

SIGNIFICANT AND REPORTABLE OCCURRENCES

INTRODUCTION

It is the policy of the Laboratory that Laboratory management and the Department of Energy are appropriately notified of all events which could (1) affect the safety and health of the public or workers; (2) seriously impact the intended purpose of the Laboratory; (3) have an adverse effect on the environment; or (4) create publicity detrimental to the mission of the Laboratory, in accordance with DOE O 231.1A.

The procedures for reporting appropriate events are contained in the technical appendix to this chapter and can be found in greater detail in Section 6 of DOE M231.1-1A. This ES&H Manual chapter outlines the internal roles and responsibilities for notification and categorization of events, and investigation of occurrence, generating and submitting reports. See flow chart at end of chapter for clarification.

Types of reportable occurrences involve, but are not limited to: facility conditions; environmental concerns; personnel safety, radiological protection, safeguards and security, transportation, loss or damage to DOE property, defective items, materials, or services; and cross-category items to include related occurrences, near miss events, and potential concerns.

DEFINITIONS

Business Day - The normal administrative day of the reporting organization (e.g., Monday through Friday, 0800 to 1700) 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.

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.

Emergency Occurrences – Any unplanned or abnormal event that adversely affects, potentially affects or is indicative of degradation in the safety, safeguards and security, environmental or health protection or operation of a facility. It is not expected that an

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emergency occurrence will occur at Fermilab, unless due to off-site hazardous material releases.

Operational Emergencies (OE) - Fermilab specific Operational Emergencies are found in TA 3010-1. The prompt notification requirements, definitions, criteria, and classifications of operational emergencies and appropriate responses are provided in the Fermilab Emergency Response Plan. Written Occurrence Reports must be completed in accordance with this Manual.

Prompt Notification - Those incidents identified in TA 3010-1 that are annotated with a “*” require the emailing of the Prompt Notification Form and follow on phone call to the DOE-EOC within 2 hours of classification. All other reports have specific time limits on submitting reports to DOE.

Reportable Occurrence - Occurrence to be reported in accordance with the criteria defined in TA 3010-1.

Safety Class Structures, Systems, Or Components Safety Class (SSSSCs) - 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. Potential latent effects are excluded. The SSSSCs for Fermilab are:

- Radiation Safety Interlock System
- In-Place Oxygen Deficiency Monitors/ Alarm System
- Flammable Gas Detection Systems
- Pressure Relief Systems for Cryogenic Vessels
- Passive Radiation Shielding Configurations for Accelerators and Beamlines

Significance Category 1 - 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.

Significance Category R - Occurrences in this category are those identified as recurring, as determined from the 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 *moderate impact* on safe facility operations, worker or public safety and health, regulatory compliance, or public/ business interests.

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

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

RESPONSIBILITIES

The Chief Operating Officer is responsible for

- Acting as the Facility Manager for the Laboratory. This individual will make the final decision as to whether an incident is a reportable occurrence.
- Notifying the DOE-Fermi Site Office (FSO) of reportable occurrences and providing the FSO Manager a copy of the notification report.
- Coordinating activities when multiple divisions/ sections are involved.
- Assuring the occurrence reports are placed into the DOE occurrence report database in a timely manner.
- Determining need for formal investigations and reports.
- Approving final investigation report.
- Reviewing corrective action as reports are submitted to DOE.
- Final ORPS reports may contain corrective actions that have not been completed. When the item is corrected by the Div/Sec, the ORPS Manager will need to access the Facility Manager portion of the DOE ORPS database to close out the corrective action.

The Division/ Section Head is responsible for

- Providing timely identification, categorization and notification to the Facility Manager of an event that represents a potential for being an event or condition requiring categorization.
- Providing for the timely submittal of the Occurrence Reporting and Processing System (ORPS) report to the Facility Manager.
- Conducting investigation of the incident utilizing subject matter experts as appropriate and complete necessary reports. See FESHM for 3020 for additional information.
- Assuring all corrective actions are placed into ESHTRK and coordinating the implementation of all corrective actions. See FESHM 1040.1 for additional information.
- Assuring lessons learned are developed and submitted to ES&H.
- Assuring requirement to report occurrences flows down to subcontractors through contract document.

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The ES&H Director or designee is responsible for

- Maintaining and utilizing the on-line DOE ORPS central occurrence report database that serves as the repository for all Laboratory occurrence reports.
- Disseminating “lessons learned” that are prepared by the affected division/ section. See FESHM [3020](#) and [3030](#) for more details, including format of written lessons learned.
- Analyzing related occurrences in order to improve performance in environment, safety, health, security, or Laboratory operations.
- Notifying external regulatory authorities as applicable (Note - the Illinois Department of Nuclear Safety must be notified of any radiological incident classified as unusual occurrence or emergency).
- Performing analysis of Occurrence Reports on a quarterly basis, using all occurrence reports from the preceding twelve (12) months.

The Division/ Section Senior Safety Officer (SSO) is responsible for

- Developing lessons learned documents and submitting them to the ESH Section Head to share within the Laboratory.
- Assuring consistency between Occurrence Report and Computerized Accident/ Injury Report (CAIRS), as necessary.

PROCEDURE

Person Discovering Occurrence

1. Make notification for assistance (dial 3131) if appropriate.
2. Notify your supervisor upon recognizing or witnessing an occurrence. Reporting requirements shall not take precedence over initial response and corrective actions. Report shall be made to supervisor within 2 hours of identification of occurrence. See Technical Appendix 3010-1 for a list of occurrences that must be reported.

Supervisor

1. Assess the event, using Technical Appendix 3010-1 for guidance if necessary, and notify division/ section head.

Division/Section Head or Designee

1. Determine if event requires reporting as an occurrence and its probable category. Use Technical Appendix 3010-1 for guidance.

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2. Provide briefing to Facility Manager on occurrence, response actions, and current activity status.
3. For those events requiring prompt notification to DOE HQ OC, complete the Prompt Notification Form (TA 3010-2) and submit to Facility Manager.
4. For events not requiring “prompt notification” complete the appropriate notification form for the event (Notification or Short Form Report Technical Appendix 3010-3) and submit to the Facility Manager by the next business day (not to exceed time limits set in Technical Annex 3010-1).
5. Conduct investigation, utilizing Subject Matter Experts as necessary, and determine corrective actions. Enter corrective actions into ESHTRK for tracking purposes. Level of investigation shall be as identified in TA 3010-1.
6. Prepare update reports for ORPS when significant additional information is obtained or when events dictate change in classification.
7. Implement, track and close corrective actions in ESHTRK.
8. Complete update or Final Report within 45 calendar days of incident.

Facility Manager

1. Within 2 hours of occurrence classify occurrence according to Technical Appendix 3010-1.
2. Contact the DOE FSO and report occurrence. Reporting time frame depends on occurrence classification. See Appendix 3010-1 for guidance.
3. Submit Prompt Notification form to DOE HQ OC within stated time frames by email and provide follow-up telephone call.
4. Notify Lab Director and others, as appropriate.
5. Review Notification Report and enter into DOE ORPS system within timeframe in Technical Appendix 3010-1.
6. Direct the conduct of formal investigations and reports, as appropriate.
7. Approve final investigation report.
8. Review update and final reports as submitted and entered into DOE ORPS system.

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Division/Section SSO

1. Prepare appropriate Lessons Learned document within 10 working days of submittal of final ORPS report and submit to the ESH Section Head for distribution throughout the Laboratory (see FESHM 3020 for guidance in preparing lessons learned document).

ESH Director

1. Distribute Lessons Learned throughout the Laboratory.
2. Enter Lessons Learned into the DOE LL Database, as appropriate.

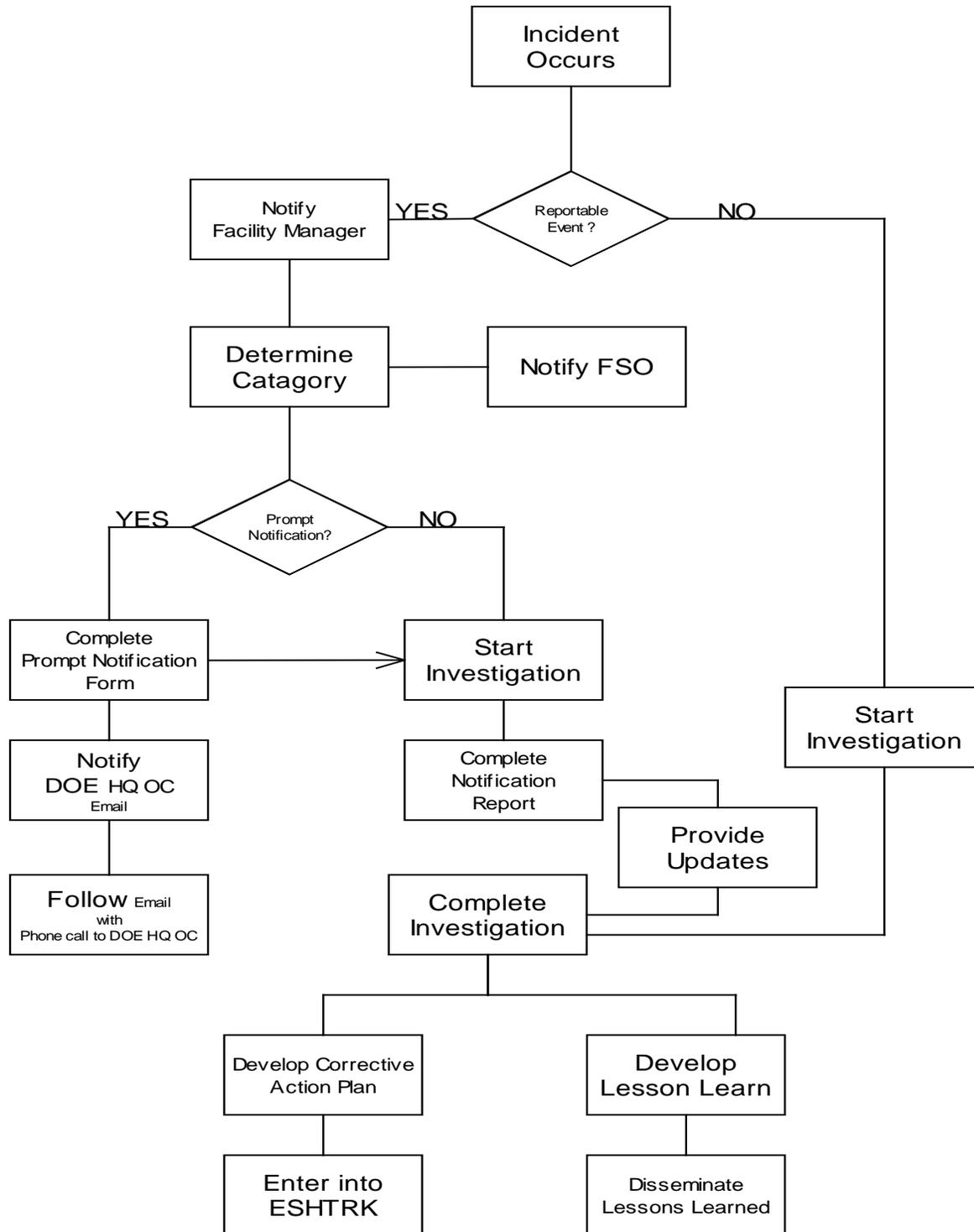
Written Notification Report.

1. Prompt Notification: those occurrences that are identified in TA 3010-1 with an “*” require the completion and submission of the PROMPT NOTIFICATION FORM to the DOE HQ OC. This form is located at Appendix 3010-2 and must be emailed to the DOE HQ OC at doehqeoc@oem.doe.gov (backup e-mail is: wtchofc2oem.doe.gov). The receipt of the email by DOE-EOC must be verified by calling (202)586-8100.
2. Preparation of the Notification Report, Short Form Report, Update and Final Report see TA 3010-3.
3. Occurrences involving foreign personnel, government organizations, entities of influence must be reported to the Office of Counter Intelligence.

REFERENCES

- DOE M231.1-2, "Occurrence Reporting and Processing of Operations Information", August 2003
DOE O231.1A, "Environment, Safety and Health Reporting", August 2003
DOE G231.1-1, "Occurrence Reporting and Performance Analysis Guide", August 2003
DOE G231.1-2, "Occurrence Reporting Causal Analysis Guide", August 2003

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Technical Appendix 3010-1
Types of Events Requiring Occurrence Reports

Fermilab Specific Emergency Occurrences

Event	Indicators	Action	Classification
Tornado Watch	Information received from National Weather Service or DCERN indicating Tornado Watch for Kane or DuPage County and the cities of Aurora, Batavia, Warrenville or Wheaton	Inform ES&H Section Head of situation Activate the SEWs, read the prepared TORNADO WATCH statement.	None
Tornado Warning	Information received from National Weather Service or DCERN indicating Tornado Warning for Kane or DuPage County and the cities of Aurora, Batavia, Warrenville or Wheaton	Activate the SEWs, read the prepared TORNADO WARNING statement. All personnel are to seek shelter	None
Tornado Damage	Significant structural damage with confirmed or suspected personnel injury or death.	Inform ES&H Section Head	Operational Emergency not requiring further classification 15 minute notification to DOE
Propane	Frost Ball on ground in proximity to pipeline. Disagreeable odor Notification from Pipeline	Shelter or evacuate personnel in area based on IC judgment Inform ES&H Section Head	Operational Emergency not requiring further classification 15 minute notification to DOE

Ammonia	Observable breach in railcar	Shelter or evacuate personnel in area based on IC judgment Inform ES&H Section Head	Operational Emergency not requiring further classification 15 minute notification to DOE
Site 55-Fire	WS-3 Fully involved	Evacuate and secure area. Call for MABAS HAZMAT Response Team Inform ES&H Section Head	Operational Emergency not requiring further classification 15 minute notification to DOE

ORPS Classification of these is based upon details of impact of event.

Significance Category 1	Significance Category R	Significance Category 2	Significance Category 3	Significance Category 4
Notification				
<p>No later than 2 hours after categorization.</p> <p>All Significance Category 1 occurrences require a Prompt Notification to the Facility Representative and DOE HQ EOC.</p> <p>Those items marked with a * require prompt verbal notification (via e-mail) to DOE EOC.</p>	<p>No later than 2 hours after categorization.</p> <p>Those items marked with * require prompt notification (via e-mail) to DOE EOC.</p>	<p>No later than 2 hours after categorization.</p> <p>All Significance Category 2 occurrences require a Prompt Notification to the Facility Representative and, if directed by the Facility Representative, to the DOE HQ OC.</p> <p>Those items marked with * require prompt notification (via e-mail) to DOE EOC</p>	<p>No later than 2 hours after categorization.</p> <p>All Significance Category 3 occurrences require a prompt notification to the Facility Representative.</p> <p>Those items marked with * require prompt notification (via e-mail) to DOE EOC.</p>	<p>Those items marked with * require prompt notification (via e-mail) to DOE EOC.</p>
Written Notification Reports				
<p>Before the close of the next business day from the time of categorization (not to exceed 80 hours).</p>	<p>Before the close of the next business day from the time of categorization (not to exceed 80 hours).</p>	<p>Before the close of the next business day from the time of categorization (not to exceed 80 hours).</p>	<p>No later than close of business on the second business day from the time of categorization.</p>	<p>Only a Short Form Report is required by close of business the second business day from the time of categorization.</p>
<p><i>Fermilab ES&H Manual</i> <i>This manual is subject to change. The current version</i> <i>is maintained on the ESH Section website.</i></p>				<p>3010-3 Rev. 05/2009</p>

Significance Category 1	Significance Category R	Significance Category 2	Significance Category 3	Significance Category 4
Investigation Process				
<p>Team with trained investigator required.</p> <p>Root Cause determined through formal RCA.</p> <p>Corrective actions determined to address corrective actions.</p> <p>Contractor independently verifies corrective action closure.</p> <p>Must be entered into DOE LL database.</p> <p>DOE FSO/HQ approves report</p>	<p>Trained investigator.</p> <p>Root Cause determined through formal RCA.</p> <p>Corrective Actions developed to address RC.</p> <p>DOE-FSO approves report.</p> <p>Contractor independently verifies corrective action closure.</p> <p>Contractor assesses effectiveness of corrective actions.</p> <p>Must be entered into DOE LL database.</p>	<p>Trained investigator.</p> <p>Cause determined. DOE-FSO approves report.</p> <p>Corrective Actions developed.</p> <p>Contractor verifies corrective action closure by sampling.</p> <p>Must be entered into DOE LL database</p>	<p>Cause determined.</p> <p>Corrective Action determined.</p> <p>Document completion of corrective actions.</p>	<p>No reporting of causal analysis or lessons learned in ORPS. The reporting of corrective actions is optional.</p>

Group 1 Operational Emergencies			
Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
Not Applicable	Not Applicable	Not Applicable	Not Applicable

**Group 2 Personnel Safety & Health
Subgroup A – Occupational Illness/Injury**

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
<p>1) * Any occurrence due to DOE operations resulting in a fatality or terminal injury/illness. For fatalities caused by overexposures, the intent of this criterion is to report those caused by acute rather than chronic effects.</p>	<p>3) Any single occurrence resulting in three or more personnel having Days Away, Restricted or Transferred (DART) cases per 29 CFR Part 1904.7.</p>	<p>5) Personnel exposure to chemical, biological or physical hazards above limits established by Work Smart Standards.</p>	
<p>2) * Any single occurrence requiring in-patient hospitalization of three or more personnel.</p>	<p>4) * Personnel exposure to chemical, biological or physical hazards above limits established by the Work Smart Standards and that requires the administration of medical treatment beyond simple first aid on the same day as the exposure.</p>	<p>6) Any single occurrence resulting in a serious occupational injury. A serious occupational injury is an occupational injury that:</p> <ul style="list-style-type: none"> a) Requires hospitalization for more than 48 hours, commencing within 7 days from the date 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) Damages any internal organ; e) Causes second- or third-degree burns, affecting more than five percent of the body surface. 	
<p><i>Fermilab ES&H Manual This manual is subject to change. The current version Is maintained on the ESH Section website.</i></p>			

Group 2 Operational Emergencies

Subgroup B – Fires/Explosions

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
Not Applicable	Not Applicable	3) * Any unplanned fire or explosion in a non-nuclear facility that : a) Activates a fire suppression system, b) Takes longer than 10 minutes to extinguish following the arrival of fire protection personnel, or disrupts normal operations in a high hazard facility.	4) * Any wild land fire (e.g., forest fire, grassland fire) or other fire outside of a DOE facility that has the potential to threaten the facility.

Group 2 Personnel Safety and Health

Subgroup C – Hazardous Energy Control

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
	1) 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) 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 Basis			
Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
Not Applicable	Not Applicable	Not Applicable	Not Applicable

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

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
		1) 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) Performance degradation of any Safety Class SSC when not required being operable.

**Group 4 Facility Status
Subgroup B - Operations**

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
	1) * A Stop Work Order issued by a DOE office.	3) Actuation of a Safety Significant SSC or its alarms, resulting from an actual unsafe condition.	5) 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 or shutdown due to alarm response procedures.
		4) Any facility evacuation, not including a precautionary evacuation, in response to an actual event. My have to report under more than 1 category.	6) * A facility or operations shutdown directed by management for safety reasons.
			7) A facility stand-down resulting from safety reasons reportable as an occurrence or occurrences.
			8) Any event or condition that would prevent immediate facility or offsite emergency response capabilities.

Group 4 Facility Status

Subgroup C – Suspect/Counterfeit and Defective Items or Material

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
		1) Discovery of any suspect/counterfeit item or material found in a Safety Significant SSC.	2) Discovery of any suspect/counterfeit item or material other than office supplies, office equipment, or household products.
			3) 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.

**Group 5 Environmental
Subgroup A - Releases**

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
	<p>1) *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.</p>		<p>3) 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.</p>
	<p>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.</p>		<p>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).</p>

**Group 5 Environmental
Subgroup B – Ecological and Cultural Resources**

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
	<p>1) 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).</p>		

Group 6 Contamination/Radiation Control

Subgroup A – Loss of Control of Radioactive Materials

*****Any event in this table requires notification to the Illinois Emergency Management Agency-
Department of Nuclear Safety*****

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
	<p>1) Identification of radioactive material offsite due to DOE operations/activities that exceeds applicable DOE-approved authorized limits (pursuant to DOE O 5400.5). This applies to items/areas consisting of radioactive material. This does not apply to items with surface radioactive contamination.</p>	<p>3) Loss of radioactive material which exceeds 1 times and no greater than 100 times the quantities specified in 10 CFR Part 835, Appendix E</p>	
	<p>2) Loss of radioactive material that exceeds 100 times the quantities specified in 10 CFR Part 835, Appendix E, or loss of accountability of such material for > 24 hours.</p>		

Group 6 Contamination/Radiation Control
Subgroup B – Spread of Radioactive Contamination

*****Any event in this table requires notification to the Illinois Emergency Management Agency-
 Department of Nuclear Safety**

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
	<p>1) Identification of radioactive contamination offsite due to DOE operations/activities that exceeds applicable DOE-approved authorized limits</p>	<p>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, 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.</p>	<p>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.</p>
	<p>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.</p>		
	<p><i>change. The current version Section website.</i></p>		<p>3010-16 Rev. 05/2009</p>

Group 6 Contamination/Radiation Control

Subgroup C – Radiation Exposure

*****Any event in this table requires notification to the Illinois Emergency Management Agency- Department of Nuclear Safety**

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
<p>1) * Determination of a dose that exceeds the limits specified in 10 CFR Part 835, Subpart C, Occupational Radiation Protection or DOE O 5400.5, Chapter II, Item 1 (I.e. 100mrem TEDE for offsite exposures to a member of the public).</p>	<p>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).</p>	<p>3) Any single occupational exposure that exceeds an expected exposure or dosimetry result of: a) 500 mrem CEDE; b) The greater of 10 % or 100 mrem effective dose equivalent due to external exposure.</p>	
		<p>4) Determination of an estimated annual dose that exceeds 10 mrem TEDE for offsite exposures to a member of the public from air pathways only.</p>	

**Group 6 Contamination/Radiation Control
Subgroup D – Personnel Contamination**

*****Any event in this table requires notification to the Illinois Emergency Management Agency-
Department of Nuclear Safety**

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
	<p>1) *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.</p>		<p>3) 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.</p>
	<p>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.</p>		

Group 7 Nuclear Explosive Safety

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
Not Applicable	Not Applicable	Not Applicable	

Group 8 Transportation

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
<p>1) * Any offsite transportation incident involving hazardous materials that would require immediate notice pursuant to 49 CFR Part 171.15, namely:</p> <p>a) As a direct result of hazardous materials:</p> <p>(i) A person is killed,</p> <p>(ii) A person receives injuries requiring hospitalization,</p> <p>(iii) Estimated property damage >\$50,000,</p> <p>(iv) An evacuation of the general public occurs lasting 1+ hours,</p> <p>(v) 1+ transportation arteries or facilities are closed or shutdown for > 1 hour.</p>		<p>2) Any offsite transport of hazardous material, including radioactive material, whose quantity or nature 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.</p>	<p>3) Any onsite transport of hazardous material, including radioactive material, whose quantity or nature 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.</p>
<p>b) Fire, breakage, spillage, or suspected radioactive contamination occurs involving shipment of radioactive materials,</p> <p>d) There has been a release of marine pollutant exceeding 450 l (119 gal.) or 400 kg (882 lbs.) for solids,</p> <p>e) The operational flight pattern or routine of an aircraft is altered.</p>			<p>4) Any packaging or transportation activity involving the onsite release of radioactive materials, etiologic agents, hazardous substances, hazardous waste, or marine pollutants.</p>

Group 9 Noncompliance Notification

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
		1) 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.	2) 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

Group 10 Management Concerns/Issues

Significance Category 1	Significance Category 2	Significance Category 3	Significance Category 4
	1) Any event resulting in the initiation of a Type A or B accident investigation as categorized by DOE O 225.1A, Accident Investigation.		4) * Any occurrence that may result in a significant concern by affected state, tribal, or local officials, press, or general population; could damage the credibility of the Department, or that may result in inquiries to HQ.
			5) * Any occurrence of such significant immediate interest to offsite personnel and organizations that it warrants prompt notification to the DOE EOC, and is not already designated elsewhere.
2) (sc 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.(An SC 1 occurrence report requires Prompt Notification)			
3) (SC 1-4) A near miss, where no barrier or only one barrier prevented an event from having a reportable consequence. .(Any SC 1 occurrence report requires Prompt Notification)			

Signed by: _____ Date: _____
Typed Name: _____

DOE Facility Representative/ Designee

Signed by: _____ Date: _____
Typed Name: _____

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Technical Appendix 3010-3

NOTIFICATION, SHORT FORM, UPDATE AND FINAL REPORT FORMAT

NOTIFICATION REPORT

Items 1 through 13, 16 through 20, 22, 23, 26 through 28, and 32 of the Occurrence Report are required fields for the Notification Report. Items 1-12 will be either computer generated or completed by the Facility Manager during data entry. In the Notification Report, additional fields may be required depending on the circumstances (e.g., Items 14 and 15). For all reports, data may be entered in the remaining fields when known.

SHORT FORM REPORT

Short Form Reports require all of the Notification Report (Items 1 through 13, 16 through 20, 22, 23, 26 through 28, and 32) required fields plus Item 35. In both the Notification Report and the Short Form Report, additional fields may be required depending on the circumstances (e.g., Items 14 and 15).

UPDATE AND FINAL REPORT

For the Update and Final Reports, information on the Notification Report should be retained and updated as better and additional information becomes available. The Facility Representative and Program Manager may provide comments in Items 38 and 39, respectively, for all reports, except reports that have already been finalized (which include Short Form Reports).

NOTIFICATION, SHORT FORM, UPDATE AND FINAL REPORT FORMAT

Reporting Fields

Field Name	Instructions
Facility/Personnel Information	
*1. Occurrence Report Number	<p>The occurrence report number is automatically generated by the system. It consists of the following:</p> <ul style="list-style-type: none">• DOE Field Office• Area Office (if applicable)• DOE contractor• Facility• Calendar Year the occurrence was first reported• Sequential number of the occurrence by facility <p>Items are separated from each other by a dash.</p> <p>A temporary number is assigned when a Notification Report is first created. When the Notification Report is successfully transmitted, a permanent number will be automatically generated by the ORPS system, and may not be modified.</p>
*2. Facility Name	Select the Facility Name from the drop-down menu.
*3. Facility Function Code	Select the Facility Function code from the drop-down menu that best describes the activity/ function performed at the facility selected. Only one selection is allowed.
*4. Site Name	This field is automatically generated by the system, and indicates the logged users' site. This field may not be modified.
*5. Manager/Designee	Enter the name, title, and phone number of the responsible facility manager or designee who approved this report, either by personally transmitting the electronic report or by signing the

Field Name	Instructions
	hard copy report. This field is required for all reports.
*6. Manager Phone	Enter a telephone number, including area code, for this person. Telephone number format is AAA PPPNNNN, where AAA is the area code, PPP is the prefix, and NNNN is the number. This field is required for all reports.
*7. Job Title	Enter the specific job title of the Manager/ Designee.
*8. Originator/Transmitter	This field is automatically generated by the system, and displays the user ID of the logged in user.
*9. Originator Phone	This field is automatically generated by the system, and displays the telephone number of the logged in user.
*10. Originator/Title	This field is automatically generated by the system, and displays the title of the logged in user.
*11. Division/Project	Identify the project or the contractor organization responsible for the facility at which the occurrence took place. This field is required for all reports.
*12. Secretarial Office	Select the DOE Secretarial/ Power Administration Office to which this facility is operationally responsible from the drop-down menu. SC - Science Only one Secretarial Office/ Power Administration may be selected. This field is required for all reports.
*13. System/Building/Equipment	Identify all systems, equipment, or structural items involved in the occurrence, as applicable. In addition, in the case of component failures or defective parts or materials, provide such information as the manufacturer, model number, and size. The most significant item(s) should be listed here. Additional information can be provided in the Description of Occurrence.
#14. Authorized Classifier/ Reviewing Official	Enter the name of the authorized classifier who reviewed this report and determined that it was unclassified, or the name of the reviewing official who determined that there was no Unclassified

Field Name	Instructions
	<p>Controlled Nuclear Information (UCNI) or other controlled information included in the report. 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 shall be submitted to ORPS.</p> <p>This field is required for all reports.</p>
#15. Classification Date	<p>Enter the date when the authorized classifier or reviewing official reviewed this report and determined that it was appropriate for entry into ORPS.</p> <p>The date must be entered in MM/ DD/ YYYY format. This field is required for all reports.</p>
*16. UCNI	<p>When required and when appropriate UCNI guidance is available, a reviewing official needs to 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). Reports with UCNI = Y can not be transmitted to the database.</p>
*17. Plant Area	<p>Indicate the name of the site-specific plant area (e.g., F-Area, M-Area) where the occurrence took place. This field is required for all reports.</p>
Important Date and Time Information	
*18. Discovered Date/Time	<p>Enter the date and time when the facility staff discovered the event or condition being reported. Date format is MM/ DD/ YYYY.</p> <p>Example: June 3, 1996 --> 06/ 03/ 1996</p> <p>The time format is military time: hhmm,</p> <p>These fields are required for all reports.</p>
*19. Categorized	<p>Enter the date and time when the Facility Manager</p>

Field Name	Instructions
Date/Time	<p>determined that the event or condition constituted a Reportable Occurrence and determined its category (Significance Category OE or 1-4). Date format is MM/ DD/ YYYY. Example: June 3, 1996 --> 06/ 03/ 1996 The time format is military time: hhmm. These fields are required for all reports.</p>
Occurrence Description	
*20. Subject/Title of Occurrence	<p>Enter a brief title or description (140 characters or less) that best details the nature, cause, and result of the occurrence. This field is required for all reports.</p>
*21. Reporting Criteria	<p>Select one or more Reporting Criterion/ Criteria as discussed in Section 6 of DOE Manual 231.1-2. All of the specific reporting criteria applicable for an occurrence should be identified. NOTE: The Significance Category field will contain the highest significance category associated with the selected criteria. For example, if criteria with significance categories 4, 3, and 1 were selected, then the significance category would be 1.</p>
*22. Significance Category	<p>This field is automatically assigned by the system and is dependent on the Reporting Criterion/ Criteria. Significance Categories include OE (emergency), 1, R, 2, 3, and 4, with OE being the most significant and 4 the least significant.</p>
23. Recurring Event	<p>If this is a recurring event, check this box. Otherwise leave it blank. .</p>
*24. Subcontractor Involved	<p>If a subcontractor is involved in this occurrence, choose <i>Yes</i>. Otherwise choose <i>No</i>. If <i>Yes</i> is selected, enter the name of the subcontractor(s). This field is required for all reports.</p>
*25. Description of Occurrence	<p>The following instructions should be followed when entering the description of the occurrence:</p> <ol style="list-style-type: none"> a. 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).

Field Name	Instructions
	<p>b. All information should be clear and succinct.</p> <p>c. 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.</p> <p>d. Avoid jargon and uncommon or site/ facility-specific abbreviations and acronyms.</p> <p>e. 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.</p> <p>f. 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.</p> <p>g. Use active rather than passive voice whenever possible. For example, write, “ <i>The electrician</i> severed the conduit” rather than “the conduit was severed.”</p> <p>The type of information to be provided in the description includes, but is not limited to, the following:</p> <ul style="list-style-type: none"> • The method of discovery; • Any component failures and the failure mode; • Any personnel errors involved, including the

Field Name	Instructions
	<p>type and result of the error;</p> <ul style="list-style-type: none"> • Any procedural problem encountered; • The response of any automatic or manual safety systems and the signals which initiated and terminated their operation; • The duration of any failures; • Operator actions that affected the course of events; and • The loss of any safety equipment. <p>When appropriate for clarification, photos, sketches, and drawings should be maintained with the occurrence report record. In addition, sites are encouraged but not required to make photos, sketches, and drawings available via a Web page, with the Web page address included as a hyperlink in the ORPS report.</p> <p>For recurring events, include all pertinent information to describe how the event was determined to be recurring.</p> <p>This field is required for all reports.</p>
Notifications Made	
#26. DOE HQ OC Notifications	<p>Enter the date and time when the DOE HQ Operations Center was notified and the name and organization of the person notified. Date format is MM/ DD/ YYYY. Example: June 3, 1996 --> 06/ 03/ 1996 The time format is military time: hhmm, with midnight represented as 0000 on the second day.</p> <p>These fields are required for all reports that are categorized as Operational Emergencies and Significance Category 1 occurrences. The field is also required for Significance Category 2 occurrences as directed by the Field Office. In addition, the field is required for specific Significance Category 2, 3, and 4 occurrences identified with an asterisk next to the reporting</p>

Field Name	Instructions
	criterion.
#27. Other Notifications	<p>Enter the date(s) and time(s) of notification of state and local officials or other agencies and the name(s) and organization(s) of the individual(s) notified. Additional information can be provided in the Immediate Actions Taken field. Date format is MM/ DD/ YYYY. Example: June 3, 1996 --> 06/ 03/ 1996 The time format is military time: hhmm,</p>
Facility Information at Time of Occurrence	
*28. Operating Conditions	<p>Describe the operational status of the facility or equipment at the time of the occurrence including, for example, pertinent temperatures, pressures, or other parameters necessary for evaluation of the occurrence and its consequences. If said information is not applicable, enter "Does not apply". This field is required for all reports.</p>
*29. Activity Category	<p>Select the activity that best describes the ongoing activity at the time of the occurrence. This field is required for all reports.</p> <p>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 08 - Transportation (For search only) 08A - Transportation Onsite 08B - Transportation Offsite 09 - Emergency Response 10 - Inspection/ Monitoring 11 - Facility Decontamination/ Decommissioning 12 - Research</p>
*30. Immediate Actions Taken	<p>Describe the immediate or remedial actions taken to return the facility, system, or equipment item to service; to correct or alleviate the anomalous condition; and to record the results of those actions. These may include temporary measures to keep the</p>

Field Name	Instructions
	facility in a safe standby condition or to permit continued operation of the facility without compromising safety until a more thorough investigation or permanent solution can be affected. This field is required for all reports.
Cause Information	
#31. Causes Refer to Causal Analysis Tree- last page this document.	Select all of the codes from the Causal Analysis Tree that best represent the causes of the occurrence. If you select A3 (Human Factors) as the Cause Code, select any associated causes (couplets) from the couplet selection list or choose a better couplet for the associated occurrence. This field is required for Final reports and optional for Short Form Reports.
#32. Description of Cause	Discuss the causes of the occurrence to include all causes and the corrective actions identified, including causal analysis contributing to a recurring event. Do not repeat a description of the occurrence, but discuss the results of the causal analysis. The root cause analysis methodology used should be identified. A detailed description of the corrective actions is required 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.
Evaluations	
#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, but it is optional for Short Form Reports.
*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

Field Name	Instructions
	<p>required for Notification, Update, Final, and Short Form Reports.</p> <p>If further evaluation is required, specify if this occurrence will require further evaluation before further operation. For Cancelled and Update/ Final Reports, "Before Further Operation?" should be "No". This field is required for all reports where "Further Evaluation Required" is "Yes".</p> <p>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. Date format is MM/ DD/ YYYY. Example: June 3, 1996 --> 06/ 03/ 1996 These fields are required for all reports where "Further Evaluation Required" is "Yes" and "Before Further Operation" is "Yes".</p>
Deficiencies, Lessons Learned, and Corrective Actions	
#35. Integrated Safety Management (ISM)	<p>Enter one or more ISM codes from the following list to identify an observed weakness (es) 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).</p> <p>Available ISM codes are:</p> <ol style="list-style-type: none"> 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

Field Name	Instructions
	<p>confirmed and work is performed safely.</p> <p>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.</p> <p>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.</p> <p>This field is required for all Final reports, including Short Form Reports.</p>
#36. Lessons Learned	<p>Describe what lessons can be learned from this occurrence, in order to help prevent similar events from happening.</p> <p>This field is required for Final reports and optional for Short Form Reports.</p>
#37. Similar Occurrence Reports	<p>Indicate by their report numbers any similar occurrence(s) of which you are aware for this 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 30 or Field 31, as appropriate. Also, identify any known commercial reactor Licensee Event Reports (LER) or other related documents that describe 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.</p> <p>This field is required for Final reports and optional for Short Form Reports.</p>
#38. User Defined Fields	<p>These optional fields can be used to store facility-</p>

Field Name	Instructions
(two of them)	specific information (e.g., a cross-reference to performance indicator data or a site-specific number or name). They cannot exceed 124 characters in length for each 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.
Line Management Comments	
#40. Facility Representative Comments	The 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 optional on all occurrence report types except for reports that are already Final, including Short Form Reports. This field is required only on

Field Name	Instructions
	Final Reports rejected by the Facility Representative.
#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 Manager's name and date will be automatically entered by ORPS. If a Final Report is being rejected, the Program Manager should use this space to indicate why. This field is optional on all occurrence report types except for reports that are already Final, including Short Form Reports. This field is required only on Final Reports rejected by the Program Manager.

Technical Appendix 3010-3
NOTIFICATION, SHORT FORM, UPDATE AND FINAL REPORT FORMAT

TEMPLATE

* required for all reports # required under certain conditions

Bold- facility Manager Completes Normal font- reporting Division/ Section Completes

Field Name	Instructions
Facility/Personnel Information	
*1. Occurrence Report Number	
*2. Facility Name	
*3. Facility Function Code	
*4. Site Name	
*5. Manager/Designee	
*6. Manager Phone	
*7. Job Title	
*8. Originator/Transmitter	
*9. Originator Phone	
*10. Originator/Title	
*11. Division/Project	
*12. Secretarial Office	
*13. System/Building/Equipment	
#14. Authorized Classifier/ Reviewing Official	
#15. Classification Date	
*16. UCNI	
*17. Plant Area	
Important Date and Time Information	
*18. Discovered Date/ Time	
*19. Categorized Date/ Time	.

Field Name	Instructions
Occurrence Description	
*20. Subject/ Title of Occurrence	
*21. Reporting Criteria	
*22. Significance Category	
23. Recurring Event	.
*24. Subcontractor Involved	
*25. Description of Occurrence	
Notifications Made	
#26. DOE HQ OC Notifications	
#27. Other Notifications	
Facility Information at Time of Occurrence	
*28. Operating Conditions	
*29. Activity Category	
*30. Immediate Actions Taken	.
Cause Information	
#31. Causes	
#32. Description of Cause	
Evaluations	
#33. Evaluation by Facility Manager	
*34. Further Evaluation Required	
Deficiencies, Lessons Learned, and Corrective Actions	
#35. Integrated Safety Management (ISM)	
#36. Lessons Learned	.
#37. Similar Occurrence Reports	
#38. User Defined Fields (two of them)	

Field Name	Instructions
#39. Corrective Actions	.
Line Management Comments	
#40. Facility Representative Comments	
#41. Program Manager Comments	

Technical Appendix 3010-4
ORPS INFORMATION and APPROVAL ROUTING

Once the decision has been made to classify the events as ORPS reportable the following information flow and approval routing will be required.

Initial Report

Division/ Section provides to ESH written input utilizing the Prompt Notification Form 3010-2 or Notification, Short Form, Update and Final Report Format template 3020-3.

ESH Emergency Planner or ORPS Designee inputs data into the on-line DOE ORPS database, saves and prints document.

Division/ Section representative will review input and concur.

ESH Emergency Planner or ORPS Designee will attach the FNAL/ FSO signature sheet to the document and hand carry to the FNAL Chief Operating Officer for review.

The Chief Operating Officer will review the document and may provide comment. Comments are placed into the database and the document is reprinted by the ESH Emergency Planner or ORPS Designee. The Chief Operating Officer will then sign the signature sheet.

ESH Emergency Planner or ORPS Designee will then hand carry the report to the DOE-FSO representative that is the liaison to the division/ section reporting the ORPS event. If the representative is not present, then the most senior DOE-FSO person will be solicited to review this document.

The DOE FSO representative will review the document and may provide comment. Comments are placed into the database and the document is reprinted by the ESH Emergency Planner or ORPS Designee. DOE FSO representative will then sign the signature sheet.

ESH Emergency Planner or ORPS Designee will then access the ORPS database and select the validate report option, followed by submit report. A copy is to be printed out in hard copy and another will be saved in the Document Image Writer format for distribution to the ORPS list server by the ESH Admin Staff.

This process will also be used for Update and Final ORPS report filings.

It is possible that an ORPS report may be finalized without having closed all findings. As findings are completed the ESH Emergency Planner or ORPS Designee will enter the ORPS Database through the Facility Manager portal to close out the findings.