

Occurrence Report Writing Lesson Plan

OCCURRENCE REPORT WRITING LESSON PLAN

1. For students with ORPS access utilize the ORPS Training Database. For those using a template (i.e., others input their reports), utilize the Occurrence Report Form. This form mirrors the ORPS database, and the entry requirements are the same.
2. Set up each training computer (including the instructor's computer) with the following documents: 1) This lesson plan; 2) the ORPS Training Database or the Occurrence Report Form, depending on user needs; and 3) the most current Final Report downloaded from ORPS, for the facility where the student works (if the student does not work at a facility that generates ORPS reports, select a good quality report from ORPS). NOTE: Suggest using a Significance Category (SC) 2 or higher report, when available. This allows for more teaching opportunities, as these reports include more information.
3. If available, set up a projection screen for instructor use. This allows for easy viewing during instruction. If a projection screen is not available, set up another computer for instructor use. When set up in this way, both the instructor and students can flip back and forth between documents during instruction.
4. Review the "General Information" section of the Report Writer's Guide. Answer any questions that may arise.
5. Work chronologically through the data entry fields, using the applicable format (ORPS Training Database or Occurrence Report Form).
 - Explain the specific requirements for each field from the Report Writer's Guide.
 - Show the facility Final Report entry as confirmation of the requirement being met.
 - Where applicable, have the student enter the information for each field from the facility Final Report. In many cases, the student may be aware of the event and/or may have been part of reporting it. For longer fields, the block/copy function works well.
 - For students using the ORPS Training Database, show the 'field help' information on the right side of the screen. For students using the Occurrence Report Form, show the 'comment/review' information, which mirrors the ORPS data.
 - After completing the Notification Report (or Notification/Final) information, explain the process and requirements for transmitting the report to ORPS. Discuss the various time frames for each type of report.

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- If using the ORPS Training Database, have the students complete the validation step and transmit the report. Note the training database report number to use when bringing up the report for the next step, the Final Report.
 - If using the Occurrence Report Form, explain the process and make sure the time requirements are understood, and which organization is responsible for receiving, reviewing, and transmitting the report to ORPS.
 - Begin working through the fields for the Final Report. Explain how causal analysis and corrective actions must be completed and available for input. Include the time frames required (i.e., 45 days from categorization).
 - Explain the process for processing Update Reports, as appropriate to the event.
 - Explain the process for cancelling reports.
 - Briefly explain the significance of recurring events (Significance Category R).
 - Once the report fields are completed, and any questions answered, validate and submit the Final Report to the training database (or explain the process to the Occurrence Report Form users).
6. Provide an explanation of the appendices in the Report Writer's Guide (definitions and the occurrence reporting model)
 7. Provide the ORPS Hotline number: 1-800-473-4375.
 8. Close applications and shut down computers.

Occurrence Report Writer's Guide

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GENERAL INFORMATION

This guide complements the requirements that are in the DOE Order and Manual 231.1 series. Occurrence reports should contain sufficient information about the facility/organization, its operation, the event or condition being reported, and its significance, to facilitate action by those personnel not familiar with the details of the facility, equipment, or procedures.

Facility management (and their designees) should use the graded approach described in the Occurrence Reporting Model (Appendix B) to determine the level of effort required for a reportable occurrence, based on its significance category.

Operations and engineering units, as well as other support organizations, should be involved in the identification and assessment of reportable occurrences. Site information, such as operations logs and engineering evaluations, should be used in this process. Engineering judgment should be used during the review of events and conditions to ensure that precursors to occurrences are identified and reported.

An occurrence that is not serious, given the conditions under which it happened, might, under different initial conditions, be a precursor to a serious event at the same or other facilities.

This guide contains information on each data field in the occurrence report, including the kind of data that should be entered in the field to provide quality and consistency. Quality data makes it easier to retrieve and use statistics and lessons learned from the database.

Occurrence Reporting Definitions

For a listing of definitions relevant to the occurrence reporting process, see Appendix A.

Information Security

Occurrences containing any classified information, Unclassified Controlled Nuclear Information (UCNI), Official Use Only (OUO), or other controlled information must not be entered into the ORPS database. Instead, submit a sanitized version of the occurrence; all other requirements of DOE M 231.1-2 must be met. Additionally, occurrences involving incidents of counterintelligence concern (e.g., foreign persons, governments, organizations, entities or influence) will not be entered or referenced in the ORPS database.

Conventions for Entering Dates and Times

For occurrence reports, use the mm/dd/yyyy date format (i.e., 06/01/2008). Military time is used (8:00 a.m. would be 0800; 3:00 p.m. would be 1500).

Submittal Schedule for Occurrence Reports

For the required time frames for submitting occurrence reports, refer to the Occurrence Reporting Model (Appendix B).

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Required Fields for Occurrence Reports

The Notification Report requires completion of fields 1-13, 16-22, 24, 25, 28-30 and 34 of the occurrence report. NOTE: All fields are available, and should be used if the applicable information is available.

The Short Form Report requires completion of fields 1-13, 16-22, 24, 25, 28-30, 34 and 35 of the occurrence report. The Short Form Report (Significance Category 4 occurrences) is final when submitted, and does not require DOE approval.

The Notification Report is retained and updated for use in filing an Update Report (if needed) and a Final Report.

The Update Report can utilize any field in the occurrence report. Update Reports are intended to include significant and new information about the occurrence.

The Final Report requires completion of all fields in the occurrence report (i.e., fields cannot be blank) with the exception of those fields specified as optional below.

NOTE: It is expected that the analysis of most occurrences will be completed and the Final Report submitted within 45 calendar days. For certain occurrences (i.e., accident investigations) it is understood that the required information may not be available within this time frame. In these instances, submit an Update Report within 45 calendar days.

Data Changes on ORPS

The data change function is used to modify final and update/final reports.

When you have identified the report to modify, choose either the **Editorial Change** or the **Back Stage a Report** command button in the Data Entry module.

The following actions make an *Update/Final* or *Final Report* available for editing where, after making your changes, you can resubmit the report.

- **Editorial Change:**
Choose this action if you want to change wording in a text field, modify corrective action items, or make any other modification EXCEPT a change to the Significance Category. This will result in the submittal of either a revised Update/Final Report or a revision to a Final Report.

NOTE: If you are making a modification to the reporting criteria that **does not** affect the Significance Category, use the **Editorial Change** button.

NOTE: Any changes to corrective actions for Significance Category OE, 1, R, 2, or 3 occurrences require approval of the cognizant DOE Facility Representative. (For sites not under EM oversight, specific instructions should be developed to implement this requirement until contractual changes are completed)

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- **Back Stage a Report:**
Choose this action if you want to change the Significance Category level or re-submit a rejected report. This will reopen the occurrence report as an Update Report in Data Entry and, if appropriate, will ultimately remove the existing Final Report from the ORPS Database.

NOTE: If you are making a modification to the reporting criteria that **does** affect the Significance Category, use the **Back Stage a Report** button.

NOTE: Changes to the Significance Category may require additional notifications (DOE Facility Representative, Prompt Notification to DOE-HQ, etc.)

To change an occurrence report number, send an e-mail to orpssupport@eh.doe.gov.

Data Entry to ORPS

Field #1 – Occurrence Report Number

A unique designator assigned automatically by ORPS when the notification report is transmitted into the system. The ORPS GUI will show a temporary occurrence report number in this field until the report is transmitted. The report number for balance of plant reports will be recorded and provided to the facility by the ONC via standard notification report distribution.

Report Type and Date

The report type is selected from “validate” and “submit” buttons at the bottom of the Data Entry page on ORPS; the report dates and times are automatically entered when the report is submitted.

Field #2 - Facility Name

Enter the facility acronym from a drop-down menu. Once the facility code is entered, the program automatically completes the Site Name, Originator/Transmitter, Job Title, and telephone information fields when the report is entered into ORPS.

Field #3 - Facility Function Code

Enter the code for the type of facility or the activity/function performed by the facility. Only 1 function can be selected.

- 01 - Plutonium Processing and Handling
- 02 - SNM Storage
- 03 - Explosive
- 04 - Uranium Enrichment
- 05 - Uranium Conversion/Processing and Handling
- 06 - Irradiated Fissile Material Storage
- 07 - Reprocessing
- 08 - Nuclear Waste Operations/Disposal
- 09 - Tritium Activities
- 10 - Fusion Activities

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- 11 - Environmental Restoration Operations
- 12 - Category "A" Reactors
- 13 -Category "B" Reactors
- 14 - Solar Activities
- 15 - Fossil and Petroleum Reserves
- 16 - Accelerators
- 17A - Laboratory - Biological
- 17B - Laboratory - Chemical
- 17C - Laboratory - Radiological
- 17D - Laboratory - Physics (Lasers, etc.)
- 17E - Laboratory - Material Science
- 17F - Laboratory - Robotics
- 99A - Balance-of-Plant - Offices
- 99B - Balance-of-Plant - Machine shops
- 99C - Balance-of-Plant - Site/outside utilities
- 99D - Balance-of-Plant - Safeguards/security
- 99E - Balance-of-Plant - Storage (except SNM)
- 99F - Balance-of-Plant - Laundries
- 99G - Balance of Plant - Infrastructure (Other functions not specifically listed in this category)

Field #4 - Site Name

The site name is automatically entered onto the report when it is transmitted, based on the authority file of the Originator/Transmitter.

Field #5 - Manager/Designee

Enter the name of the Facility Manager or designee who approved this report, either by transmittal onto ORPS or hardcopy signature. This individual is the person responsible for the contents of the occurrence report. Use the drop-down menu (for registered users) or input the name manually.

Field #6 - Manager Phone

Enter the telephone number of the Facility Manager or designee. Example: (509) 376-5530.

Field #7 - Job Title

Enter the job title of the Facility Manager or designee. Limited to 45 characters or spaces.

Field #8 - Originator/Transmitter

The name, title, and telephone number of the Originator/Transmitter will be automatically entered based on authority file information.

Field #9 - Originator Phone

The phone number of the Originator is automatically entered, based on authority file information.

Field #10 - Originator/Title

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The title of the Originator is automatically entered, based on authority file information.

Field #11 – Division/Project

Identify the project or contractor organization responsible for the facility at which the occurrence took place. Do not use acronyms.

This field is required for all reports.

Field #12 – Secretarial Office

Select the DOE Secretarial Office to which this facility is operationally responsible from the drop-down menu, or use this list.

EE	Energy Efficiency and Renewable Energy
EH	Environment, Safety & Health
EI	Energy Information Administration
EM	Environmental Management
FE	Fossil Energy
ME	Management, Budget and Evaluation
NA	National Nuclear Security Administration
NE	Nuclear Energy, Science and Technology
NP	New Production Reactor
RW	Civilian Radioactive Waste Management
SC	Science
SO	Office of Security
UE	Uranium Enrichment

Only one Secretarial Office may be selected. If the facility is operationally responsible to more than one Secretarial Office, enter the Secretarial Office that is most directly involved in the specific work activity during which the occurrence took place.

This field is required for all reports.

Field #13 – System/Building/Equipment

List the systems, equipment, or structural items involved in the occurrence. In addition, in the case of component failures or defective parts or materials, provide such information as the manufacturer, model number, size, etc. List the most significant item(s) here. Since this entry is limited to 1 line of text, additional items can be listed in the Description of Occurrence field.

This field is required for all reports.

Field #14 - Authorized Classifier/Reviewing Official

Enter the name of the authorized classifier who reviewed the report and determined that it was unclassified, or the name of the reviewing official who determined that there was no Unclassified Controlled Nuclear Information (UCNI) or other controlled information included in the report.

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Classified, UCNI, and controlled information **MUST NOT** be transmitted to ORPS. For reports containing classified, UCNI, or controlled information, a sanitized version of the report must be submitted to ORPS. For facilities where classified operations are conducted, classified information is generated, or UCNI or other controlled information is available, this field is required for all reports.

Field #15 - Classification Date

Enter the date when the authorized classifier or reviewing official reviewed this report and determined that it was appropriate for entry into ORPS. Example: 06/01/2008

Field #16 – Unclassified Controlled Nuclear Information (UCNI)

When required and when appropriate UCNI guidance is available, a reviewing official will make a final determination that the report contains (enter "Y" for Yes) or does not contain (enter "N" for No) UCNI. Where appropriate guidance is not available, a reviewing official should make a preliminary review determination that the report may contain UCNI (enter "Y" for Yes) or does not contain UCNI (enter "N" for No). Classified and UCNI information is not allowed on the ORPS database. A sanitized version, however, must be submitted within the required time frames.

This field is required for all reports.

Field #17 – Plant Area

List the name of the site-specific plant area where the occurrence took place.

This field is required for all reports.

Field #18 – Discovered Date/Time

Enter the date and time that cognizant facility staff discovered the event or condition being reported.

Example: 06/01/2008 1500

This field is required for all reports.

Field #19 – Categorized Date/Time

Enter the date and time when the facility manager determined that the event/condition was a reportable occurrence and categorized it.

Example: 06/01/2008 1700

This field is required for all reports.

Field #20 – Subject/Title of Occurrence

Enter a concise subject or title for this report (140 characters or less) that best details the nature, cause, and result of the occurrence. Examples:

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- Near Miss -- Force applied to ERDF truck Cable breaks hanger weld, ejects hanger/D-ring/cable over truck
- S/CI Shackles, Turnbuckles, and Wire Rope Clamps Found on Weather Enclosures/Structures, Tank Guide Wire Supports, Etc.
- Roofing screw penetrated non-energized conduit during re-roofing activity and damaged conductor for outside lighting circuit

This field is required for all reports.

Field #21 – Reporting Criteria

Enter the reporting criterion code or codes (as many as apply) from DOE M 231.1-2, Section 6.3 (or contractor occurrence reporting procedure). List all that are applicable and appropriate. Only one code is required. For ORPS GUI users, click on the “RC Lookup Table”, scroll down to the appropriate criterion, and hit the “Select” button.

Example: 2.A(5)3. Note that in the example, “2” is the group number, “A” is the subgroup number, “5” is the sequence number, and “3” is the Significance Category number.

This field is required for all reports.

NOTE: The Significance Category field will contain the highest significance category associated with the selected reporting criteria. For example, if reporting criteria with significance categories 4, 3, and 1 were selected, then the significance category would be 1.

Field #22 - Significance Category

This field is automatically assigned by the system and is dependent on the Reporting Criteria. Significance Categories include OE (Operational Emergencies), 1, R, 2, 3, and 4, with OE being the most significant and 4 the least significant. The Significance Categories are defined as follows:

Significance Category OE: Operational Emergency occurrences are the most serious occurrences and require an increased alert status for onsite personnel and, in specified cases, for offsite authorities.

Significance Category 1: Occurrences in this category are those that are not Operational Emergencies, and that have a *very serious impact* on safe facility operations, worker or public safety and health, regulatory compliance, or public/business interests

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

Significance Category 2: Occurrences in this category are those that are not Operational Emergencies, and that have a *significant impact* on safe facility operations, worker or public safety and health, regulatory compliance, or public business interests.

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Significance Category 3: Occurrences in this category are those that are not Operational Emergencies, and that have a *moderate impact* on safe facility operations, worker or public safety and health, regulatory compliance, or public business interests.

Significance Category 4: Occurrences in this category are those that are not Operational Emergencies, and that have *low impact* on safe facility operations, worker or public safety and health, public/business interests.

Cancelled Reports:

If the report is being cancelled as non-reportable, check the “Cancel Report” box.

Fields 1-13, 16-22, 24, 25, and 28-30 and 34 are required for cancelled reports. NOTE: Does not apply to Short Form Reports (Significance Category 4).

Re-Categorizing Occurrences

All occurrences that are re-categorized must be re-evaluated for required prompt notifications (See DOE M 232.1-2 for other requirements).

An Update or Update/Final Report (whichever applies) must be submitted, and an explanation of why the occurrence was upgraded or downgraded included in the Description of Occurrence field. Do not change the original description, unless required by the occurrence investigation.

Field #23 - Recurring Event

If this is a recurring event, check the box. Otherwise, leave it blank. When this box is checked, the Significance Category will be set to R automatically regardless of the Significance Category derived from the Reporting Criteria selected.

For events categorized as Significance Category R, the similar occurrences identified in the data analysis must be included in the Similar Occurrence Reports field. If no specific significance category can be identified for the report, use Group 10(2) “Management Concerns/Issues” from DOE M 231.1-2, Section 6.3.

Recurring occurrences must be categorized and reported collectively as a Significance Category R occurrence, even if each individual occurrence had been originally categorized at a higher or lower significance level (e.g., as Significance Category 1 or 4 or even as non-reportable occurrences). See the Occurrence Reporting Model, Section 11 of DOE M 231.1-20, requirements for a Significance Category “R” occurrence.

This field is only required for occurrences designated as “recurring”.

Field #24 - Subcontractor Involved

If a subcontractor is involved in this occurrence, choose *Yes*. Otherwise choose *No*. If *Yes* is

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selected, enter the name of the subcontractor or subcontractors (required).

This field is required for all Final Reports.

Field #25 – Description of Occurrence

Enter a clear, concise, objective description of what happened and was observed. To the maximum extent possible, provide a sequence of events. Do not include an evaluation of the occurrence, causes, or corrective actions taken in this field.

The following instructions are required (DOE M 231.1-2) when completing this field:

- The first paragraph of the Occurrence Description should relay the essential nature of the event (i.e., a summary of the occurrence in newspaper style).
- All information should be clear and succinct. Avoid redundant and unnecessary text, and lengthy “log book” accounts, unless a discussion of the event in chronological order is considered essential to understanding the event.
- Complex and more significant occurrences should warrant a greater level of detail. Significance Category 4 occurrences would likely need only a short paragraph under Occurrence Description. However, all reports should present enough information so that the general reader understands why the event needs to be reported and what the effect is.
- Avoid jargon and uncommon or site/facility-specific abbreviations and acronyms. If used, acronyms should be initially spelled out.
- Unless necessary to record and explain the event (e.g., suspect/counterfeit items or material), use general descriptions of equipment, procedures, etc., rather than presenting lengthy detailed titles and the numbers and letters assigned to those items.
- Quantify the level of contamination, dose, release, and damage (e.g., estimate the acres of wild land burned) when possible, instead of merely stating a reportable limit was exceeded.
- Use active rather than passive voice whenever possible. For example, write, “*the electrician* severed the conduit” rather than “the conduit was severed.”

Provide at least the following information, if applicable:

- The method of discovery
- Any component failures and failure modes
- Any personnel errors involved, including the type and result of the error
- Any procedure problem encountered
- The response of any automatic or manual safety systems and the signals that initiated and terminated their operation

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- The duration of any failures
- Operator actions that affected the course of events
- The loss of any safety equipment
- For contamination events, see Appendices A and B for further guidance.

All photos, sketches, or drawings relative to the report should be referenced as attachments to the occurrence report, with specifics as to where or from whom they can be obtained. They can also be posted on the Internet, with a hyperlink to the documents included in this field.

For recurring events, include all pertinent information to describe how the event was determined to be recurring.

This field is required for all reports.

NOTES TO THE WRITER:

- The event description should begin with a concise, objective summary paragraph of what happened, and when and where it happened (chronological sequence of events). The writer should keep in mind that the occurrence reports are for the entire DOE community as well as the public.
- The description should contain some background information concerning the facility or equipment involved. A description of the function/purpose of the facility or equipment is helpful. All reports should be written so that individuals unfamiliar with facility operations can readily understand the occurrence and its consequences.
- Since the first ten lines of the description appear on the ORPS Summary Report, try to include the most significant information within these lines. This is helpful for those compiling lessons learned information.
- When an action is discussed, it should be clearly stated why that action occurred or was taken (i.e., required by procedure, personnel were trained to do it that way, or automatic/designed feature). If an action is mentioned but not explained, the result is an unanswered question in the reader's mind.

Field #26 – DOE-HQ OC Notification

Enter the date and time when the DOE HQ Operations Center was notified and the name and organization of the person notified.

This field is required for all reports that are categorized as Operational Emergencies and Significance Category 1 occurrences. This field is also required for Significance Category 2 occurrences as directed by the Field Office. In addition, this field is required for specific

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Significance Category 2, 3, and 4 occurrences identified with an asterisk next to the reporting criterion.

Field #27 – Other Notifications

Enter the dates and times of notification to state and local officials, or other agencies, and the names and organizations of the individuals notified. Additional information can be provided in the Immediate Actions Taken field.

This field is required for all reports that are categorized as Operational Emergencies and Significance Category 1 occurrences.

Field #28 – Operating Conditions

Enter a brief (up to 2 lines of text) description of the operational status of the facility or equipment at the time of the occurrence. For example, this may include pertinent temperatures, pressures, or other parameters necessary for evaluation of the occurrence and its consequences.

If this information is not applicable (i.e., not involving an operational facility), enter "Does not apply".

This field is required for all reports.

Field #29 – Activity Category

Select the activity that best describes the ongoing activity at the time of the occurrence, using the drop-down menu.

This field is required for all reports.

- 01 - Construction
- 02 - Maintenance
- 03 - Normal Operations (other than activities specifically listed in this category)
- 04 - Start-up
- 05 - Shutdown
- 06 - Facility/System/Equipment Testing
- 07 - Training
- 08A - Transportation Onsite
- 08B - Transportation Offsite
- 09 - Emergency Response
- 10 - Inspection/Monitoring
- 11 - Facility Decontamination/Decommissioning
- 12 - Research

Example: Maintenance work, even though performed during a shutdown of the facility, should be coded as "maintenance" not "shutdown". Item #3, "Normal Operations" should be used only in the event that none of the other selections fit the on-going activity at the time of the occurrence.

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Field #30 – Immediate Actions Taken

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 describe the results of those actions. The actions cited may be temporary measures necessary to keep the facility in safe standby condition or those used to permit continued operation of the facility without compromising safety until a more searching investigation or permanent solution can be effected.

List the actions taken in chronological order. Also record the results of those actions. These should only include those actions taken in the short term (i.e., hours) to correct the condition. Other long term actions, such as ordering and installing a new valve, should be stated in the Corrective Actions field.

This field is required for all reports.

Field #31 – Cause Codes

Select all codes from the Causal Analysis Tree (DOE M 231.1-2, Section 11 (or use a contractor procedure), that best represent the causes of the occurrence. If you select A3 (Human Factors) as a cause code, select any associated causes (couplets) from the couplet selection list (or choose a better couplet for the occurrence). For ORPS GUI users, click on the Cause Code Lookup Table, scroll down to the applicable causes, and click on “Select”.

NOTE: There may be rare instances where there is no valid couplet (i.e., A3B4C02, *Deliberate Violation*) for a Human Factors code. In these instances the “NA” option is available. Ensure management approves of this selection, and include an explanation for its use in the report.

This field is required for all Final Reports, and is optional for Short Form Reports.

NOTES TO THE WRITER:

- Significance Category OE, 1, R, and 2 occurrences require a Root Cause determination (and any other causal factors that may apply). Refer to the Occurrence Reporting Model (Appendix B).
- Significance Category 3 occurrences require Apparent Cause determination (and any other causal factors that may apply). Refer to the Occurrence Reporting Model (Appendix B).
- Significance Category 4 occurrences (Short Form Reports) require no causal analysis.

Field #32 – Description of Cause

Discuss the causes of the occurrence, to include all causes from the Cause Codes field and the corrective actions identified, including causal analysis contributing to a recurring event (if applicable). Do not repeat a description of the occurrence, but discuss the results of the causal analysis. A detailed description of the corrective actions is necessary to demonstrate that the identified actions will adequately address the cause(s) of the problem.

This field is required for all Final Reports, except Short Form Reports.

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NOTES TO THE WRITER:

- Each cause identified should be discussed in sufficient detail to enable the reader to understand the analysis process and how a particular cause was determined. A description of the corrective actions is necessary to demonstrate that the identified actions will adequately address the cause(s) of the problem (i.e., prevent recurrence). Corrective actions identified in this field are also included in the Corrective Actions field.
- For readability, it is helpful to identify each cause by its code description (i.e., Apparent Cause: Inadequate Work Package Preparation) followed by the description and corrective actions to prevent recurrence.
- If separate documentation (i.e., root cause analysis) is appropriate, reference the document in this field of the report and include an explanation of how the document can be obtained.

Field #33 – Evaluation by Facility Manager

With the information available, the Facility Manager should provide 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 in Update reports or in the Update/Final report.

This field is required for all Notification reports where "Further Evaluation Required" is "Yes" and "Before Further Operation" is "Yes". It is also required for all Update and Final reports, and is optional for Short Form Reports.

NOTE: This field is also used to change Final Report submittal dates and justify why the report is being delayed beyond its original target date.

Field #34 – Further Evaluation Required

If this occurrence will require further evaluation, choose *Yes*. Otherwise choose *No*. For Cancelled and Update/Final Reports, "Further Evaluation Required" should be "No".

This field is required for all reports.

If further evaluation is required, specify if this occurrence will require further evaluation before further operation. This field is required for all reports where "Further Evaluation Required" is "Yes".

If further evaluation is required before further operation, enter the name of the person who will perform further evaluation on this occurrence and the date when the further evaluation will be completed. The name and date fields are required for all reports where "Further Evaluation Required" is "Yes" and "Before Further Operation" is "Yes".

Field #35 – ISM Code

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Select one or more integrated safety management (ISM) codes from the following list to identify an observed weakness or weaknesses in the facility's implementation of the ISM program (e.g., failure to properly define the work scope, or failure to perform an adequate activity level hazards analysis).

Available ISM codes are:

1. **Define Scope of Work:** Missions are translated into work, expectations are set, tasks are identified and prioritized, and resources are allocated.
2. **Analyze the Hazards:** Hazards are associated with the work identified, analyzed, and categorized.
3. **Develop and Implement Hazard Controls:** Applicable standards and requirements are identified and agreed-upon, controls to prevent/mitigate hazards are identified, the safety envelope is established, and controls are implemented.
4. **Perform Work Within Controls:** Readiness is confirmed and work is performed safely.
5. **Provide Feedback and Continuous Improvement:** Feedback information on the adequacy of controls is gathered, opportunities for improving the definition and planning of work are identified and implemented, line and independent oversight is conducted, and, if necessary, regulatory enforcement actions occur.
6. **N/A (Not applicable to ISM Core Functions as determined by management review):** Items that do not fall into the realm of ISM Core Functions, e.g., natural phenomena, wild fires, counterfeit/suspect parts, notifications of non-compliance (Federal, State, Local), legacy issues that could not have been anticipated, end-of-life equipment failures where maintenance is not an issue, etc.

This field is required for all Final reports, including Short Form Reports.

Field #36 – Lessons Learned

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. Give enough detail so the lessons learned can be understood by all readers throughout the DOE complex. Include analysis of similar occurrences, when appropriate. Avoid use of site-specific jargon and spell out all acronyms.

This field is required for all Final Reports, and is optional for Short Form Reports.

Field #37 – Similar Occurrence Reports

Enter the report number(s) for any similar occurrence(s) for your facility (or other facilities), including similar occurrences contributing to a recurring event. A discussion describing the analysis of similar occurrence reports should be included in field 32 or 33, as appropriate. Also, identify any known commercial reactor Licensee Event Reports (LER) or other related documents that describe

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similar occurrences. The purpose of this item is to identify, if recognized, occurrences that might suggest a generic problem. It also serves to identify generic problems that may result in single or common lessons learned.

This field is required for all Final Reports, and is optional for Short Form Reports.

Field #38 – User Defined Field #1

This optional field can be used by the facility manager to store facility-specific information (e.g., a cross-reference to performance indicator data). The use of keywords is suggested as a way to track significant data in occurrence reports. Maximum length of this field is 124 characters.

User Defined Field #2

This optional field can be used by the facility manager to store additional facility-specific information (e.g., a cross-reference to a site-specific number or name). Maximum length of this field is 124 characters.

Field #39 – Corrective Actions

A facility may choose to use ORPS or its own local corrective action system to track and close out corrective actions (CA). However, in either case, enter a complete description of the CA and the target date when completion of the CA is anticipated. A complete list of corrective actions should be included in the report to ensure it can stand on its own (i.e., reviewers do not have to search for other reports, etc). For facilities using ORPS to track and closeout the corrective actions, the Actual Completion date is entered when the CA is completed and closed. For facilities that choose to use their local CA tracking systems, the Actual Completion Date is not required. However, the reference number of the CA stored in the local corrective action tracking system needs to be entered. All CA items entered in ORPS with local CA reference numbers are considered closed. Corrective Actions are required for Final reports and optional for Short Form Reports.

Field #40 – Facility Representative Comments

The DOE Facility Representative or designee can provide his or her evaluation of the occurrence, including an evaluation of the initial and proposed corrective actions and any follow-up by the facility personnel, and can describe any other actions that DOE has taken since the occurrence. The Facility Representative may supplement such information with subsequent additional entries, as appropriate. After completing the input, the Facility Representative's name and date will be automatically entered by ORPS.

If a Final Report is being rejected, the Facility Representative should use this space to indicate why. This field is required only on Final Reports rejected by the Facility Representative.

Field #41 – Program Manager Comments

The Program Manager or designee can provide his or her evaluation of the occurrence, including an evaluation of the initial and proposed corrective actions and any follow-up, and can describe any other actions that DOE has taken since the occurrence. The Program Manager may include additional information, as appropriate. After completing the input, the Program Manger's name and date will be automatically entered by ORPS.

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If a Final Report is being rejected, the Program Manager should use this space to indicate why. This field is required only on Final Reports rejected by the Program Manager.

Signatures

This space is used to document electronic signatures for the facility manager, facility representative, and program manager. Obtain all three signatures on the hardcopy (classified) report before distributing final reports in hardcopy. Include the typed names and titles of the individuals by their signatures.

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APPENDIX A: OCCURRENCE REPORTING DEFINITIONS

1. BUSINESS DAY. The normal administrative day of the reporting organization (e.g., Monday through Friday, 0800 to 1700 hours) during which normal work activities are conducted. It is not meant to encompass the 24 hours in a day, even if the facility is operated or maintained on a 24-hour basis.
2. CONDITION. Any as-found state, whether or not resulting from an event, that may have adverse safety, health, quality assurance, operational or environmental implications. A condition is usually programmatic in nature; for example, errors in analysis or calculation; anomalies associated with design or performance; or items indicating a weakness in the management process are all conditions.
3. DISCHARGE. Includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil, but excludes discharges in compliance with a permit under Chapter 402 of the Clean Water Act (CWA); discharges resulting from circumstances identified and reviewed and made a part of the public record with respect to a permit issued or modified under Chapter 402 of the CWA and subject to a condition in such permit; or continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under Chapter 402 of the CWA, that are caused by events occurring within the scope of relevant operating or treatment systems.
4. DISCOVERY DATE AND TIME. The discovery date and time is when the facility staff discovered or became aware of the event or condition. The facility staff is those personnel assigned to the facility and cognizant of the area in which the event or condition is identified.
5. DOSE EQUIVALENT
 - Committed Dose Equivalent. The predicted total dose equivalent to a tissue or organ over a 50-year period after a known intake of a radionuclide into the body. It does not include contributions from external dose. (See DOE O 5400.5 for further definitions.)
 - Committed Effective Dose Equivalent (CEDE). The sum of the committed dose equivalents to various tissues in the body, each multiplied by the appropriate weighting factor. (See DOE O 5400.5 for further definitions.)
 - Effective Dose Equivalent. The summation of the products of the dose equivalent received by specified tissues of the body and a tissue-specific weighting factor. (See DOE O 5400.5 for further definitions.)
 - Total Effective Dose Equivalent (TEDE). The sum of the effective dose equivalent for external exposures and the committed dose equivalent for internal exposures.
6. EVENT. Something significant and real-time that happens (e.g., pipe break, valve failure, loss of power, environmental spill, earthquake, tornado, flood).
7. FACILITY. Any equipment, structure, system, process, or activity that fulfills a specific

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purpose. Examples include accelerators, storage areas, fusion research devices, nuclear reactors, production or processing plants, coal conversion plants, magnetohydrodynamic experiments, windmills, radioactive waste disposal systems and burial grounds, environmental restoration activities, testing laboratories, research laboratories, transportation activities, and accommodations for analytical examinations of irradiated and unirradiated components.

8. FACILITY MANAGER. That individual, or designee, usually but not always a contractor, with direct line responsibility for operation of a facility or group of related facilities, including authority to direct physical changes to the facility. For purposes of occurrence reporting, a Facility Manager could also be responsible for a program or activity.
9. FACILITY REPRESENTATIVE. For each major facility or group of lesser facilities, an individual or designee assigned responsibility by the Head of Field Element/Operations Organization (including NNSA) for monitoring the performance of the facility and its operations. This individual should be the primary point of contact with the facility operating personnel and will be responsible to the appropriate Secretarial Officer/Deputy Administrator (NNSA) and Head of Field Element/Operations Organization for implementing the requirements of DOE M 231.1-2.
10. FEDERALLY PERMITTED RELEASE. Any release that satisfies the definition of “federally permitted release” in 40 CFR 302.3.
11. FIRE. Unplanned destructive burning, including explosions (detonation or deflagration), as manifested by any or all of the following: light, flame, heat or smoke. Fire does not include the following unless they cause a fire or occur as a consequence of a fire: lightning or electrical discharge, rupture of a pressure vessel not caused by internal combustion, detonation of munitions, or overheating without damage to initiating material.
12. HAZARDOUS SUBSTANCE OR MATERIAL.
 - Department of Energy - Hazardous Material. Any solid, liquid, or gaseous material that is chemically toxic, flammable, radioactive, or unstable upon prolonged storage, and that exists in quantities that could pose a threat to life, property, or the environment.
 - Department of Transportation - Hazardous Materials (see 49 CFR 171.8 and 172.101). A substance or material, including a hazardous substance, which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce and which has been so designated.
 - Comprehensive Environmental Response, Compensation and Liability Act Hazardous Substances (see 40 CFR 302).
 - Occupational Safety and Health Administration (OSHA) Hazardous Chemical (see 29 CFR 1910.1000 and 29 CFR 1910.1200). Any chemical which is a physical or a health hazard.
 - Superfund Amendments and Reauthorization Act Title 3 Extremely Hazardous Substances (see 40 CFR 355). These are not defined but appear on lists in Appendix A and Appendix B

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of 40 CFR 355.

13. IN-PATIENT HOSPITALIZATION. Admission to a hospital requiring at least one overnight stay. This would include admission for purposes of observation only.
14. ITEM.
 - An all-inclusive term used in place of the following: appurtenance, sample, assembly, component, equipment, material, module, part, structure, subassembly, subsystem, system, unit, or support systems, documented concepts, or data.
 - When used in reference to nuclear material, a visible, single piece or container of nuclear material with a unique identification and known nuclear material mass.
15. LESSONS LEARNED. A “good work practice” or innovative approach that is identified and shared, or an adverse work practice or experience that is shared to avoid recurrence.
16. MEMBER OF THE PUBLIC. Persons who are not occupationally associated with DOE facilities or operations; (i.e., persons whose assigned occupational duties do not require them to enter the DOE site).
17. NON-REPORTABLE EVENT. An event that falls within the ORPS reporting groups, does not exceed any of the specific ORPS reporting criteria, and the reporting organization has determined to be included in the required ORPS Performance Analysis activity.
18. NOTIFICATION REPORT. The initial documented report, to DOE, of an event or condition that meets the reporting criteria defined in DOE M 231.1-2.
19. OCCURRENCE. One or more (i.e., recurring) events or conditions that adversely affect, or may adversely affect, DOE (including NNSA) or contractor personnel, the public, property, the environment, or the DOE mission. Events or conditions meeting the criteria thresholds identified in 231.1-2 or determined to be recurring through performance analysis are occurrences.
20. OCCURRENCE INVESTIGATION. An investigation conducted according to site-specific procedures and/or when determined by DOE procedures that a Type A or B investigation is required.
21. OCCURRENCE REPORT. A documented 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.
22. OFFSITE TRANSPORTATION EVENT. A transportation event in an area within or outside of a DOE site to which the public has free and uncontrolled access.
23. 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.

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24. ONSITE TRANSPORTATION EVENT. A transportation event in any area within the boundaries of a DOE site or facility to which access is controlled.
25. PERFORMANCE DEGRADATION. Failure or degradation of a facility, process, system, or component that reduces the reliability of critical components of the facility whose loss or degradation prevents the system from performing its intended function. Performance degradation does not include: (1) a burned out power indicator light on a piece of radiation monitoring equipment which does not prevent the equipment from detecting elevated radiation levels and alarming as designed; or (2) a piece of equipment that is determined to be out of calibration on the conservative side (such as a low level alarm that alarms at a higher value than it should).
26. PERSONNEL EXPOSURE. An incident of contact or encounter with a hazardous chemical, physical, biological, or energetic agent at one of the exchange boundaries of the organism (e.g., skin, respiratory system, eyes, ears, or digestive system). “Exposure” does not refer to a situation where personnel, protected by appropriate personal protective equipment, are subjected to an environment whose ambient conditions present a harmful level of any one, or combination of, the hazards.
27. PRIMARY CONFINEMENT. Provides confinement of hazardous material to the vicinity of its processing. This confinement is typically provided by piping, tanks, glove boxes, encapsulating material, and the like, along with any off gas systems that control effluent from within the primary confinement.
28. PROGRAM MANAGER. The individual designated by and under the direction of a Secretarial Officer/Deputy Administrator (NNSA), who is directly involved in the operation of facilities under his or her cognizance, and holds signature authority to provide technical direction through Heads of Field Elements/Operations Offices (including NNSA) to operating personnel for these facilities.
29. PROMPT NOTIFICATION. Timely reporting of the occurrence to the DOE Field Office and the DOE Headquarters Operations Center as required by the Significance Category and the reporting criteria of the occurrence.
30. PROTECTIVE CLOTHING. Clothing identified for radiological use such as yellow coveralls, hoods, booties, rubber overshoes, and PC gloves. These are articles designed for radiological use and are removed at the exit of the radiological area. Company supplied coveralls, laboratory coats, modesty clothing, street clothes, or other clothing not identified as anti-contamination clothing (anti Cs) are to be considered personal clothing for the purposes of ORPS reporting.
31. 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 in an unenclosed containment structure but does not include permitted containment structures.
32. REPORTABLE OCCURRENCE. Occurrence to be reported in accordance with the criteria

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defined in DOE M 231.1-2.

33. REPORTABLE QUANTITY. For any Comprehensive Environmental Response, Compensation and Liability Act hazardous substance, including radionuclides and Superfund Amendments and Reauthorization Act Title 3 extremely hazardous substances, with quantities established in 40 CFR Part 302 and Part 355 respectively, release of which requires notification unless Federally permitted.
34. SAFETY CLASS STRUCTURES, SYSTEMS, OR COMPONENTS (SAFETY CLASS SSCs). The structures, systems, or components, including portions of process systems, whose preventive or mitigative function is necessary to limit radioactive hazardous material exposure to the public, as determined from safety analyses. (10 CFR 830.3)
35. SAFETY SIGNIFICANT STRUCTURES, SYSTEMS, OR COMPONENTS (SAFETY SIGNIFICANT SSCs). The structures, systems, or components that are not designated as safety class structures, systems, or components, but whose preventive or mitigative function is a major contributor to defense in depth and/or worker safety as determined from safety analyses. (10 CFR 830.3)
36. SECRETARIAL OFFICER. Secretarial Officers are: the Secretary, Deputy Secretary, and Under Secretaries; and the Assistant Secretaries and Staff Office Directors reporting to the Secretary either directly or through the Deputy Secretary or Under Secretary. The following designations are also used to identify Secretarial Officers with specific responsibilities in various areas. (1) A Program Secretarial Officer (PSO) is an Assistant Secretary, Office Director, or NNSA Deputy Administrator. In the context of field operations, a PSO funds work at a particular site, facility or laboratory and is a “customer” of the field office. (2) A Lead Program Secretarial Officer (LPSO) is a PSO to whom designated field offices directly report and who has overall landlord responsibilities for the assigned direct reporting elements. (3) A Cognizant Secretarial Officer (CSO) is a term used in the context of field operations to designate a PSO, not the LPSO, who is responsible for a laboratory or bounded set of facilities within a field office’s jurisdiction.
37. TECHNICAL SAFETY REQUIREMENTS (TSRS). The limits, controls, and related actions that establish the specific parameters and requisite actions for the safe operation of a nuclear facility and include, as appropriate for the work and the hazards identified in the documented safety analysis for the facility: safety limits, operating limits, surveillance requirements, administrative and management controls, use and application provisions, and design features, as well as a bases appendix. (10 CFR 830.3)
38. TRAINED INVESTIGATOR. An individual who has been qualified to perform causal analysis in response to a reportable occurrence. The individual is able to satisfactorily complete the identification of Apparent Causes associated with an occurrence using the Causal Analysis Tree. The individual may also be qualified by their company to perform formal Root Cause analysis. For events that trigger a Type A or Type B DOE Investigation, the requirements contained in DOE O 225.1A, *Accident Investigations*, take precedence relative to the minimum qualifications of individuals performing the investigation/causal analysis.

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39. TRANSPORTATION EVENT. Any real-time occurrence involving any of the following transportation activities: materials classification, packaging, marking, labeling, placarding, temporary storage incident to transport, shipping paper preparation, loading/unloading, separation/segregation, securing, blocking and bracing, routing, accident reporting, driver and vehicle qualifications, movement of materials, communications and notifications.
- Transportation events with injuries or fatalities may also require reporting in accordance with Group 2 criteria.
40. UNREVIEWED SAFETY QUESTION (USQ). A situation where (1) the probability of the occurrence or the consequences of an accident or the malfunction of equipment important to safety previously evaluated in the documented safety analysis could be increased, (2) the possibility of an accident or malfunction of a different type than any evaluated previously in the documented safety analysis could be created, (3) a margin of safety could be reduced, or (4) the documented safety analysis may not be bounding or may be otherwise inadequate. (10 CFR 830.3)

APPENDIX B: OCCURRENCE REPORTING MODEL

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Significance Category	Timelines ¹	Prompt Notification	Investigation	Causal Analysis	Corrective Actions	Report Approvals	Corrective Action Closures	Corrective Action Effectiveness
Operational Emergencies (defined by DOE O 151.1A)	Cat: ASAP PN: NLT 15 min if further classified; NLT 30 min if not further classified WN: COB next business day not to exceed 80 hrs UR: As needed FR: 45 days	DOE Facility Representative & DOE Headquarters Operations Center (OC)	Team with Trained Investigator. DOE Consider Accident Investigation.	Root Cause Determined	Remedy Problem, Prevent Recurrence, & Preclude Similar Problems	DOE Facility Representative & DOE Program Manager Approval	Contractor Document & Independently Verify	Contractor Assess Effectiveness to Prevent Recurrence
Significance Category 1 Reportable Occurrence	Cat: NLT 2 hrs PN: NLT 2 hrs WN: COB next business day not to exceed 80 hrs UR: As needed FR: 45 days	DOE Facility Representative & DOE Headquarters OC	Team with Trained Investigator. DOE Consider Accident Investigation.	Root Cause Determined	Remedy Problem, Prevent Recurrence, & Preclude Similar Problems	DOE Facility Representative & DOE Program Manager Approval	Contractor Document & Independently Verify	Contractor Assess Effectiveness to Prevent Recurrence
Significance Category R. Includes All Recurring Category 1, 2, 3, and/or 4 Reportable & Non-Reportable Occurrences	Cat: NLT 2 hrs WN: COB next business day UR: As needed FR: 45 days		Trained Investigator	Root Cause Determined	Remedy Problem, Prevent Recurrence, & Preclude Similar Problems	DOE Facility Representative Approval	Contractor Document & Independently Verify	Contractor Assess Effectiveness to Prevent Recurrence
Significance Category 2 Reportable Occurrence	Cat: NLT 2 hrs PN: NLT 2 hrs WN: COB next business day UR: As needed FR: 45 days	DOE Facility Representative (DOE HQ OC at Field Office Discretion) ²	Trained Investigator	Apparent Cause Determined	Remedy Problem & Prevent Recurrence	DOE Facility Representative Approval	Document & Verify by Sampling	Optional
Significance Category 3 Reportable Occurrence	Cat: NLT 2 hrs PN: NLT 2 hrs WN: NLT 2 business days UR: As needed FR: 45 days	DOE Facility Representative (DOE HQ OC) ²	Critique/ Fact Finding	Apparent Cause Determined	Remedy Problem	Contractor Approval	Document (Verification Optional)	Optional
Significance Category 4 Reportable Occurrence	Cat: NLT 2 hrs PN: NLT 2 hrs (as required) Short Form Report: NLT 2 business days	(DOE Facility Representative & DOE HQ OC) ²	No reporting of causal analysis or lessons learned in ORPS. The reporting of corrective actions is optional. Reportable and non-reportable occurrences are managed per contractor-specific corrective action program.					

¹ Cat: Categorization Time from Discovery Date and Time
 PN: Prompt Notification from Categorization Date and Time
 WN: Written Notification from Categorization Date and Time
 UR: Update Report
 FR: Final Report from Categorization Date and Time

NLT: No Later Than
 COB: Close of Business

³ LL: Lessons Learned
 OE: Operating Experience

² Specific Significance Category 2, 3, and 4 occurrences (identified with an asterisk in the reporting criteria listed in Section 6) also require Prompt Notification to the DOE HQ EOC.