

Summary of Changes

to

P 231.1-1

Occurrence Reporting and Processing of Operations Information

Revised Version Issued as P 231.1-1A of 9/28/04

NETL Procedure 231.1-1, Occurrence Reporting and Processing of Operations Information, of 10/7/03, has undergone revisions. Minor revisions were made in the definitions, procedure, and training requirements sections. The most significant changes in the document involved the revision of the NETL Near Miss Report form and the addition of a new attachment identifying examples of near misses. Please replace NETL Procedure 231.1-1 with NETL Procedure 231.1-1A.

U.S. Department of Energy

National Energy Technology Laboratory

PROCEDURE

P 231.1-1A

ISSUED: 9/28/04

REVIEWED: 8/16/05

SUBJECT: OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION

1. PURPOSE. To provide an occurrence reporting process to ensure timely collection, reporting, analysis, and dissemination of information of events that could adversely impact the health and safety of the public or the workers; the environment; the intended purpose of the facility; or the credibility of the Department.
2. CANCELLATION. NETL Procedure 231.1-1, Occurrence Reporting and Processing of Operations Information, of 10/7/03.
3. REFERENCES.
 - a. DOE Order 151.1, [Comprehensive Emergency Management System](#).
 - b. DOE Order 231.1, [Environment, Safety, and Health Reporting](#).
 - c. DOE Manual 231.1-2, [Occurrence Reporting and Processing of Operations Information](#).
 - d. DOE Guide 151.1-1, V3-3, [Categorization and Classifications of Operational Emergencies](#).
 - e. DOE Guide 231.1-1, [Occurrence Reporting and Performance Analysis Guide](#).
 - f. DOE Guide 231.1-2, [Occurrence Reporting Causal Analysis Guide](#).
 - g. NETL Procedure 151.1-2, [Emergency Categorizations, Classifications, and Notifications](#).
 - h. NETL Procedure 231.1-2, [Injury/Illness Investigation and Reporting](#).
 - i. [NETL F 440.1-2, Accident/Incident Near Miss Report](#).
4. DEFINITIONS. The following definitions apply to this Procedure:
 - a. Abnormal Condition -- Any atypical situation, whether or not resulting from an event, that may have adverse safety, health, quality assurance, operational, or environmental impacts.

INITIATED BY: Office of Institutional and Business Operations
NO. OF PAGES/ATTACHMENTS: 9 pages, 2 attachments

- b. Event -- Something significant in real-time that happens (e.g., pipe break, valve failure, loss of power, environmental spill, earthquake, flood).
 - c. Facility Manager -- An individual or designee with direct responsibility for operation of the DOE ORPS system and notification of the DOE HQ EOC concerning ORPS reportable occurrences. The notification of the DOE HQ EOC is delegated to the NETL Emergency Directors if the event is declared an emergency and results in the activation of the NETL EOC.
 - d. Facility Representative -- An individual or designee who is designated as the NETL Manager and point-of-contact with the day-to-day authority and responsibility to administer NETL's ORPS Program.
 - e. Near Miss -- A near miss is an abnormal condition, event, hazard, and/or incident that (although it has caused no visible result, injury, illness, property damage, or loss in ability to carry out an activity) has the potential to result in moderate to more serious injury/illness, property loss/damage, environmental impact, or disruption of site operations, if intervention or corrective action is not taken. A near miss may also be a minor accident in which only slight changes in distance or time or in conditions or events could lead to a significant incident.
 - f. Occurrence Categorization -- A manager's decision on the significance and urgency of a situation in order to determine the appropriate level of response and notification.
 - g. 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 implication and to evaluate the actions being proposed or employed to correct the condition or to avoid recurrence.
 - h. ORPS Program Manager -- The historic, commonly used title at NETL for the Facility Representative.
 - i. Operational Emergency -- Emergencies are defined in DOE Order 151.1, Comprehensive Emergency Management System. Emergency occurrences are the most serious occurrences and require an increased alert status for onsite personnel and, in specified cases, for offsite authorities. The detailed initial notification requirements, definitions, criteria, and classifications of emergencies and appropriate responses are provided in DOE Order 151.1.
5. QUALITY CONTROL. The quality of occurrence reports is the primary responsibility of the ORPS Program Manager, who shall gather all required information and process the occurrence report per DOE procedures.

6. RESPONSIBILITIES.

- a. The ES&H Division Director shall designate NETL ORPS Program Manager, Facility Representatives (FR), and Facility Managers (FM) to execute the implementation of the departmental ORPS program requirements.
- b. Line Managers shall:
 - (1) Ensure that personnel promptly notify and report occurrences in accordance with the requirements described in this Procedure.
 - (2) Ensure that actions are taken to prevent recurrence of events.
 - (3) Inform the Facility Representative of any unresolved issues regarding actions or determinations on a reportable occurrence for resolution and direction.
- c. Facility Representative (ORPS Program Manager) -- In addition to other requirements prescribed in this procedure, Facility Representatives shall:
 - (1) Develop procedures and requirements for the implementation of the departmental ORPS program requirements.
 - (2) Maintain day-to-day ORPS program oversight.
 - (3) Ensure that occurrences that may have generic or programmatic implications are identified and reported to management for appropriate action.
 - (4) Review and assess reportable occurrence information to determine the acceptability of the Facility Manager's evaluation of the significance, causes, generic implications, and corrective action implementation and closeout, and to ensure that facility personnel involved in these operations perform the related functions.
 - (5) Ensure that Occurrence Reports are prepared and transmitted in accordance with DOE requirements.
 - (6) Elevate any unresolved issues regarding actions or determinations on reportable occurrences to the appropriate Line Manager for resolution and direction.
- d. Facility Managers -- In addition to other requirements prescribed in this Procedure, Facility Managers shall:
 - (1) Ensure that information about occurrences provided to them is captured to meet the DOE requirements.

- (2) Assist line managers and responsible persons with developing lessons learned and generic or programmatic implications from occurrences and taking actions to minimize or prevent recurrence.
- (3) Assist line managers and responsible persons in determining causes and generic implications, and in implementing corrective actions and closeout activities for reportable occurrences.
- (4) Prepare and transmit Occurrence Reports in accordance with DOE requirements.
- e. NETL Employees shall report occurrences **and abnormal conditions** to **their supervisor**, the Security Office, Facility Manager, and Facility Representative; provide information for the categorizing of the event; and assist in the preparation of the required reports.

7. TRAINING REQUIREMENTS.

- a. Facility Managers, Facility Representative, and designees shall receive training on this Procedure.
- b. NETL employees shall be trained in general occurrence reporting criteria by CBT training in GEERT **and ORPS Awareness training**.

8. DOCUMENT CONTROL.

- a. All documents generated during an actual event shall be maintained by the ORPS Program Manager or designee.
- b. Occurrence reports shall be submitted to the DOE Headquarters ORPS database and posted on the NETL ES&H/ISM homepage.
- c. The most recent and official controlled hard copy version of this directive shall reside with NETL's Directive Coordinator. An electronic version of the controlled directive shall be placed on the NETL Intranet for employee use. Printed hard copies of the electronic version (e.g., those printed from the Intranet) shall be considered non-controlled documents.

9. PROCEDURE. The following steps shall be taken whenever an abnormal event is identified by anyone at NETL.

a. Event or Condition Identification

- (1) NETL workers shall report **occurrences and abnormal conditions** to **their supervisor**, Security (x11), and ES&H staff as necessary and follow up with the **completion and submittal of NETL F 440.1-2, Accident/Incident Near Miss Report**, to the Facility Manager and Facility Representative describing the details of the occurrence **or abnormal condition within** 24 hours.

- (2) All NETL Managers shall ensure that **occurrences and** abnormal **conditions** in their areas **are** brought to the attention of Security (x11) and the designated Facility Manager.
- (3) Security will inform site emergency response personnel of the **occurrences and** abnormal **conditions**, if the **occurrence or** abnormal condition appears to be a reportable emergency occurrence. Specific requirements and procedures for emergency occurrences are described in NETL Procedure 151.1-2.
- (4) Security or site emergency response personnel will inform the Facility Manager of the **occurrences and** abnormal **conditions** if the **occurrence or** condition appears to be a non-emergency occurrence. The Facility Manager will categorize the event.

b. Categorization

- (1) Operational Emergencies -- Operational emergencies are defined in DOE Order 151.1, Comprehensive Emergency Management System. Operational emergency occurrences are the most serious occurrences and require an increased alert status for onsite personnel and, in specific cases, for offsite authorities. The initial notification requirements, definitions, criteria, and classifications of operational emergencies and appropriate responses are provided in DOE Order 151.1. Written occurrence reports shall be completed by the Facility Manager in accordance with this Procedure.
- (2) Non-Emergency Events or Conditions -- The Facility Manager must categorize these occurrences within 2 hours of discovery. The significance categories, as described below, are for those occurrences of interest for DOE occurrence reporting. The reporting criteria described in this Procedure provides very specific reporting for the various events and conditions which may occur at the Laboratory.
 - (a) Significance Category R -- Occurrences in this category are those identified as recurring, as determined from the periodic performance analysis of occurrences.
 - (b) Significance Category 1 -- Occurrences in this category are non-emergency occurrences that have a significant impact on safe facility operations, worker or public safety and health, regulatory compliance, or public/business interests.
 - (c) Significance Category 2 -- Occurrences in this category are non-emergency occurrences that have a moderate impact on safe facility operations, worker or public safety and health, regulatory compliance, or public/business interests.

- (d) Significance Category 3 -- Occurrences in this category are non-emergency occurrences that have a minor impact on safe facility operations, worker or public safety and health, regulatory compliance, or public/business interests.
- (e) Significance Category 4 -- Occurrences in this category are non-emergency occurrences that have some impact on safe facility operations, worker or public safety and health, regulatory compliance, or public/business interests.

c. Offsite Notifications

(1) DOE HQ Emergency Operations Center Prompt Notification

- (a) Operational Emergencies -- The requirements for the initial and follow-up notifications to DOE and other agencies and the appropriate emergency responses to be taken are provided in DOE Order 151.1, Comprehensive Emergency Management System. The specific procedures on how these events are categorized and how and when DOE is notified are included in the NETL emergency response plans and procedures. If an event has been declared an Operational Emergency, the Facility Manager will be responsible for the written notification report and for the completion of all other occurrence reporting requirements, as described below.
- (b) Significance Category R, 1, 2, 3, and 4 Reportable Occurrences -- The Facility Manager must notify the NETL Facility Representative and the DOE HQ EOC as required, of the following reportable occurrences as soon as practical, but no later than 2 hours after categorization. The Facility Manager must e-mail the notification of the reportable occurrence to the Facility Representative and DOE HQ EOC, and follow up with a phone call to ensure receipt of the e-mail and to clarify any areas that may not be clear.
 - All Significance Category 1 occurrences require a prompt notification to the Facility Representative and the DOE HQ EOC.
 - All Significance Category R and 2 occurrences require a prompt notification to the Facility Representative and, if directed by the Facility Representative, to the DOE HQ EOC.
 - All Significance Category 3 occurrences require prompt notification to the Facility Representative.
 - Additionally, specific Significance Category 2, 3, and 4 occurrences (identified as requiring prompt notification with an asterisk

in the reporting criteria listed in Attachment A) require prompt notification to the Facility Representative and DOE HQ EOC.

- d. Written Notification Report -- The Facility Manager must prepare the written Notification Report and enter data into the computerized Occurrence Reporting and Processing System (ORPS) and complete NETL F 440.1-2, Section II, Accident/Incident Near Miss Report.
- (1) Notification Report Submittal Schedule -- The written notification report must be submitted according to the following schedule:
 - (a) Reports for Operational Emergencies and Significance Category 1 Occurrences shall be submitted before the close of the next business day from the time of categorization (not to exceed 80 hours).
 - (b) Reports for Significance Categories R and 2 Occurrences shall be submitted before the close of the next business day from the time of categorization.
 - (c) Reports for Significance Category 3 Occurrences shall be submitted no later than close of business on the second business day from the time of categorization.
 - (d) Reports for Significance Category 4 Occurrences shall be submitted by the second business day from the time of categorization. Only a short form report is required.
 - (2) NETL F 440.1-2, Accident/Incident Near Miss Report, shall be completed by the employee and Facility Manager and submitted to the Facility Representative by the second business day from the time of categorization.
- e. Occurrence Investigation and Analysis -- In general, the investigative process is used to gain an understanding of the occurrence, its causes, and the corrective actions necessary to prevent recurrence or only remedy the problem, based on the significance of the occurrence.
- (1) The Facility Manager shall use the graded approach described in the Occurrence Reporting Model in DOE Manual 231.1-2 when determining the level of effort required for the investigation into the causes of the occurrence. The graded approach is based on the significance, severity, or risk associated with the event or condition.
 - (2) All occurrence causes must be identified as required in the Occurrence Reporting Model. The cause codes to be used as part of the Causal Analysis are provided in DOE Guide 231.1-2. Emergencies and Significance Category 1 and R events will also require a formal root cause analysis.

- f. Occurrence Report Closure -- The following steps describe the process for closing out the Final Report for all occurrences.
- (1) The final report shall be prepared by the Facility Manager and submitted as soon as practical but within 45 days after initial categorization of the occurrence. The report will document the following:
 - (a) The significance, nature, and extent of the event or condition;
 - (b) The causes of the event or condition;
 - (c) The immediate actions taken and the corrective action(s) to be taken;
 - (d) The lessons learned.
 - (2) For Operational Emergencies and Significance Category 1, R, 2, and 3 Final Reports, the Facility Representative must review, approve, and add any comments, as necessary, within 14 calendar days after receipt of the report.
 - (3) A Short Form Report, as described in DOE Guide 231.1-1, Occurrence Reporting Performance Analysis and Reporting Guide, must be prepared and submitted for all Significance Category 4 occurrences no later than 2 business days after categorization of the occurrence. This report will satisfy all of the written reporting requirements for these occurrences.
 - (4) The Facility Representative will track all corrective actions to closure, including independent verification or sampling and also evaluate the effectiveness of the corrective actions to prevent recurrence (if applicable). Corrective actions will be entered into the NETL AIIS system. The AIIS assigned tracking number or ORPS number will be used to provide a cross reference between the two data bases.
- g. Performance Analysis and Identification of Recurring Occurrences -- The Facility Representative and Facility Managers shall perform quarterly analyses of reportable and non reportable events to look for trends. Performance analyses will be conducted per the requirements described in DOE Guide 231.1-1, Occurrence Reporting Performance Analysis and Reporting Guide.

10. ATTACHMENTS.

- a. Attachment 1 -- Reporting Criteria.
- b. Attachment 2 -- ORPS Reportable Near Miss Examples.

Associate Director, OIBO

The most recent and official controlled hard copy version of this directive resides with NETL's Directives Coordinator.
An electronic version of the controlled directive has been placed on the NETL Intranet for employee use. Printed hard copies of this electronic version are considered noncontrolled documents.

ATTACHMENT 1

REPORTING CRITERIA

The following are the reporting criteria, categorized into 10 major groups and appropriate subgroups related to DOE operations. This list provides a minimum set of requirements necessary to develop procedures and report occurrences applicable to NETL operations.

Major Criteria Groups -- The 10 major groups of categorized occurrences are as follows:

- Group 1 -- Operational Emergencies
- Group 2 -- Personal Safety
- Group 3 -- Nuclear Safety Basis
- Group 4 -- Facility Status
- Group 5 -- Environmental
- Group 6 -- Contamination/Radiation Control
- Group 7 -- Nuclear Explosive Safety
- Group 8 -- Transportation
- Group 9 -- Noncompliance Notifications
- Group 10 -- Management Concerns/Issues

Categorizing Instructions

1. An event can meet multiple reporting criteria that establish it as an occurrence. All of the specific reporting criteria applicable for an occurrence must be identified. Some criteria are “secondary” in that they compliment other reporting criteria that require occurrence reporting. In these cases, all of the applicable criteria must be recorded. Each criterion is denoted by its group, subgroup (if applicable), and sequence number (#). Thus, for example, the violation of a safety limit is denoted as Group 3, Subgroup A, Sequence (1), or “3A(1).”
2. The reporting criteria presented below list a specific Significance Category (SC) for each criterion, between the sequence number (#) and the criterion text. Significance categories are designated as “OE” for operational emergencies; “R” for recurring occurrences; or 1, 2, 3, or 4. Thus, for example, the significance category for a stop work order issued by a DOE office, Criterion 4B(1), is SC 2.
3. Operational emergencies, Significance Category 1, and some other occurrences in lesser significance categories require prompt notification to DOE HQ EOC. Asterisks (*) next to the significance categories below denote those occurrences requiring prompt notification to DOE HQ.
4. DOE Order 151.1 describes initiating events that are considered operational emergencies. DOE Order 225.1 defines when Type A or B accident investigations should be initiated. While some operational emergencies and some other ORPS occurrences involve conditions that would be

sufficient to initiate accident investigations, Criterion 10(1) herein will report the actual initiation of Type A or B accident investigations.

Group 1 -- Operational Emergencies

<u>#</u>	<u>SC</u>	<u>Criterion</u>
(1)	*E	An Operational Emergency not needing further classification, as defined in DOE Order 151.1, Chapter 5, Paragraph 2.
(2)	*E	An Alert, as defined in DOE Order 151.1, Chapter 5, Paragraph 3a.
(3)	*E	A Site Area Emergency, as defined in DOE Order 151.1, Chapter 5, Paragraph 3b.
(4)	*E	A General Emergency, as defined in DOE Order 151.1, Chapter 5, Paragraph 3c.

Group 2 -- Personnel Safety and Health

Subgroup A -- Occupational Illnesses/Injuries

<u>#</u>	<u>SC</u>	<u>Criterion</u>
(1)	*1	Any occurrence due to DOE operations resulting in a fatality or terminal injury or illness. For fatalities caused by overexposures, the intent of this criterion is to report those caused by acute rather than chronic effects.
(2)	*1	Any single occurrence requiring in-patient hospitalization of three or more personnel.
(3)	2	Any single occurrence resulting in three or more personnel having Days Away, Restricted, or Transferred (DART) cases per 29 CFR Part 1904.7.
(4)	*2	Personnel exposure to chemical, biological, or physical hazards above limits established by the Occupational Safety and Health Administration (refer to 29 CFR Part 1910) or American Conference of Governmental Industrial Hygienists, whichever is lower, and that requires the administration of medical treatment beyond simple first aid on the same day as the exposure. (29 CFR 1904.7(b)(5)(i) and (ii) define “medical treatment” and “first aid.”)
(5)	3	Personnel exposure to chemical, biological, or physical hazards above limits established by the Occupational Safety and Health Administration (refer to 29 CFR Part 1910) or American Conference of Governmental Industrial Hygienists.

- (6) 3 Any single occurrence resulting in a serious occupational injury. A serious occupational injury is an occupational injury that:
- (a) Requires hospitalization for more than 48 hours, commencing within 7 days from the date of the injury was received;
 - (b) Results in a fracture of any bone (except simple fractures of fingers, toes, or nose, or a minor chipped tooth);
 - (c) Causes severe hemorrhages or severe damage to nerves, muscles, or tendons;
 - (d) Involves any internal organ; or
 - (e) Causes second- or third-degree burns, affecting more than 5 percent of the body surface.

Subgroup B -- Fires/Explosions

- | <u>#</u> | <u>SC</u> | <u>Criterion</u> |
|----------|-----------|---|
| (1) | *1 | Any unplanned fire or explosion within primary confinement/containment boundaries for nuclear or hazardous material within a facility.

<u>Note:</u> Facility specific procedures need to define what constitutes the primary confinement/containment boundary. |
| (2) | *2 | Any unplanned fire or explosion in a nuclear facility that activates a fire suppression system (e.g., halon discharge, sprinkler heads activating) is extinguished by a fire department, or disrupts normal facility operations.

<u>Note:</u> The activation or degradation of safety class and safety significant fire suppression systems are addressed by Group 4 criteria. |
| (3) | *3 | Any unplanned fire in a non-nuclear facility that <ul style="list-style-type: none"> (a) Activates a fire suppression system, (b) Takes longer than 10 minutes to extinguish following the arrival of fire protection personnel, or (c) Disrupts normal operations in a high hazard facility. |
| (4) | *4 | Any unplanned wild land fire (e.g., forest fire, grassland fire) or other fire that has the potential to threaten the DOE facility. |

Subgroup C -- Hazardous Energy Control

#	SC	Criterion
(1)	2	Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or disturbance of a previously unknown or mislocated hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas) resulting in a person contacting (burn, shock, etc.) hazardous energy.
(2)	3	Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.

Group 3 -- Nuclear Safety BasisSubgroup A -- Technical Safety Requirement Violations

#	SC	Criterion
(1)	*1	Any violation of a Hazard Category 1, 2, or 3 nuclear facility's technical safety requirement (or operational safety requirement) safety limit. <u>Note:</u> Safety limits are high-level TSR controls, used infrequently across the DOE complex. As defined in 10 CFR 830.3, a safety limit is a limit on process variables associated with those safety class physical barriers, generally passive, that are necessary for the intended facility function and that are required to guard against the uncontrolled release of radioactive materials.
(2)	2	Any violation or noncompliance of a Hazard Category 1, 2, or 3 nuclear facility's technical safety requirement (or operational safety requirement) limiting control setting, limiting condition for operation, administrative control, or surveillance requirement. <u>Exception:</u> An event consisting solely of a surveillance test performed after the prescribed surveillance period, and in which the equipment was found to be capable of performing its specified safety function. (See separate criterion for late surveillance tests below.)
(3)	3	Any violation or noncompliance of a Hazard Category 1, 2, or 3 nuclear facility's DOE-approved documented safety analysis (issued pursuant to 10 CFR 830.204 and including any basis for interim operation [BIOS], etc.), or DOE-issued safety evaluation report that are not addressed by Criteria 3A(1) and 3A(2).

Exceptions:

- (a) An event consisting solely of a violation of a safety management program (e.g., quality assurance, personnel training) cited in the documented safety analysis.
 - (b) An event consisting solely of a surveillance test performed after the prescribed surveillance period, and in which the equipment was found to be capable of performing its specified safety function. (See separate criterion for late surveillance tests below.)
- (4) 4 An event consisting solely of a surveillance test performed after the prescribed surveillance period, and in which the equipment was found to be capable of performing its specified safety function.

Subgroup B -- Documented Safety Analysis Inadequacies

#	SC	Criterion
(1)	2	Determination of a positive unreviewed safety question (USQ) that reveals a currently existing inadequacy in the documented safety analysis (e.g., Safety Analysis Report [SAR] or Basis for Interim Operation [BIO]).
(2)	3	Declaration of a potential inadequacy of the documented safety analysis (a potential positive USQ), per 10 CFR 830.203(g).

Subgroup C -- Nuclear Criticality Safety

#	SC	Criterion
(1)	*1	A loss of multiple nuclear criticality process-condition controls, where processes include operation, transport, and storage of fissionable materials, such that no valid controls are available to prevent a criticality accident.
(2)	2	A loss of one or more nuclear criticality process-condition controls such that an accidental criticality is possible from the loss of an additional process-condition control, where processes include operation, transport, and storage of fissionable materials.

Group 4 -- Facility Status**Subgroup A -- Safety Structure/System/Component Degradation**

<u>#</u>	<u>SC</u>	<u>Criterion</u>
(1)	3	Performance degradation of any safety class or safety significant structure, system, or component (SSC) that prevents satisfactory performance of its design function when it is required to be operable.
(2)	4	Performance degradation of any Safety Class SSC when not required to be operable.

Subgroup B -- Operations

<u>#</u>	<u>SC</u>	<u>Criterion</u>
(1)	*2	A Stop Work Order issued by a DOE office.
(2)	2	Actuation of a Safety Class SSC or its alarms resulting from an actual unsafe condition. Spurious alarms (e.g., due to electronic noise, radon/thoron decay) should not be reported.
(3)	3	Actuation of a safety significant structure, system, or component (SSC), or its alarms, resulting from an actual unsafe condition. Spurious alarms (e.g., due to electronic noise, radon/thoron decay) should not be reported.
(4)	3	Any facility evacuation, not including a precautionary evacuation, in response to an actual event. If the event fell under another reporting criterion, then evacuation should be reported as well by noting multiple reporting criteria for the single occurrence.
(5)	4	A facility operational event caused by deviating from a written procedure or using an inadequate procedure resulting in an adverse effect on safety, such as inadvertent facility or operations shutdown (i.e., a change of operational mode or curtailment of work or processes), facility or operations shutdown due to alarm response procedures, inadvertent process liquid transfer, or inadvertent release of hazardous material from its engineered containment.
(6)	*4	A facility or operations shutdown (i.e., a change of operational mode or curtailment of work or processes) directed by management for safety reasons.

- (7) 4 A facility or site stand-down resulting from safety reasons reportable as an occurrence or occurrences.

Note: This is a secondary reporting criterion and does not require a separate occurrence report.

- (8) 4 Any event or condition that would prevent immediate facility or offsite emergency response capabilities.

Subgroup C -- Suspect/Counterfeit Item or Material

#	SC	Criterion
(1)	3	Discovery of any suspect/counterfeit item or material found in a safety class or safety significant structure, system, or component (SSC). A suspect item or material is one whose documentation, appearance, performance, material, or other characteristics may have been misrepresented by the vendor, supplier, distributor, or manufacturer. A counterfeit item or material is one for which sufficient evidence exists that deliberate misrepresentation has occurred.
(2)	4	Discovery of any suspect/counterfeit item or material other than office supplies, office equipment, or household products.
(3)	4	Discovery of any defective item or material, other than a suspect/counterfeit item or material, in any application whose failure could result in a loss of safety function, or present a hazard to public or worker health and safety. A defective item or material is any item or material that does not meet the commercial standard or procurement requirements as defined by catalogues, proposals, procurement specifications, testing requirements, contracts, or the like. It does not include parts or services that fail or are otherwise found to be inadequate because of random failures or errors within the accepted reliability level.

Group 5 -- Environmental

Subgroup A -- Releases

#	SC	Criterion
(1)	*2	Any release (onsite or offsite) of a hazardous substance, material, waste, or radionuclide from a DOE facility, that is above permitted levels and exceeds the reportable quantities specified in 40 CFR 302 or 40 CFR 355.
(2)	2	Any discharge that exceeds 100 gallons of 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. For operations involving oil field crude or condensate, any discharge of 100 barrels or more is reportable under this criterion.

- (3) 4 Any release (onsite or offsite) of a hazardous substance, material, waste, or radionuclide from a DOE facility that is above permitted levels and exceeds 50 percent of the reportable quantities specified in 40 CFR 302 or 40 CFR 355.
- (4) 4 Any release (onsite or offsite) of a hazardous substance, material, waste, or radionuclide from a DOE facility that must be reported to outside agencies in a format other than routine periodic reports. (However, oil spills of less than 10 gallons and with negligible environmental impact need not be reported in ORPS.)

Subgroup B -- Ecological and Cultural Resources

#	SC	Criterion
---	----	-----------

- | | | |
|-----|---|--|
| (1) | 2 | Any occurrence causing significant impact to any ecological resource for which DOE is a trustee (e.g., destruction of a critical habitat, damage to an historic/archeological site, damage to wetlands). |
|-----|---|--|

Group 6 -- Contamination/Radiation Control

Subgroup A -- Loss of Control of Radioactive Materials

#	SC	Criterion
---	----	-----------

- | | | |
|-----|---|--|
| (1) | 2 | Identification of radioactive material offsite due to DOE operations/activities that exceeds applicable DOE-approved authorized limits (pursuant to DOE Order 5400.5). This applies to items/areas consisting of radioactive material. This does not apply to items with surface radioactive contamination. See Criterion 6B(1) below for criteria for identification of items with surface radioactive contamination. |
| (2) | 2 | Loss of radioactive material that exceeds 100 times the quantities specified in 10 CFR Part 835, Appendix E (excluding consumer products such as smoke detectors), or loss of accountability of such material for more than 24 hours. The 24-hour time period begins when the loss of accountability is discovered. |
| (3) | 3 | Loss of radioactive material which exceeds 100 times the quantities specified in 10 CFR Part 835, Appendix E (excluding consumer products such as smoke detectors) or loss of accountability of such material for more than 24 hours. The 24-hour time period begins when the loss of accountability is discovered. |

Subgroup B -- Spread of Radioactive Contamination

<u>#</u>	<u>SC</u>	<u>Criterion</u>
----------	-----------	------------------

(1)	2	Identification of radioactive contamination offsite due to DOE operations/ activities that exceeds applicable DOE-approved authorized limits (pursuant to DOE Order 5400.5) or, if there are none, the values found in 10 CFR Part 835, Appendix D.
-----	---	---

Note: All releases of property containing or potentially containing residual radioactivity are subject to requirements in DOE Order 5400.5. Compliance with 10 CFR Part 835, Appendix D values does not necessarily satisfy the requirements in DOE Order 5400.5.

(2)	2	Identification of onsite radioactive contamination greater than 100 times the total contamination values in 10 CFR 835 Appendix D and that is found outside of the following locations: contamination areas, high contamination areas, airborne radioactivity areas, radiological buffer areas, and areas controlled in accordance with 10 CFR 835.1102(c). For tritium, the reporting threshold is 100 times the removable contamination values in 10 CFR Part 835, Appendix D.
-----	---	--

Notes:

- (a) This does not apply to contamination from residual radioactive material meeting applicable DOE-approved authorized limits.
- (b) This also does not apply to legacy radioactive contamination, which will be reported under a separate criterion below.
- (c) The exclusion from reporting contamination in a radiological buffer area applies only when the area has been established next to a contamination area, high contamination area, or airborne radioactivity area and its exit requirements have adopted guidance from Article 338.2 of DOE-STD-1098-99.

(3)	3	Identification of onsite radioactive contamination greater than 10 times the total contamination values in 10 CFR 835 Appendix D and that is found outside of the following locations: contamination areas, high contamination areas or airborne radioactivity areas, and areas controlled in accordance with 10 CFR 835.1102(c). For tritium, the reporting threshold is 10 times the removable contamination values in 10 CFR Part 835, Appendix D.
-----	---	---

Notes:

- (a) This does not apply to contamination from residual radioactive material meeting applicable DOE-approved authorized limits.
- (b) This also does not apply to legacy radioactive contamination, which will be reported under a separate criterion below.
- (c) The exclusion from reporting contamination in a radiological buffer area applies only when the area has been established next to a contamination area, high contamination area, or airborne radioactivity area and its exit requirements have adopted guidance from Article 338.2 of DOE-STD-1098-99.

- (4) 4 Identification of onsite legacy radioactive contamination greater than 10 times the total contamination values in 10 CFR 835 Appendix D and that is found outside of the following locations: contamination areas, high contamination areas, airborne radioactivity areas, radiological buffer areas, and areas controlled in accordance with 10 CFR 835.1102(c). For tritium, the reporting threshold is 10 times the removable contamination values in 10 CFR Part 835, Appendix D.

Note:

- a. Legacy radioactive contamination is radioactive contamination resulting from historical operations that are unrelated to current activities.
- b. This does not apply to contamination from residual radioactive material meeting applicable DOE-approved authorized limits.
- c. The exclusion from reporting contamination in a radiological buffer area applies only when the area has been established next to a contamination area, high contamination area, or airborne radioactivity area and its exit requirements have adopted guidance from Article 338.2 of DOE-STD-1098-99.

Subgroup C -- Radiation Exposure

#	<u>SC</u>	<u>Criterion</u>
(1)	*1	Determination of a dose that exceeds the limits specified in 10 CFR Part 835, Subpart C, Occupational Radiation Protection, or DOE Order 5400.5, Chapter II, Item 1 (i.e., 100 mrem Total Effective Dose Equivalent [TEDE] for offsite exposures to a member of the public).

- (2) 2 Any unmonitored exposure that exceeds the values for providing personnel dosimeters and bioassays as stated in 10 CFR 835.402(a) or 10 CFR 835.402(c).
- (3) 3 Any single occupational exposure that exceeds an expected exposure or dosimetry result by (1) 500 mrem Committed Effective Dose Equivalent (CEDE) or (2) the greater of 10 percent or 100-mrem effective dose equivalent due to external exposure.
- (4) 3 Determination of an estimated annual dose that exceeds 10 mrem Total Effective Dose Equivalent (TEDE) for offsite exposures to a member of the public from air pathways only.

Subgroup D -- Personnel Contamination

<u>#</u>	<u>SC</u>	<u>Criterion</u>
(1)	*2	Any occurrence requiring offsite medical assistance for contaminated personnel, including transporting a person to an offsite medical facility or bringing offsite medical personnel onsite to perform treatment or decontamination.
(2)	2	Identification of personnel or clothing contamination offsite due to DOE operations that exceeds the values for total contamination found in 10 CFR Part 835, Appendix D. For tritium use the values for removable contamination found in 10 CFR Part 835, Appendix D.
(3)	4	Any onsite contamination of personnel or clothing (excluding site-provided protective clothing) that exceeds 10 times the values for total contamination identified in 10 CFR Part 835, Appendix D. The contamination level must be based on direct measurement and not averaged over any area. This criterion does not apply to tritium contamination.

Group 7 -- Nuclear Explosive Safety

<u>#</u>	<u>SC</u>	<u>Criterion</u>
(1)	*1	Damage to a nuclear explosive that results in a credible threat to nuclear explosive safety.
(2)	2	The unauthorized introduction of electrical energy into a nuclear explosive.
(3)	2	The unauthorized compromise of a nuclear explosive safety feature when installed on a nuclear explosive.
(4)	2	Inadvertent substitution of a nuclear explosive for a nuclear explosive-like assembly (NELA) or vice versa.

- (5) 2 A violation of a nuclear explosive safety rule (NESR).
- (6) 2 Damage to a training unit during training operations indicative of a hazard to a nuclear explosive.
- (7) 3 The use of uncertified personnel or unauthorized equipment/tooling during a nuclear explosive operation.
- (8) 3 A violation of the two-person concept of operations.
- (9) 3 Revocation of the Personnel Assurance Program (PAP) certification of an individual (for cause).

Group 8 -- Transportation

- | <u>#</u> | <u>SC</u> | <u>Criterion</u> |
|----------|-----------|---|
| (1) | *1 | <p>Any offsite transportation incident involving hazardous materials that would require immediate notice pursuant to 49 CFR Part 171.15, namely:</p> <ul style="list-style-type: none"> (a) As a direct result of hazardous materials: <ul style="list-style-type: none"> (i) A person is killed, (ii) A person receives injuries requiring hospitalization, (iii) Estimated property damage exceeds \$50,000, (iv) An evacuation of the general public occurs lasting 1 hour or more, (v) One or more transportation arteries or facilities are closed or shut down for 1 hour or more, or (b) Fire, breakage, spillage, or suspected radioactive contamination occurs involving shipment of radioactive materials, or (c) Fire, breakage, spillage, or suspected contamination occurs involving shipment of infectious substances (etiologic agents), or (d) There has been a release of a marine pollutant in a quantity exceeding 450 liters (119 gallons) for liquids or 400 kilograms (882 pounds) for solids, or (e) The operational flight pattern or routine of an aircraft is altered. |

- (2) 3 Any offsite transport of hazardous material, including radioactive material, whose quantity or nature (e.g., physical or chemical composition) is different than intended, such that the receiving organization's operations were impacted/ disrupted or the transport resulted in the initiation of corrective actions by the originating organization.
- (3) 4 Any onsite transport of hazardous material, including radioactive material, whose quantity or nature (e.g., physical or chemical composition) is different than intended, such that the receiving organization's operations were impacted/ disrupted or the transport resulted in the initiation of corrective actions by the originating organization.
- (4) 4 Any packaging or transportation activity involving the onsite release of radioactive materials, etiologic agents, hazardous substances, hazardous waste, or marine pollutants.

Group 9 -- Noncompliance Notifications

#	SC	Criterion
---	----	-----------

- | | | |
|-----|---|--|
| (1) | 3 | Any enforcement action (other than associated with the Price Anderson Amendment Act) involving 10 or more cited violations, and/or an assessed fine of \$10,000 or more. |
|-----|---|--|

Note: This criterion applies to the enforcement action as initially received from the regulator. Thus, the enforcement action would still be reportable even if the fine is later reduced below \$10,000 or the number of violations reduced below 10.

- | | | |
|-----|---|---|
| (2) | 4 | Any written notification from an outside regulatory agency that a site/facility is considered to be in noncompliance with a schedule or requirement (e.g., Notice of Violation, Notice of Intent to Sue, Notice of Noncompliance, Warning Letter, Finding of Violation, Finding of Alleged Violation, Administrative Order, or a similar type of notification or enforcement action). |
|-----|---|---|

Group 10 -- Management Concerns/Issues

#	SC	Criterion
---	----	-----------

- | | | |
|-----|---|---|
| (1) | 2 | Any event resulting in the initiation of a Type A or B investigation as categorized by DOE Order 225.1, <i>Accident Investigation</i> . |
|-----|---|---|

Note: This reporting criterion may raise the significance category of an occurrence already reported under separate criteria. Multiple reporting criteria should be noted when appropriate.

- (2) 1-4 An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken.

Note: A SC 1 occurrence report requires Prompt Notification.

- (3) 1-4 A near miss, where no barrier or only one barrier prevented an event from having a reportable consequence. One of the four significance categories should be assigned to the near miss, based on the potential consequences of the event and the corrective actions taken.

Note: A SC 1 occurrence report requires Prompt Notification.

- (4) *4 Any occurrence that may result in a significant concern by affected state, tribal, or local officials, press, or general population; that could damage the credibility of the Department; or that may result in inquiries to Headquarters.

- (5) *4 Any occurrence of such significant immediate interest to offsite personnel and organizations that it warrants prompt notification to the DOE Headquarters Operations Center (DOE HQ OC), and which is not already designated elsewhere in this set of reporting criteria to have prompt notification (denoted by having an asterisk [*] next to the significance category).

ATTACHMENT 2

ORPS REPORTABLE NEAR MISS
EXAMPLES**Group 2 -- Personnel Safety and Health****Subgroup A -- Occupational Illnesses/Injury**

- Minor accidents/incidents with injuries that could have been more serious.
- Clothing caught in moving parts of machinery.
- Working in the vicinity of unguarded machinery or electrical equipment.
- Working at heights without proper fall protection.
- Working on unguarded scaffolding or near the edge of open-sided floors, unguarded wall openings, or floor holes.
- Equipment or material dropped from above into a normally occupied area.
- Operating equipment without authorization.
- Operating equipment or vehicles at unsafe speeds.
- Rendering safety devices inoperable.
- Permit required confined space entry hazard isolation, control and testing, or training or rescue deficiencies.
- Failure to use assigned PPE.
- Unplanned release of toxic materials in normally occupied area.
- Use of inappropriate or improperly fitted respiratory protection.
- Blocked exit or route of exit.
- Inflating a tire on a multi-piece rim outside of a safety cage.
- Carrying a suspended load over personnel.
- Working near the unguarded swing radius of a mobile crane.
- Utilizing an ungrounded, non-double insulated hand tool.
- Ice on stairways and/or landings.
- Electrical short causing shock potential.
- Unstable operation of a forklift.
- Lawnmower striking a ground sprinkler head.
- Wind forcing an exterior door to open rapidly into an approaching employee.
- Drill victim in confined space without sufficient air supply.
- Brush cutter striking an object and unexpectedly projecting it airborne.
- Material falling through ceilings during construction/maintenance activities.
- Roll-up door descending at a rapid rate.
- Hardware failure causing suspended fluorescent lights to fall from ceiling.
- Lock Out/Tag Out Procedure violation.
- Riding a lawnmower on an uneven surface.
- PPE damaged by heat or chemicals.
- File cabinet becoming unstable or falling over.

- Damaged ladder not removed from service.
- Wind gusts blowing plywood sheets unexpectedly.

Subgroup B -- Fires/Explosions

- Overheated electrical chargers.
- Smoldering combustible materials.
- Non-functional fire extinguishers.
- Conducting work without necessary Hot Work permit.
- Ignitable material improperly stored in custodian's closet.
- Warming an aerosol can with a heater.

Subgroup C -- Hazardous Energy Control

- Lock Out/Tag Out Procedure violation.
- Disturbance or discovery of a previously unknown or unexpected hazardous energy source (e.g. live electrical power circuit, steam line, pressurized gas).
- Coming within 10 feet of an energized overhead power line.
- Not conducting a zero energy check before working on electrical equipment.
- Not locating underground utilities before excavating.
- Utilizing a backhoe or similar equipment when excavating in the vicinity of a suspected underground energy source.
- Unauthorized personnel working on electrical components.
- Lock Out/Tag Out performed without unplugging the equipment.

Group 5 -- Environmental

- Events where environmental impact could have occurred.
- Labeling error on a sample of hazardous material.
- Noncompliance of permit requirement that does not result in the issue of a Notice of Violation.
- Noncompliance of a regulatory requirement that does not result in the issue of a Notice of Violation.
- Unplanned release, leak, or spill that does not require notification.
- Poor or inadequate material/waste storage practices.
- Poor or inadequate inventory planning/control of materials.
- Excessive use of raw materials or natural resources.
- Inadequate waste characterization.
- Inadequate waste water management.
- Release of ozone-depleting substances.
- Inadequate management of storage tanks.
- Inadequate management of oil-filled equipment, including PCB.
- Misapplication of pesticides/herbicides.
- Inadequate sampling and analysis, air/water/waste.
- Inadequate quality assurance, sampling, and analysis/programs.
- Inadequate implementation of procedures.
- Inadequate site inspections or no site inspections performed.

- Failure to submit regulatory documentation or submit it on schedule.
- Inadequate training or no training at all.
- Inadequate environmental review of RD/construction projects and site operations.

Group 8 -- Transportation

- Vehicle accident with minor injuries.
- Tire failure during tire-changing activities.
- Vehicle failure to yield to a pedestrian.
- Vehicle left in neutral without parking brake properly set.
- Vehicle backing up without a clear view of personnel or material behind it.