor Employees
- DOE 5484.1, Environmental Protection, Safety, and Health Protection Information Reporting Requirements
- DOE 5500.1B, Emergency Management System Emergency Categories, Classes, and Notification and Reporting Requirements
- DOE 5500.3A, Planning and Preparedness for Operational Emergencies

## Occupational Safety Competency 2.1

---

### 1. Supporting Knowledge and Skills

- a. Discuss the purpose, responsibilities, and requirements of Department of Energy Orders with respect to occupational safety.
- b. Discuss the compatibility between, and describe the respective applicability of, the occupational safety requirements contained in Department of Energy Orders and applicable local, State, or Federal regulations.
- c. Discuss the relationship that exists between Department of Energy Orders and Occupational Safety and Health Administration Standards.
- d. Discuss appropriate or required measures for obtaining interpretations of, or variances/exemptions from, occupational safety requirements in Department of Energy Orders.

### 2. Self-Study Activities (corresponding to the intent of the above competency)

Below are two web sites containing many of the references you may need.

Web Sites		
Organization	Site Location	Notes
Department of Energy	<a href="http://wastenot.inel.gov/cted/stdguido.html">http://wastenot.inel.gov/cted/stdguido.html</a>	DOE Standards, Guides, and Orders
OSHA	<a href="http://www.osha-slc.gov/">http://www.osha-slc.gov/</a>	OSHA documents and search engine
U.S. House of Representatives	<a href="http://law.house.gov/cfr.htm">http://law.house.gov/cfr.htm</a>	Searchable Code of Federal Regulations

## Occupational Safety Competency 2.1

**Review** the following matrix of DOE orders and then proceed to the exercises that follow.

DOE Order	Purpose	Scope/ Applicability	Requirements/Key Words
DOE 3790.1B, <i>Federal Employee Occupational Safety and Health Program</i>	Establishes DOE Occupational Safety and Health Program.	Federal employees	<ul style="list-style-type: none"> <li>Provides for a safe workplace.</li> <li>Assures employee participation in an Occupational Safety and Health Program.</li> <li>Establishes programs for safety and health training.</li> <li>Assures employee reporting of unsafe or unhealthful working conditions.</li> <li>Complies with OSHA 1910.</li> <li>Complies with 29 CFR part 1960.</li> </ul>
DOE 3791.2A, <i>Federal Employee Motor Vehicle Safety Program</i>	Establishes minimum licensing requirements for DOE employees operating government-owned or -leased motor vehicles and powered industrial equipment.	DOE employees who are regularly required to operate motor vehicles and powered industrial equipment.	<ul style="list-style-type: none"> <li>The Office of Personnel Management (OPM) regulations, standards, and procedures dealing with motor vehicle operator requirements are to be followed except as supplemented by this Order.</li> <li>Each employee operating or riding in a government-owned vehicle shall wear his or her seat belt at all times.</li> </ul>
DOE 4330.4B, <i>Maintenance Management Program</i>	Provides general policy and objectives for the management and performance of cost-effective maintenance and repair of DOE property.	DOE, DOE contractors, and subcontractors	<ul style="list-style-type: none"> <li>Describes the requirements for reporting and processing of occurrences related to: safety, health, security, property, operations, environment, and emergencies.</li> <li>Develops a cost-effective maintenance program.</li> <li>Evaluates maintenance program performance and effectiveness.</li> <li>Complies with environmental, safety, and health standards.</li> </ul>
DOE 4700.1, <i>Project Management System</i>	Establishes the DOE project management system.	DOE and DOE contractors	<ul style="list-style-type: none"> <li>Provides implementing instructions, formats, and procedures.</li> <li>Sets principles and requirements that govern the development, approval, and execution of DOE's outlay program acquisitions as embodied in the project management system (PMS).</li> </ul>

## Occupational Safety Competency 2.1

DOE Order	Purpose	Scope/ Applicability	Requirements/Key Words
DOE 5000.3B, <i>Occurrence Reporting and Processing of Operations Information</i>	Establishes a system for reporting operations information related to DOE-owned or -operated facilities and processing that information to provide for appropriate corrective action.	DOE and DOE contractors	DOE policy to ensure timely identification, categorization, notification, and reporting to DOE management of all reportable occurrences at DOE-operated facilities or DOE-owned, contractor-operated facilities.
DOE 5480.1B, <i>Environment, Safety and Health Program for Department of Energy Operations</i>	Establishes ES&H Program for DOE operations.	DOE and DOE contractors	<ul style="list-style-type: none"> <li>• Assures that contractors execute ES&amp;H program elements.</li> <li>• Complies with mandatory requirements relating to ES&amp;H.</li> <li>• Appraises programs in accordance with DOE 5482.1B and other DOE 5480 series orders.</li> <li>• Prepares implementation plans for this Order and other DOE 5480 series orders.</li> <li>• Maintains liaison with regional, state, or local official on ES&amp;H requirements.</li> <li>• Processes requests for exceptions and variances.</li> </ul>
DOE 5480.3, <i>Safety Requirements for the Transportation of Hazardous Materials, Hazardous Substances, and Hazardous Wastes</i>	Establishes requirements for the packaging and transportation of hazardous materials, hazardous substances, and hazardous wastes.	DOE and DOE contractors	<ul style="list-style-type: none"> <li>• Complies with this Order, federal regulations, and the applicable safety regulations of the Department of Transportation (DOT).</li> <li>• Follows applicable packaging standards of the Nuclear Regulatory Commission (NRC) (10 CFR 71).</li> </ul>

## Occupational Safety Competency 2.1

DOE Order	Purpose	Scope/ Applicability	Requirements/Key Words
DOE 5480.4, <i>Environmental Protection, Safety, and Health Protection Standards</i>	Specifies and provides requirements for the mandatory (ES&H) standards applicable to DOE and DOE contractor operations; provides a listing of reference ES&H standards; and identifies the sources of the mandatory and reference ES&H standards.	DOE and DOE Contractors	<ul style="list-style-type: none"> <li>• Provides a listing of reference ES&amp;H standards.</li> <li>• Identifies the sources of the mandatory and reference standards.</li> </ul>
DOE 5480.19, <i>Conduct of Operations Requirements For DOE Facilities</i>	Provides requirements and guidelines for departmental elements used in developing directives, plans, and/or procedures relating to the conduct of operations at DOE facilities.	DOE and DOE contractors	<ul style="list-style-type: none"> <li>• Operations at DOE facilities will be managed, organized, and conducted in a manner to ensure an acceptable level of safety.</li> <li>• Operators at DOE facilities have procedures in place to control the conduct of operations.</li> <li>• Line organizations review existing and planned programs important to safe and reliable facility operations.</li> <li>• Line organizations assess the effectiveness of corporate directives, plans, or procedures at facilities under their cognizance.</li> </ul>
DOE 5480.23, <i>Nuclear Safety Analysis Reports</i>	Establishes requirements for contractors responsible for the design, construction, operation, decontamination, or decommissioning of nuclear facilities to develop safety analyses that establish and evaluate the adequacy of the safety basis of the facilities.	DOE, DOE contractors, and subcontractors covered under the following contract clauses: <ul style="list-style-type: none"> <li>• Safety and Health (DEAR 970.5204-2)</li> <li>• Nuclear Facility Safety (DEAR 970.5204-26)</li> <li>• Radiation Protection and Nuclear Criticality (DEAR 952.223-72)</li> <li>• Other clauses under DNSFB</li> </ul>	<ul style="list-style-type: none"> <li>• Contractors shall perform a safety analysis to include: <ul style="list-style-type: none"> <li>– A graded approach for the level of analysis.</li> <li>– The scope and content of Safety Analysis Reports (SAR).</li> <li>– Hazard classification for nuclear facilities and operations.</li> <li>– Document control.</li> </ul> </li> </ul>

## Occupational Safety Competency 2.1

DOE Order	Purpose	Scope/ Applicability	Requirements/Key Words
DOE 5480.29, <i>Employee Concerns Management System</i>	Creates the framework for promptly identifying, reporting, and resolving employee concerns regarding DOE facilities or operations.	DOE, DOE contractors, and subcontractors	<ul style="list-style-type: none"> <li>• Provides for the necessary prioritization, evaluation, and resolution of employee concerns.</li> <li>• Provides for effective communication methods for ensuring that employees are aware of the program.</li> <li>• Establishes a formal and measurable tracking system of employee concern status.</li> <li>• Maintains a secure filing system.</li> <li>• Ensures that originator can be informed of the status and disposition of concern.</li> <li>• Maintains a 24-hour telephone capability.</li> <li>• Ensures distribution of copies of ES&amp;H and nuclear safety concerns.</li> <li>• Guards the anonymity or confidentiality of the employee.</li> <li>• Provides for the review and evaluation of an employee's concern.</li> </ul>
DOE 5481.1B, <i>Safety Analysis and Review System</i>	Establishes uniform requirements for the preparation and review of safety analyses of DOE operations.	DOE and DOE contractors	<ul style="list-style-type: none"> <li>• Assures the protection of the environment and the health and safety of the public.</li> <li>• Provides for a safe and healthful workplace.</li> <li>• Protects government property.</li> <li>• Assures compliance with applicable statutory requirements.</li> <li>• Ensures quality assurance.</li> </ul>
DOE 5482.1B, <i>Environment, Safety, and Health Appraisal Program</i>	Establishes the ES&H Appraisal Program for DOE.	DOE and DOE contractors	<ul style="list-style-type: none"> <li>• Factors for ES&amp;H Appraisals:               <ul style="list-style-type: none"> <li>– Management Directives</li> <li>– Policies, Standards, Permits, and Licenses</li> <li>– Organization and Administration</li> <li>– Staffing</li> <li>– Training</li> <li>– Communication</li> <li>– Documentation</li> <li>– Incident and Accident Reporting</li> </ul> </li> </ul>

## Occupational Safety Competency 2.1

DOE Order	Purpose	Scope/ Applicability	Requirements/Key Words
DOE 5482.1B, <i>Environment, Safety, and Health Appraisal Program</i> (continued)			<ul style="list-style-type: none"> <li>– Planning, Budgeting, and Spending</li> <li>– ES&amp;H Appraisal Programs</li> <li>– ES&amp;H Evaluation of Current and Planned Facilities and Programs</li> <li>– Performance</li> </ul>
DOE 5483.1A, <i>Occupational Safety and Health Program for DOE Contractor Employees</i>	Establishes requirements and procedures for DOE contractor employees consistent with the protection afforded private industry employees by OSHA.	DOE and DOE contractors subject to DOE Procurement Regulation (PR) 9-50.704-2(a) and DOE PR 9-50.704-2(b)	<p>Contractors are to:</p> <ul style="list-style-type: none"> <li>• Provide a safe workplace.</li> <li>• Establish and implement programs and procedures in support of this Order to ensure:               <ul style="list-style-type: none"> <li>– Employee participation in occupational safety and health programs.</li> <li>– Compliance with DOE-prescribed OSHA standards.</li> <li>– Workplace monitoring for known toxic substances and harmful physical agents.</li> <li>– That requests for variances or exceptions from the DOE-prescribed OSHA standards are in accordance with Chapter I.</li> <li>– That contractor employees are fully informed of their rights, protections, obligations, and responsibilities as required by Chapter I.</li> <li>– That compliance inspections are conducted using the inspection procedures of Chapter I as general guidelines.</li> <li>– That safety and health complaints are investigated promptly and resolved equitably according to the requirements of Chapter II.</li> <li>– That employees who file complaints are not discriminated against, as required by Chapter III of this Order.</li> </ul> </li> </ul>

## Occupational Safety Competency 2.1

DOE Order	Purpose	Scope/ Applicability	Requirements/Key Words
DOE 5483.1A, <i>Occupational Safety and Health Program for DOE Contractor Employees</i> (continued)			<ul style="list-style-type: none"> <li>- That occupational safety and health records and information are maintained and posted as prescribed by Chapter III.</li> <li>- That accident investigations are conducted as required by Chapter III.</li> </ul>
DOE 5480.5, <i>Safety of Nuclear Facilities</i>	Establishes the nuclear facility safety program.	DOE and DOE contractors	<ul style="list-style-type: none"> <li>• Program requirements ensure that:               <ul style="list-style-type: none"> <li>- Nuclear facilities are sited, designed, constructed, modified, operated, maintained, and decommissioned in accordance with uniform standards, guides, and codes.</li> <li>- Radioactive and fissionable materials are produced, processed, stored, transferred, or handled in such a manner that the probability of an accident is acceptably low.</li> <li>- ES&amp;H program requirements are in compliance.</li> <li>- Consideration is given to all potential criticality hazards.</li> <li>- Government property and essential operations are protected.</li> </ul> </li> </ul>
DOE 5480.7A, <i>Fire Protection</i>	Establishes requirements for a comprehensive fire protection and related perils protection program sufficient to attain DOE objectives.	DOE and DOE contractors	<ul style="list-style-type: none"> <li>• Fire Protection Criteria               <ul style="list-style-type: none"> <li>- A documented Fire Protection Program</li> </ul> </li> <li>• Assessments               <ul style="list-style-type: none"> <li>- Documented evaluations of the fire protection program                   <ul style="list-style-type: none"> <li><input type="checkbox"/> Fire Hazard Analyses</li> <li><input type="checkbox"/> Life Safety</li> <li><input type="checkbox"/> Automatic Fire Protection</li> <li><input type="checkbox"/> Redundant Fire Protection</li> <li><input type="checkbox"/> Testing and Maintenance</li> <li><input type="checkbox"/> Quality Construction</li> </ul> </li> </ul> </li> </ul>

## Occupational Safety Competency 2.1

DOE Order	Purpose	Scope/ Applicability	Requirements/Key Words
DOE 5480.8, <i>Contractor Occupational Medical Program</i>	Establishes minimum occupational medical program requirements.	DOE and DOE contractors	<ul style="list-style-type: none"> <li>• A written occupational medical plan for each installation.</li> <li>• Maintenance of a healthful work environment.</li> <li>• Minimum requirements for employee health examinations.</li> <li>• Minimum scope and content of the comprehensive health examination.</li> <li>• Guides for the interim health status examination.</li> </ul>
DOE 5480.9A, <i>Construction Project Safety and Health Management</i>	Establishes specific requirements for the management of occupational safety and health (OSH) on DOE construction projects.	DOE, DOE contractors, and subcontractors	<ul style="list-style-type: none"> <li>• Develops local instructions for implementation of this Order.</li> <li>• Ensures that project managers are trained.</li> <li>• Ensures that construction project acquisition documents include provisions that allow for noncompensable work stoppages.</li> <li>• Reviews safety and health programs.</li> <li>• Reviews and approves construction contractor evaluations.</li> </ul>
DOE 5480.20A, <i>Personnel Selection, Qualification and Training Requirements For DOE Nuclear Facilities</i>	Establishes selection, qualification, and training requirements for management and operating (M&O) contractor personnel involved in the operation, maintenance, and technical support of DOE-owned Category A and B reactors and nonreactor nuclear facilities.	DOE elements and DOE contractors that are responsible for operable DOE-owned Category A and B reactors and nonreactor facilities	<ul style="list-style-type: none"> <li>• Delineates general and specific requirements that apply to M&amp;O contractor operating organization personnel.</li> <li>• Chapter I contains requirements for training and qualification of personnel.</li> <li>• Chapters II, III, and IV contain requirements for personnel at DOE Category A production, test, and research reactors, Category B reactors, and nonreactor nuclear facilities.</li> <li>• Evaluations and qualification programs conducted using DOE-STD-1070-94.</li> </ul>

## Occupational Safety Competency 2.1

DOE Order	Purpose	Scope/ Applicability	Requirements/Key Words
DOE 5484.1, <i>Environmental Protection, Safety, and Health Protection Information Reporting Requirements</i>	Establishes requirements and procedures for the reporting of information having environmental protection, safety, or health protection significance for DOE operations.	DOE and DOE contractors	<ul style="list-style-type: none"> <li>• Objectives of the information reporting system are:               <ul style="list-style-type: none"> <li>– To investigate and evaluate occurrences.</li> <li>– To obtain early, complete, and factual information on occurrences.</li> <li>– To ensure the gathering of adequate information on which to base management action.</li> <li>– To provide a basis for the improvement of codes, guides, and standards.</li> <li>– To establish a procedure for the development and reporting of occupational radiation exposure information to the Radiation Records Repository.</li> <li>– To monitor, evaluate, and report onsite discharges, liquid and airborne effluents, and environmental conditions.</li> </ul> </li> </ul>
DOE 5500.1C (Draft), <i>Emergency Management System</i>	Establishes overall policy and assigns and describes roles and responsibilities for DOE Emergency Management System.	DOE and DOE contractors	<ul style="list-style-type: none"> <li>• DOE Emergency Management System shall provide the framework for comprehensive and integrated planning, preparedness, and response activities for all emergencies involving or affecting DOE or requiring DOE assistance.</li> </ul>

## Occupational Safety Competency 2.1

DOE Order	Purpose	Scope/ Applicability	Requirements/Key Words
DOE 5500.3A, <i>Planning and Preparedness For Operational Emergencies</i>	Establishes requirements for planning and preparedness for Operational Emergencies involving DOE or requiring DOE assistance.	DOE and DOE contractors	<ul style="list-style-type: none"> <li>• This Order identifies 13 elements for an emergency management program:               <ul style="list-style-type: none"> <li>– Emergency Response Organization</li> <li>– Offsite Response Interfaces</li> <li>– Operational Emergency Event Classes</li> <li>– Notification</li> <li>– Consequences Assessment</li> <li>– Protective Actions</li> <li>– Medical Support</li> <li>– Recovery and Reentry</li> <li>– Public Information</li> <li>– Emergency Facilities and Equipment</li> <li>– Training</li> <li>– Drills and Exercises</li> <li>– Program Administration</li> </ul> </li> </ul>

EXERCISE 2-1.A Using the matrix and DOE orders as references, state the purpose and general requirements for each DOE Order.

**Read** DOE Order 5483.1A, *Occupational Safety and Health Program for DOE Contractor Employees at Government-Owned, Contractor-Operated (GOCO) Facilities*.

EXERCISE 2.1-B Referring to DOE Order 5483.1A, *Occupational Safety and Health Program for Contractor Employees at GOCO Facilities*, state the DOE-prescribed OSHA Standards with which GOCO facility contractors must comply.

EXERCISE 2.1-C Referring to DOE Order 5483.1A, *Occupational Safety and Health Program for Contractor Employees at GOCO Facilities*, state the content requirements for applying for a temporary and/or permanent variance or exception to the DOE-prescribed OSHA standards.

### 3. Summary

Refer to the matrix of DOE Orders found in Section 2 of this study guide.

## Occupational Safety Competency 2.1

---

### 4. Exercise Solutions

EXERCISE 2-1.A Using the matrix and DOE orders as references, state the purpose and general requirements for each DOE Order.

ANSWER 2-1.A Review each of the above DOE orders for the purpose statement and general requirements/key words.

EXERCISE 2.1-B Referring to DOE Order 5483.1A, *Occupational Safety and Health Program for Contractor Employees at GOCO Facilities*, state the DOE-prescribed OSHA Standards with which GOCO facility contractors must comply.

ANSWER 2.1-B GOCO contractors shall comply with the following DOE-prescribed OSHA standards:

- a. "Occupational Safety and Health Standards," Title 29 CFR Part 1910
- b. "Safety and Health Regulations for Construction," Title 29 CFR Part 1926
- c. "Occupational Safety and Health Standards for Shipyard Employees," Title 29 CFR Part 1915
- d. "Safety and Health Regulation for Longshoring," Title 29 CFR Part 1918
- e. "Occupational Safety and Health Standards for Agriculture," Title 29 CFR Part 1928

EXERCISE 2.1-C Referring to DOE Order 5483.1A, *Occupational Safety and Health Program for Contractor Employees at GOCO Facilities*, state the content requirements for applying for a temporary and/or permanent variance or exception to the DOE-prescribed OSHA standards.

ANSWER 2.1-C DOE Order 5483.1A  
Chapter I - "Standards, Instructions, and Inspections"  
Section 4 - "Variance and Exception Request, Evaluation, and Response Procedures"  
See subparagraph 4a. "Temporary Variances," subparagraph 4b. "Permanent Variances," and subparagraph 4c. "Exceptions."