

U. S. Department of Energy

ORDER

WASHINGTON, D. C.

DOE O 232.1

Approved: 9-25-95  
Effective: 10-30-95  
Sunset Review: 9-25-97  
Expires: 9-25-99

SUBJECT: OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS  
INFORMATION

1. OBJECTIVES. It is Department of Energy (DOE) policy to ensure that the Office of the Secretary and both DOE and DOE contractor line management are kept fully informed on a timely basis of events that could adversely affect national security or the safeguards and security interests of DOE; the health and safety of the public or the workers; the environment; the intended purpose of DOE facilities; or the credibility of the Department. The following objectives are established in support of this policy.
  - a. To establish and maintain a system for reporting operations information related to DOE-owned or -operated facilities and processing that information to identify the root causes of Unusual, Off-Normal, and Emergency Occurrences and provide for appropriate corrective action.
  - b. To perform the following:
    - (1) Timely identification, categorization, notification, and reporting to DOE management of reportable occurrences at DOE-owned or -operated facilities.
    - (2) Review of reportable occurrences to assess the significance, root causes, generic implications, and the need for corrective actions.
    - (3) Timely evaluation and implementation of appropriate corrective actions.
    - (4) Dissemination of Occurrence Reports to DOE operations and facilities to prevent similar occurrences.
    - (5) Maintenance of a central DOE system for reporting, processing, and retrieving unclassified Occurrence Reports.

All Departmental Elements

Office of Environment,  
Safety and Health

2. CANCELLATION. DOE 5000.3B, OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION, of 1-19-93 is canceled. Cancellation of an Order does not, by itself, modify or otherwise affect any contractual obligation to comply with such an Order. Canceled Orders that are incorporated by reference in a contract shall remain in effect until the contract is modified to delete the reference to the requirements in the canceled Orders.
3. APPLICABILITY. Except for the exclusions in paragraphs 3a, b, c, d, and e, this Order applies to all DOE Elements and contractors operating, or operating on behalf of DOE, one or more facilities (i.e., any equipment, structure, system, process, or activity that fulfills a specific purpose) as provided by law and/or contract and as implemented by the appropriate contracting officer. A facility may be a Government-owned, Government-operated facility at a DOE site or a Government-owned, contractor-operated facility at a DOE site. In addition, facility operators are required to report occurrences resulting from activities performed by subcontractors in support of facility operation. The following are excluded from this Order:
  - a. Operations information for activities regulated by the Nuclear Regulatory Commission or a State under an agreement with the Nuclear Regulatory Commission.
  - b. Power Marketing Administrations' reporting of major electrical power outages, disturbances, and fuel shortages subject to the emergency power system reporting requirements prescribed in 10 CFR 205, 350 through 354, "Report of Major Electric Utility Systems Emergencies."
  - c. The Naval Nuclear Propulsion Program.
  - d. Reporting required by other DOE Orders for normal record-keeping purposes.
  - e. Routine reporting as required by external regulatory agencies.

A Contractor Requirement Document is attached.

4. REQUIREMENTS.

DOE M 232.1-1, OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION, is required to implement this Order.

- a. Immediately following an occurrence, DOE-owned or -operated facility staff and operators shall:
  - (1) ensure that appropriate immediate response(s) are taken to stabilize or return the facility/operation to a safe condition; and
  - (2) identify and promptly notify the Facility Manager of abnormal events and conditions and record and archive appropriate information pertaining to such occurrences.
- b. Departmental Elements and contractors responsible for DOE-owned or -operated facilities shall ensure a Facility Manager or Facility Manager Designee is available at all times to carry out the following requirements.
  - (1) Perform categorization of the event.
    - (a) If the event is categorized as an Emergency in accordance with the DOE 5500 series Orders, then make the notification of the Emergency as required in the DOE 5500 series Orders and prepare the written Occurrence Reports in accordance with this Order.
    - (b) If the event is not categorized as an Emergency, then categorize the event as an Unusual or Off-Normal Occurrence as soon as practical but, in all cases, within 2 hours of identification.
    - (c) If the category is not clear or the occurrence exceeds the threshold of more than one criteria, the occurrence shall be categorized at the higher level being considered. As an example, discovery of a defective item, material, or service, normally reportable as an Off Normal Occurrence, that caused the reduction of safety margin below that prescribed in the authorization basis, would be reported as an Unusual Occurrence.
    - (d) The occurrence category shall either be elevated, maintained, or lowered as information is made available.
  - (2) Notify the DOE Facility Representative and the HQ Emergency Operations Center (HQ EOC) of an Unusual Occurrence as soon as practical but, in all cases, within 2 hours of categorization.
    - (a) If an Off-Normal Occurrence is upgraded to an Unusual Occurrence, the Facility Manager shall notify the HQ EOC that an existing occurrence has been upgraded and provide the HQ EOC with the Occurrence Report number. The HQ EOC will make any required internal DOE HQ notifications.
    - (b) Follow-up notifications shall be made to DOE for any further degradation in the level of safety of the facility or other worsening conditions subsequent to the previous notification, including upgrading to an Emergency in accordance with DOE 5500 series Orders.
  - (3) Prepare and submit a Notification Report as soon as practical but, in all cases, before the close of the next business day from the time of categorization (not to exceed 80 hours).
  - (4) Prepare and submit an Update Report when significant and new information is available or upon request of DOE.

- (5) Document any changes in categorization in an Update Report and submit before the close of the next business day from the time of recategorization (not to exceed 80 hours).
- (6) Prepare and submit a Final Report to the DOE Facility Representative when the root cause of the occurrence has been analyzed, corrective actions determined and scheduled, and lessons learned identified. Submit the Final Report as soon as possible, but no later than 45 calendar days after initial categorization.
- (7) If the required analysis cannot be completed within 45 calendar days, submit an Update Report within the 45 days and include a detailed explanation of the delay and an estimated date for submittal of the Final Report.
- (8) If the Final Report was rejected by either the Facility Representative or Program Manager, prepare and resubmit the revised Final Report within 21 calendar days of disapproval.

c. Departmental Elements and contractors at facilities shall do the following:

- (1) Develop or revise implementing procedures for the Occurrence Reporting Program at their facility to ensure appropriate categorization, notification, reporting, and investigating of events and/or conditions.
  - (a) On the effective date of this Order, all reporting requirements of this Order shall be implemented except for the submittal and approval of the site implementing procedures.
  - (b) Implementation procedures shall be submitted for approval to the respective DOE Secretarial Office within 4 months after approval of this Order.
  - (c) Implementation procedures submitted by the contractor or facility operator shall be considered automatically approved 2 months after submittal, if they are not deliberately approved or rejected by DOE prior to the automatic approval.
  - (d) Pending approval of new or modified implementing procedures, the procedures approved and in effect as of the effective date of this Order may be used.
- (2) Retain all supporting information pertaining to each Occurrence Report (e.g., graphs, analyses) in accordance with DOE 1324.5B, RECORDS MANAGEMENT PROGRAM.
- (3) Collect and disseminate to their personnel the lessons learned from the facility's respective occurrences and the operations information obtained from other similar DOE facilities.

d. The DOE Facility Representative or Designee shall be available at all times to do the following:

- (1) Notify the appropriate head of the Field Element of reportable occurrences.
- (2) Monitor the Facility Manager's evaluation of the occurrence to ensure acceptability of root cause determinations, generic implications, and corrective action(s) implementation and closeout.
- (3) Approve or reject the Final Report within 10 calendar days of receipt and forward to the Program Manager for approval.
- (4) If the Final Report is not approved, return the report to the Facility Manager with a written explanation.
- (5) Interact with the contractor and Field Element oversight organizations as necessary and inform and advise their respective management of their findings.
- (6) Elevate any unresolved issues regarding actions or determinations on a reportable occurrence to the Program Manager for resolution and direction.

e. The DOE Program Manager or Designee shall do the following:

- (1) Notify the cognizant Secretarial Officer of all Unusual Occurrences.
- (2) Monitor the Facility Manager's and Facility Representative's evaluation of the occurrence to ensure acceptability of root cause determinations, generic implications, and corrective action(s) implementation and closeout.
- (3) Review and approve or reject the Final Report within 14 calendar days of receipt from the Facility Representative.
- (4) If the Final Report is not approved, return the report to the Facility Manager with a written explanation.
- (5) Interact with the Facility Representative and HQ oversight organizations as necessary and inform and advise their respective management of their findings.
- (6) Elevate any unresolved issues regarding actions or determinations on a reportable occurrence to the Secretarial Officer and, if necessary, the Secretary for resolution and direction.

- f. The DOE HQ Emergency Operations Center shall notify the Program Manager of all Unusual Occurrences.
- g. The following guidelines and Section 8 of the Occurrence Reporting Manual shall be used to develop criteria to categorize reportable occurrences.
  - (1) Emergencies. Emergencies are defined in the DOE 5500 series of Orders. Emergency Occurrences are the most serious occurrences and require an increased alert status for on-site personnel and, in specified cases, for off-site authorities. The detailed initial notification requirements, definitions, criteria, and classifications of emergencies and appropriate responses are provided in the DOE 5500 series of Orders. Written Occurrence Reports shall be completed in accordance with this Order.
  - (2) Unusual Occurrences. An Unusual Occurrence is a non-emergency occurrence that exceeds the Off-Normal Occurrence threshold criteria, is related to safety, environment, health, security, or operations, and requires immediate notification to DOE. The types of occurrences that are to be categorized as Unusual Occurrences are those that result in any of the following:
    - (a) Release of radioactive or hazardous materials above limits established in Federal permits, Federal regulations, or DOE standards.
    - (b) Violation of safety, environmental, or health requirements defined in Federal permits, Federal regulations, or DOE standards.
    - (c) Significant internal or external threats to safety, environmental, or health protection, or to the ability of a facility to operate.
    - (d) Significant degradation in the operation, maintenance, or performance of safety class structures, systems, or components or of environmental, safety, security, or health conditions.
    - (e) Fatalities or significant injuries.
    - (f) Significant exposures to hazardous or radioactive materials.
    - (g) Off-site or on-site contamination that does not meet the emergency criteria defined in the DOE 5500 series of Orders but is in excess of regulatory limits.
    - (h) Failure of environmental monitoring equipment necessary to demonstrate compliance.
    - (i) Failure of safety class structures, systems, or components reducing the capability below a minimum required safety function or resulting in significant delay or cost in operations.
    - (j) Actuation of emergency systems, except under approved testing.
    - (k) Reduction of the safety margin below that prescribed in the authorization basis of a facility or process (including violations and noncompliances of Technical Safety Requirements, Operational Safety Requirements, Technical Specifications, or other authorization basis documents).
    - (l) Determination of an actual Unreviewed Safety Question which reveals a currently existing inadequacy in the approved authorization basis.
    - (m) Violation of DOE safety or environmental requirements, or the loss of control or release of radioactive material above allowable limits.
    - (n) Release of a hazardous substance or material that exceeds a reportable quantity and is not Federally permitted.
    - (o) Failure or significant degradation of administrative controls which are required to ensure safety, security, environment, or health protection.
    - (p) Theft/diversion/intentional destruction of Government assets and the identification of significant criminal activities.
    - (q) A significant fire or explosion at a DOE facility or caused by DOE operations.
    - (r) A potentially significant concern by the press or general population or possible damage to the credibility of the Department.
    - (s) A significant nuclear explosive occurrence at DOE-owned or -operated facilities or during onsite or offsite nuclear explosive transportation.
  - (3) Off-Normal Occurrences. Off-Normal Occurrences are abnormal or unplanned events or conditions that adversely affect, potentially affect, or are indicative of degradation in the safety, safeguards and security, environmental or health protection, performance or operation of a facility. The types of occurrences that are to be categorized as Off-Normal Occurrences are those that result in any of the following:
    - (a) Release of radioactive or hazardous materials below limits established by Federal permits, Federal regulations or DOE standards, but that must be

reported in writing to State or local agencies in other than routine periodic reports.

- (b) Internal or external threats (including, but not limited to, safeguards and security) to safety, security, environmental or health protection, or the ability of a facility to operate.
- (c) Degradation of environmental, safety, security, or health conditions.
- (d) Serious personnel injury or significant lost workdays.
- (e) Personnel contamination, assimilation, or exposure.
- (f) Off-site or on-site contamination of hazardous or radioactive materials in excess of administrative limits but within regulatory limits.
- (g) Degradation of environmental monitoring equipment necessary to demonstrate compliance.
- (h) Violation of safety, environmental, or health administrative limits.
- (i) Operational procedural violations, including maintenance and administrative procedures, which have the potential to impact the safety, security, environmental or health performance or operation of a facility.
- (j) Discovery of a condition that leads the Facility Manager to limit facility operations due to the identification of a potential degradation of the authorization basis of a facility or process.
- (k) Discovery of a potential Unreviewed Safety Question that could affect the present or future operation of the facility.
- (l) Identification of actual or potential defective items, materials, or services, including defects identified by subcontractors and suppliers, that could impose a substantial safety hazard.
- (m) Unanticipated significant delay or cost in achieving programmatic objectives.
- (n) Loss or damage to property caused by DOE operations or loss or damage to DOE property.
- (o) Violation of a nuclear explosive standard or rule, or training related occurrences indicative of a hazard to a nuclear explosive.

5. RESPONSIBILITIES.

a. Assistant Secretary for Environment, Safety and Health (EH-1).

- (1) Develop, promulgate, and maintain policies to implement and sustain an effective Occurrence Reporting Program.
- (2) Provide formal Departmental interpretation of the requirements of this Order.
- (3) Develop, promulgate, and maintain guidance materials, and conduct workshops, as necessary, for implementing the requirements of this Order.
- (4) Monitor reports relative to reporting activities at DOE facilities to assess implementation of this Order to identify needed improvements.
- (5) Monitor and audit implementation of this Order related to the Office of Environment, Safety and Health functional areas of responsibility.

b. Secretarial Officers.

- (1) Delegate responsibilities and authority for implementing this Order, to include designation of Program Managers.
- (2) Review and approve the Facility/Site Implementation Procedure after coordination with the Office of Environment, Safety and Health.
- (3) Establish agreements with Heads of Field Elements to ensure support to the DOE Facility Representative and Program Manager(s) in accordance with this Order.
- (4) Review Occurrence Reports and identify circumstances that are indicative of deteriorating or poor program performance in their respective areas of authority.
- (5) If deemed appropriate, delegate authority for approval of Final "Off-Normal" Occurrence Reports from the cognizant Program Manager to the cognizant DOE Facility Representative.
- (6) If deemed necessary, formally request the Secretary of Energy to grant an exemption to the reporting requirements of this Order, after obtaining concurrence from the Office of Environment, Safety and Health. The Secretarial Officer may grant temporary exemptions to the reporting requirements of this Order, up to 1 year in duration. Prior to approval of the temporary exemption, the Office of Environment, Safety and Health should be notified.

- c. Director, Office of Emergency Management (NN-60). Ensure that the Emergency Operations Center is prepared to receive and record incoming initial notifications of Unusual Occurrences and disseminate these reports to appropriate Headquarters organizations.
- d. Heads of Field Elements.
- (1) Ensure that agreements are established with responsible Secretarial Officers on the working relationship between the Secretarial Officer and the Field Element for the purpose of carrying out the requirements of this Order.
  - (2) Assess the contractor's capability and performance in carrying out the requirements of this Order, in accordance with established agreements with the responsible Secretarial Officers.
  - (3) Provide technical support as necessary to DOE Facility Representatives in responding to any reportable occurrence, in accordance with established agreements with the responsible Secretarial Officers.
  - (4) Designate and direct DOE Facility Representatives and Designees to fulfill the responsibilities required by this Order.
- e. Program Managers (in addition to other requirements prescribed by this Order).
- (1) Review activities relating to reportable occurrences, including reporting and development of programs and procedures.
  - (2) Ensure that a system for prompt notification and categorization of reportable occurrences has been established for their DOE programs and for facilities under their cognizance.
  - (3) Ensure that the Headquarters Emergency Operations Center is informed of how the Program Manager or Designees can be reached at all times.
  - (4) Ensure that lessons learned and generic or programmatic implications are identified and elevated to the Secretarial Officer for appropriate action.
  - (5) Ensure that actions are taken to minimize or prevent recurrence.
  - (6) Review and assess reportable occurrence information from facilities under their cognizance to assess significance, root cause, generic implications, and the need for corrective action, and to ensure that DOE and contractor staff involved in these operations perform the related functions.
  - (7) Ensure that Occurrence Reports and operations information from other organizations are disseminated to appropriate DOE and contractor activities within their cognizance, are reviewed for generic implications, and are used to improve operations.
  - (8) Ensure that Occurrence Reports are prepared and transmitted in accordance with DOE security requirements.
- f. DOE Facility Representatives (in addition to other requirements prescribed in this Order).
- (1) Ensure that facility personnel under their cognizance prepare and promulgate procedures for notification and reporting that are compatible with and serve the policies of this Order.
  - (2) Actively monitor day-to-day operations and performance of facilities/activities under their cognizance.
  - (3) Ensure that lessons-learned and generic or programmatic implications are identified and elevated to the Head of the Field Element for appropriate action.
  - (4) Ensure that facility personnel act to minimize or prevent recurrence.
  - (5) Review and assess reportable occurrence information from facilities under their cognizance to assess significance, root causes, generic implications, and the need for corrective actions, and to ensure that contractor staff involved in these operations perform the related functions.
  - (6) Ensure that Occurrence Reports and operations information from other organizations are disseminated to appropriate contractor activities within their cognizance, are reviewed for generic implications, and are used to improve operations.
  - (7) Ensure that Occurrence Reports are prepared and transmitted in accordance with DOE security requirements.
6. CONTACT. The contact for this Order is Eugenia Boyle, Office of Nuclear and Facility Safety, at Internet address [Eugenia.Boyle@HQ.DOE.GOV](mailto:Eugenia.Boyle@HQ.DOE.GOV) or (301) 903-3393.

BY ORDER OF THE SECRETARY OF ENERGY:

ARCHER L. DURHAM  
Assistant Secretary for  
Human Resources and Administration

## CONTRACTOR REQUIREMENTS DOCUMENT

### Occurrence Reporting and Processing of Operations Information

In the performance of this contract, the contractor is required to establish an Occurrence Reporting Program for the timely identification, categorization, notification, and reporting of operations information related to DOE-owned or operated facilities and for the processing of that information to identify the root cause, provide for appropriate corrective actions, and prevent similar occurrences through the identification of good practices and lessons learned. The facility-specific Occurrence Reporting Program shall be developed in accordance with DOE M 232.1-1, OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION.

In support of this requirement, the contractor is required to develop or revise implementing procedures for DOE approval within 4 months after approval of DOE O 232.1, OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION, or the incorporation of this Contractor Requirements Document into the contract. Since all reporting requirements of this Order are to be implemented on the effective date of DOE O 232.1, procedures previously approved and in effect may be used pending approval of the new or modified implementing procedures. Implementation procedures submitted by the contractor or facility operator shall be considered automatically approved 2 months after submittal, if they are not deliberately approved or rejected by DOE.