Occurrence Reporting and Processing System (ORPS) Overview

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EHSS
Office of Environment, Health, Safety and Security

ORPS History

- The DOE-wide occurrence reporting requirements were introduced in 1990.
- There were revisions to the ORPS process in 1993, 1995, 1997, 2003, and 2011. However, none of these revisions fundamentally changed the model on which ORPS was based.
- The most significant changes occurred in 2003 and 2017.
  - In 2003, a Comprehensive Complex-wide "Back-fit Analysis" was performed to validate effectiveness of changes to the ORPS model. There was ~ 25% reduction in overall reporting achieved.
  - In 2016, the ORPS Order was one of two orders selected by DOE to undergo a new Pilot process to revise DOE orders using diverse team members (Feds and Contractors) that hold leadership positions in the communities that they represent.
  - These teams are called Integrated Project Teams (IPT). The IPT was chartered by the Directives Review Board (DRB) and approved by the DOE Operations Committee. For more information on the DRB and Operations Committee, review DOE O 251.1D, *Departmental Directives Program*.

ORPS History (continued)

- The ORPS IPT was directed to assess, revise, and deliver a revised order to the DOE Directives Review Board in 4 months (August 4 to December 9, 2016). The IPT was charged with ensuring DOE and the National Nuclear Security Administration (NNSA) are informed about events that could adversely affect the health and safety of the public or the workers, the environment, DOE missions, or the credibility of the Department.
- DOE Order 232.2A, *Occurrence Reporting and Processing of Operations Information* was signed and published January 17, 2017, and then implemented on October 1, 2017.
- AU immediately began drafting training materials and started the process to update the ORPS Database to meet DOE O 232.2A.
- AU had three months to make the required updates to the ORPS Database, testing of the Database, training, and outreach. All contract modifications were to be completed by October 1, 2017.
- Full implementation of this Order was to take place on October 1, 2017.

ORPS Database

- ORPS Database (available to the DOE Complex only)
- ORPS account holders must have a need-to-know to access the database.
- ORPS general information is located at: http://energy.gov/ehss/policy-guidance-reports/reporting/occurrence-reporting-and-processing-system
- There are three ORPS Training Modules, they are:
  - Module 1- General Occurrence Reporting Training: DOE O 232.2A, Occurrence Reporting and Processing of Operations Information
  - Module 2- Occurrence Reporting and Processing System (ORPS) Reporting Process: ORPS Database Data Entry
  - Module 3- Occurrence Reporting and Processing System (ORPS) Search Techniques

The training modules are available at the link presented above.

What is the ORPS Database?

The ORPS database is a web-based graphical user interface (GUI).

- Provides storage and retrieval of occurrence report information for ORPS users and the DOE complex.
  - Description of 1) reportable events and conditions including initiators, mode of discovery and immediate actions; and 2) if performed, causes, corrective actions and extent-of-condition.
- Provides a wide range of inquiry capabilities & user-defined reports.

ORPS Background

- Major focus of the revision was to return the ORPS order to its original role of event notification.
- Recognized the important oversight and follow-up role of DOE Field Offices, as well as the organizational learning value of the information contained in the ORPS database.
- Roles and Responsibilities- updated and clarified.
- Reporting Criteria was streamlined and updated.
- Redefined Significance Categories to Report Levels.
- Report content requirements modified.
- Time requirements for reporting have lengthened.
- Informational Level Reporting can be tailored per Program Office direction to only be captured in local issues management systems. Program Offices have the authority to determine which Informational Level Reports will be submitted to the ORPS database.

ORPS Roles and Responsibilities

Responsibilities are covered in DOE O 232.2A for the following:

- Secretarial Officers/Deputy Administrators (NNSA)
- Associate Under Secretary for Environment, Health, Safety and Security
- Office of Enterprise Assessments
- NNSA Associate Administrator of Emergency Operations
- Heads of Field Elements
- Facility Representatives or Designated DOE Representatives
- Facility Managers
- Contracting Officers
- Laboratory/M&O Contractors

DOE O 232.2A

- DOE O 232.2A contains 5 Attachments:
    1. Contractor Requirements Document
    2. Occurrence Reporting Criteria
    3. Occurrence Report Preparation
    4. Occurrence Reporting Model
    5. Definitions

DOE O 232.2A Reporting Criteria

Occurrences are categorized by reporting criteria. There are 10 groups of reporting criteria.

Group 1 - Operational Emergencies

Group 2 - Personnel Safety and Health

Group 3 - Nuclear Safety Basis

Group 4 - Facility Status

Group 5 - Environmental

Group 6 - Contamination/Radiation Control

Group 7 - Nuclear Explosive Safety

Group 8 - Packaging and Transportation

Group 9 - Noncompliance Notifications

Group 10 - Management Concerns and Issues

Terms and Definitions

- **OCCURRENCES:** 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.
- **EVENT:** Something significant and real-time that happens (e.g., pipe break, valve failure, loss of power, environmental spill, earthquake, tornado, flood, injury).
- **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.
- **DISCOVERY:** The point at which knowledgeable facility staff discovered or became aware of the event or condition. Discovery date and time is NOT the date and time when the event or condition is determined to be reportable. The facility staff are those personnel assigned to the facility and cognizant of the area in which the event or condition is identified.

When Something Happens

- CATEGORIZATION:
  - Following discovery of an event or condition, and within 2 hours of discovery, determine if the event or condition meets the threshold for reporting into the ORPS database (DOE O 232.2A) and which reporting criteria applies.

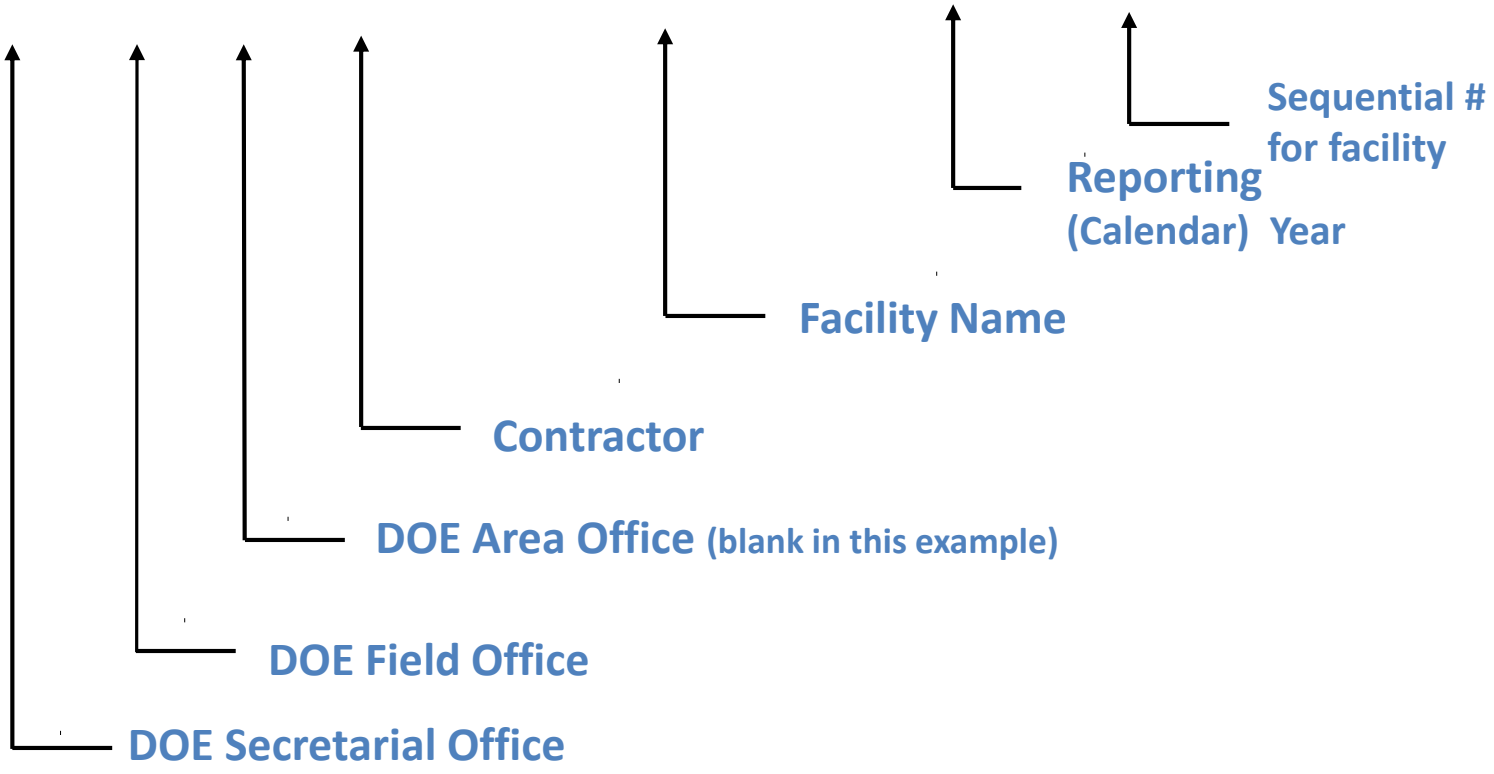
- INITIAL NOTIFICATION: Within 2 hours of Categorization
  - Notify appropriate personnel.
  - DOE/NNSA Facility Representative or Designated DOE Representative.
  - Other Contacts, i.e., Federal Counterparts, State or Local Authorities, etc.

ORPS Types of Reports & Notification

- INITIAL NOTIFICATION – Notification to Facility Representative or Designate DOE Representative as required by the Report Level.
- WRITTEN NOTIFICATION – The initial ORPS report of an event or condition that meets a reporting criterion.
- UPDATE REPORT – Used to provide additional information during the course of the investigation.
- FINAL REPORT – Entered in the system based on Report Level. Timelines based on initial categorization of occurrence.
  - Notification/Final Low & Informational Level Reports must be submitted within 10 business days.
  - Final High Level Reports must be submitted within 60 calendar days.

ORPS Report Identification- ORPS Report Numbering Explained

SC-ORO--ORNL-X10NUCLEAR-2017-000x



Example of an ORPS Report

SC--BHSO-BNL-BNL-2017-0001 NOTIFICATION

Occurrence Report
After 2017 Redesign

Brookhaven National Laboratory (BOP)

(Name of Facility)

Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)

(Facility Function)

Brookhaven National Laboratory Brookhaven National Laboratory

(Site) (Contractor)

Name: SMITH, JOHN

Telephone No.: (555) 123-4567

(Facility Manager/Designee)

Name: SMITH, JOHN

Telephone No.: (555) 123-4567

(Originator/Transmitter)

Name: **Date:**

(Authorized Classifier (AC))

Occurrence Report Number: SC--BHSO-BNL-BNL-2017-0001

TEST REPORT: Chemical Spill

Report Type and Date: NOTIFICATION

	Date	Time
Notification:	05/15/2017	15:23 (ETZ)
Initial Update:		(ETZ)
Latest Update:		(ETZ)
Final:		(ETZ)

Example of an ORPS Report continued

Report Level: H

Division or Project: Chemistry Department

Secretarial Office: SC - Science

System, Bldg., or Equipment: Building 98

UCNI?: No

Plant Area: Building 98

Date and Time Discovered: 05/14/2017 15:00 (ETZ)

Date and Time Categorized: 05/14/2017 15:05 (ETZ)

DOE HQ OC Notification:

Date	Time	Person Notified	Organization
05/14/2017	16:00 (ETZ)	J. Doe	BNL
05/14/2017	16:05 (ETZ)	E. Presley	TN

Other Notifications:

Date	Time	Person Notified	Organization
05/15/2017	10:00 (ETZ)	V. Presley	TN

Subject or Title of Occurrence:

TEST REPORT: Chemical Spill

Reporting Criteria:

Description of Occurrence:

On May 14, 2017, at Brookhaven National Laboratory (BNL), three cartons arrived at Receiving (Building 98). Each carton contained six identical 2.5 liter bottles. One of these cartons was lifted by an employee. Upon lifting, the bottom opened and one of the six 2.5 liter bottles in the box fell and broke.

The fire department was called and they cleaned the spill using sodium bicarbonate and spill pads and placed the waste into plastic buckets. The pH of the liquid was checked using pH indicator paper and the solution had a pH of 0 (highly acidic).

Is Subcontractor Involved? Yes

Name: ABC Company

Immediate Actions Taken and Results:

The fire department was called and they cleaned the spill using sodium bicarbonate and spill pads.

ISM:

5) Provide Feedback and Continuous Improvement

Cause Code(s):

A7B4C01 - Other problem; No Cause is Applicable; No Cause is Applicable
A3B3C01 - Human Performance Less Than Adequate (LTA); Knowledge Based Error; Attention was given to wrong issues
--Corrupt - NA

Description of Cause:

Corrective Actions

(* = Date added/revised since final report was approved.)

Lessons Learned:

Similar Occurrence Report Numbers:

HQ Keyword(s):

HQ Summary:

Uploaded Documents:

You say multitasking like it s.pdf
Other
Document Description:

Updated Report Information:

ORPS by the Numbers

As of **9/18/18 there are over 61,000 occurrence reports** in the ORPS database. Below are the five year averages (1/1/12 to 1/1/17) for specific ORPS events.

- There have been **1,105 reports per year on average**.
- Violation of Authorization Basis events average 65 reports per year.
- Lockout/Tagout events (electrical and mechanical) average 80 reports per year.
- Electrical safety events average 76 reports per year
- Environmental releases (radiological, underground storage tank, hazardous materials and potable water) average 62 reports per year.
- Near Miss events (electrical and other) average 67 reports per year.
- Shipping incidents/regulation noncompliances average 28 reports per year.
- Facility fires average 29 reports per year.
- Equipment degradation/failure reports average 136 per year.
- Injuries other than first aid average 108 reports per year.

ORPS Reports – Report Levels

- Report Levels are assigned to each Reporting Criteria. The Report Level provides a means to reflect perceived risk associated with a given occurrence.
  - Report Levels take into consideration the potential health, safety and security consequence of an occurrence to personnel, the public, the environment, and the operational mission.
  - Report Levels are High (H), Low (L), & Informational (I), and are assigned to each Reporting Criteria.

ORPS Reports – High Level Report

- High Level Report (H) Occurrences meet any of the following conditions:
  - Impacted worker or public safety and health, including significant personnel injuries, environmental harm, regulatory compliance, or public/business interests;
  - Constituted a noncompliance with regulatory requirements that created the potential for actual harm;
  - Posed the potential for mission interruption and require prompt mitigative action; or
  - Involved circumstances that reflected degraded safety necessitating prompt management attention along with modified normal operations to prevent an adverse effect on safe facility operations.
- EXAMPLES:
  - A fatality or terminal injury/illness.
  - Any unexpected or unintended personal contact (e.g., burn, shock, injury, etc.) with a hazardous energy source (e.g., live electrical power circuit, mechanical hazards, steam, pressurized gas, etc.).
  - A formal shutdown of an activity or operation for safety reasons by DOE or Contractor Senior Management.

ORPS Reports – High Level Report continued

All High Level Reports require the following:

- Final/Closure: Closure of reports in the ORPS Database.
  - Occurrences must be investigated and analyzed using a graded approach in accordance with local procedures.
  - Identified causes, corrective actions, and any extent of condition (if performed) must be included in the report.
  - Submitted within 60 calendar days after Initial Categorization.
- Require DOE Facility Representative OR Designated DOE Representative approval for final closure.
- Any lessons learned developed from the event must be entered in the report.

ORPS Reports – Low Level Report

- Low Level Report (L) Occurrences may also involve personnel injury, environmental releases, equipment damage, or hazardous circumstances.
- EXAMPLES:
  - Any failure to follow a prescribed hazardous energy control process that results in potential worker exposure to uncontrolled hazardous energy OR any discovery of an uncontrolled hazardous energy source is a Low Level Report (Reporting Criteria 2D(2)). Any unexpected or unintended personal contact with a hazardous energy source is a High Level Report (Reporting Criteria 2D(1)).
  - Identification of onsite personnel or clothing contamination (excluding anti contamination clothing provided by the site for radiological protection) that exceeds 10 times the total contamination values identified in 10 CFR 835 is a Low Level Report (Reporting Criteria 6D(3)). Identification of offsite personnel or clothing contamination that exceeds 1 times the total contamination values identified in 10 CFR 835 is a High Level Report (Reporting Criteria 6D(2)).
  - Determination of a positive Unreviewed Safety Question (USQ).
- Low Level Final Reports: Addition of any follow-up actions, including causal analysis and corrective action development, is optional for Low Level Reports.

ORPS Reports – Informational Level Report

- Informational Level Report (I)* Occurrences generally meet the following conditions:
  - Determined to be a safety, environmental, or mission concern; or
  - Provides potential learning opportunities for others.
- Information Level Notification/Final Reports: Addition of any follow-up actions, including causal analysis and corrective action development, is optional for Informational Level Reports
- EXAMPLES:
  - Wildland Fire.
  - Near-Miss to an injury.
  - Any written notification from an outside regulatory agency that a site/facility is considered to be in noncompliance with schedule or requirement.

* Informational Level Reporting can be tailored per Program Office direction to only be captured in local issues management systems. Program Offices have the authority to determine which Informational Level Reports will be submitted to the ORPS database.

Occurrence Reporting Model

Report Level	Timelines	Initial Notification	Final Report Approval	Causal Analysis and Corrective Actions
High (H)	Categorize: 2 hours Initial Notification: 2 hours Written Notification: COB 2 business days Update/Final Report: COB 60 calendar days	To Facility Representative or Designated DOE Representative	By Facility Representative or Designated DOE Representative	Per local procedures Any identified causes and corrective actions must be included in the final report
Low (L)	Categorize: 2 hours Initial Notification: 2 hours Written Notification/Final Report: 10 business days	To Facility Representative or Designated DOE Representative	Per local procedures	Per local procedures
Informational (I)	Categorize: 2 hours Initial Notification: COB next business day Written Notification/Final Report: 10 business days	To Facility Representative or Designated DOE Representative	Per local procedures	Per local procedures

ORPS Final Reports

- ORPS Final Reports are publicly available. No classified information or Controlled Unclassified Information is allowed in ORPS.
- Available at http://energy.gov/ehss/policy-guidance-reports/dashboards
- Contents of the Public ORPS Dashboard –
  - Contains reports from 2005 to present
  - Data is updated daily
  - Information is displayed in tables and graphs
  - Searchable by reporting organization and event-oriented keywords
  - Full occurrence report can be viewed and printed

Publicly Available Occurrence Reporting and Processing System Dashboard

Publicly Available Occurrence Reporting and Processing System Dashboard

More ORPS Resources

- **Daily ORPS Summary email** containing new ORPS Notifications and Final Reports-sent to DOE feds and contractors on distribution.

- **EFCOG's ORPS Task Group** is a subgroup of the Integrated Safety Management & Quality Assurance Working Group that provides an organized forum to share information and lessons learned on how sites manage their respective ORPS programs, and to gain program guidance from DOE Headquarters regarding ORPS requirements and implementation, to foster continuous improvement in safety that supports achievement of mission success. http://efcog.org/

Questions/Comments

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