# 4. NOTIFICATIONS AND COMMUNICATIONS

#### 4.1 Introduction

Prompt and accurate notifications are essential during emergencies to mitigate consequences, activate emergency response organizations and facilities (e.g., emergency operations centers), recall essential personnel, and notify offsite agencies responsible for protecting the health and safety of the public. The emergency notification system should provide timely notice to the emergency response organizations, site and facility personnel, and offsite agencies for all emergencies under the most limiting set of conditions. For the purposes of this Guide, "timely" means fast enough for response activities to be effective in protecting worker and public health and safety. All aspects of notification should be carefully preplanned, documented, tested under a variety of conditions, and implemented through approved notification procedures, reliable primary and backup communications equipment, and formal training programs.

Annex E consolidates the Secretary of Energy's August 27, 1997, directive, "Timely Notification of Emergencies and Significant Events." In the event of inconsistencies between the Secretary's directive and this guide, the Secretary's directive takes precedence.

Notifications associated with Operational Emergencies are designed to perform the following:

- (1) Protect facility and site personnel and emergency workers through promulgation of information necessary to implement accountability and protective actions, such as sheltering, evacuation, and decontamination.
- (2) Notify cognizant offsite authorities and agencies which have protective action decision-making authority for the emergency to facilitate public notification.
- (3) Activate elements of the Emergency Response Organization (ERO), consistent with the categorization and classification of the emergency.
- (4) Provide initial notifications, emergency status updates, and effective communication among emergency response organizations throughout the emergency.
- (5) Formally document categorizations and classifications, notification times, protective action recommendations, and emergency condition changes.

### (6) Comply with regulatory notification requirements.

A timely, reliable, and accurate communications system is essential for notifications, and supplies the framework for conducting response operations. Establishing adequate communications to support on-scene activities is a time-urgent operation. Equally important to effective management of the emergency response is timely establishment of communications to offsite support organizations (see also Volume III, Chapter 2.) Elements of this communications system include the communications equipment, a notification system (to include reporting requirements), and a simple and effective information management structure.

Implementation of notification and communication capabilities should adhere to the DOE "graded" and "commensurate with hazards" approach to emergency management. In keeping with this approach, the results of the Hazards Survey and Hazards Assessments will help determine notification and communication needs. Guidance is provided to support communications activities for facilities/activities with varying types and levels of hazards and with differing organizational structure and complexity.

This chapter discusses several aspects of emergency notification and communications including: notification requirements, report contents, communications equipment, and effective responder communications. Emergency reporting includes initial notifications to onsite personnel and offsite authorities and emergency status updates. The Communications Equipment section includes guidance for selecting and maintaining emergency communications equipment. Effective responder communications provides guidance to support accurate, timely, and useful exchange of information during an emergency response.

**Base Program.** The Order requires, at a minimum, that a Base Program be capable of the prompt initial notification of workers, emergency response personnel, and response organizations, including DOE elements and state, tribal, and local organizations in the event of an emergency. In addition, the Order also requires the continuing effective communication among response organizations throughout an emergency. For the minimal Base Program site/facility, most of these capabilities would be similar to a non-DOE site/facility; the most obvious exceptions, of course, are the requirements for notifications to DOE and, possibly, offsite authorities in the case of an Operational Emergency. For a more extensive Base Program, the established notification and communications systems may be comparable to a Hazardous Material Program.

Most sections of this chapter contain guidance applicable to a Base Program site/facility. The sections which are most relevant are 4.2 and 4.3. Section 4.4 should be reviewed, but it contains guidance more directed toward a Hazardous Materials Program.

#### 4.2 Notifications

The DOE Orders and other Federal regulations (which contribute to the Base Program) all require extensive internal (within facilities and DOE) and external (offsite) notification and reporting. Emergency notifications are time sensitive and provide information necessary to initiate a variety of response actions. Event information and reporting requirements may be duplicative across Orders and regulations. Notification procedures should be designed to differentiate between critical notifications associated with Operational Emergency response and other less urgent information and reporting requirements.

Due to the critical importance of response measures taken in the early stages of an emergency, such as implementing timely protective actions, the content of initial emergency notification messages should focus on information needed to facilitate these essential activities:

- ! Assessing accident consequences:
- ! Initiating onsite protective actions for workers and others in the affected facility and collocated facilities;
- ! Developing and providing protective action recommendations (PARs) to offsite authorities for notification of the public;
- ! Activation of the ERO and emergency centers; and
- ! Augmenting facility staff.

If actions have already been taken, the results of the activities should be relayed. Notification should not be delayed in order to fine-tune information. The notification system should also include a rapid method to provide follow-up reports (or emergency status updates) when emergency conditions and information change.

### 4.2.1 Notification System

Provisions should be in place for prompt initial notification of workers and emergency response personnel, and response organizations, including appropriate DOE elements and other Federal, state, tribal, and local organizations. There must be continuing/effective communication among the ERO throughout an emergency. The following should be considered in developing an effective notification system:

! Specify the organizations or individuals to receive notifications by job position or title;

- ! Organizations receiving emergency notifications should have a capability to receive reports on a 24-hour basis;
- ! Notification messages, methods, and procedures should be an established part of annual training offered to affected organizations;
- ! Preplanning should include consideration of special circumstances, such as power outages or other conditions, which could affect notification; and
- ! Periodic verification of all emergency telephone numbers;
- ! Notification systems should be designed to permit multiple notifications at the same time.

### **4.2.2** External Notification Requirements

According to the Order, the notification system shall provide initial notifications to:

- ! State and local officials and the DOE Field and Headquarters Emergency Operations Centers within 15 minutes and all other organizations (which should be notified) within 30 minutes of the declaration of an Alert, Site Area Emergency, or General Emergency; and
- ! DOE Field and Headquarters Emergency Operations Centers, local, State, and Tribal organizations within 30 minutes of the declaration of an Operational Emergency not involving hazardous materials.

The system should provide for periodic Emergency Status Updates and effective communication of emergency conditions and status throughout an emergency. Status updates should occur as required or as directed by higher EMT. Rapidly changing conditions should dictate more frequent status updates.

Significant changes in event conditions, requiring a change in classification or protective actions, require notification as soon as possible. If a change occurs while a notification or follow-up message is being sent, the outgoing message should be completed and then immediately followed with an updated report.

Initial emergency notifications require time-urgent reporting to DOE Headquarters. Verbal notification of an emergency providing essential information, followed by electronic or hard-copy reports, will allow Headquarters to react accordingly and the field to fulfill their 15 minute notification requirement.

### 4.2.3 Notification Sequence and Occurrence Reporting Requirements

The emergency notification and reporting sequence and the link between emergency and occurrence reporting is displayed in Appendix C. Emergency and occurrence reporting requirements are necessarily linked and designed to be mutually supporting. Similar information may be provided for both emergency and occurrence reports.

The primary difference between emergency reporting and occurrence reporting is the timeurgent nature of emergency reports. Emergency reporting is designed to rapidly transmit information necessary for the emergency response. Occurrence reporting is designed to accurately transmit information necessary for event documentation, analysis, and tracking, and to place potential response organizations at an increased state of readiness as warranted.

Appendix C also displays the reporting relationships between the site/facility, Operations/Field Office, and DOE HQ. Reporting for each echelon of DOE may be different and is designed to support the needs of that ERO.

## 4.3 Report Contents

Through the promulgation of DOE O 232.1, DOE has adopted a comprehensive reporting system meant to capture information about events across the spectrum of severity/significance categories from emergencies to unusual occurrences to off-normal events. Requirements for reporting of emergency situations are contained in both DOE O 151.1 and DOE O 232.1.

#### 4.3.1 Onsite Messages

Onsite notification messages to facility personnel should support activation of the facility ERO at a level appropriate to the event classification. Further, the notification messages should contain sufficient information to initiate immediate and appropriate protective response for personnel in the facility. Pre-arranged, standardized scripts for public address announcements to be made for various emergency scenarios and classifications should be used. Public Address or alarm systems in high noise areas should also be considered. Pagers, where used, should provide for positive feedback through call-in or other methods to confirm that notification was successful and recall of personnel will be achieved. Other site or facility-specific procedures may be necessary depending on whether sites have collocated facilities, Operations/Field offices which are not located onsite, or other non-standard arrangements.

## 4.3.2 Initial Offsite Notifications and Follow-up Reports

Report content and format for both initial notification and follow-up reports should be prearranged, standardized, and described in the emergency plan and implementing procedures. Initial notification messages should be brief and contain information that supports higher HQ Emergency Management Team activation decisions and offsite authorities need to alert the public and implement protective actions. Although initial notification information should be tailored to offsite agency needs, the time, date, location, contact point or person, type of emergency, appropriate emergency class and time, current event status (e.g., ongoing), and the protective action recommendation should be included.

Identically formatted "fill-in-the-blank" and "check-box" message forms should be used by both the site or facility and the receiving offsite agency. Close coordination between the facility/site and offsite agencies will be necessary to standardize the message format and the initial information requirements. In addition, similar training programs for communicators will ensure information transfer without questions or delay. A sample emergency reporting form for both initial notifications and emergency status updates that may be tailored to satisfy local needs is provided in Appendix D.

At the onset of the emergency, some items may not be known or not be known in detail. <u>Lack of specific information should not preclude or delay notifications</u>. Emergency Status Updates should be used to supplement the initial notification as information becomes available. The following information should be considered (NOTE - Items marked with an asterisk should be included in the initial notification message.):

- \* (1) Location (site/facility/building) of the incident, name, organization, location, and telephone number of the caller.
- \* (2) Brief description, date, time of the event, and time zone.
- \* (3) Categorization and classification of emergency and time of declaration.
- \* (4) Release in progress (Yes/No).
- \* (5) Recommended protective actions with timing considerations, where applicable.
- (6) Type of actual/projected release and duration (source term or release characterization).
- (7) Meteorological conditions, such as wind speed, wind direction, stability class, precipitation, etc.

- (8) Actual or projected doses or dose rates that exceed Protective Action Criteria at a critical location (e.g., the site boundary, municipal jurisdiction, reservoir) relative to the organization receiving the notification.
- (9) Injuries or casualties involved.

To document reports, the reporting organization should record the organizations notified and the names and positions of the persons contacted. Where dedicated ringdown circuits are used to established emergency or operational centers, such verification may not be necessary. Documentation is extremely important with regard to event reconstruction, lessons learned, decisions on protective action recommendations, litigation, and liability. Copies of all reporting forms should be retained and archived.

In accordance with DOE O 151.1, all emergency reporting messages must be reviewed for classified information and unclassified controlled nuclear information (UCNI) and protected accordingly. The review should be preplanned and addressed in the training program, procedures, and form development so that classification considerations will not delay notification.

The content of initial notification messages to state and local EROs should be negotiated with those agencies and documented in the facility/site emergency plan. For those offsite organizations with their own consequence assessment capabilities, information needed to perform the consequence assessment should be provided to the extent available. In the event that state and local agencies refuse to participate in the planning effort, facility plans should call for providing the information specified in 40 CFR 355, as well as the event categorization and classification.

## 4.3.3 Final Emergency Report

Following the termination of emergency response, and in coordination with the Final 45 day Occurrence Report (see DOE O 232.1), each activated emergency management team submits a Final Emergency Report on the emergency response to the Emergency Manager (NN-1), as required by DOE O 151.1.

The Final Emergency Report will include the following:

! Executive summary of the event, actions taken, lessons learned, and emergency management system changes planned.

- ! List (or organization charts) of the complete emergency response organization involved in the response to include other agencies, offsite organizations, and DOE contractor and Federal employees.
- ! Copies (or summaries if appropriate) of all notifications and reports generated during the emergency.
- ! Copies of all press releases and briefing transcripts.
- ! Response summary including time sequences, actions taken, and results. The response summary should address the following topics:
  - Emergency Response Organization;
  - Offsite Response Interfaces;
  - Notifications and Communications;
  - Emergency Medical Support;
  - Emergency Facilities and Equipment;
  - Emergency Public Information;
  - Event Classification;
  - Consequence Assessment;
  - Protective Actions and Reentry; and
  - Termination and Recovery.
- ! Lessons learned with planned corrective actions. Summary results of event investigation, if available
- ! Other issues identified by event responders and emergency management team personnel.

#### 4.3.4 Recovery Reports

Recovery reporting requirements are established during recovery planning and are based on the event and agreements between the recovering element and the Headquarters or oversight element.

#### 4.4 Communications Equipment

Selected communications equipment which could be used in notification and reporting systems includes standard telephones, dedicated leased lines, automatic ringdown circuits, facsimiles, radio, paging systems, and computer data transfer configurations. Dedicated phone lines, automatic ringdown circuits, and dedicated facsimiles are preferred over

standard phone lines or radio circuits which are more subject to overload, failure, or compromise. Ringdown circuits are particularly useful where numerous towns, counties, or agencies are involved with a single site. All equipment should have proceduralized operating instructions, qualified operators, and identified backup equipment in case of primary equipment failure.

Decisions on communications equipment selected for use in emergency response and in emergency response facilities should be based on analysis that considers the severity of potential events and the functions of the responding organization. Technical specifications, compatibility, reliability, and security of communications and data transfer equipment for use in EOCs should be considered in selecting communications equipment. Consistency and compatibility between transmission methods is essential.

Communication system equipment should satisfy the following general criteria:

- ! Highly reliable primary equipment with backup equipment identified, powered by uninterruptable power sources where appropriate.
- ! Periodic routine testing during normal and off-hour periods and demonstration during drills and exercises.
- ! Security provisions commensurate with the type of information being transferred. Classification reviews should be preplanned to eliminate delays.
- ! An authentication or verification system (e.g., "caller-ID," passwords) should be established among notification network parties, except for the case of dedicated circuits in secure facilities.
- ! Specific communication frequencies, telephone numbers, and verification details should not be quoted in public documents.
- ! Ability to handle both voice and data communications, as well as a teleconferencing capability. A video-teleconferencing capability is preferred.

Equipment should be included in a formal preventive maintenance program. Where interfaces exist between onsite and offsite equipment, agreements should be negotiated to ensure all components of the communication system are maintained. Special maintenance response agreements may be necessary for vendor supplied notification equipment, such as pagers, tone-alert radios, copying, or facsimile machines.

#### 4.5 Effective Responder Communications

Uniformity and standardization in content and format are important to each site's notification scheme to ensure that all organizations can effectively exchange technical information. The use of jargon should be avoided and uncommon or facility/site-specific abbreviations and acronyms should be fully described in oral notifications and spelled out in subsequent written reports. Notifications should use measurements, terms, acronyms, abbreviations, building names, etc., that are known and understood by all parties. Notification clerks, communicators, and dispatchers should be trained and qualified to minimize communication errors.

Aspects of standardized notifications that require consideration for offsite organizations are:

- ! Methods and provisions for verification of message authenticity.
- ! The possible methods, primary and backup, by which each organization may receive notifications.
- ! The feedback links for verifying information or requesting additional information (without interfering with site or facility operations).
- ! Facility-specific terms, acronyms, and measurements.
- ! Methods used to conduct system tests.
- ! Methods to ensure differentiation between exercise and real events.
- ! Minimize differences between facility notification systems.
- ! Use of consistent time zones in communications. (All communications should use the same time zones or always identify the time zone when discussing times).

The notification and reporting system developed and implemented for a given site or facility should be consistent with the potential hazards of the facility, as determined by a current Hazards Assessment. Where several facilities at a site are dependent on a single site notification system, the system design will be more complex. Each additional interface adds additional complexity in equipment, procedures, personnel, and training. Standardization and simplification of procedures, forms, and interfaces can result in more efficient systems. Separating critical notifications from routine or administrative notification and reporting further simplifies critical notifications.

## 4.6 Bibliography

DOE O 151.1. Chg 2. Comprehensive Emergency Management System. August 25, 1996.

DOE O 232.1A. Occurrence Reporting and Processing of Operations Information. July 21, 1997.

Title 40 CFR 355. Emergency Planning and Notification.

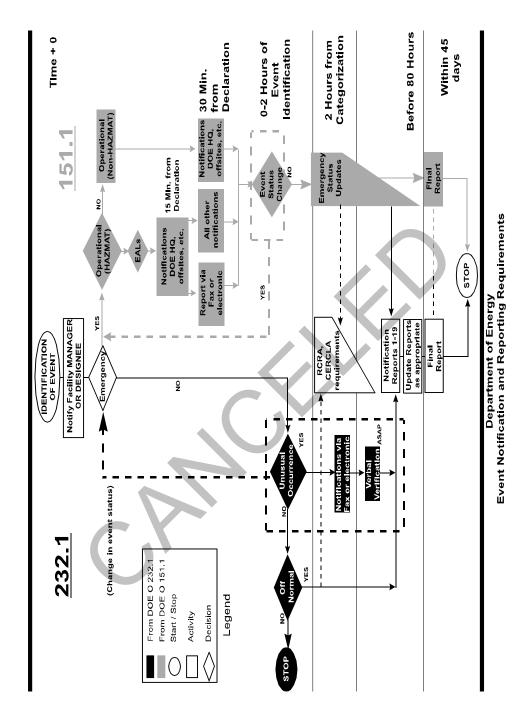


# APPENDIX C EMERGENCY AND OCCURRENCE REPORTING DIAGRAM

The following page is a diagram that displays the emergency reporting flow and the link between emergency and occurrence reporting. Section 4.2.3 of this chapter provides a general discussion of the information outlines in this diagram.



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## APPENDIX D EMERGENCY REPORTING FORM

The following form is a sample providing the types of information that should be included in emergency reports used in notifying offsite authorities, including local and state agencies and all three tiers of the emergency response system; site/facility/activity, Operations/Field Office, and DOE Headquarters. This form is designed to support the reporting requirements of DOE O 151.1 and does not necessarily fulfill occurrence reporting requirements of DOE O 232.1. Data is only filled out if it applies or is appropriate. For example, release data would not be filled out if presently unknown or it does not apply for the particular event. All available information should be provided, however, initially the only items that must be filled out are the top section and those items with an asterisks by the line number.

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# **EMERGENCY REPORTING FORM**

G INITIAL NOTIFICATION	G STATUS UPDATE		<b>G</b> TERMINATION	
*Required for all reports Report Classification:	G Unclassified G Secret	G Official Use Only G Top Secret	G Confidential G Other	
As of: Date	Time(include zo	ne):		
Received by (to be filled out upon r	* ·	Time (	include zone):	
rvame.	Bate	Time (	metude zone).	
*1. Sent by:	Dogitio		Talashana	
Name:Organization:		n:cation:	Telephone:	
Facsimile:		g/Facility:		
# <b>0</b>				
*2. Incident Location:		$\overline{}$		
*3. Emergency Category/Classific G Operational G Health and Safety G Environment G Security and Safeguards G Offsite DOE Transportat G Hazardous Materials (Ra G Alert G Site Area Emergency G General  *4. Emergency Classification bases	G Ener G Petro G Elect G Natu ion d and Non-Rad) G Othe	oleum/Oil G rical G ral Gas G G G	Emergency Assistance CONUS Nuclear Weapon OCONUS Nuclear Weapon FRERP FRP NCP  Other:	
Declared at: Date:			ding zone):	
by (Name and Position):			- 6 - 170	
*5. Emergency Response Organiza Responsible Operations/Field (EOC/EMT Activated (location Senior Energy Official (name): Incident Commander (name): Responsible Program Office(HQ Collateral Program Office(HQ Lead Federal Agency: LFA On Scene Commander (n Other Agencies/POCs (Fed, St	Office:, DTG):			

Wind Sp Tempera	ogical Data:  eedmph Wind direction fromtoStability class  ture Precipitation: <b>G</b> yes <b>G</b> no  ns/Forecast:
Eigld NI	ifications Mode. Notification completes Court
	ifications Made Notification complete: <b>G</b> yes <b>G</b> no space is needed use blank lines at the end of the form)
Organiza	tion POC Date/Time
A.	
B.	
C.	
D.	
E.	
F.	
G	
H.	
Duotooti	ve Action Recommendations/Decisions and Health Effects:
A.	Onsite:
Λ.	Olisite.
B.	Offsite:
Б.	Offsite.
Public In	formation:
I done in	
A.	JIC established (Date/Time/Zone): Location:
	Phone: DOE Public Information Officer:
	2021 (600 1000 1000 1000 1000 1000 1000 100
B.	Press Release Number: Date/Time released:
	G Copy attached G In progress Made by:
	Provided to:
C.	Other Public Information activities, future releases/briefings, etc.:

	Alerted	<u>Deployed</u>	Est. Arrival	Responding	Field POC
ARG (DOE/AL):					
ARAC (LLNL):					
AMS (DOE/NV):					
FRMAC (DOE/NV):					
RAP:					
REAC/TS (DOE/OR): ENERGY:					
ENEKGT. FHREAT ASSESSMEN	T:				
TINEAT ASSESSIVILA					
Status of other deployable	e assets including	other agencies:			
		_			
·····					
ie e a a a a a a					
5. Security Activities:					
A. National Defense Ar	aa/National Sacu	rity Area Establish	ad Data/Tima/Zor	200	
Location:			ed Date/Time/Zor		
Location.					
3. Potential Threats: _					
·					
C. Security Measures ta	aken:				
Law Enforcement A	gangias Paspondi	na:			
D. Law Enforcement A	gencies Respondi	ng:			
D. Law Enforcement A	gencies Respondi	ng:			
D. Law Enforcement A	gencies Respondi	ng:			
D. Law Enforcement A	gencies Respondi	ng:			
	gencies Respondi	ng:			
D. Law Enforcement A	gencies Respondi	ng:			

16. Response Status:			
A. Weapons Recovery	Plan <b>G</b> Copy attached	<b>G</b> In Development	G Already Provided
B. Transportation Plan	<b>G</b> Copy attached	<b>G</b> In Development	G Already Provided
C. Site Recovery Plan	<b>G</b> Copy attached	<b>G</b> In Development	G Already Provided
D. Energy Recovery Pl	an <b>G</b> Copy attached	<b>G</b> In Development	<b>G</b> Already Provided
E. Other Plans	<b>G</b> Copy attached	<b>G</b> In Development	G Already Provided
F. Reentry Status:			
G. Recovery Status:			
17 NEST / Other Male	evolent Threat Contingency		
Three	nt Assessment Status:		
Searc	ch Status:		
	ult Status:		
	ss Status:		
Diagr	nostics:		
	age Limitation:		
	plement:		
			<b>*</b>
16. Legal Issues.			
			_
19. Other:		~ \ /	
·			

# APPENDIX E THE SECRETARY'S DIRECTIVE ON NOTIFICATIONS

On August 27, 1997, the Secretary of Energy issued a directive on "Timely Notification of Emergencies and Significant Events," which emphasizes the importance of prompt recognition of significant events and the timely notification of these events to all relevant parties. Two new elements were included in the directive: 1) notification of state, local, and tribal officials and the Headquarters Operations Center even if the applicability of standing guidance is in question for a specific event; and, 2) implementation of a new threshold of reporting for non-emergency significant events.

The following discussion incorporates the guidance of the Secretary's directive.

### **Emergencies:**

Oral notification of all emergencies is to be made immediately to the Headquarters Operations Center and state, tribal and local officials in accordance with DOE O 151.1, "Comprehensive Emergency Management System," applicable regulations, ordinances, and mutual agreements. Other Federal agencies are to be notified in accordance with DOE O 151.1 and applicable regulations. Managers of Operations and Field Offices should ensure that emergency notification procedures to offsite agencies contain provisions for confirming receipt of the notification by appropriate personnel and not, for example, by answering machines.

In accordance with DOE O 151.1, emergencies are to be declared at DOE sites and facilities when events represent a significant degradation in the level of safety and require urgent response efforts from outside the facility. In addition, through training and drills, personnel must become accustomed to using common sense in making judgements about the need for notification and the urgency of notifications. Events that represent a specific threat to workers and/or the public due to the release or potential release of significant quantities of radiological and non-radiological hazardous materials should be further classified as Alert, Site Area, or General Emergencies in order of increasing severity.

#### Non Emergencies:

Oral notification of <u>ALL</u> non-emergency significant events is to be made immediately to the Headquarters Operations Center and State and local officials are to be notified in accordance with applicable regulations, ordinances, and mutual agreements. Other Federal agencies are to be notified in accordance with applicable regulations. In addition, through training and drills, personnel must become accustomed to using common sense in making judgements about the need for notification and the urgency of notifications. Managers of Operations and Field Offices should ensure that emergency notification procedures to offsite agencies contain

provisions for confirming receipt of the notification by appropriate personnel and not, for example, by answering machines.

Non-emergency significant events may include unusual occurrences (see DOE O 232.1A, "Occurrence Reporting and Processing of Operations Information") such as: explosions, serious fires, building evacuations or other personnel protective actions, fatality or multiple injuries, release of radioactive and non-radioactive materials in excess of permits or requirements, doses or exposures above established statutory limits, bomb-related incidents, sabotage, loss of special nuclear material, disruption of operations (e.g., weather-related). In addition, any occurrence that may result in a significant concern by the affected state, tribal, local officials, press, or general population or could damage the credibility of the Department or that may result in inquiries to Headquarters are to be reported immediately.

#### Notifications:

Oral notifications are to be succinct, and provide, when available, the following information:
1) a description of the occurrence; identify injuries to personnel, environmental releases and/or personnel exposures, protective actions implemented, include numbers when possible; 2) the location of the facility or incident; 3) an indication of whether the occurrence is over or is still in progress; 4) the name and call back number of the person reporting the occurrence; 5) the time of the occurrence; and, 6) what other notifications have been made, including media interest.

When information, including event categorization, is not immediately available for the oral notification, the caller should identify who has responsibility for making the categorization, what specific information is needed, and when the additional information is estimated to be available.

Upon receipt of this information, the Headquarters Operations Center will notify the cognizant program office and the Office of the Secretary and make other required notifications.