

U.S. Department of Energy
Washington, D.C.

ORDER

DOE 5000.3A

5-30-90

SUBJECT: OCCURRENCE REPORTING AND PROCESSING OF
OPERATIONS INFORMATION

1. PURPOSE. To establish a system for reporting of operations information related to DOE-owned or operated facilities and processing of that information to provide for appropriate corrective action in accordance with the policy set forth in Paragraph 6 of this Order.

2. CANCELLATIONS.

DOE 5000.3 UNUSUAL OCCURRENCE REPORTING SYSTEM of 11-7-84.

3. SCOPE. Except as noted below, the provisions of this Order apply to Departmental Elements and contractors performing work for the Department as provided by law and/or contract and as implemented by the appropriate contracting officer.

This Order describes the requirements for reporting and processing of occurrences related to the operation of those DOE-owned or operated facilities defined in Paragraph 5 including occurrences related to safety, health, security, property, operations, or environment up to and including emergencies. Specifically excluded from this Order are:

- a. Nuclear explosive occurrence reporting, analysis, and information dissemination required by DOE 5610.3, Chapter VIII;
- b. Reporting by the Power Marketing Administrations of major electrical power outages, disturbances, and fuel shortages which are subject to the emergency power system reporting requirements prescribed in 10CFR205, 350 through 354, Report of Major Electric Utility Systems Emergencies;
- c. The Naval Nuclear Propulsion Program; (Paragraph 9h);
- d. Reporting required by other DOE Orders for normal record-keeping purposes; and
- e. Additional reporting as required by external regulatory agencies.

4. REFERENCES.

- a. DOE 5480.11, RADIATION PROTECTION FOR OCCUPATIONAL WORKERS, of 12-21-88, which establishes occupational radiation standards for DOE and DOE contractor operations.

DISTRIBUTION:
All Departmental Elements

INITIATED BY:
Office of Nuclear Energy

- b. DOE 5484.1, ENVIRONMENTAL PROTECTION, SAFETY, AND HEALTH PROTECTION INFORMATION REPORTING REQUIREMENTS, of 2-24-81, which provides for reporting of information having environmental protection, safety, or health protection significance for Departmental operations; for investigation of occurrences; and effluent and environmental monitoring program requirements.
- c. DOE 5500.2A, EMERGENCY NOTIFICATION, REPORTING, AND RESPONSE LEVELS, of 4-13-88, which provides for an emergency notification and reporting system and establishes emergency response levels and associated response actions.
- d. DOE 5500.3, REACTOR AND NONREACTOR NUCLEAR FACILITY EMERGENCY PLANNING, PREPAREDNESS AND RESPONSE PROGRAM FOR DOE OPERATIONS, of 8-13-81, which establishes requirements for site specific emergency plans and procedures for radiological emergencies in reactors and non-reactor nuclear facilities.
- e. DOE 5610.3, PROGRAM TO PREVENT ACCIDENTAL OR UNAUTHORIZED NUCLEAR EXPLOSIVE DETONATIONS, of 12-18-80, Chapter VIII, "Nuclear Explosive Occurrence Reporting, Analysis, and Information Dissemination Program," which establishes a program whereby operating experiences, unusual occurrences, and incidents or accidents occurring during operation with nuclear explosives which have potential nuclear safety implications are reported and analyzed.

5. DEFINITIONS.

- a. Event. A real-time occurrence (e.g., pipe break, valve failure, loss of power, etc.).
- b. Condition. Any as-found state, whether or not resulting from an event, which may have adverse safety, health, quality assurance, security, operational or environmental implications. A condition is more programmatic in nature, for example, an error in analysis or calculation; an anomaly associated with design or performance; or, an item indicating a weakness in the management process are all conditions.
- c. Facility. Any equipment, structure, system, process or activity that fulfills a specific purpose. Examples include accelerators, storage areas, fusion research devices, nuclear reactors, production or processing plants, coal conversion plants, magnetohydrodynamics experiments, windmills, radioactive waste disposal systems and burial grounds, testing laboratories, research laboratories, transportation activities and accommodations for analytical examinations of irradiated and unirradiated components.

- d. DOE Facility Representative. For each major facility or group of lesser facilities, an individual or his or her designee assigned responsibility by the Head of the Field Organization for monitoring the performance of the facility and its operations. This individual shall be the primary point of contact with the contractor and will be responsible to the appropriate Program Senior Official and Head of Field Organization for implementing the requirements of this Order.
 - e. Facility Manager. That individual, or his or her designee usually but not always a contractor, who has direct line responsibility for operation of a facility or group of related facilities, including authority to direct physical changes to the facility.
 - f. Occurrence Report. A written evaluation of an event or condition that is prepared in sufficient detail to enable the reader to assess its significance, consequences, or implications and to evaluate the actions being proposed or employed to correct the condition or to avoid recurrence.
 - g. Program Manager. The DOE Headquarters (HQ) individual, or his or her designee designated by and under the direction of a Program Senior Official, who is directly involved in the operation of facilities under his or her cognizance, and with signature authority to provide technical direction through DOE Field Organizations to contractors for these facilities.
 - h. Program Senior Official (PSO). Heads of DOE offices which have responsibility for specific facilities. These include: the Assistant Secretaries for Conservation and Renewable Energy; Nuclear Energy; Defense Programs; Fossil Energy; and the Directors of Energy Research; Civilian Radioactive Waste Management; New Production Reactors; and Environmental Restoration and Waste Management.
 - i. Reportable Occurrence. Events or conditions to be reported in accordance with the criteria defined in this Order.
6. POLICY. It is the policy of the Department to encourage a positive attitude toward reporting occurrences and that occurrences be consistently reported to assure that both DOE and DOE contractor line management, including the Office of the Secretary, are kept fully and currently informed of all events which could: (1) affect the health and safety of the public; (2) seriously impact the intended purpose of DOE facilities; (3) have a noticeable adverse effect on the environment; or (4) endanger the health and safety of workers. It is also the policy of the Department that there be a system for determining appropriate corrective action and

for ensuring that such action is effectively taken. Specifically, it is DOE policy to ensure:

- a. Timely identification, categorization, notification, and reporting to DOE and contractor management of all Reportable Occurrences at DOE-owned or operated facilities;
- b. Timely evaluation of and implementation of appropriate corrective actions;
- c. Maintenance of a central DOE operational data base containing all occurrence reports;
- d. Review of Reportable Occurrences to assess significance, root causes, generic implications, and the need for corrective action; and
- e. Dissemination of occurrence reports to DOE operations and facilities to prevent similar occurrences.

7. OCCURRENCE CATEGORIZATION, NOTIFICATION AND REPORTING REQUIREMENTS.

Reportable Occurrences shall be categorized and notifications made and reports prepared as described in this Order. Categorization of occurrences by their seriousness is required in order to ensure that the urgency of notification is readily identifiable and that the more serious occurrences are highlighted to management. Attachment 1 to this Order, CATEGORIZATION OF REPORTABLE OCCURRENCES, shall be used to establish facility specific reporting requirements, and their categorizations. Attachment I provides a minimum set of standards necessary to allow specific sites/facilities to develop specific Reportable Occurrences applicable to their operations which reflect the DOE-desired degree of significance in categorizations.

- a. Categorization. Categorization of Reportable Occurrences shall be made as soon as practical and should be made within 2 hours of identification. If categorization is not clear, then the occurrence shall be initially categorized at the higher level being considered and DOE notified in accordance with this Order. The occurrence categorization shall either be elevated, maintained, or lowered as information is made available. The categories of Reportable Occurrences are:

- (1) Emergencies. Emergencies are the most serious occurrences and require an increased alert status for onsite personnel and, in specified cases, for offsite authorities. The detailed definitions and classifications of emergencies and appropriate emergency responses to be taken are provided in DOE 5500.2A. The types of occurrences that are to be categorized as emergencies are:

- (a) Any unintentional nuclear criticality that results or could result in actual or potential facility damage or release of radioactive material to the environment;

- (b) Any actual or potential release of material to the environment which results or could result in significant offsite consequences;
 - (c) Any natural or man-made event posing an actual or potential threat to the integrity of the facility, that results or could result in significant offsite consequences;
 - (d) Any event in process or having occurred which involves an actual or potential substantial degradation of the level of safety of the facility that results or could result in significant offsite consequences; or
 - (e) Any safeguards or security event which is an actual or potential threat to DOE operations, facilities, or personnel, and results or could result in significant effects on the public health and safety and/or on national security.
 - (f) Any event which requires activation of the site emergency plan.
- (2) Unusual Occurrences. An unusual occurrence is a non-emergency occurrence that has significant impact or potential for impact on safety, environment, health, security, or operations. The types of occurrences that are to be categorized as unusual occurrences are those that:
- (a) Result in the release of radioactive or hazardous materials above limits established in, or violate safety, environment, or health requirements defined in, permits or regulations;
 - (b) Are significant internal or external threats to safety, environment, or health protection or the ability of a facility to operate;
 - (c) Involve significant degradation of safety systems or environmental, safety, or health conditions;
 - (d) Result in fatalities, exposures to hazardous or radioactive materials or offsite or onsite contamination in excess of regulatory allowable limits, but less than protective response recommendations as defined in DOE 5500.3, failure of environmental monitoring equipment necessary to demonstrate compliance, failure of safety equipment or systems reducing the capability below a minimum required safety function, or significant delay or cost in operations;

(e) Result in the actuation of emergency systems or engineered safety features, except under approved testing;

(f) Violate technical specifications, operational safety requirements, or involve an unreviewed safety question;

(g) Violate DOE safety requirements, environmental requirements, or result in the loss of control or release of radioactive material above allowable limits; or

(h) Result in the release of a hazardous substance or material that exceeds a reportable quantity and is not federally permitted as defined in Attachment I.

(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, 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:

(a) Are internal or external threats to safety, environmental, or health protection or the ability of a facility to operate;

(b) Involve degradation of environmental, safety or health conditions;

(c) Result in serious personnel injury or significant lost workday cases; personnel contamination, assimilation, exposure or significant onsite or offsite contamination of hazardous or radioactive materials in excess of administrative limits but within regulatory limits; or degradation of environmental monitoring equipment necessary to demonstrate compliance;

(d) Result in the violation of safety, environmental, or health administrative limits; or

(e) Involve 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.

b. Notification. Requirements for oral and written notification of Reportable Occurrences are as follows:

(1) Emergencies. Oral notification to DOE and offsite authorities of alert, site, and general emergencies shall be made within 15 minutes or less of categorization. Written notification shall be

made as soon as practical but in any event, within 24 hours of categorization, utilizing the Notification Report (first page of the Occurrence Report).

- (2) Unusual Occurrences. Oral notification to DOE of unusual occurrences shall be as soon as sufficient information is obtained to indicate the general nature and extent of the occurrence but in any event, within 2 hours of categorization. Written notification shall be made within 24 hours of categorization utilizing the Notification Report.
- (3) Off-Normal Occurrences. For off-normal occurrences oral notification to DOE is not mandatory, but written notification shall be made within 24 hours of categorization utilizing the Notification Report.

c. Follow-up Notification. In addition to the initial oral notifications required in Paragraph 7b, follow-up oral notification shall also be made to DOE for any of the following:

- (1) Any further degradation in the level of safety of the facility or other worsening conditions, including those that require the declaration of any of the emergency action levels, if such a declaration has not been previously made;
- (2) Any change from one emergency action level to another;
- (3) Termination of an emergency.

d. Occurrence Report Preparation. An Occurrence Report shall be prepared for all Reportable Occurrences, according to the instructions provided in Attachment II, INSTRUCTIONS FOR COMPLETING AN OCCURRENCE REPORT. The submission of Occurrence Report information is required as follows:

- (1) The Notification Report shall be prepared as required in Paragraph 7b of this Order and shall constitute the first page of the Occurrence Report;
- (2) Within 10 working days of categorization, the contractor shall submit an Occurrence Report utilizing the information available at that time;
- (3) The Occurrence Report shall be updated when significant new information is available; and
- (4) The final Occurrence Report shall be prepared and distributed by the contractor in accordance with this Order when the cause of the occurrences has been analyzed, root cause and contributing causes determined, corrective actions determined and scheduled and

lessons-learned identified. The final Occurrence Report shall be approved by DOE.

8. IMPLEMENTATION REQUIREMENTS.

a. Occurrence Categorization and Notification Process.

- (1) The facility staff and operators shall identify and promptly notify the Facility Manager of abnormal events and conditions and record and archive all information pertaining to such occurrences.
- (2) Appropriate immediate response(s) shall be taken by contractor operations personnel to stabilize or return the facility/operation to a safe condition.
- (3) The Facility Manager shall categorize the occurrence as required in Paragraph 7a of this Order utilizing the facility specific procedures developed in accordance with Paragraph 8d(2) of this Order.
- (4) The Facility Manager or his or her designee shall be available at all times to carry out the requirements of this Order.
- (5) For oral notification, the Facility Manager shall simultaneously contact the DOE Facility Representative and the HQ EOC through which the DOE Program Manager or his or her designee and any other necessary program staff can be located and direct communications links with the Facility Manager established. The HQ EOC function here is to facilitate communications within line organizations, and to record and archive conversations. The Facility Manager may use the local Field/Site EOC to expedite establishing the direct communication link required above.
- (6) The Program Manager or his or her designee shall notify his or her PSO of the occurrence, and, for emergencies, the PSO shall notify the Secretary, the Office of Environment Safety and Health, and, as appropriate, the Office of Nuclear Safety. For all other occurrences, the PSO shall use judgement as to notification of these Departmental elements.
- (7) The DOE Facility Representative or his or her designee shall be available at all times to carry out the requirements of this Order.
- (8) The DOE Facility Representative shall notify the appropriate Head of the Field Organization of Reportable Occurrences.
- (9) During the entire process of notification and reporting, as noted in this Order, the DOE Facility Representative and Program Manager should use the current management chain established for the line organization in providing program direction to the contractor.

- (10) The Facility Manager shall prepare the Notification Report (the first page of the Occurrence Report, fields 1 through 14), enter it in the operational data base, and distribute it to the DOE Facility Representative and Program Manager within 24 hours of categorization.

b. Occurrence Report and Follow-up Process.

- (1) For every Reportable Occurrence, the Facility Manager shall determine and document in the Occurrence Report as soon as practical:
 - (a) The significance, nature and extent of the event or condition;
 - (b) The cause(s) of the event or condition, including the root cause(s) as appropriate;
 - (c) The corrective actions to be taken to correct the condition and prevent recurrence.
- (2) The DOE Facility Representative in consultation with the DOE Program Manager shall provide the Facility Manager his or her assessment of the occurrence and of the initial and proposed corrective actions and follow-up of the contractor and any other actions DOE has taken since the occurrence, in a timely manner for inclusion in the Occurrence Report.
- (3) Within 10 working days of categorization, the Facility Manager shall submit in accordance with subparagraph (6) below, an update to the Occurrence Report, including updated information provided by the DOE Facility Representative in accordance with subparagraph (2) above. Complete information required in subparagraph (1) above should be available at that time for the majority of Reportable Occurrences.
- (4) The Occurrence Report shall be prepared, signed by the Facility Manager and submitted to the DOE Facility Representative as a final report when the cause of the occurrence has been analyzed, root cause and contributing causes determined, corrective actions determined and scheduled, and lessons-learned identified.
- (5) The final Occurrence Report shall then be reviewed and signed by the DOE Facility Representative within 3 working days of receipt and forwarded to the Program Manager for signature acknowledging receipt, when the information required in subparagraph (4) above is provided. The signed report shall be returned to the Facility Manager for distribution, in accordance with subparagraph (6) below, as a final report.

- (6) The Occurrence Reports (10-day and final) shall be entered into the DOE operational data base by the Facility Manager and distributed to the Program Manager, the affected program self-assessment group, PSOs, the affected Head of Field Organization, the DOE Facility Representative, Office of Nuclear Safety (NS-1), Office of Environmental Safety and Health (EH-1), all DOE Management and Operations (M&O) contractors, the Office of Nuclear Safety Policy and Standards (NE-70), the Defense Nuclear Facility Safety Board (DNFSB) and the Advisory Committee on Nuclear Facility Safety (ACNFS).
- (7) During this entire process, the DOE Facility Representative and the Program Manager shall 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. They shall also interact with the contractor and Field Organization oversight organizations as necessary and inform and advise their respective management of their findings.
- (8) If the DOE Facility Representative or Program Manager identify an unresolved issue regarding actions or determinations on a Reportable Occurrence, the Program Manager shall elevate the issue to the PSO and, if necessary the Secretary for resolution and direction.
- (9) On a monthly basis, the contractor shall prepare a report and distribute to all DOE PSOs and Heads of Field Organizations, and update the operational data base on the status of all incomplete Occurrence Reports and incomplete corrective actions.

c. Utilization of Reportable Occurrence Information.

- (1) Operational Data Base. The Office of Nuclear Energy (NE-1) shall establish and maintain an unclassified central DOE operational data base containing Occurrence Reports entered into the DOE operational data base by the Facility Manager. The information in the data base shall be available to all DOE operating facilities and Departmental elements.
- (2) Utilization. Contractors for each facility or group of facilities shall collect and disseminate to their personnel the operations information obtained from their facilities and the lessons to be learned from this information. Each Facility Manager should adopt the use of trending and analysis of this information for early indications of deteriorating conditions. Corrective actions should be taken for any identified deteriorating conditions. The Facility Manager should review the DOE operational data base to identify good practices and lessons learned from other facilities that can be used in his/her facility.

d. Procedures.

Program Senior Officials (PSOs) shall take action to have procedures established for implementation of the requirements of this Order for facilities under their cognizance. These procedures shall be approved by the PSO and shall include:

- (1) Responsibilities of the contractor, field organization, Headquarters program office, and the HQ Emergency Operations Center (EOC).
- (2) Categorization, notification, and reporting requirements for each facility.

e. Training.

PSOs shall take action to have training programs established for both DOE and contractor personnel in the requirements of this Order for facilities under their cognizance. These training programs shall include:

- (1) Indoctrination in the philosophy of occurrence reporting as outlined in Paragraph 6 of this Order.
- (2) Identification of Reportable Occurrences; their categorization, notification, and associated reporting requirements; analysis, determination of root causes and generic implications; and implementation, tracking and close-out of corrective actions.
- (3) Input of occurrence reports into the DOE operational data base.

f. Implementation Schedule. The requirements of this Order shall be implemented in accordance with this paragraph.

- (1) On the date of issuance of this Order, the existing reporting procedures and requirements relating to form, distribution, timing, and approval of occurrence reports that are currently in use shall continue to be used. However, occurrences to be reported shall be those required by Paragraph 7a and Attachment 1 of this Order.
- (2) Within 3 months of issuance, all the requirements of this Order shall be implemented with the exception of the requirements of Paragraph 8c dealing with the establishment and utilization of the DOE operational data base.
- (3) Within 10 months of issuance the requirements in Paragraph 8c shall be implemented.

9. RESPONSIBILITIES AND AUTHORITIES

- a. Assistant Secretary for Nuclear Energy (NE-1) in addition to the responsibilities prescribed in this Order and in Paragraph 9d below, has overall Departmental policy responsibility for occurrence reporting activities, develops reporting policies and procedures, and specifically shall:
- (1) Develop, promulgate, and maintain policies necessary to implement and sustain an effective occurrence reporting system;
 - (2) Develop, promulgate, and maintain guidance materials, and conduct workshops, as necessary, for implementing the requirements of this Order; and
 - (3) Monitor appraisal reports relative to reporting activities at DOE facilities to assess implementation of this Order to identify needed improvements.
- b. Director, Office of Nuclear Safety (NS-1), acting as the independent element responsible for nuclear safety oversight of line management for the Department, shall:
- (1) Monitor and audit all aspects of the implementation of this Order related to nuclear safety including review of facility specific procedures;
 - (2) Review Occurrence Reports and identify circumstances that are indicative of deterioration or poor program performance in nuclear safety which may warrant further action; and,
 - (3) Acting as the central Departmental liaison with the ACNFS and DNFSB, notify and review issues of safety significance identified through the occurrence reporting process with the ACNFS and DNFSB as appropriate.
- c. Assistant Secretary for Environment, Safety and Health (EH-1), acting as the independent element responsible for environment, occupational safety, and health oversight of line management for the Department, shall:
- (1) Monitor and audit all aspects of the implementation of this Order related to the EH functional areas of responsibility; and
 - (2) Review Occurrence Reports and identify circumstances that are indicative of deteriorating or poor program performance in the EH areas of responsibility which may warrant further actions.

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d. Program Senior Officials (PSO), in addition to other responsibilities prescribed in this Order, shall carry out responsibilities which include but are not limited to:

- (1) Providing clear and explicit delegations of responsibility and authority for implementing this Order;
- (2) Establishing agreements with Heads of Field Organizations to ensure support to the DOE Facility Representative and DOE Program Manager(s) in accordance with this Order;
- (3) May appoint Headquarters investigation boards as required under DOE 5484.1.

e. Program Managers, in addition to other responsibilities prescribed in this Order, shall carry out responsibilities which include but are not limited to:

- (1) Overseeing activities relating to reportable occurrences including reporting and development of programs and procedures;
- (2) Ensuring 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) Ensuring that the HQ EOC is informed of how they or their designees can be reached at all times;
- (4) Ensuring that lessons-learned and generic or programmatic implications are identified and elevated to the PSO for appropriate action;
- (5) Ensuring that actions are taken to minimize or prevent recurrence;
- (6) Reviewing and assessing Reportable Occurrences information from facilities under their cognizance, to assess significance, root causes, generic implications, and the need for corrective action; and ensuring that DOE and contractor staff involved in these operations perform these functions; and
- (7) Ensuring 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.

f. DOE Heads of Field Organizations cognizant of the reporting activity shall:

- (1) Establish agreements with responsible PSOs on the working relationship between the PSO and the Field Organization;
- (2) Appraise and audit contractor capability and performance in carrying out the requirements of this Order in accordance with established agreements with the responsible PSOs;
- (3) Provide technical support as necessary to DOE Facility Representatives in responding to any Reportable Occurrence, in accordance with established agreements with the responsible PSOs;
- (4) Assign DOE Facility Representatives as required by this Order;
- (5) May appoint field investigation boards as required under DOE 5484.1.

g. DOE Facility Representatives shall carry out their responsibilities as noted in this Order which include but are not limited to:

- (1) Ensuring that contractors under their cognizance prepare and promulgate procedures for notification and reporting that are compatible with and serve the policies of this Order;
- (2) Concurring in the facility specific procedures and examples of reportable occurrences and categorizations to meet the requirements of this Order;
- (3) Actively monitoring day-to-day operations and performance of facilities/activities under their cognizance;
- (4) Ensuring that lessons-learned and generic or programmatic implications are identified and elevated to the Head of the Field Organization for appropriate action;
- (5) Ensuring that contractor actions are taken to minimize or prevent recurrence;
- (6) Reviewing and assessing Reportable Occurrences information from facilities under their cognizance, to assess significance, root causes, generic implications, and the need for corrective action, and ensuring that contractor staff involved in these operations perform these functions; and
- (7) Ensuring 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.

- h. Director, Naval Nuclear Propulsion Program: Executive Order 12344, statutorily prescribed by P.L. 98-525 (42 U.S.C. 7158, Note) establishes the responsibilities and authority of the Director, Naval Nuclear Propulsion Program (who is also the Deputy Assistant Secretary for Naval Reactors within the Department) for all facilities and activities which comprise the Program, a joint Navy-DOE organization. These executive and legislative actions establish the responsibilities of the Director as including the safety of reactors and associated naval nuclear propulsion plants, the control of radiation and radioactivity associated with naval nuclear propulsion plants, and the operating practices and procedures applicable to naval nuclear propulsion plants. Accordingly, the provisions of this Order do not apply to the Naval Nuclear Propulsion Program. The Director shall establish the reporting requirements implemented within the program.
- i. Director, Office of Recruitment, Technical Training and Professional Staff Development shall establish and implement a training program for DOE personnel, consistent with the training needs identified for this order by PSOs and Heads of Field Organizations.



JAMES D. WATKINS
Admiral, U.S. Navy (Retired)

CATEGORIZATION OF REPORTABLE OCCURRENCES

The purpose of this attachment is to categorize a list of occurrences so that DOE field and operating contractors understand the degree of significance which is associated with the emergency, unusual occurrence, and off-normal categories defined in DOE 5000.3A.

Occurrences have been arranged into nine groups which relate to DOE operations. These nine groupings are used solely for ease of reference and do not represent program requirements.

Definitions

The following is a list of definitions designed to avoid confusion in this attachment, and to avoid repetition in the body of the document.

1. Class A Equipment - Any active or passive safety device/system or any primary environmental monitors.
2. Class B Equipment - Any device/system which, although not primarily safety related, will result in facility shutdown or degradation of operating parameters (i.e., less throughput, longer processing times, shorter worker endurance periods, etc.), or any secondary environmental monitors.
3. Federally permitted release - Any release that satisfies the definition of "federally permitted release" in 40 CFR 302.3.
4. Hazardous substance or material - Any solid, liquid, or gaseous material that satisfies the regulatory definition provided in 40 CFR Part 300. Oil is excluded from this definition.
5. Oil - Oil of any kind or in any form, including, but not limited to petroleum, fuel oil, sludge, oil refuse and oil mixed with wastes other than dredged spoil.
6. Primary environmental monitors - Monitoring equipment legally required to monitor ongoing discharges. In general, this term applies to monitors closest to the point of discharge which are used to determine if discharges are within specified limits. It also includes any equipment which actuates automatically in response to set level signals from such a monitor. It does not include equipment in general area, remediation or compliance monitoring programs. Significant equipment in such programs will fit in the Class B Equipment definition.

7. Program significant delay - Meets the criteria of Category 8, Facility Status.

- 8. Program significant cost - Meets the criteria of Category 7, Value Basis Reporting.**
- 9. Reportable quantity - For any CERCLA hazardous substance, the quantity established in Table 302.4 and Appendix B of 40 CFR Part 302, the release of which requires notification unless federally permitted.**
- 10. Safety device/system - This term is generally intended to mean all permanently installed safety-related equipment which relates to processes, other major equipment, major personnel hazards, etc. It is not intended to include boundary ropes, chains, goggles, handrails, and any other of a host of minor items which could be included under literal compliance. Problems with minor items fall under this reporting system when they result in consequences of a level with reportable criteria.**
- 11. Secondary environmental monitors - Environmental monitoring equipment or activities which, if degraded, will produce a more than minor disruption of a monitoring program. An example of a minor effect would be the failure of a unit whose place in the program is effectively duplicated by overlap between one or more other components. An example of a more than minor effect would be the failure of sufficient units to preclude continued coverage, or the failure of a unit which provides the only coverage for large areas, such as a groundwater monitoring well.**
- 12. Release - Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or otherwise disposing of substances into the environment. This includes abandoning/discarding any type of receptacle containing substances or the stockpiling of a reportable quantity of a hazardous substance in an unenclosed containment structures.**

Categorization Use

The nine groups of categorized occurrences are:

1. Facility Condition
2. Environmental
3. Personnel Safety
4. Personnel Radiation Protection
5. Safeguards and Security
6. Transportation
7. Value Basis Reporting
8. Facility Status
9. Cross-Group Items

Within each grouping is a list of occurrences derived from previous DOE orders and actual operation occurrences, and categorized as emergency, unusual occurrence, or off-normal occurrences. The list is not intended to be all-inclusive; it presents a minimum set of standards necessary to allow specific sites/ facilities to develop specific Reportable Occurrences applicable to their operations which reflect the DOE-desired degree of significance in categorization.

It should be noted that the occurrences categorized are designed to be generic in nature, and occurrences may fit under more than one category. For example, the Environmental section (2) provides much less detail than would be found in a site-specific matrix of occurrences. The objective of this approach is to allow individual sites to fit their varying requirements to the categories on the basis of significance rather than specific regulatory requirements. However, the categorization of an occurrence as off-normal does not absolve the cognizant parties from making required reports to other agencies.

Categorization of Occurrences by Group

Group 1. Facility Condition

A. Nuclear Safety

Emergency

Nuclear criticality achieved in a system not intended to reach criticality that results or could result in actual or potential facility damage or releases of radioactive of material.

Unusual Occurrence

- (a) Any actuation of a Nuclear Incident Monitor (NIM) or Criticality Accident Alarm system not due to approved testing.
- (b) Violation of the double contingency criticality specifications.

Off-Normal

Any nuclear criticality safety violation or infraction of procedures not covered by other definitions. For example, violation of one contingency.

B. Fires/Explosions

Emergency

- (a) Any occurrence that causes uncontrolled release of radioactive or hazardous material.

- (b) Any occurrence not under control causing more than minor damage to confinement systems, loss of building integrity, or multiple facilities.

Unusual Occurrence

- (a) Any occurrence that threatens failure or performance degradation of Class A Equipment.
- (b) Any occurrence that activates an automatic protection system.
- (c) Damage loss estimated to exceed limits defined in Group 7, Value Basis Reporting.
- (d) Any occurrence within primary confinement/containment boundaries.

Off-Normal

- (a) Any fire that threatens failure or performance degradation of Class B Equipment.
- (b) Any fire that takes longer than 10 minutes to extinguish.
- (c) Damage loss estimated to exceed limits defined in Group 7, Value Basis Reporting.
- (d) Any fire in a processing room.

- C. Any unplanned occurrence that results in the safety status (or the analytical basis) of a facility or process being seriously degraded or in question.

Unusual Occurrence

- (a) Any violation of an approved Technical Specification or Operational Safety Requirement or other safety limits defined by the contractor/DOE.
- (b) Discovery of an incorrectly derived Technical Specification or Operational Safety Requirement or other safety limit defined by the contractor/DOE.
- (c) Any occurrence that is outside the design basis or the safety analysis of the facility/process.
- (d) Any occurrence that will prevent immediate response of facility emergency assessment or offsite response capabilities.

Off-Normal

Any occurrence that leads the contractor to limit operations either self imposed or due to procedural requirements.

D. Loss of Control of Radioactive Material.

Emergency

Loss of accountable special nuclear material.

Unusual Occurrence

- (a) Loss of accountability of a nuclear source in excess of exempt quantities as specified in 10 CFR 30.71 (Schedule B) and State standards.
- (b) Any fissionable material in a process system or in nonprocess systems outside primary confinement boundaries not designed or expected to accommodate such material.

Off-Normal

- (a) Any unplanned accumulation of fissile material within primary confinement boundaries.
- (b) Any contamination detected within a controlled area in excess of established limits or within a building structure in uncontrolled areas.
- (c) Any unplanned contaminated spill in working areas.

E. A deficiency such that a system or component vital to program performance does not conform to stated criteria and cannot perform its intended function.

Unusual Occurrence

Failure or performance degradation of any Class A Equipment which prevents satisfactory performance of the design function when it is required by existing plant conditions.

Off-Normal

- (a) Performance degradation of Class A equipment which does not prevent satisfactory performance of the design function or which occurs when the equipment is not required for existing facility conditions.

(b) Failure or significant performance degradation of any Class B Equipment.

- F. Violation of procedures (includes maintenance requirements and system lineups) or inadequate procedures either of which result in adverse effects on performance, safety, or reliability.

Unusual Occurrence

- (a) Any occurrence which violates safety requirements.
- (b) Maintenance performed on Class A equipment without meeting the required plant conditions for non-availability.
- (c) Incorrect maintenance on or unauthorized modifications to Class A equipment.

Off-Normal

- (a) Any violation resulting in actual equipment damage in excess of \$1000.
- (b) Deviation from written procedures that result in adverse effects on performance, safety, or reliability.
- (c) Incorrect maintenance on or unauthorized modifications to Class B equipment.

G. Unsatisfactory Surveillance/Inspections

Unusual Occurrence

- (a) Any surveillance/inspection reporting unsatisfactory operation, testing, maintenance, or modification of any Class A Equipment.
- (b) Any surveillance/inspection reporting improper procedural compliance with or lack of operator understanding regarding Class A Equipment.
- (c) Inspection or appraisal findings indicating that major safety-related equipment required to be operational by technical specifications or Operational Safety Requirements is not operating within approved limitations;

Off-Normal

- (a) Any surveillance/inspection reporting unsatisfactory operation, testing, maintenance, or modification of any Class B Equipment.
 - (b) Any surveillance/inspection reporting improper procedural compliance with or lack of operator understanding regarding Class B Equipment.
- H. Any deficiency in a structure, system, component, or facility vital to program continuity which, to redesign or repair or otherwise establish the adequacy of the item, will result in a program significant delay or cost.
- I. Operations. Special attention should be paid to augmenting this section during facility-specific review.

Emergency

- (a) Loss of all electric power for a Category A reactor.
- (b) Loss of any primary confinement/containment which results in uncontrolled hazardous material/energy release.
- (c) Dangerous weather conditions/natural phenomenon capable of breaching facility structures.
- (d) Any request to an offsite authority for emergency assistance involving a nuclear operation.

Unusual Occurrence

- (a) Any actuation of emergency systems or engineered safety features, except under approved testing.
- (b) Any total loss of offsite power or onsite AC power capability.
- (c) Weather conditions/natural phenomenon causing serious disruption of facility activities.
- (d) Any unplanned nuclear excursion in a nuclear reactor, whether or not terminated by protective actions, which is clearly outside the routinely accepted and experienced bounds for that reactor.
- (e) Loss of any process ventilation system used for confinement sufficient to invert pressure zones.

(f) Any unplanned facility evacuation in response to an actual occurrence.

(g) Any radiological assistance occurrence.

Off-Normal

(a) Any unplanned and unexpected change in a process condition or variable sufficient to require securing a procedure.

(b) Failure of emergency power diesel generators to start following a power failure. (Note: If the diesel was Class A equipment, this occurrence would be an Unusual occurrence per 2B.)

(c) Any unplanned electrical outages or unexpected consequences from a planned outage which disrupt normal operations of a facility.

(d) Any unplanned outages of service systems (i.e., cooling water, steam, phones, communication systems, etc.) or unexpected consequences from a planned outage which disrupt normal operations of a facility.

(e) Loss of any process ventilation system which serves a confinement function.

(f) Any facility evacuation conducted as a precautionary measure.

J. Inadequate experiment/test performance resulting in program significant delay or cost. Program significant delays should take into account the amount of time required to repeat the test to obtain any necessary data, while cost considerations should consider the cost of repeat testing, any damage, and cleanup.

Group 2. Environmental

A. Radionuclide Releases

Emergency

(a) Any release of radioactive material to controlled or uncontrolled areas in concentrations which, if averaged over a period of 24 hours, would exceed 5000 times the respective concentration guides specified for such materials in DOE Order 5400.5 and 5480.11.

- (b) Any release of radioactive material that is not a normal monitored release and could reasonably be expected to result in an annual dose or dose commitment to any member of the general population greater than 500 mrem.

Unusual Occurrence

- (a) Release of a radioactive material that exceeds a reportable quantity and is not federally permitted.
- (b) Release of radionuclide material that violates environmental requirements in permits, regulations, or DOE standards.
- (c) Release below Emergency levels which requires immediate (<4 hours) reporting to regulatory authorities or triggers specific action levels for an outside agency.

Off-Normal

- (a) Any release of radionuclide material to controlled or uncontrolled areas that is not part of a normal monitored release.
- (b) Any controlled release of radionuclide material that occurs as a monitored part of normal operations which exceed what historical data and/or analysis show is expected as a result of normal operations.
- (c) Any monitored facility or site boundary where exposure or concentration increases which exceed what historical data and/or analysis show is expected as a result of normal operations.
- (d) Any release of radioactive material outside controlled areas.
- (e) Any detection of a radionuclide in a sanitary or storm sewer, waste or process stream, or any holding points where such a material is not expected and for which an immediate explanation is not available.
- (f) Any controlled, uncontrolled, or accidental release which is not classified as an Unusual occurrence but which will be reported to outside agencies in a format other than routine monthly or quarterly reports.

B. Release of Hazardous Substances/Regulated Pollutants/Oil

Emergency

Any actual or potential release of material to the environment that results in or could result in significant offsite consequences (e.g., need to relocate people, major wildlife kills, wetland degradation, and aquifer contamination, the need to secure downstream water supply intakes, etc.).

Unusual Occurrence

- (a) Release of a hazardous substance that exceeds a reportable quantity and is not federally permitted.
- (b) Release of a hazardous substance, regulated pollutant, or oil that violates environmental requirements in permits, regulations, or DOE standards.
- (c) Release below Emergency levels that requires immediate (<4 hours) reporting to regulatory agencies or triggers specification levels for an outside agency.
- (d) Any release of 100 gallons or more of oil (figure may vary to conform with local requirements).

Off-Normal

- (a) Release of a hazardous substance or regulated pollutant to controlled or uncontrolled areas that is not part of a normal, monitored release.
- (b) Any release of oil less than Unusual occurrence level but >10 gallons.
- (c) Any detection of a toxic or hazardous substance in a sanitary or storm sewer, waste or process stream, or any holding points where such a material is not expected and for which an immediate explanation is not available.
- (d) Any controlled, uncontrolled or accidental release which is not classified as an Unusual Occurrence but which will be reported to outside agencies in a format other than routine monthly or quarterly reports.
- (e) Any controlled release of hazardous/regulated material that occurs as a monitored part of normal operations which exceeds what historical data and/or analysis shows is expected as a result of normal operations.

- (f) Any general environmental monitoring where concentration increases to a level which exceeds what historical data and/or analysis shows is expected as a result of normal operations.

C. Discovery of radioactive or hazardous material contamination due to DOE operations

Emergency

Discovery of contamination that results or could result in significant consequences (i.e. exceeding safe exposure limits to workers or public).

Unusual Occurrence

- (a) Discovery of offsite contamination due to DOE operations which does not represent an immediate threat to the public.
- (b) Any discovery of groundwater contamination.

Off-Normal

Discovery of any onsite contamination attributable to DOE operations.

D. Ecological Resources

Unusual Occurrence

Any occurrence causing significant impact to any ecological resource for which the DOE is a trustee (i.e. destruction of a critical habitat, damage to a historic/archeological site, damage to wetlands, etc.).

E. Agreement/Compliance Activities

Unusual Occurrence

- (a) Any agreement, compliance, remediation, or permit-mandated activity for which notification has been received from the relevant regulatory agency that a site plan is not satisfactory, or that a site is considered to be in noncompliance with schedules or requirements.
- (b) Any occurrence under any agreement or compliance area that requires notification of an outside regulatory agency within 4 hours or less, or triggers an outside regulatory agency action level, or otherwise indicates specific interest/concern from such agencies.

Off-Normal

- (a) Any occurrence under any agreement or compliance area that will be reported to outside agencies in a format other than routine monthly or quarterly reports.
- (b) Any changes to existing agreements or permit-mandated activities.
- (c) Development of new agreements or permit-mandated activities.

Group 3. Personnel Safety

A. Occupational Illness/Injuries

Emergency

Any apparent loss or theft of radioactive or nonradioactive material in quantities and circumstances such that it would constitute a threat to the safety and health of individuals.

Unusual Occurrence

- (a) Any occurrence resulting in a fatality or terminal injury or illness.
- (b) Any one occurrence resulting in five or more lost workday cases.

Off-Normal

Any occupational illness or injury that results in inpatient hospitalization.

B. Vehicular/Transportation Accident

Emergency

Radioactive material release as provided in Group 2A, suspected or detected in concert with a major transportation incident.

Unusual Occurrence

- (a) All occurrences resulting in injuries classified under A above.

- (b) An offsite occurrence in sufficient proximity that the site will furnish primary spill response that results in the release of radioactive or hazardous material. Events outside site response areas will be classified under Group 6, Transportation.

Off-Normal

Any onsite occurrence that results in a lost workday case, greater than \$1,000 damage, or releases trace quantities of radioactive or hazardous material.

C. Miscellaneous

Careful attention should be paid to implementing site-specific reporting items in this category.

Unusual Occurrence

- (a) Unplanned facility evacuation.
- (b) Personnel exposures to hazardous chemicals in excess of appropriate occupational safety limits.

Off-Normal

Unauthorized use of flammable, toxic, explosive, corrosive, or other unsafe or dangerous process, chemicals, materials, or methods previously prohibited.

Group 4. Personnel Radiation Protection

A. Radiation Exposure

Emergency

Any exposure to high levels of radiation sufficient to cause fatalities or require hospitalization (i.e. such as criticality accidents).

Unusual Occurrence

- (a) Any exposure resulting in adverse physical response or requiring medical treatment.
- (b) Any single or cumulative exposure that violates a regulatory limit (e.g. DOE 5480.11, 10 CFR 100, etc.).
- (c) Fetal exposure in excess of 500 mrem.

Off-Normal

Any single or cumulative exposure not categorized as Unusual occurrence that violates an administrative limit.

B. Personnel Contamination

Unusual Occurrence

- (a) Any event that results in five or more individual contaminations.
- (b) Any contamination requiring offsite medical assistance for contaminated personnel.
- (c) Any contamination spread offsite by personnel.

Off-Normal

- (a) Any case where personnel or personnel clothing (not protective clothing) receives confirmed contamination.
- (b) Contamination is spread to uncontrolled areas of the site.

C. Internal uptake

Unusual Occurrence

Any single or cumulative internal uptake that on the basis of early assay data will result in a dose or dose commitment in excess of the pertinent annual standard set forth in DOE Order 5480.11.

Off-Normal

Any potential or confirmed internal assimilation, whether from personnel or operating area contamination.

Group 5. Safeguards and Security

Occurrences in this section will require consideration of classification in addition to careful review for privacy considerations. The lack of detail which may be required in such reports is recognized by Headquarters.

A. Criminal Acts

Emergency

- (a) Credible bomb incidents.

- (b) Terrorist attacks.

Unusual Occurrence

- (a) Bomb threats and threats of special nuclear material theft or diversion.
- (b) Sabotage involving nuclear material or processes.

Off-Normal

- (a) Sabotage involving nonnuclear materials or processes.
- (b) Theft of government property.
- (c) Felony conspiracies such as blackmail, embezzlement, fraud, etc.

B. Loss of Control of Classified Material

Emergency

Theft or loss of classified matter that could damage national security, e.g., through an espionage event or theft.

Unusual Occurrence

Any loss or unauthorized possession of material classified as Top Secret.

Off-Normal

Any loss or unauthorized possession of material classified greater than UCNII but less than Top Secret.

C. Substance Abuse

Unusual Occurrence

Any possession of controlled substances with the intent to distribute onsite.

Off-Normal

- (a) Any on-site occurrence involving the use, possession, or involvement of/with controlled substances by DOE or contractor personnel. Exceptions include drug screening, PAP results, sensitive drug investigations, and items dealing with strictly offsite involvement with law enforcement officials.

- (b) Any occurrence in site/DOE programs at least partially attributable to alcohol impairment.

D. General Items of Security Concern

Emergency

- (a) Extortion or kidnapping of DOE or DOE-contractor personnel.
- (b) Malevolent protest or labor activities or riots that could result in an emergency under any other group in this Attachment.
- (c) Any occurrence which requires immediate assistance from offsite resources due to overtaking onsite response forces.

Unusual Occurrence

Any unauthorized discharge of a firearm.

Off-Normal

Examples of relative level of items which would be reported in this category include acts of malicious mischief/vandalism, unauthorized possession of security badges, etc.

Group 6. Transportation

Emergency

Any release of reportable quantities of hazardous or radioactive materials as provided in Group 2 offsite during transportation activities.

Unusual Occurrence

- (a) Any release of radioactive or hazardous material offsite during DOE/site transportation activities.
- (b) Any shipment of radioactive or hazardous material that arrives at its destination damaged to the extent that there is substantial reduction in the effectiveness of the package; contents are leaking or may have leaked; or there is detectable contamination.

Off-Normal

- (a) Any release of radioactive or hazardous material as provided in Group 2 onsite during DOE/site transportation activities.

- (b) Any shipment of radioactive or hazardous material that arrives at its destination with a nonreconcilable manifest discrepancy or with an incomplete or missing manifest.
- (c) Any other violations of regulatory or DOE requirements during the transportation of radioactive or hazardous materials.

Group 7. Value Basis Reporting

Any event specifying cost as a basis for reporting, unless otherwise stated, will be classified by the following monetary values necessary to repair, replace, or otherwise restore a facility/system/component to acceptable operation. Costs used for reporting should be reasonable initial estimates.

Unusual Occurrence

Estimated loss or damage to Department of Energy or other property amounting to \$100,000 or more, or estimated costs of \$100,000 or more required for cleaning (including decontamination), renovating, replacing, or rehabilitating structures, equipment, or property.

Off-Normal

Estimated loss or damage to Department of Energy or other property amounting to between \$10,000 and \$100,000 or estimated costs within these limits required for cleaning (including decontamination), renovating, replacing, or rehabilitating structures, equipment, or property.

Group 8. Facility Status

- A. Any unplanned occurrence in any portion of a program conducted in accordance with approved requirements and procedures which results in facility, process, etc. securing or significantly curtailing operations.

Unusual Occurrence

- (a) Any unscheduled shutdown of one week or greater.
- (b) The initiation of any unplanned nuclear facility shutdown or significantly curtailed operations either required by the plant's Technical Specifications or Operational Safety Requirements, or taken as an independent initiative by the contractor or the DOE.

Off-Normal

Any unscheduled shutdown of a facility, process or operation of
less than one week duration.

- C. Any unplanned occurrence in any portion of a program conducted in accordance with approved requirements and procedures which results in a current facility, process, etc., shutdown being extended.

Unusual Occurrence

Any increase in shutdown schedule that exceeds 50% of the planned schedule at the time of extension or 1 month.

- D. Any unplanned occurrence in any portion of a program conducted in accordance with approved requirements and procedures that results in a new facility, process, etc., startup being delayed.

Unusual Occurrence

Any delay in startup schedule of 12 weeks or greater.

Off-Normal

Any delay in startup schedule of 1 month or greater.

Group 9. Cross-Category Items

- A. A series of related occurrences which individually do not warrant reporting under preceding criteria, but which collectively are considered significant enough to warrant reporting.
- B. A near miss to one of the reporting classifications under preceding categories.

Unusual Occurrence

An occurrence where the conditions necessary to cause an Unusual occurrence existed (i.e., all barriers to event initiation were compromised).

Off-Normal

An occurrence where the conditions necessary to cause a Reportable Occurrence were prevented from existing by one remaining barrier after other barriers had been compromised (i.e., one additional independent failure/degradation was necessary for event initiation to be possible).

- C. Weather fronts/systems affecting facility status will be reported at the level of event they are believed capable of creating. Specific weather-related items will be reported under their appropriate criteria.
- D. Identification of potential concerns or issues, that are deemed to be worthy of reporting.
- E. Further degradation or increased uncertainties in level of plant safety or worsening plant conditions as a follow-up to initial notification.

INSTRUCTIONS FOR COMPLETING AN OCCURRENCE REPORT

The following item numbers correspond with the numbers used on the Occurrence Report format. Reports concerning certain sensitive facilities or activities may contain classified information and shall be reviewed for classification where appropriate. The first page of the Occurrence Report is the Notification Report which includes items 1 through 14. This is to be completed for all Reportable Occurrences and submitted to DOE per this Order within 24 hours of categorization of the event/condition. The DOE Facility Representative is to complete items 26 and 27. For the 10-working day and final Occurrence Reports, information on the Notification Report should be retained and updated as better information becomes available.

1. Occurrence Report Number. Assign an alphanumeric designation consisting of the acronym of the organization (contractor/laboratory), the last two digits of the year in which the occurrence happened, and a sequential organization number or a facility designation consisting of the acronym of the facility in which the event occurred followed by the last two digits of the year followed by a sequential number; e.g. EG&G-90-20, ATR-90-8.
2. Status and Report Date. Check the status block that identifies the type of occurrence report being submitted:
 - a. The first page of the Occurrence Report is the Notification Report which remains a part of the Occurrence Report.
 - b. The date entered for a 10-working day occurrence report is also the Occurrence Report's submission date.
 - c. Show all dates. That is, for a final report, this block must show submission date and the dates of the 10-working day and update report submissions. If subsequent updated Occurrence Reports were submitted, only the latest date needs to be shown.
3. Occurrence Category. Indicate which category is determined for the occurrences.
4. Division or Project. Identify in full the contractor organizational unit responsible for the facility in which the occurrence took place. In addition, identify the DOE Program Office to which this facility is operationally responsible (e.g., Nuclear Energy, Energy Research, Defense Programs, New Production Reactors, etc.).
5. Facility, System, Building or Equipment. Identify the facility in which the occurrence took place, and the system, equipment or structural items involved in the occurrence as applicable.

6. Plant Area. Indicate the name of the site-specific plant area (e.g., F-Area, M-Area).
7. Date and Time Occurrence was Discovered. Enter the date and time when facility staff or operators noticed the event or condition being reported.
8. Date and Time Occurrence was Categorized. Enter the date and time when Facility Manager determined that the event or condition constituted a Reportable Occurrence and decided its category (emergency, unusual occurrence or off-normal occurrence).
9. Date and Time of DOE Program Notification. Enter the date and time the DOE Program Manager was notified.
10. Date and Time of Other Notifications. Enter dates and times of notification of Secretary, PSO, or State and local officials or other agencies.
11. Subject or Title of Occurrence. Enter a brief title or description (20 words or less) that best details the nature of the occurrence.
12. Description of Occurrence. Enter a clear, concise, objective description of what happened and what was observed. Do not include in this item an evaluation of the occurrence, causes or corrective actions taken. When appropriate for clarification attach copies of photos, sketches, or drawings.
13. Operating Conditions of Facility at Time of Occurrence. Describe the operational status of the facility or equipment at the time of the occurrence, including for example, pertinent temperatures, pressures, or other parameters necessary for evaluation of the occurrence and its consequences. If said information is not applicable, enter "Does not apply."
14. Immediate Action Taken and Results. Describe the immediate or remedial actions taken to return the facility, system, or equipment item to service, or to correct or alleviate the anomalous condition, and the results of those actions. These may be temporary measures to keep the facility in a safe standby condition or to permit continued operation of the facility without compromising safety until a more searching investigation or permanent solution can be effected.
15. Cause. This must be thoroughly addressed as the information becomes available. Check the box that best describes the apparent direct and contributing cause. If there is more than one contributing cause, check all that apply. In the final evaluation of a Reportable Occurrence, there must be complete consideration of the cause and contributory factors, with analysis to show what causes were root to the occurrence and what causes were only contributory. Root causes

are those fundamental causes that if corrected will prevent recurrence of this or similar events. Root causes are usually people-related, involving training, procedures, management, etc. See the definition of causes on the pages following the example form.

16. Description of Cause. Discuss the cause of the occurrence to include root and contributing causes. Do not repeat a description of the occurrence, but tell the cause and the factors leading to the cause.
17. Evaluation by Facility Manager. With the information available, the Facility Manager shall provide in this space in the 10-working day Occurrence Report, his or her evaluation of the occurrence and its effect, or possible effect on the plant, system, program, etc. The Facility Manager may later supplement this evaluation with additional entries to update the 3-working day evaluation.
18. Is Further Evaluation Required? Check "Yes" or "No".

If you checked "Yes" "further evaluation required", then check "Yes" or "No" whether that evaluation is required before further operation.

If the "Yes" block is checked for "before further operation", then explain who will take the action and when the action shall be taken.
19. Corrective Action. Check the appropriate box and describe the action taken to prevent recurrence. Corrective action which is identical to the immediate action identified in Item 14 need not be repeated, but a reference to Item 14 should be entered.
20. Impact on Environment, Safety and Health. Describe the impact of the occurrence on the environment, safety and health of workers, the public, and onsite and offsite environs. This should include amounts of hazardous or radioactive materials released, and levels of contamination, exposures of people and known or projected health impacts.
21. Programmatic Impact. Describe the impact of the occurrence on the program or project affected. This could be a loss of data, loss of plant availability for a specified period, additional costs, delay in schedule, or other measurable consequences of the occurrence.
22. Impact Upon Codes and Standards. If the occurrence impacts upon the requirements of the national codes and standards, program standards, or DOE orders, the adequacy of the codes or standards to prevent recurrence should be stated.

23. Final Evaluation and Lessons-Learned. This item should be completed ~~only in the Final Occurrence Report.~~ The final evaluation should include a discussion of cause, if appropriate, to supplement Item 17, including an analysis of the primary and contributing causes, and contributory factors disclosed by investigation. Include any lessons that others might learn from the occurrence that could be of importance to other facility operators or that should be addressed in personnel training or facility procedures. Consequences of the occurrence and steps taken to alleviate those consequences should not be described here unless they contribute to an understanding of the occurrence.
24. Similar Occurrence Report Numbers. Indicate by their report numbers any similar occurrence(s) for this facility or other facilities of which you are aware. Also, identify any known commercial reactor Licensee Event Report (LER) or other related documents that describe a similar occurrence. The purpose of this item is to identify, if recognized, occurrences that might suggest a generic problem.
25. Signatures. Each Final Occurrence Report must be reviewed, approved and signed by the responsible Facility Manager; reviewed and signed by the DOE Facility Representative; and reviewed, approved and signed by the DOE Program Manager. In addition to the written signatures, the typed names and titles of the signatories shall be provided.
26. DOE Facility Representative Input. The DOE Facility Representative shall provide his or her evaluation of the occurrence, and the initial and proposed corrective actions and follow-up of the contractor and any other actions DOE has taken since the occurrence. The Facility Representative may supplement such information with subsequent additional entries, as appropriate.
27. Identification of DOE Facility Representative.

Note: Each page of the Occurrence Report shall be numbered (preferably at the top right) using the following format: Page of . The total number of pages is to include any continuation pages or extra attachments.

FORMAT

OCCURRENCE REPORT

FORMAT (spacing of items in the following example may be altered as necessary to provide adequate space for full exposition of items).

(Name of Facility)

(Name of laboratory site or organization)

Name: _____ Title: _____ Telephone No.: _____
(Facility Manager)

Name: _____ Title: _____ Telephone No.: _____
(Originator)

1. OCCURRENCE REPORT NUMBER: _____

2. STATUS AND REPORT DATE: (check one) Date

- ☐ Notification Report
☐ 10 - day
☐ Final

3. OCCURRENCE CATEGORY

- ☐ Emergency
☐ Unusual Occurrence
☐ Off-Normal

4. DIVISION OR PROJECT (check one) ☐ CE ☐ DP
☐ ER ☐ NE
☐ FE ☐ RW
☐ EM

5. FACILITY, SYSTEM, BLDG. OR EQUIPMENT:	6. PLANT AREA:	7. DATE & TIME OCCURRENCE Discovered:
9. DATE & TIME OCCURRENCE CATEGORIZED:	8. DATE & TIME OF DOE PROGRAM NOTIFICATION:	10. DATE & TIME OF OTHER NOTIFICATIONS:

11. SUBJECT OR TITLE OF OCCURRENCE:

12. DESCRIPTION OF OCCURRENCE:

13. OPERATING CONDITIONS OF FACILITY AT TIME OF OCCURRENCE:

14. IMMEDIATE ACTIONS TAKEN AND RESULTS:

OCCURRENCE
REPORT Number _____

Report Date: _____

15. CAUSE:

Direct Cause: (mark only one)

Design _____ Material _____ Personnel _____ Procedure _____ Other _____

EXPLAIN:

Contributing cause (s): Design _____ Material _____ Personnel _____

Procedure _____ Other _____

EXPLAIN:

Root Cause: Procedure _____ Training _____ Management _____ Personnel _____

EXPLAIN: Design _____ Material _____

16. DESCRIPTION OF CAUSE:

17. EVALUATION: (By Facility Manager)

18. IS FURTHER EVALUATION REQUIRED: yes _____ no _____

IF YES, BEFORE FURTHER OPERATION: yes _____ no _____

IF YES, BY WHOM? _____

WHEN? _____

OCCURRENCE
REPORT Number _____

Report Date: _____

19. CORRECTIVE ACTION: _____

Taken: _____ Recommended: _____ To be supplied: _____

20. IMPACT ON ENVIRONMENT, SAFETY AND HEALTH: _____

21. PROGRAMMATIC IMPACT: _____

22. IMPACT UPON CODES AND STANDARDS: _____

23. FINAL EVALUATION AND LESSONS LEARNED: _____

24. SIMILAR OCCURRENCE REPORT NUMBERS: _____

25. SIGNATURES: _____

Approved by: _____ Date: _____
Facility Manager (Name, position)

Reviewed by: _____ Date: _____
DOE Facility Representative (Name, position)

Approved by: _____ Date: _____
DOE Program Manager (Name, position)

OCCURRENCE
REPORT Number _____

Report Date: _____

DOE FACILITY REPRESENTATIVES INPUT

26. DOE FACILITY REPRESENTATIVE INPUT:

27.

Entered by: _____
Name of DOE Facility Representative

Date: _____