

U.S. Department of Energy Orders Self-Study Program



DOE O 231.1A

ENVIRONMENT, SAFETY, AND HEALTH REPORTING

**NATIONAL NUCLEAR SECURITY ADMINISTRATION
LEARNING AND CAREER DEVELOPMENT DEPARTMENT**

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**DOE ORDER O 231.1A
ENVIRONMENT, SAFETY, AND HEALTH REPORTING
FAMILIAR LEVEL**

OBJECTIVES

Given the familiar level of this module and the resources listed below, you will be able to perform the following:

1. State the objective of DOE O 231.1A.
2. State the DOE reporting requirements according to DOE M 231.1-1A
3. State the DOE occurrence reporting requirements according to DOE M 231.1-2.
4. List the types of reports contractors are required to file.
5. Discuss the purpose of the Annual Site Environmental Report as outlined in DOE O 231.1A, Environmental Safety and Health Reporting.
6. State the different categories of reportable occurrences and discuss each.
7. Discuss the general process for preparing and submitting occurrence reports and their follow-up.

Note: If you think that you can complete the practice at the end of this level without working through the instructional material and/or the examples, complete the practice now. The course manager will check your work. You will need to complete the practice in this level successfully before taking the criterion test.

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RESOURCES

29 CFR 1904.5, "Determination of Work-Relatedness," July 1, 2007.

29 CFR 1904.7, "General Recording Criteria," July 1, 2007.

DOE M 231.1-1A, *Environment, Safety, and Health Reporting Manual*, 3/19/04.

DOE M 231.1-2, *Occurrence Reporting and Processing of Operations Information*, 8/19/03.

DOE O 231.1A, *Environment, Safety, and Health Reporting*, 6/3/04.

DOE O 151.1C, *Comprehensive Emergency Management System*, 11/2/05.

DOE O 450.1A, *Environmental Protection Program*, 6/4/08.

DOE O 451.1B, *National Environmental Policy Act Compliance Program*, 9/28/01.

Executive Order 13148, "Greening the Government Through Leadership in Environmental Management," April 21, 2000.

Executive Order 13101, "Greening the Government Through Waste Prevention, Recycling and Federal Acquisition," September 14, 1998.

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INTRODUCTION

The familiar level of this module is designed to summarize the basic information in DOE O 231.1A, *Environment, Safety and Health Reporting*. This Order canceled DOE O 232.1A, *Occurrence Reporting and Processing of Operations Information* and the information therein now appears in DOE M 231.1-2, *Occurrence Reporting and Processing of Operations Information*. DOE O 231.1 has an accompanying manual DOE M 231.1-1A, *Environment, Safety and Health Reporting Manual*. This module will cover the Order and its two related manuals in three sections: Section one, DOE O 231.1A; Section two, DOE M 231.1-1A; and Section three, DOE M 231.1-2. The information provided will meet the relevant requirements in the following DOE Functional Area Qualification Standards:

- DOE-STD-1173-2003, *Criticality Safety*
- DOE-STD-1170-2007, *Electrical Safety and Systems Oversight*
- DOE-STD-1156-2002, *Environmental Compliance*
- DOE-STD-1157-2002, *Environmental Restoration*
- DOE-STD-1181-2004, *Facility Maintenance Management*
- DOE-STD-1151-2002, *FR*
- DOE-STD-1146-2007, *General Technical Base*
- DOE-STD-1174-2003, *Radiation Protection*
- DOE-STD-1171-2003, *Safeguards and Security*
- DOE-STD-1175-2006, *Senior Technical Safety Manager*
- DOE-STD-1178-2004, *Technical Program Manager*

Completion of this module also meets certain requirements associated with the DOE Facility Representative (FR) Program and the DOE Intern Program. The information contained in this module addresses specific requirements and as such does not include the entire text of the source document. Before continuing, you should obtain a copy of the Order and its accompanying manuals. Copies of the DOE Directives are available at <http://www.directives.doe.gov/> or through the course manager.

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SECTION 1, DOE ORDER O 231.1A, ENVIRONMENT, SAFETY, AND HEALTH REPORTING

OBJECTIVE

To ensure timely collection, reporting, analysis, and dissemination of information on environment, safety, and health issues as required by law or regulations or as needed to ensure that the Department of Energy (DOE) and National Nuclear Security Administration (NNSA) are kept fully informed on a timely basis about events that could adversely affect the health and safety of the public or the workers, the environment, the intended purpose of DOE facilities, or the credibility of the Department.

REQUIREMENTS

Unless otherwise indicated, the reports listed below will be submitted according to the most recent versions of DOE M 231.1-1A and DOE M 231.1-2. These manuals, which are mandatory for ensuring compliance with parts of DOE O 231.1A, specify in detail the reports that must be filed, the persons or organizations responsible for filing the reports, the recipients of the reports, the formats in which the reports must be prepared, and the time schedules for filing the reports. The following reports and information are required.

- Occupational injury and illness reports
- Fatality and catastrophe reports
- Work hours reports
- Occupational radiation exposure data to individuals (and visitors)
- Annual individual occupational radiation exposure data to the Radiation Exposure Monitoring System (REMS)
- National Environmental Policy Act (NEPA) reporting
- Annual Site Environmental Reports
- Excess injury and illness reports
- Information requested by external organizations for epidemiological studies
- Annual fire protection summaries
- Occurrence reports
- Environmental Protection Program reports

RESPONSIBILITIES

Heads of DOE Elements

Heads of Departmental Elements must meet all the reporting requirements in the referenced directives, including the following.

- Occupational Injury and Illness Reports. In accordance with DOE M 231.1-1A, *Environment, Safety and Health Reporting Manual* implement a record keeping and reporting program to ensure the use of common definitions, consistent recording procedures, and timely reporting practices for DOE employee and all contractor and subcontractor occupational fatalities, injuries, and illnesses
- Fatality and Catastrophe Notification. Report accidents that involve fatalities or multiple hospitalizations of DOE employees to the Assistant Secretary for Environment, Safety and Health
- Environmental Protection Program Reporting. In accordance with DOE M 231.1-1A, Chapter I, ensure that the reporting requirements of DOE O 450.1A, *Environmental Protection Program*; Executive Order 13148, “Greening the Government Through Leadership in Environmental Management”; and Executive Order 13101, “Greening the Government Through Waste Prevention, Recycling and Federal Acquisition” are achieved.
- Occupational Radiation Exposure Reports to Individuals. Prepare and provide reports of occupational radiation exposures to individuals according to 10 CFR 835.801, “Reports to Individuals.”
- Annual Individual Radiation Exposure Records. Report new and revised radiation exposure records required by 10 CFR 835.702 (a) and (b), “Individual Monitoring Records,” to the REMS repository. (See DOE M 231.1-1A, chapter III)
- Excess Injury and Illness. Notify the Assistant Secretary of Environment, Safety and Health and the Deputy Assistant Secretary for Health of suspected excess illnesses/injuries that may require epidemiologic investigations to determine whether the injuries/illnesses are work related. (See DOE M 231.1-1A, chapter II.)
- Epidemiological Studies by External Organizations. Submit requested information to designated Department of Health and Human Services

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Heads of Field Elements (Managers and Directors)

- Report annually on the progress made in implementing, and the effectiveness of, any commitment for environmental impact mitigation that is essential to render the impact of a proposed action not significant or that is made in a record of decision.
- Prepare an annual NEPA planning summary.
- Prepare a summary of environmental data annually to characterize site environmental management performance.

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SECTION 2, DOE M 231.1-1A, ENVIRONMENT, SAFETY, AND HEALTH MANUAL

This section will address the requirements contained in the manual that supplements DOE O 231.1A. The information contained in this section is divided into three subsections. The subsections deal with the three chapters in the manual. The three chapters discussed are: Reporting Environmental Protection Information, Reporting Occupational Safety and Health Information, and Reporting Ionizing Radiation Exposure Information.

REPORTING ENVIRONMENTAL PROTECTION INFORMATION

Environmental Protection Program Reporting

Heads of Headquarters Elements and Heads of Field Elements, for matters under their purview, must ensure that the information needed to meet the requirements of DOE O 450.1, Environmental Protection Program, is reported annually considering annual guidance provided by the Chief Health, Safety and Security Officer

Annual Site Environmental Report

Heads of Field Elements will prepare an integrated annual site environmental report for each calendar year. This report must present summary environmental data in order to:

- Characterize site environmental management performance. Include data on effluent releases, environmental monitoring, and estimated radiological doses to the public from releases of radioactive material at DOE sites.
- Summarize environmental occurrences and responses reported during the calendar year.
- Confirm compliance with environmental standards and requirements.
- Highlight significant programs and efforts. Include environmental performance indicators and/or performance measures programs. The breadth and detail of this reporting should reflect the size and extent of programs at a particular site.

The Annual Site Environmental Report for the calendar year will be completed and made available to the public by October 1 of the following year and will be submitted to the Chief Health, Safety and Security Officer at that time.

The Office of Corporate Safety Analysis will continue to issue annual guidance to all DOE Headquarters and field elements regarding the preparation of the annual site environmental

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reports.

National Environmental Policy Act Reporting

Heads of Headquarters and Field Elements with responsibility for NEPA matters, will:

- Submit an annual report to the Office of NEPA Policy and Compliance on progress in implementing, and the effectiveness of, any commitment for environmental impact mitigation that is essential to render the impacts of a proposed action not significant or that is made in a record of decision. The report may be submitted on the mitigation action plan anniversary or as part of a combined report (for example, as part of the annual NEPA planning summary) for multiple plans until mitigation has been completed.
- Submit an annual NEPA planning summary to the General Counsel by January 31 of each year and make it available to the public. The current version of DOE O 451.1B, *National Environmental Policy Act Compliance Program*, describes the contents of the annual NEPA planning summary.

REPORTING OCCUPATIONAL SAFETY AND HEALTH INFORMATION

Injury and Illness Recordkeeping and Reporting

It is DOE policy that environmental, safety, and health reports be complete and readily available for authorized dissemination outside the cleared community. When accidents or incidents occur in Unclassified Controlled Nuclear Information (UCNI) sensitive facilities and/or involve classified operations, the local classification officer will be consulted to verify that such reports do not inadvertently disclose classified or unclassified controlled information.

Work-Related Fatalities, Injuries, and Illnesses

Heads of Headquarters Elements and Heads of Field Elements will require DOE contractors to report work-related fatalities, injuries, and illnesses occurring among DOE contractor/subcontractor employees and arising out of work primarily performed at DOE-owned or DOE leased facilities under their direction. Reports will be submitted to the Chief Health, Safety and Security Officer at least twice per year, quality checks will be performed to verify that the information recorded and reported to DOE, through the Computerized Accident/Incident Reporting System, regarding work related injuries and illnesses to DOE contractor employees is thorough, accurate, and consistent with information contained in local records.

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Heads of Field Elements and the Director for the Office of Management will record occupational fatalities, injuries, and illnesses occurring among Federal employees arising out of work primarily performed at DOE-owned or DOE-leased facilities. Reports of work related fatalities, injuries, and illnesses to DOE employees will comply with the recordkeeping and reporting requirements contained in the current version of 29 CFR 1960, subpart I, with modifications that follow in the paragraphs below.

- Record all recordable occupational injuries and illnesses experienced by DOE employees on the Log of Work-Related Injuries and Illnesses, OSHA Form No. 300, and complete an annual summary of the information contained on OSHA Form No. 300 using the Summary of Work-Related Injuries and Illnesses, OSHA Form No. 300A.
- Record and report all DOE employee recordable work-related injuries and illnesses on the electronic form DOE F 5484.3, Individual Accident/Incident Report, in lieu of OSHA Form No. 301, Injury and Illness Incident Report.
- Reports must be submitted to the Computerized Accident/Incident Reporting System (CAIRS).
- Report total employee hours worked on the electronic form DOE F 5484.4, Tabulation of Work-Hours.
- Report work-related incidents that involve a fatality or hospitalization of three or more DOE employees, in accordance with the requirements of 29 CFR 1960.70 to the Chief Health, Safety and Security Officer through the designated Federal Employees Occupational Safety and Health Program (FEOSH) Manager.
- Perform periodic, at least quarterly, quality checks of the information recorded and reported to CAIRS on work related injuries and illnesses to Federal employees to verify that the information is thorough, accurate, and consistent with information contained in local records.
- Analyze reports of DOE occupational injuries and illnesses to identify trends and preventive measures.

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Data Collection and Summarization

The Chief Health, Safety and Security Officer is responsible for maintaining a centralized operational database of reports submitted. CAIRS compiles case information from accident reports submitted by DOE, contractor, and subcontractor employees. The database collects information electronically using either file transfer features in CAIRS Bulk Upload Processing (CBUP) or the direct data entry form features in CAIRS Direct Data Entry (CDDE).

DOE-wide statistical summary information taken from reports submitted will be available through CAIRS quarterly summary report.

Posting OSHA Form 300A. OSHA Form No. 300A, will be completed, certified, and posted annually.

Supplemental Requirements Regarding Accident/Incident Reports. Heads of Headquarters Elements and Heads of Field Elements will verify that DOE and DOE contractors are in compliance with the following requirements.

- Retention of Injury/Illness Records and Reports. Heads of Headquarters Elements and Heads of Field Elements will require DOE and DOE contractors to retain personal injury and illness records pursuant to DOE O 200.1, *Information Management Program*. DOE elements will require DOE site/facility management contractors, upon termination of contracts for work being performed for DOE, to submit injury and illness records to the site/facility management contractor organization that will assume occupational safety and health (OSH) responsibilities for the facility. Additionally, Heads of Headquarters Elements and Heads of Field Elements will require DOE site/facility management contractors assuming OSH responsibilities for work being performed for DOE to retain previous operating contractors' accident records.
- Maintenance of Injury and Illness Reports. Heads of Headquarters Elements and Heads of Field Elements will maintain injury and illness records pursuant to 29 CFR 1960.66 and 1960.69. Heads of Headquarters Elements and Heads of Field Elements will ensure that DOE site/facility management contractors assuming OSH responsibilities for work being performed for DOE will maintain previous operating contractors' accident records.
- Access to Accident Records and Reports. An employee, former employee, and/or

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his/her representatives have the right to limited access of the OSHA Form No. 300 that contains the employee's name. Access is limited according to the requirements of the Privacy Act, Section 5 U.S.C 552a and the Freedom of Information Act (FOIA). In accordance with requirements contained in Section 5 U.S.C.552(b)(6) of the FOIA, access to information on any log maintained for DOE or by DOE or DOE contractors, will be restricted to information that does not constitute an unwarranted invasion of personal privacy. An employee whose name does not appear on a log will be limited to information that does not identify any injured or ill employees, and will not be provided access to the names of the injured or ill employees. An employee, former employee, and/or authorized representatives will have access to DOE F 5484.3 data that contains the employee's name as the injured or ill worker. Additional information on employee rights of access to these forms is provided in 29 CFR 1960.66 and 1960.69. Records listed in 29 CFR 1904.4 and 1904.5 will be made available for inspection and copying by any DOE representative for the purpose of conducting oversight assessments or for statistical compilation. Records required to be maintained under the provisions of 29 CFR subparts 1960.66 will be made available upon request to the Secretary of Labor and the Secretary of Health and Human Services or their authorized representatives.

- Updating Accident Records and Reports. Heads of Headquarters Elements and Heads of Field Elements will require DOE and DOE site/facility management contractors to update OSHA Form No. 300 pursuant to 29 CFR 1960.66 and 1960.69 and 29 CFR 1904.33. Each quarter, for at least one year from the date of the injury/illness, DOE elements must update each DOE F 5484.3 that includes lost work time for a DOE employee and verify that contractors update this information for contractor employees. DOE F 5484.3 should be updated to indicate changes in lost work time or changes in the description or outcome of the case.
- Interpretation of Reporting Requirements. For additional information or interpretation of occupational injury and illness reporting requirements contained in this Manual, contact the Office of Corporate Safety Analysis.
- Reporting Injury and Illness Cases to Subcontract Employees. Attachment 1, paragraphs 3c, 3d, and 3e of DOE M 231.1-1A provide requirements for DOE contractors relating to reporting occupational injury and illness cases that occurred to subcontractor employees. Heads of Headquarters Elements or their designated DOE

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field organization contacts can approve exemptions to DOE contractors from the requirements in attachment 1, paragraph 3d. They can also approve an alternative method to the method required in attachment 1, paragraph 3e for reporting injuries and illness to select subcontractors who meet either of the conditions in paragraph 3d.

Annual Fire Protection Summary

Organizations responsible for maintaining property under stewardship of DOE and the Administrator, NNSA, will seek concurrence with their appropriate Head of Field Element and submit specifically formatted fire protection program calendar year summary reports to the Chief Health, Safety and Security Officer by April 30 of the following year.

Reporting Information for Epidemiologic Analyses—Excess Injuries and Illnesses

Heads of Headquarters Elements and Heads of Field Elements will notify the Chief Health, Safety and Security Officer of suspected illness or injury excesses that require epidemiologic investigation. In this context, suspected excess means the perception that an unusually high number of cases may be occurring among a group of workers. Epidemiologic analyses can help determine whether suspected illness or injury excesses are greater than expected and are associated with working conditions. Any worker, individual, or group can identify suspected illness or injury excesses.

The Chief Health, Safety and Security Officer, who is responsible for all Departmental health studies of human populations, directs the investigations of suspected excesses through staff of the Office of Injury and Illness Prevention Programs.

Reporting organizations participate in epidemiologic investigation(s), which will determine the number of affected individuals, their medical diagnoses, and their hazard exposures. The investigation may involve medical tests, work place surveys, and reviews of personnel, medical, and exposure records.

Reporting Information for Epidemiologic Analyses—OSH Studies

The September 2000 memorandum of understanding between DOE and the Department of Health and Human Services (DHHS), which supersedes the December 1990 memorandum, reassigned management responsibility for a range of epidemiologic research projects and related activities addressing worker and community health to the DHHS Centers for Disease Control

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and Prevention (CDC) constituent agencies, including the National Institute for Occupational Safety and Health, the Agency for Toxic Substances and Disease Registry, and the National Center for Environmental Health. Much of the research focuses on illness, injury, and death to determine whether exposure to ionizing radiation and chemicals has had impact on worker health. These agencies have become users of data collected originally to fulfill OSHA requirements and collectors of additional research data.

Heads of Field Elements will provide CDC officials, their contractors, and grantees access to the DOE facilities, workers, information, and data needed to conduct these studies. The investigators will comply with Privacy Act and security requirements.

Annual Report to the Secretary of Energy

The Chief Health, Safety and Security Officer shall submit an annual report to the Secretary describing the status and adequacy of DOE, including NNSA, and contractor performance of their occupational safety and health responsibilities. The annual report for the calendar year will be submitted to the Secretary by May of the following year.

Annual Federal Employee Occupational Safety and Health Report

The Director for the Office of Corporate Safety Analysis is designated by the Chief Health, Safety and Security Officer to prepare and submit an annual fiscal year report to the Department of Labor on the DOE occupational safety and health program. The report will contain such information as the Secretary of Labor prescribes.

REPORTING IONIZING RADIATION EXPOSURE INFORMATION

Exposure Reports to the REMS Repository

Annual Individual Radiation Exposure Records

Heads of Headquarters Elements and Heads of Field Elements will report annual radiation exposure records required by 10 CFR 835.702(a) and (b) to the REMS repository by March 31 for the preceding monitoring year. The records should include exposure records for special individuals.

Revisions to radiation exposure records for monitoring periods beginning on or after January 1, 1989, will be reported to the REMS repository. Revised records for prior monitoring years will

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be submitted annually by March 31. However, if the revised dose record results in a dose exceeding regulatory dose limits defined in 10 CFR 835.202, revised records will be submitted within 30 days of the date that the dose record is revised. Revised records should be submitted to the REMS repository in a separate file, but in the same format as annual records. The transmittal documentation should note that the enclosed records are revised.

Radiation Exposure Records for Special Individuals

A special individual is a person employed by DOE Headquarters, a contractor supporting DOE Headquarters or Field Office activities, a Defense Nuclear Facilities Safety Board employee or contractor, or an International Atomic Energy Agency inspector who visits a DOE or DOE contractor site or facility to conduct Department-related business. Radiation exposure data pertaining to special individuals will be reported to the REMS repository within 30 days after the determination of the dosimetry.

Each DOE or DOE contractor employee or a special individual who visits, in an official capacity, a radiological site outside of the DOE shall arrange to have all pertinent occupational radiological exposure data to his or her employer within 30 days after determination of the dosimetry.

Heads of Headquarters Elements, Heads of Field Elements, and contractors shall verify that such procedures exist and are effective.

Report Format

All radiation exposure reports of records collected during and after CY 2005 and sent to the REMS repository must be submitted in electronic format and prepared according to appendix G of DOE M 231.1-1A.

Exposure Reports to Individuals

Reports to individuals must be prepared according to 10 CFR 835.801.

Note: You do not have to do example 1 on the following page, but it is a good time to check your skill or knowledge of the information covered. You may do example 1 or go to the next section.
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EXAMPLE 1 SELF-CHECK

1. List the document that must be completed to record occupational and work-related injuries and illnesses.

Occupational illnesses and injuries are reported on the Log and Summary of Occupation Injuries and Illnesses, OSHA Form 300. Work-related illnesses and injuries are reported on DOE F 5484.3, Individual Accident/Incident Report.

2. List four tasks that the annual site environmental report is designed to do.

The four tasks that the annual site environmental report is designed to do are:

- Characterize site environmental management performance.
- Summarize environmental occurrences and responses reported during the calendar year.
- Confirm compliance with environmental standards and requirements.
- Highlight significant programs and efforts.

3. What is the posting frequency for OSHA Form 300A?

Annually

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SECTION 3, DOE M 231.1-2, OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION

PURPOSE

DOE M 231.1-2 provides detailed information for reporting occurrences and managing associated activities at DOE facilities, including NNSA facilities. It complements DOE O 231.1A, *Environment, Safety, and Health Reporting* and its use is required by that Order. Information gathered in response to the requirements in DOE O 231.1A and DOE M 231.1-2 is used for analysis of the Department's performance in environmental protection and the safety and health of its workers and the public. This information is also used to develop lessons learned and document events that impact DOE operations.

OCCURRENCE REPORTING

To implement the occurrence categorization, notification, reporting, and processing system, the key responsible personnel must be identified and procedures developed, approved, and implemented to ensure that all of the occurrence-reporting requirements, as delineated in DOE O 231.1A and in DOE M 231.1-2, are met. The facility manager must be available at all times to carry out the responsibilities for the categorization, notification, and reporting requirements. Facility operators are required to ensure that occurrences resulting from activities performed by subcontractors in support of facility operations are reported according to the provisions of DOE M 232.1-2.

For reportable occurrences, facility personnel are required to categorize the occurrences, notify DOE as required, and prepare and submit occurrence reports. This section addresses the process for meeting these requirements, including roles and actions for key facility personnel and the steps to be taken to ensure performance.

The documentation and distribution requirements will be satisfied using a centralized unclassified DOE operational database, the computerized Occurrence Reporting and Processing System (ORPS).

Occurrences involving foreign personnel, governments, organizations, entities or influence must be reported by the Facility Manager to the Office of Counterintelligence or the Office of Defense Nuclear Counterintelligence, as appropriate. Such reporting is not intended to interfere with or delay any actions directed toward protection of personnel or property.

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Event or Condition Categorization

The facility manager must categorize all occurrences, except operational emergencies, within 2 hours of discovery by the cognizant facility staff following the site/facility-specific procedures developed in accordance with section 9 of DOE M 232.1-2. The significance categories, as outlined in DOE M 232.1-2, Occurrence Reporting Model, section 11, are for those occurrences of interest for complex-wide occurrence reporting and are described very generally below.

More definitively, DOE M 232.1-2, section 6, Reporting Criteria, provides very specific reporting criteria and assigns the appropriate significance category to each criterion. Local implementing procedures may increase the reporting requirements but may not decrease the requirements below.

Operational Emergencies (OE). Operational Emergencies are defined in DOE O 151.1C, *Comprehensive Emergency Management System*. Operational emergency occurrences are the most serious occurrences and require an increased alert status for onsite personnel and, in specified cases, for offsite authorities. The prompt notification requirements, definitions, criteria, and classifications of operational emergencies and appropriate responses are provided in DOE O 151.1C. Written occurrence reports must be completed according to DOE M 232.1-2.

Significance Category 1. Occurrences in this category are those that are not operational Emergencies and that have a significant impact on safe facility operations, worker or public safety and health, regulatory compliance, or public/business interests.

Significance Category R. Occurrences in this category are those identified as recurring, as determined from the periodic performance analysis of occurrences across a site.

Significance Category 2. Occurrences in this category are those that are not operational emergencies and that have a moderate impact on safe facility operations, worker or public safety and health, regulatory compliance, or public/business interests.

Significance Category 3. Occurrences in this category are those that are not operational emergencies and that have a minor impact on safe facility operations, worker or public safety and health, regulatory compliance, or public/business interests.

Significance Category 4. Occurrences in this category are those that are not operational

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emergencies and that have some impact on safe facility operations, worker or public safety and health, public/business interests.

DOE HQ Operations Center Prompt Notifications

Operational Emergencies. The requirements for the prompt and follow-up notifications to DOE and other agencies and the appropriate emergency responses to be taken are provided in DOE O 151.1C, *Comprehensive Emergency Management System*. The specific procedures on how these events are categorized and how and when DOE is notified are included in the site/facility-specific emergency response plans or procedures. If an event has been declared an operational emergency, the facility manager will be responsible for the written notification report and for the completion of all other occurrence reporting requirements, as described below.

Prompt Notifications for Significance Category 1, 2, 3, and 4 Reportable Occurrences. The facility manager must notify the DOE FR and the DOE Headquarters Operations Center (HQ OC) as required, of the following reportable occurrences as soon as practical, but no later than 2 hours after categorization:

All significance category 1 occurrences require a prompt notification to the FR and DOE HQ OC.

All significance category 2 occurrences require a prompt notification to the FR and, if directed by the FR, to the DOE HQ OC.

All significance category 3 occurrences require a prompt notification to the FR.

Additionally, specific significance category 2, 3, and 4 occurrences require prompt notification to the FR and DOE HQ OC.

The DOE HQ OC will relay notifications to the appropriate HQ-level program manager and make any further notifications, as required.

The facility manager may use the local field/site emergency operations center to expedite establishing the communication link required and to record and archive conversations. The prompt notification process is as follows:

- The facility manager must e-mail the prompt notification of the reportable occurrence

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to the DOE HQ OC, and follow up with a phone call to the DOE HQ OC to ensure receipt of the e-mail.

- The prompt notification must clearly state/select the significance category and identify the specific reporting criteria associated with the occurrence.
- Prompt notification to the DOE HQ OC must include information on the following items:
 - Occurrence significance category
 - Location and description of the event
 - Date and time of discovery
 - Damage and casualties
 - Impact of event on other activities and operations
 - Protective actions taken or recommended
 - Weather conditions at the scene
 - Level of media interest at scene/facility/site
 - Other notifications made
- All information should be clear and succinct. Avoid jargon. Uncommon or site/facility-specific abbreviations and acronyms should be fully described.
- The facility manager must follow the appropriate security procedures if the notification to DOE may contain classified or sensitive information.
- If the occurrence is recategorized, then the occurrence must be reconsidered for prompt notification. If appropriate, the facility manager must notify the FR and the DOE HQ OC as soon as practical, but within the prompt notification time requirements of the new significance category for the recategorized occurrence and provide the Occurrence Report number. The DOE HQ OC will make any required internal DOE HQ notifications.
- Follow-up notifications must be made to DOE for any further degradation in the level of safety or impact on the environment, health, or operations of the facility or other worsening conditions subsequent to the previous notification. If a degradation results in upgrading the event to an operational emergency, the DOE HQ OC must be notified according to DOE O 151.1C, *Comprehensive Emergency Management System*.

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Written Notification Report

The facility manager must prepare the written notification report as discussed in DOE G 231.1-1, *Occurrence Reporting and Performance Analysis Guide*, and distribute it per section 5.6.e of DOE M 231.1-2. Direct entry into ORPS satisfies this requirement. Any changes in the reporting criteria of the occurrence, which result in a change, either lower or higher, to the significance category, must be documented in an update report and submitted within the timeframe required for the Notification Report under the new significance category. A discussion on the change in categorization must be included in the Description of Occurrence field in the Update Report.

Occurrence Investigation and Analysis

The following steps describe an acceptable process for submitting update reports and conducting the investigation and analysis of a specific occurrence. DOE 5480.19, *Conduct Of Operations Requirements for DOE Facilities*, and DOE-STD-1045-93, *Guide to Good Practices for Notifications and Investigation of Abnormal Events*, should be considered when establishing a program for investigation of occurrences. In cases of conflict between DOE 5480.19 or DOE-STD-1045-93 and DOE M 231.1-2, the requirements of DOE M 231.1-2 must be followed.

The facility manager should use the graded approach described in the occurrence reporting model (section 11 of M 231.1-2) when determining the level of effort required for the investigation into the causes of the occurrence. The graded approach is based on the significance, severity, or risk associated with the event or condition.

For operational emergencies, in general, the investigation, problem analysis, and corrective action process should parallel the process for significance category 1 occurrences. However, the facility manager should consider a graded approach when determining the level of effort for the investigation into the cause of the operational emergency. The graded approach is based on whether the operational emergency was directly caused by DOE operations or resulted from non-DOE operations or natural phenomena. For example, investigations of an operational emergency involving the release of hazardous materials might require an accident investigation or the assembly of a team of investigators and subject matter experts. Investigation of an operational emergency resulting from a DOE facility being required to implement protective actions because a non-DOE activity offsite released hazardous materials or an operational emergency resulting from an earthquake may not require root cause determination because the initiating event was clearly beyond DOE's control.

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All causes must be identified as required in the occurrence reporting model (section 11) and included in the occurrence report. The cause codes to be used for reporting are provided in the causal analysis tree (section 11). Guidance on selecting the appropriate cause code is provided in DOE G 231.1-2, *Occurrence Reporting Causal Analysis Guide*. The cause description field should include a brief discussion to clearly link the event to the cause code(s). For those occurrences that require a formal root cause analysis, any of the site approved root cause analysis methodologies are permitted. The methodology used must be included in the cause description field of the occurrence report. In addition to determining the causes of the occurrence, any weaknesses in the facility's implementation of the ISM program must be identified and entered in the ISM field, as discussed in DOE G 231.1-1, *Occurrence Reporting and Performance Analysis Guide*.

In addition to submitting an update report when the significance category of the occurrence has been changed, the facility manager must submit and distribute an update report for all occurrences, with the exception of significance category 4 occurrences, if there is any significant and new information about the occurrence. The status of the investigation, recurring consequences, and the identification of additional component defects are activities associated with the occurrence and must be included in update reports.

Using a graded approach as described in the occurrence reporting model (see section 11), the facility manager should consult in a timely manner with the FR and the program manager, as appropriate, for their assessment, if any, of the occurrence.

Occurrence Report Closure

The following steps describe an acceptable process for closing out the final report for all occurrences except those categorized as significance category 4:

- The final report must be prepared by the facility manager and submitted as soon as practical but within 45 calendar days after initial categorization of the occurrence. The final report must be prepared using the writing instructions listed in DOE M 231.1-2, section 5.4.1 and must document the following:
 - The significance, nature, and extent of the event or condition;
 - The causes of the event or condition using the codes provided in the causal analysis tree;

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- The immediate actions taken and the corrective action(s) to be taken as required by the occurrence reporting model; and
- The lessons learned.
- If the required analysis cannot be completed within 45 calendar days after initial categorization, an update report must be submitted within the 45 days. The update report must provide a detailed explanation of the delay and provide an estimated date for submittal of the final report. This information must be reported in the “Evaluation” block of the occurrence report. It is expected that the analysis of most occurrences will be completed and the final report submitted within the 45 calendar days. However, for certain occurrences, such as those requiring an accident investigation, it is understood that the information required for the final report may not be available within this time. For occurrences resulting in an accident investigation, all causes identified in the accident investigation report, as well as the corrective actions developed in response to the judgments of need, must be included in the final report.
- For operational emergencies and significance category 1, R, and 2 final reports, the FR must review, approve, and add any comments, as necessary, within 14 calendar days after receipt of the report. For operational emergencies and significance category 1 final reports, after the FR has approved the occurrence report, the program manager must review, approve, and add any comments to the final report within 14 calendar days. If the ORPS database is being used, the FR and program manager’s comments should be provided through ORPS. FR and program manager comments are not required for their approval of the report.
- If the final report is not approved by the FR or the program manager, the FR or program manager who is rejecting the report must provide the reason for disapproval in the comment section of the report at the time the action is taken. The revised final report must be resubmitted within 21 calendar days of the disapproval. If it cannot be resubmitted within this time, an update report must be submitted within the 21 calendar days explaining the delay and providing an estimated date for resubmittal of the final report. This information must be reported in the “Evaluation” block of the occurrence report.
- All Occurrence Reports must be distributed as soon as practical to the following:
 - FR

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- Program Manager
- Heads of all Field organizations (including NNSA)
- Office of Environment, Safety and Health (Office of Performance Assessment and Analysis) and Administrator (NNSA) and
- DOE Management and Operations or Integrating contractors

If the Occurrence Reports are entered into the ORPS database, the distribution requirement is automatically satisfied.

- As prescribed on the occurrence reporting model and depending on the significance category, the Facility Manager must track all corrective actions to closure, including independent verification or sampling at the facility level and also evaluate the effectiveness of the corrective actions to prevent recurrence (if applicable). Site/contractor corrective action programs must include management of significance category 4 occurrences, whose corrective actions are not managed through ORPS.
- The cognizant facility manager may use the ORPS database to track the status of final report corrective actions. For those facilities that do not choose to use ORPS to track the status of their corrective actions, the specific corrective action tracking number from the local corrective action tracking system must be entered into ORPS. Any changes made to the corrective actions tracked in the local corrective action system must follow the site's approved change process and should be updated in ORPS. For significance category 2 and higher reports, any text change to a corrective action previously entered in ORPS must be updated in ORPS with FR approval. A status report of all incomplete occurrence reports (not Final) and incomplete corrective actions will be available at any time from the ORPS database. Retain all supporting information pertaining to each occurrence or report according to Departmental Records Disposition Schedules, as required by 36 CFR Chapter 12, Subchapter B, Records Management

REPORTING CRITERIA

The reporting criteria is categorized into 10 major groups and appropriate subgroups related to DOE operations. This list provides a minimum set of requirements necessary to develop local procedures and report occurrences applicable to local operations. Categorization of occurrences must be done at the criterion level.

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The reporting of safeguards and security events is addressed by DOE N 471.3, *Reporting of Events of Security Concern*. Such events are not reported in ORPS unless they involve other consequences that meet the ORPS reporting criteria.

Major Criteria Groups

The 10 major groups of categorized occurrences are as follows:

Group 1 - Operational Emergencies

Group 2 - Personnel Safety

Group 3 - Nuclear Safety Basis

Group 4 - Facility Status

Group 5 - Environmental

Group 6 - Contamination/Radiation Control

Group 7 - Nuclear Explosive Safety

Group 8 - Transportation

Group 9 - Noncompliance Notifications

Group 10 - Management Concerns/Issues

Categorizing Instructions

An event can meet multiple reporting criteria that establish it as an occurrence. All of the specific reporting criteria applicable for an occurrence must be identified. Some criteria are “secondary” in that they complement other reporting criteria that require occurrence reporting. In these cases, all of the applicable criteria must be recorded. Each criterion is denoted by its group, subgroup (if applicable), and sequence number (#). Thus, for example, the violation of a safety limit is denoted as group 3, subgroup A, sequence (1) or “3A(1).”

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The reporting criteria presented in DOE M 231.1-2, section 6 list a specific significance category for each criterion, between the sequence number (#) and the criterion text.

Significance categories are designated as “OE” for operational emergencies, “R” for recurring occurrences, or 1, 2, 3, or 4. Thus, for example, the significance category for a stop work order issued by a DOE office, criterion 4B(1), is SC 2.

Operational emergencies, significance category 1, and some other occurrences in lesser significance categories require prompt notification to the DOE HQ OC. Asterisks (*) next to the significance categories in DOE M 231.1-2 denote those occurrences requiring prompt notification to the DOE HQ OC. Section 5.3.2 of DOE M 231.1-2 defines the prompt notification requirements.

Specific instructions on the reporting of occurrences via hard copy or the electronic database, the ORPS, are listed in DOE G 231.1-1, *Occurrence Reporting and Performance Analysis Guide*. The documentation and distribution requirements in DOE M 231.1-2 will be satisfied by using ORPS. All reports containing classified information or Unclassified Controlled Nuclear Information must be submitted in hard copy in accordance with established security requirements. In addition, an unclassified version of the occurrence report that has been sanitized of all controlled information must be submitted to ORPS within the time frames specified in DOE M 231.1-2, section 5.

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Note: The course manager will check your practice and verify your success at the familiar level. When you have successfully completed this practice, go to the general level module.

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**DOE ORDER O 231.1A
ENVIRONMENT, SAFETY, AND HEALTH REPORTING
GENERAL LEVEL**

OBJECTIVES

Given the familiar level of this module, a scenario, and an analysis, you will be able to perform the following:

1. Describe the actions you would expect DOE and/or the contractor to take in the situation described in the scenario; and
2. State which requirements included in the resources apply to the situation described in the scenario.

Note: If you think that you can complete the practice at the end of this level without working through the instructional material and/or the examples, complete the practice now. The course manager will check your work. You will need to complete the practice in this level successfully before taking the criterion test.

RESOURCES

DOE Orders Self Study Program, DOE O 231.1A, Familiar Level, 12/1/08

DOE O 231.1A, *Environment, Safety, and Health Reporting*, 6/3/04.

DOE M.231.1-1A, *Environment, Safety, and Health Reporting Manual*, 3/19/04

DOE M 231.1-2, *Occurrence Reporting and Processing of Operations Information*, 8/19/03

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INTRODUCTION

The familiar level of this module introduced DOE O 231.1, DOE M 231.1-1, and DOE M 231.1-2. Several responsibilities and requirements from the resources were discussed. In the general level of this module, students are asked to apply the information contained in the resources to a series of questions related to the Directives. Students are also presented with a scenario that depicts a work situation related to the Directives. The example scenario includes a situation, the actions taken to remedy the situation, and the requirements related to the situation. Students will be asked to review the actions taken and decide if they are correct. Students will also be asked to decide if the correct requirements were cited in each situation. Please refer to the resources to make your analysis and answer the questions.

Note: You do not have to do the example on the following page, but it is a good time to check your skill and knowledge of the information covered. You may do the example or go on to the practice.
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EXAMPLE SCENARIO

An electrician received a second degree burn to the left ring finger while replacing batteries in a fire alarm control panel. During the battery replacement, there was confusion over which leads were positive and which ones were negative, as the wires were the same color. In order to distinguish the wires, the electrician started labeling the leads with electrical tape, when two battery leads came in contact with the electrician's ring, causing the battery to short circuit and the electrician to receive a burn to his left ring finger. Work was stopped and the electrician was treated for a small second degree burn to the left ring finger. He was returned to work without restrictions or medications.

Actions Taken

In this case, the contractor did not take any action because only first aid was applied, and the contractor decided that the incident was not recordable.

Requirements that apply

29 CFR 1904.7

Burns will be treated just as other types of injury are, i.e., minor burn injuries will not be recordable, while more serious burns will be recorded because they will involve medical treatment. For example, a small second degree burn to the forearm that is treated with nothing more than a bandage is not recordable. A larger or more severe second degree burn that is treated with prescription creams or antibiotics, or results in restricted work, job transfer, or days away from work is recordable. The vast majority of first degree burns and minor second degree burns will not be recorded because they will not meet the recording criteria, including medical treatment. However, more serious first and second degree burns that receive medical treatment will be recorded, and third degree burns should always be recorded because they require medical treatment...

Take some time to review the example scenario and the actions the contractor took or didn't take to correct the situation. Then decide if the contractor's actions were complete and correct. Finally, identify the requirements included in the resources that apply to the situation described in the scenario. Write your answer below and then compare your answer to the one contained in the example self-check.

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EXAMPLE SELF-CHECK

Your answer does not have to match the following exactly. You may have added more corrective actions or cited other requirements from the resources that apply. To be considered correct, your answer must include, at least the following.

The injury is not recordable.

The requirement stated is correct.

PRACTICE

This practice is required if your proficiency is to be verified at the general level. The practice will prepare you for the criterion test. You will need to refer to the resources to answer the questions in the practice correctly. The practice and criterion test will also challenge additional analytical skills that you have acquired in other formal and on-the-job training.

Please review the following scenario and answer the following questions.

1. Was the situation handled correctly? If not, what should have been done?
2. Was the occurrence categorized correctly? If not, what should the category be?
3. Was the correct cause code cited? If not, what should the cause code be?

SCENARIO

A contractor employee was disassembling an asbestos enclosure. During the disassembly the employee stepped on plastic sheeting that had been placed on the floor of the asbestos enclosure as a radiological control measure. The employee placed his right foot on the plastic and while pulling down enclosure material slipped on the plastic but did not fall. At the time of the slip, the employee felt a brief painful sensation in the right knee. The employee was in some discomfort but was not experiencing severe pain and did not report the event to the supervisor at the time.

The employee completed the shift but experienced more intense pain after arriving home that evening. The employee called the supervisor and left a message requesting time off the next day due to the painful condition.

The following day the supervisor requested the employee go to the company medical provider for evaluation. The employee responded to the supervisor that the pain was too intense at that particular time to go to the medical provider. However, the employee did not return to work and was later diagnosed by his personal physician as having soft tissue damage to the knee that requires surgery to repair.

The contractor did not consider this an OSHA recordable injury as the employee did not receive any medical treatment immediately following the incident. As a result the incident was not recorded on OSHA Form 300.

The Facility Manager did not complete an ORPS report as the employee has not been

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hospitalized. As a result no occurrence category or cause code was required.

Write your answers to the questions and then bring the completed practice to the course manager for review.

Note: The course manager will check your practice and verify your success at the general level. When you have successfully completed this practice, the course manager will give you the criterion test.
