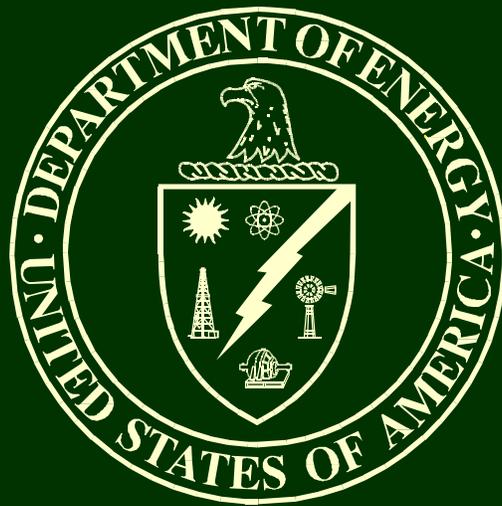


OA-30/IG-01

# INSPECTORS GUIDE

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# Emergency Management Program Evaluation

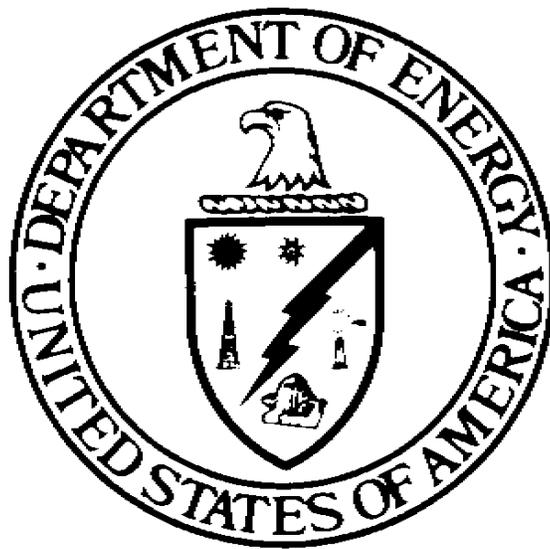


January 2001

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Office of Emergency Management Oversight  
Office of Independent Oversight and Performance Assurance  
Office of the Secretary of Energy

# **Office of Emergency Management Oversight (OA-30)**



## **Emergency Management Program Evaluation Inspectors Guide OA-30/IG-01**

**January 2001**

## Preface

As part of an effort to enhance the appraisal process, the Office of Independent Oversight and Performance Assurance (OA) and the Office of Emergency Management Oversight (OA-30) have prepared a series of documents that collectively provide comprehensive guidance and tools for the evaluation of emergency management programs across the Department of Energy (DOE) complex. The OA Appraisal Process Protocols describe the philosophy, scope, and general procedures applicable to all independent oversight appraisal activities. The OA-30 Emergency Management Oversight Appraisal Process Protocols describes specific procedures used by OA-30 in planning, conducting, and following up emergency management inspections. This Emergency Management Program Inspectors Guide provides

detailed information and tools to assist inspectors assigned to evaluate the capabilities and performance of emergency management programs in DOE. Although this inspectors guide is designed specifically for the OA-30 inspector, it is made available to the field through the OA-30 homepage and may be useful to field element and facility contractor personnel who conduct surveys or self-assessments of emergency management programs. OA-30 anticipates making periodic revisions to this guide in response to changes in DOE program direction and guidance, insights gained from independent oversight activities, and feedback from DOE Headquarters, field offices, and sites, as well as external stakeholders. Therefore, users of this process guide are invited to submit comments and recommendations to OA-30.

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## Acronyms

CAP	Corrective Action Plan
DOE	Department of Energy
EAL	Emergency Action Level
EARM	Emergency Assessment Resource Manual
EMG	Emergency Management Guide
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
EPI	Emergency Public Information
EPZ	Emergency Planning Zone
ERAP	Emergency Readiness Assurance Plan
ERO	Emergency Response Organization
GET	General Employee Training
ISM	Integrated Safety Management
JIC	Joint Information Center
OA	Office of Independent Oversight and Performance Assurance
OA-30	Office of Emergency Management Oversight
OSHA	Occupational Safety and Health Administration
PIO	Public Information Official
PRA	Probabilistic Risk Assessment
SAR	Safety Analysis Report

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## Section 1

### INTRODUCTION

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#### Purpose

As part of an effort to enhance the appraisal process, the Office of Independent Oversight and Performance Assurance (OA) and the Office of Emergency Management Oversight (OA-30) have prepared a series of documents that collectively provide comprehensive guidance and tools for the evaluation of emergency management programs across the Department of Energy (DOE) complex. The OA Appraisal Process Protocol describes the philosophy, scope, and general procedures applicable to all independent oversight appraisal activities. The OA-30 Emergency Management Oversight Appraisal Process Protocol describes specific procedures used by OA-30 in planning, conducting, and following up emergency management inspections. The information in these documents is not repeated here and, therefore, these documents should be referred to when planning and conducting emergency management program inspections. In particular, the OA-30 protocol provides information regarding inspectors' responsibilities and an overview of inspection activities.

The Emergency Management Program Inspectors Guide provides a set of detailed tools and references that inspectors can use to plan, conduct, and close out an inspection of the emergency management program. These tools

serve to promote consistency, assure thoroughness, and enhance the quality of the inspection process.

#### Organization of Guide

The introductory section (Section 1) of this guide provides an overview of inspection goals/areas of emphasis and describes OA-30's application of integrated safety management concepts.

Section 2 (Program Elements) provides detailed guidance for inspecting emergency management program elements. This guidance includes descriptions of various types of data collection activities, the identification of common deficiencies identified in the past, and the impact that a deficiency in one program element may have on other program elements.

Section 3 (Analyzing Data and Interpreting Results) contains guidelines on how to analyze information gathered during data collection activities, interpret the significance of potential deficiencies, and identify findings.

Appendix A contains performance goals and performance criteria from draft Volume VI of the emergency management guide (DOE Guide 151.1, or EMG) and is organized by key program element for ready reference by inspectors. Appendix B provides references.

## Overview

The tools contained in this guide are intended to be used at the discretion of the inspector. Typically, inspectors select the tools that are applicable and most useful on a facility-specific and inspection-specific basis. Although the guidelines presented here cover a variety of inspection activities, they do not and cannot address all emergency management program variations at all DOE facilities. The tools may have to be modified or adapted to meet inspection-specific needs, and in some instances, inspectors may have to design new activities and new tools to collect information not specifically covered in this guide.

The information in this guide does not repeat all of the detailed information in DOE orders. Rather, it is intended to complement the orders by providing practical guidance for planning, collecting, and analyzing inspection data. Inspectors should refer to this guide as well as DOE orders and other guidance at all stages of the inspection process.

One objective in developing OA-30 inspector guides is to provide a repository for the collective knowledge of OA-30's most experienced inspectors that can be enhanced and updated as inspection methods improve and inspection experience accumulates. Every attempt has been made to develop specific guidelines that are as useful as possible. In addition to guidelines for collecting information, the inspection tools provide aids for prioritizing and selecting activities, then analyzing and interpreting results. The specific guidelines should be viewed as suggestions rather than requirements, and they must be critically examined and interpreted on an inspection-specific basis, taking into account site-specific factors.

## Inspection Goals

The primary inspection goal is to determine, with reasonable certainty, whether the emergency management program is both

adequately meeting the appropriate standards established by DOE policy and is capable of providing appropriate protection to site personnel and the public in case of an accident at the site.

In order to do this, it is necessary to determine whether the emergency management program is adequately managed, staffed, trained, equipped, and capable of performing all mission-related tasks and duties.

## Compliance/Performance

While an emergency management program inspection includes both compliance and performance activities, a greater emphasis is placed on the performance aspect, as it is more useful in determining whether the emergency response organization (ERO) can perform its mission. Many of the DOE emergency management requirements contained in DOE Order 151.1A are stated in performance terms: that is, they state a capability, duty, or integrated response that must be performed. Therefore, compliance requires effective performance. Even when dealing with policy requirements for which a compliance approach may seem appropriate (e.g., Does the training program contain the required elements?), the OA-30 approach for this topic is to go beyond compliance and determine the performance aspects of these requirements (e.g., Does the training program adequately prepare the Emergency Director to perform his/her mission?) Therefore, whenever possible, data-collecting activities for the emergency management program should be performance-oriented.

## Planning Goals

The ultimate goal of planning is to anticipate and provide for every action necessary to conduct the highest quality inspection possible with the resources available. That is an extremely broad goal, and it provides little structure for actual planning. However, it is useful to focus the planning process on several narrower, yet major, goals. Examples of such goals might include:

- Understanding the character of the ERO, including its size, composition, and mission; having a general familiarity with how it is trained, managed, and equipped; and understanding the environment in which it operates
- Understanding the facility/site mission and major hazards
- Determining the topics to be inspected and the specific areas of focus for inspection activities
- Determining the specific data collection methods to be used, including any performance tests to be conducted
- Identifying and arranging for the provision of all personnel, administrative, safety, and logistical requirements necessary for data collection
- Producing necessary planning documents.

### Planning Decisions

Based on analysis of the information gained from a scoping visit, plant document review, discussion with other inspection team members, and discussion with the site points of contact, the inspection team leader must make a number of decisions, including:

- Scope and emphasis of inspection activities (including final selection of topics)
- Data collection methods to be employed, including performance tests
- Logistics, administrative, and personnel support required, and its sources
- Team members and their data collection activities
- A tentative schedule for data collection activities.

Once these decisions have been made, individual inspection plans can be developed and the detailed planning of data collection activities can proceed.

### Application of Integrated Safety Management Concepts

DOE uses an approach called integrated safety management (ISM) to systematically integrate safety into management and work practices at all levels so that missions are accomplished while protecting the public, the worker, and the environment. As part of the ISM approach, DOE has delineated guiding principles and core functions of safety management that establish the framework for ISM (reference DOE Policy 450.4). The seven guiding principles of ISM are:

- Line management responsibility
- Clear roles and responsibilities
- Competence commensurate with responsibilities
- Balanced priorities
- Identification of standards and requirements
- Hazard controls tailored to work being performed
- Operations authorization.

The five core functions of ISM are:

- Define work
- Analyze vulnerabilities
- Identify and implement controls
- Perform work within controls
- Provide feedback and improvement.

OA-30 considers the guiding principles and core functions when evaluating the impact of deficiencies in emergency management programs. The Common Deficiencies/Potential Concerns listed for each of the emergency management program elements (i.e., Sections 2A-2H) are grouped by ISM guiding principle or core function.

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## Section 2

### PROGRAM ELEMENTS

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#### Introduction

As indicated in Section 1, detailed guidance for inspecting key emergency management program elements is provided in this section and is organized by associated elements:

- Section 2A – Hazards Surveys and Hazards Assessments
- Section 2B – Categorization and Classification
- Section 2C – Protective Actions and Re-entry
- Section 2D – Consequence Assessment
- Section 2E – Notifications and Communications
- Section 2F – Emergency Response Organization
- Section 2G – Training and Drills
- Section 2H – Emergency Public Information.

OA-30 is considering developing inspectors guides for additional program elements, such as emergency medical support.

#### Program Element Inspection Tools

Program Element sections provide topic-specific information intended to help inspectors collect and analyze inspection data. Each section is further divided into the following standard subsections:

- General Information
- Relevant Site Documents
- Common Deficiencies/Potential Concerns
- Data Collection Activities
- Data Analysis and Ratings
- Potential Impacts on Other Program Elements:

##### General Information

This section defines the scope of the topic. It includes background information, guidelines, and commonly used terms intended to help inspectors focus on the unique features and problems associated with the topic.

##### Relevant Site Documents

This section provides a list of site documents that the inspector may choose to review before or during the performance of onsite data collection.

**Common Deficiencies/  
Potential Concerns**

This section addresses potential concerns or deficiencies that OA-30 has noted on previous inspections. By reviewing the list of common deficiencies and potential concerns before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector is expected to evaluate all aspects of the emergency management program element and should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated.

**Data Collection Activities**

This section identifies activities that inspectors may choose to perform during data collection. The information is intended to be reasonably comprehensive, although it is recognized that it will not address every conceivable variation. Activities include document reviews, facility

walkdowns, interviews, observations, and performance tests. Inspectors do not normally perform every activity on every inspection. Most often, activities and performance tests are selected during the planning effort. The activities listed in this section include those most often conducted and reflect OA-30 experience and expertise regarding those activities that are most productive in collecting data.

**Data Analysis and Ratings**

This section provides guidance on analyzing data and assigning a rating for the program area evaluated.

**Potential Impacts on Other  
Program Elements**

This section provides guidance on the potential impact that deficiencies in one program area may have on other program areas.

## Section 2A

# HAZARDS SURVEYS AND HAZARDS ASSESSMENTS

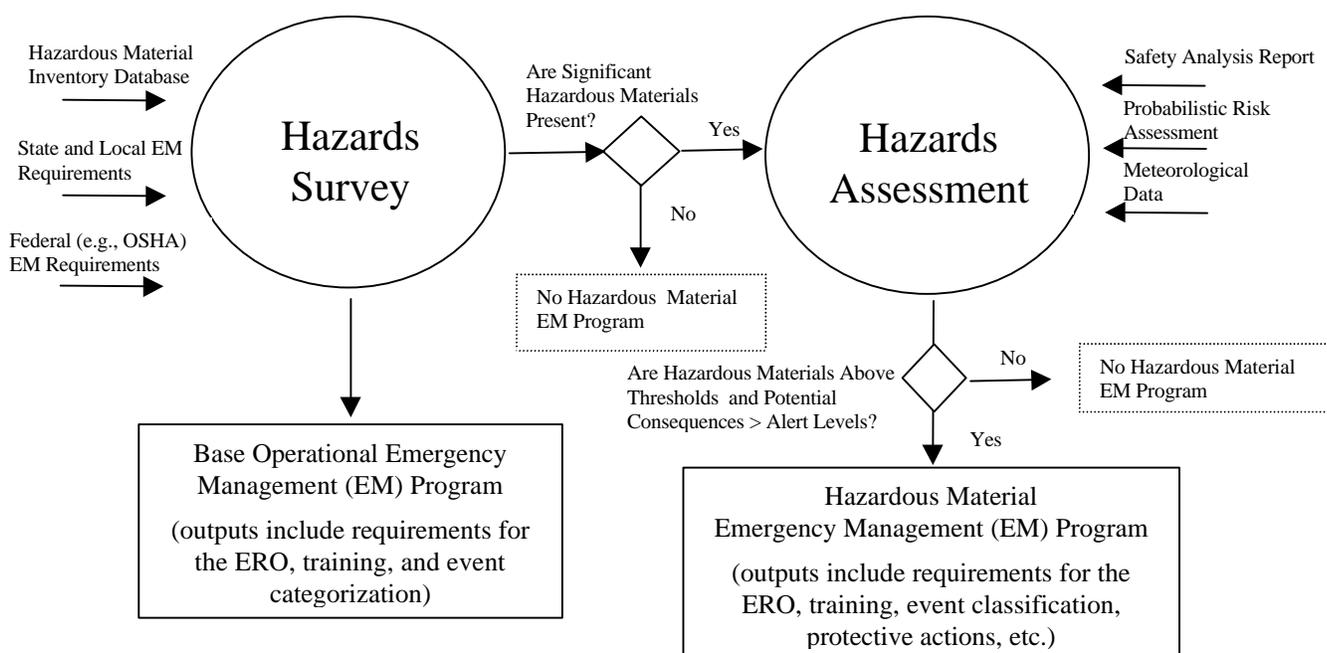
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### General Information

Hazards surveys and hazards assessments form the basis for a facility/site’s emergency management program. The hazards survey serves to establish the “Base Operational Emergency Management Program.” The hazards survey includes a listing of those emergency response requirements for industrial facilities as specified by Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) regulations. It also includes a survey of all hazardous materials and a qualitative evaluation of whether the hazardous materials are present in significant quantities

such that a hazards assessment is required. If significant quantities of hazardous materials are present, then a quantitative hazards assessment is performed to determine whether a hazardous material emergency management program is needed (and the attributes of this program) using inputs from plant safety documents. A hazardous material emergency management program is needed if hazardous materials exceed threshold quantities. Note that the integrated emergency management program will include both an operational base and a hazardous material emergency management program (if needed). The figure below illustrates this concept.



The scope of this inspectors guide is limited to the review of the site/facility's hazards survey and hazards assessments. It is not intended to provide guidance on review of the safety analysis report (SAR). Any issues or concerns with the SAR should be referred to the Office of Environment, Safety and Health. Included in the scope is an evaluation of the site/facility's determination of size of the emergency planning zone (EPZ) and identification of indications of barrier failures that may be used in emergency action levels (EALs).

Because the hazards survey and hazards assessment form the basis for developing the emergency response program, deficiencies in the hazards survey and hazards assessments can lead to deficiencies in other emergency management program elements. The Potential Impacts on Other Program Elements section of this chapter provides a description of these potential impacts.

### Relevant Site Documents

The following is a list of site documents that the inspector may choose to review before or during the performance of onsite data collection.

- **Procedure for preparation and approval of hazards surveys and hazards assessments** – describes the mechanism used to assure that the preparation, review, and approval of the documents are consistent with DOE orders and applicable guidance (note: sites are not required to prepare a procedure, however, some documentation of the process utilized should be available.).
- **SARs (for facilities of interest)** – typically are used as the reference starting point for postulating potential accidents analyzed in the hazards assessment.
- **Transportation SAR**
- **Basis for interim operation (for facilities of interest)**

- **Vulnerability analysis (for facilities of interest; note: may be classified)** – provides information that may be used to quantify malevolent act scenarios analyzed in the hazards assessment.
- **Chemical and radiological inventories, documents, or databases** – provide data on the basis for determining quantities of hazardous materials on the site and their location, and for initiating the process of performing the hazards survey. Note: Most sites use computer-based inventory systems.
- **Emergency plan** – should include a description of the hazards assessment process.
- **Map of all site facilities** – provides the location of all facilities that should be covered by the hazards survey and relative location of the facilities to the site boundary and public access points.

### Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principle(s) or core function(s) that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

#### Line Management Responsibility for Safety/Clear Roles and Responsibilities

The following are examples of areas OA-30 has identified where DOE and contractor management should have provided more

direction or support to the site in its emergency management program development:

- Establishing mechanisms for the preparation, review, and approval of hazards surveys and hazards assessments
- Reviewing hazards assessments as the basis document for the EPZ determination
- Reviewing and approving the EPZ (by the local DOE operations office manager)
- Ensuring that concurrence is obtained with offsite jurisdictions on the EPZ configuration.

#### **Competence Commensurate with Responsibilities**

The results of the hazards assessment are translated into procedures and operator aids that will be used during an emergency response. OA-30 has found that some sites' emergency planning staff were not proficient at developing hazards assessments or at interpreting and applying hazards assessment results to other elements of the emergency management program. Proficiency problems identified include:

- Applying threshold planning quantities in screening hazardous materials
- Analyzing the full spectrum of potential emergency scenarios, including: malevolent act and transportation event scenarios; lower consequence/higher probability events; and ground and waterborne pathways for situations where a time-urgent response is required
- Using correct material-at-risk amounts in calculations
- Evaluating offsite hazardous operations with potential impact to the site, including fixed facilities and transportation activities

- Determining facility and site boundaries correctly
- Using results of hazards survey and hazards assessments as the basis for categorization/classification methodology (e.g., using indications of potential barrier failures as possible EALs)
- Documenting the hazards survey in a format useable by site emergency responders (tabular listing of facilities and their hazards, number of persons in facility, etc.) and making it available in emergency response facilities as a reference for assisting response efforts
- Using results of hazards surveys and hazards assessments as the basis for medical response
- Using the hazards assessment results to determine EPZ configuration
- Applying "tests of reasonableness" to the EPZ configuration.

In addition, OA-30 inspections have found that some DOE field offices do not have individuals with sufficient emergency management expertise to effectively evaluate the contractor developed program documents.

#### **Identification of Safety Standards and Requirements**

Site hazards must be routinely reassessed to ensure that changes in hazardous material inventories and event initiators are factored into the emergency management program. OA-30 has identified concerns in this area including deficiencies in:

- Establishing mechanisms for notifying the organization responsible for hazards assessments of changes in hazardous material inventories and event initiators
- Confirming inventory information with methods such as facility walkdowns

- Preparing hazards surveys and assessments for activities such as transportation
- Following order requirements and/or site procedures when developing hazards surveys
- Considering engineering modifications that add plant instrumentation for potential unmonitored release pathways.

### **Data Collection Activities**

This section provides guidance on data collection activities that have been found useful in evaluating this program element. References to criteria from the October 1999 draft of Volume VI of the EMG, (Volume VI of DOE Guide 151.1), are provided where appropriate. Appendix A1 contains the Volume VI criteria for easy reference.

The guidance is grouped by activities related to the evaluation of (1) hazards surveys and (2) hazards assessments.

#### **Hazards Surveys**

**A.** Inspectors should determine whether a site procedure requires performance of the hazards survey. (Note: A “procedure” is not required by the order; in lieu of a procedure, a site mechanism should be in place that ensures that required survey attributes are incorporated.) Review the procedure used to develop the hazards survey and evaluate whether it specifies:

- A format for the survey
- A multidisciplinary team, which is appointed to prepare and review results
- A review cycle, which is established to prevent the introduction of hazardous material to the site without assessment and to update for changes in hazardous material inventories.

**B.** Inspectors should review the hazards survey to determine whether it was prepared in accordance with the procedure and possesses the attributes in matrix or tabular format prescribed by the order and the EMG. In addition, determine whether:

- All facilities (including offsite hazardous facilities [e.g., water treatment plant using chlorine] and activities [e.g., transportation artery] that may impact the site) are considered in the hazards survey.
- Criteria P1.1 through P1.7 are met (refer to Appendix A1).

**C.** Inspectors should review the hazards survey to determine whether hazardous material screening, if performed as part of the survey process, is consistent with Volume II of the EMG. The following activities should be performed to support this evaluation:

- Perform a comparison of threshold quantities of hazardous material to site/facility quantities listed in the hazards survey.
- Determine whether screening is conservative and based on material characteristics such as (1) in use by the general public, (2) is not hazardous to humans, (3) is a monolithic solid under normal conditions, (4) has low vapor pressure, or (5) is used in a laboratory setting in laboratory quantities.
- For sites with relatively close proximity to the public, determine whether hazardous materials that may adversely affect the public are quantitatively assessed (even if quantities of material were less than threshold planning quantities).

**D.** Inspectors should perform a comparison check among emergency plan facility descriptions, site map, and inventory of facilities listed in the hazards survey to determine whether the hazards survey includes all facilities.

**E.** Inspectors should review the site's hazardous material database to determine whether all hazardous materials are listed in the hazards survey.

**F.** Inspectors should walk down a number of facilities and observe transportation activities to check the accuracy of chemical and radiological hazardous material inventory database(s) used as the basis for determining amounts of hazardous materials (other than standard office products and cleaning supplies) that are used or stored in facilities.

**G.** Inspectors should walk down the emergency response facilities to determine whether a copy of the hazards survey is available in each facility.

**H.** Inspectors should observe and evaluate use and usability of hazards survey data in a drill, exercise, or tabletop performance test.

### **Hazards Assessments**

**A.** Inspectors should determine whether a site procedure requires performance of the hazards assessment. (Note: A "procedure" is not required by the order; in lieu of a procedure, a site mechanism should be in place that ensures that required assessment attributes are incorporated.) Review the procedure to determine whether it specifies:

- A format
- A process for preparation, review, and approval
- A multidisciplinary team appointed to prepare and review results
- A review cycle, not less than annually, that prevents introduction of hazardous material to the site without assessment.

**B.** Inspectors should review the hazards assessments to determine whether they were prepared in accordance with the procedure.

**C.** Inspectors should review the hazards assessment to determine whether a hazards assessment has been prepared for each facility containing hazardous materials that were not screened out. Determine whether hazardous materials exceeding screening thresholds are fully characterized (amount, location, condition of use, material properties, controls, etc.) to support development of scenarios and analysis of possible releases.

**D.** Inspectors should review the hazards assessment and facility/activity SARs (and/or environmental impact statements) to determine whether the full spectrum of emergency events and conditions that could cause releases of hazardous material are analyzed. For example, determine whether:

- Events include low-probability/high-consequence events as well as high-probability/low-consequence events.
- SAR scenarios are included in the assessment.
- Traditionally defined accident initiators, such as corrosion, manufacturing defects, malfunctioning equipment, or control systems, and procedural or human error, are addressed.
- External causes, such as impacts of natural phenomena, accidents at nearby facilities, vehicle and/or aircraft crashes, and malevolent acts, are included.
- Pathways for waterborne and ground releases, as well as airborne release paths, are considered if the pathway requires time-urgent response.
- Security-related events are evaluated.

**E.** Inspectors should review the hazards assessment to determine whether barriers to release of hazardous materials are identified, together with the possible initiating events, accident mechanisms, and equipment failures.

In addition, determine whether indicators (alarms, instrument readings) of barrier failures for use in EALs are identified and whether areas where indications are lacking have been identified and action initiated (e.g., plant modification requests) to correct the condition.

**F.** Inspectors should review the hazards assessment to determine whether meteorological assumptions and other factors, such as facility and site boundaries used in hazards assessment calculations, are correct. (The inspector may choose to perform an independent consequence assessment analysis on several scenarios to ensure that hazards assessment results are accurate and reproducible.)

**G.** Inspectors should review the hazards assessment dispersion models for determining consequences to determine whether if they are equivalent to emergency response models used by the ERO.

**H.** Inspectors should review the hazards assessment to determine whether correct protective action criteria are applied to potential release scenarios (e.g., Was the correct hierarchy of determining Emergency Response Planning Guidelines-2 value used? Was uranium considered as a toxicological hazard as well as a radiological hazard?).

**I.** Inspectors should review the hazards assessment or interview site management to confirm that the DOE field office operations manager reviewed the hazards assessment for adequacy. In addition, determine whether the DOE field office operations manager reviewed, approved, and submitted the site EPZ to appropriate Headquarters staff. Confirm that offsite jurisdictions concur with the EPZ determination.

**J.** Inspectors should review preplans and plans for hazardous material spill prevention and cleanup to determine whether they are adequate to address hazardous material spills in the quantities identified in the hazards assessment.

**K.** Inspectors should walk down the site's emergency response facilities to determine whether:

- The consequences to onsite and offsite receptors of interest have been calculated and documented in readily available emergency response documents.
- The hazards assessment or some derivative (e.g., "Emergency Assessment Resource Manual") of the assessment is useable as an emergency response document and is present in emergency response facilities.

**L.** Inspectors should observe and evaluate use and useability of hazards assessments in drill, exercises, or tabletop performance tests.

**M.** Inspectors should interview site emergency management staff to determine whether the identification of large quantities of hazardous materials has resulted in site actions to minimize risk, such as:

- Limiting/scheduling amounts to "just-in-time" quantities
- Segregating quantities of stored materials
- Altering processes to use other, less hazardous materials.

## Data Analysis and Ratings

Inadequate hazards surveys and hazards assessments can result in a site being unable to respond adequately to emergencies because the available response tools and resources are not commensurate with the hazards present.

The results of the data collection effort may indicate areas where the hazards surveys and hazards assessments element of the emergency management program does not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best management practices. The impact of any deficiency on the site's

emergency response capability must be considered in evaluating and rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating the emergency management program.

### **Potential Impacts on Other Program Elements**

Inaccurate identification or characterization of hazards or interpretation of survey and assessment results will adversely affect nearly all emergency management program elements. A description of the relationship of hazards surveys and hazards assessments to other program elements are discussed below.

**Categorization/classification.** The hazards surveys and hazards assessments are used to identify event scenarios and indications (such as indications of barrier failure) used to develop EALs to classify hazardous material emergencies.

**Protective actions and re-entry.** The hazards assessments are used to identify protective actions that may be appropriate for different event scenarios.

**Notification and communications.** The hazards surveys and hazards assessments help to determine notification and communication needs. The transport times and the impacts of hazardous material releases will define the need for systems, procedures, and staff to carry out notifications in a timely manner.

**Consequence assessment.** The source term data and consequence calculations required in the hazards assessment provides the basis for selecting consequence assessment models and/or techniques available for use during actual emergencies.

**ERO.** Analysis of potential facility events (the emergency scenarios) should lead planners to determine how many, and of what qualifications, the augmenting ERO staff should be.

**Offsite response interfaces.** The results of the hazards surveys and hazards assessments are used to help identify all agencies and organizations (e.g., local, state, and Federal) necessary to support a comprehensive integrated response. In addition, the hazards assessment should be used to define needs for specialized offsite support, such as ambulances, medical facilities and personnel, hazardous materials response teams, firefighting support, and public affairs interfaces.

**Emergency medical support.** By using the results of the hazards surveys and/or hazards assessments, medical and emergency planners should be able to develop a tailored system to protect the health and safety of DOE workers and the public. The hazards analyzed in the hazards assessment will define the medical support and staff skills required in addition to the need for special preparations such as decontamination supplies; chelating, neutralizing, and blocking agents; and medical staff training in treatment of victims exposed to site-/ facility-specific hazards.

**Emergency public information (EPI).** EPI activities and the number of EPI staff required to respond effectively to an emergency will vary in part with the nature, severity, and duration of the emergencies analyzed in the hazards assessment.

**Emergency facilities and equipment.** The site/facility must have adequate equipment and supplies to meet the needs determined by the results of the hazards assessments. The Emergency Operations Center (EOC) design and operations should provide for effective emergency response based on an analysis of emergency response needs. The EOC should remain operational and life-supporting for an extended period of time under accident conditions (as derived from the facility hazards assessments).

**Training and drills.** Scenarios from the SAR and the hazards assessment help define necessary response actions, which in turn provide the basis for determination of all tasks emergency responders must be capable of performing.

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## Section 2B CATEGORIZATION AND CLASSIFICATION

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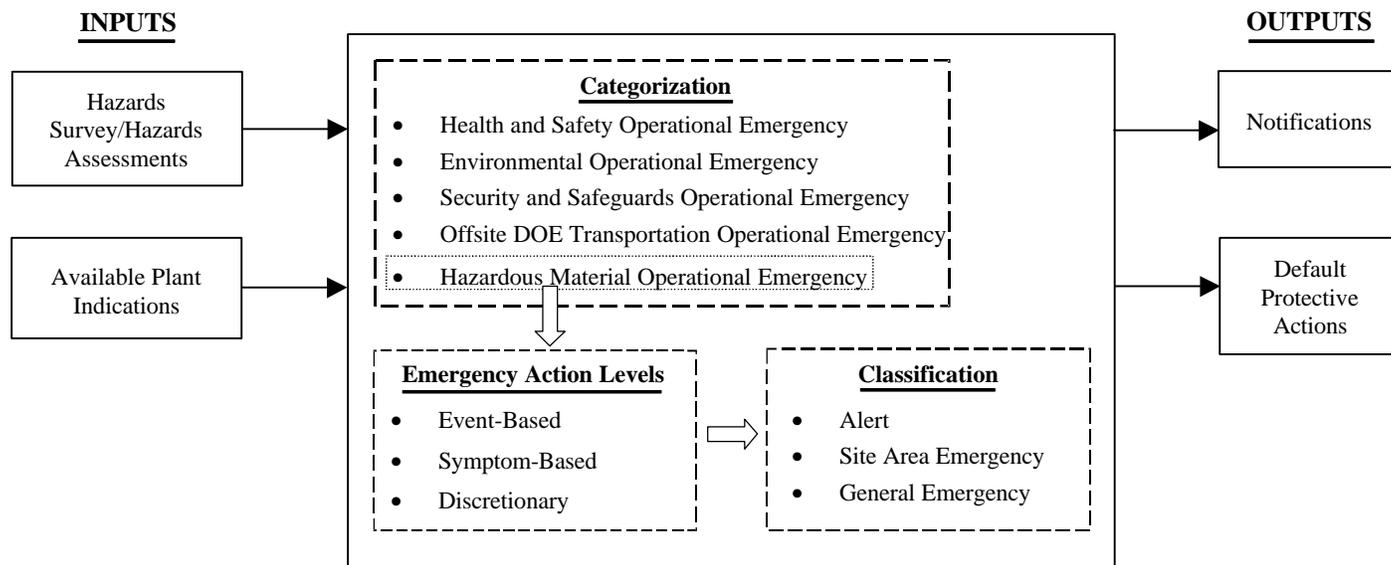
### General Information

Event categorization and classification initiate the dissemination of information about an Operational Emergency so that proper response actions can be initiated at all levels of DOE. Therefore, it is very important that the capability exists to perform this function quickly and accurately. Important elements of this capability include (1) clear designation of a person who is available at all times to rapidly evaluate an event as the person responsible for categorizing or classifying the event and (2) EALs that are clear and use plant indications for classifying the event. The EALs should be derived from information contained in the hazards

assessments for the facilities and activities at the site. The categorization and classification process initiates preplanned event response actions, such as notifications of the event to DOE field and Headquarters organizations and offsite officials and activation of the site emergency response organization (for more serious events). In addition, default onsite and offsite protective actions may be issued based upon the classification level. The figure below illustrates this concept.

The objective of the evaluation of this area is to determine whether the site has the capability (e.g., procedures, personnel, and training) to promptly categorize and classify events.

### CATEGORIZATION AND CLASSIFICATION



## Relevant Site Documents

The following is a list of site documents that the inspector may choose to review before or during the performance of onsite data collection.

- **Site hazards survey**
- **Site hazards assessment(s) for facilities of interest** – should identify indicators that were used as the basis for derivation of the EALs.
- **Transportation hazards assessment** – should provide the basis for site transportation EALs.
- **Vulnerability analysis (for facilities of interest; note: may be classified)**
- **Emergency Assessment Resource Manual (EARM)** (or similar document) – contains event scenarios, which should correlate with site, facility, and transportation EALs.
- **Emergency Plan** – describes the roles and responsibilities of the ERO in categorizing and classifying emergency events.
- **Emergency Plan Implementing Procedure(s)** – contains implementing procedures, checklists, and job aids for categorizing and classifying emergency events, and performing notifications to offsite agencies that receive public protective action recommendations correlated with emergency classifications.
- **Memoranda of agreement** – agreements among the site, local jurisdictions, and the state regarding the categorization and classification methodology, and agreements regarding notifications of “non-emergency significant events.”
- **Lesson plans**
- **Training and qualification records.**

## Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principle(s) or core function(s) that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walk downs, and other data gathering activities. However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

### Line Management Responsibility for Safety/Clear Roles and Responsibilities

DOE and contractor management should ensure that processes are in place for the review of EALs. OA-30 has identified two areas where appropriate reviews have not occurred:

- EALs and emergency classifications have not been reviewed with and understood by offsite emergency response officials.
- EALs have not been verified as accurate or validated as useable by site or facility decision-makers.

### Competence Commensurate with Responsibility

OA-30 has found that, at some sites, decision-makers responsible for classification have not been trained and/or drilled in categorization and classification.

### Identification of Safety Standards and Requirements

EALs are important for initiating dissemination of information to prompt response actions that are commensurate with the severity of the event. At some sites, OA-30 has identified concerns with

EALs or classification procedures that reduce their effectiveness. Examples of the problems with EALs or classification procedures include:

- The implementing procedure for performing categorization/classification is not prepared.
- EALs are ambiguous, do not take into consideration human factors, and are not comprehensive.
- EALs are not prepared for the full spectrum of emergency events that could potentially affect the site, e.g., EALs for malevolent acts are not included.
- EALs are not prepared for onsite transportation events; thresholds for offsite transportation events (Operational Emergencies not requiring classification) are not prepared.
- Discretionary EALs that are, for example, based on safety system status, are not prepared.
- Symptomatic EALs based on available instrument readings are not prepared.
- EALs are not integrated with the formulation of protective actions for all population groups.
- EALs are not integrated with occurrence reporting procedures.
- Resultant classification for multiple events is not considered.
- The EAL matrix does not support timely classification of emergencies or determination of protective actions. For example, the classification scheme cannot be implemented until field monitoring data is obtained.
- Thresholds are not prepared for (1) Operational Emergencies not requiring

further classification and (2) non-emergency significant events.

### **Hazard Controls Tailored to Work Being Performed**

OA-30 has found that at some sites, plant indications or monitoring instruments to support timely classification may not be available. Examples include:

- Instruments that monitor barrier integrity are not available and plant modifications are not considered for installation.
- Chemicals identified in the EAL matrix cannot be directly measured in the field, or by sampling and onsite laboratory analysis.

### **Data Collection Activities**

The following data collection activities have been found to be beneficial in evaluating this emergency management program element. The inspector should choose which of the activities to perform based upon the focus of the evaluation and the site-specific features of the emergency management program.

**A.** Review the emergency plan and implementing procedures to determine whether:

- They unambiguously identify the individual in the ERO who is responsible for categorizing and classifying emergency events, and whether the responsible individual is available to perform the action in a timely manner commensurate with the hazard and the proximity to affected populations.
- The EALs contained in the emergency plan implementing procedures are consistent with the EALs described in the emergency plan.

**B.** Review the categorization/classification implementing procedure to determine whether:

- It provides adequate guidance on implementing the methodology and addresses such issues as length of time to classify, action to take if event information is unclear, and action to take if multiple EAL thresholds are exceeded.
  - Mechanisms are available to permit classification of security events based on the potential for a release of hazardous materials.
  - Thresholds for Operational Emergencies not requiring further classification have been included in accordance with DOE Order 151.1A.
  - The occurrence reporting process is integrated with the Operational Emergency categorization/classification methodology.
  - Event categorization/classification initiates a set of preplanned response actions, such as mobilization of resources to mitigate consequences of the event, and activation of necessary analytical and additional decision-making capabilities to make sound determinations regarding further actions.
  - Thresholds (EALs) for recognition of emergency conditions are integrated to the extent possible with routine monitoring performed during normal plant operations.
  - The classification methodology includes event termination criteria, and “downgrading” event classification is not employed.
- C.** Review the categorization/classification implementing procedure or applicable EAL document/manual to determine whether:
- EALs, together with predetermined protective actions, have been identified for the range of potential emergency events and conditions analyzed in the site, facility, and transportation hazards assessments.
  - EALs related to the range of event severity have been prepared for each accident scenario when possible.
  - Symptomatic EALs have been preferentially developed where possible for emergency event recognition.
  - Sitewide EALs have been prepared for conditions such as incidents affecting multiple facilities.
  - EALs are annotated with facility mode dependency, where appropriate. (Note: This may be appropriate for facilities where event consequences are significantly different based upon the mode, e.g., operating versus shutdown of the facility.)
  - Thresholds for the three emergency classes (Alert, Site Area Emergency, and General Emergency) are based on and defined in terms of actual or potential consequences from a release of hazardous materials resulting in a dose or exposure that exceeds Protective Action Criteria as determined in DOE Order 151.1.
- D.** Determine whether a mechanism is available to recognize thresholds for non-emergency, but significant, events.
- E.** Determine whether facility and site boundaries have been correctly defined (refer to EMG Volume 2 for criteria).
- F.** Review training procedures and records for personnel responsible for categorizing and classifying emergency events to determine the frequency of training of the ERO. (Coordinate with inspector of Training and Drills program element.)
- Facility/Equipment Walkdowns**
- G.** Perform a walkdown of facilities to determine whether indicators referenced in the EALs are available, correctly identified, and

useful for classifying events (e.g., readable, correct range).

**H.** Perform a walkdown of onsite facilities to determine whether EAL procedures are available and current.

### **Tabletop Performance Testing**

Note: General guidance on conducting the following performing tests is contained in OA-30's inspector guide OA-30/IG-02, "Tabletop Performance Test Inspectors Guide."

**I.** Conduct a performance-based tabletop test with initial decision-makers. Present a hypothetical scenario to the decision-maker, with incoming field information in real time. Determine the adequacy of tools for categorizing and classifying operational and security emergencies, and the adequacy of training and drilling the decision-maker in implementing the tools.

**J.** Conduct a performance-based tabletop test with the site emergency manager (crisis manager). Present a hypothetical scenario with incoming staff recommendations to the emergency manager. Determine the adequacy of tools for categorizing and classifying emergency events, and the adequacy of training and drilling of the emergency manager in implementing the tools.

### **Interviews**

**K.** Interview the emergency response managers and initial decision-makers responsible for classification to determine whether they are active participants in development, verification, or validation of EALs.

**L.** Contact the offsite EROs that respond to classified events to determine whether they have the current EALs and understand their purpose and use during an emergency.

**M.** Interview site personnel responsible for developing EALs to determine whether areas in

which the public has unescorted access may be evacuated in one hour in event of an emergency if those areas are considered within the site boundary for emergency classification purposes.

### **Data Analysis and Ratings**

The results of the data collection effort may indicate areas where the categorization and classification element of the emergency management program does not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best practices. The impact of any deficiency on the site's or facility's ability to categorize and classify events must be considered in rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating program elements.

### **Potential Impacts on Other Program Elements**

Analysis of the categorization and classification program element may identify impacts to/from other emergency management program elements. Examples of the relationship between categorization and classification program element to other program elements are:

**Hazards surveys and hazards assessments.** Emergencies involving hazardous material are classified using EALs that are developed based on the accident and emergency event scenarios and the determination of the consequences in the hazards assessment.

**Protective actions and re-entry.** Protective actions for all population groups should be linked to the emergency classification. If events are not classified at the appropriate level (i.e., Alert, Site Area, or General) then adequate protective actions may not be initiated.

**Notification and communications.** Prompt and accurate notifications of event categorization and classification are essential to mitigate consequences, activate EROs and facilities (e.g.,

EOCs), recall essential personnel, and notify offsite agencies responsible for protecting the health and safety of the public.

**Consequence assessment.** The results of the initial and continuous consequence assessment are used as an input to event categorization/classification.

**ERO.** The ERO configuration is contingent on the severity of the emergency (emergency category and class) and the required functions determined by analysis.

**Offsite response interfaces.** The response by offsite organizations is contingent on the severity of the emergency (emergency category and class) and the required functions, such as ambulances, medical facilities and personnel, hazardous materials response teams, fire-fighting support, and public affairs interfaces.

**EPI.** EPI activities and the number of EPI staff required to respond effectively to an emergency will vary in part with the nature, severity (emergency category and class), and duration of the emergency.

## Section 2C

# PROTECTIVE ACTIONS AND RE-ENTRY

## Contents

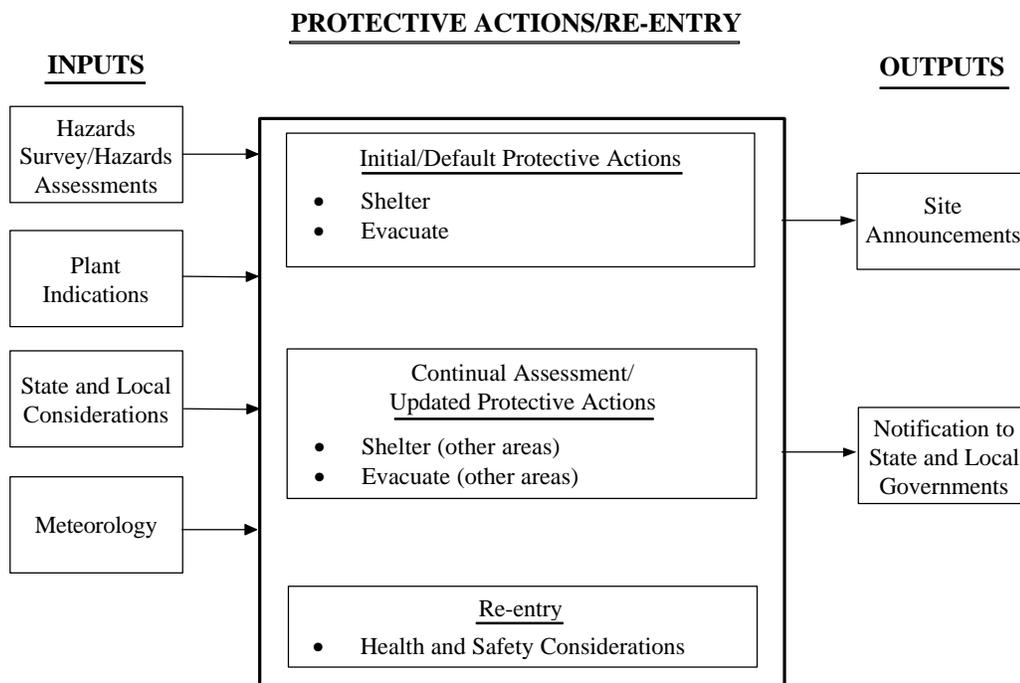
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### General Information

The primary purpose of an emergency management program is to provide the capability to protect site workers and the public in case of an accident at one of the facilities on the site. The protective actions that may be appropriate are based upon the hazards (e.g., hazardous materials and energetic sources) present at the site and mechanisms that may result in the release of the hazardous materials. These are identified as part of the hazards survey and hazards assessment. During an event, protective actions will be based upon the

classification level of the event and consequence assessments. The figure below illustrates this concept.

The objective of the evaluation of this area is to determine whether the site has the capability (e.g., procedures, personnel, and training) to promptly formulate and take protective actions for site personnel and to promptly formulate and recommend protective actions to offsite authorities. In addition, evaluation of this program element includes review of the site plans and capabilities for re-entry of a facility following an event.



## Relevant Site Documents

The following is a list of site documents that the inspector may choose to review before or during the performance of onsite data collection.

- **Site hazards survey**
- **Site hazards assessment(s) for facilities of interest**
- **Transportation hazards assessment**
- **Emergency Assessment Resource Manual (EARM)** – compiled data derived from the hazards assessment or other relevant sources that a site uses to perform timely initial assessment and formulation of predetermined protective actions. EARMs provide a summary and description of any preprogrammed or “canned” site-specific consequence assessment scenarios stored in computer systems together with predetermined protective actions.
- **Emergency Plan** – includes a description of the roles and responsibilities of the ERO in determining and implementing protective actions, and establishing re-entry requirements.
- **Emergency Plan Implementing Procedure(s)** – procedures for determining and implementing protective actions, notifying offsite agencies that receive public protective action recommendations, and conducting re-entry.
- **Memoranda of agreement** – may document consensus among the site and the offsite jurisdictions regarding protective actions to be implemented in demographic sectors surrounding the site
- **Lesson plans** – curriculum lesson plans for ERO members responsible for formulating protective actions.

- **Training and qualification records** – for individuals qualified as decision-makers and responsible for formulating and implementing protective actions.

## Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principle(s) or core function(s) that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

### Competence Commensurate with Responsibilities

At some sites, initial decision-makers have not received comprehensive training on protective actions, and personnel responsible for developing protective action recommendations are not proficient in performing this task. As a result, protective actions may be delayed and/or less accurate. Proficiency problems have been found in the following areas:

- Initial decision-makers cannot interpret protective action formulation tools such as the EARM and/or North American Emergency Response Guides and, therefore, do not determine and implement correct protective actions in a timely manner.
- Emergency response managers responsible for formulating protective action recommendations may not be familiar with the criteria for classifying emergencies and issuing protective actions and cannot use site procedures to identify these criteria.

- Emergency response managers may not implement appropriate protective actions when challenged with a plume approaching workers at the primary staging area. (Applicable procedures may lack sufficient guidance.)
  - Consequence assessors may not apply the correct protective action criteria when formulating protective action recommendations for decision-makers.
  - Co-located workers may not be promptly notified of required protective actions affecting their health and safety.
  - Key security force dispatch and response personnel may lack familiarity with emergency management concepts of isolation zones, protective action zones, and EPZs to ensure their safety during a hazardous material release. Emergency response managers may not recognize the need to station responding protective forces outside of protective action zones, thereby jeopardizing the safety of those personnel in the event of a hazardous material release. Security forces may not possess personal protective equipment and/or may not be trained on its use.
  - Emergency response managers may rely on their memory instead of using implementing procedures for performing many tasks, including categorization/classification and formulation of protective actions.
  - When the DOE emergency manager and the site emergency director are physically separated, decisions (such as the upgrade to a General Emergency and protective action recommendations for the affected public) may be delayed.
- Identification of Safety Standards  
and Requirements**
- OA-30 has found that personnel responsible for formulating protective action recommendations
- sometimes lack ready access to the procedures or tools they need in order to perform their duties. Examples of information/tools that were not available to personnel responsible for formulating protective action recommendations include:
- An EARM is not available, and the site's hazards survey and hazards assessment do not contain easily interpreted tables and matrices to allow their use as an emergency response tool for determining the areas affected by a hazardous material release.
  - Procedures for updating protective action recommendations following analysis of consequence assessment or field monitoring data are not available.
  - Consequence assessors lack tools for overlaying consequence projections onto maps showing impacted areas, receptors, and applicable protective actions.
  - Emergency plans and procedures lack guidance on roles and responsibilities for deploying protective forces to an incident scene outside a facility boundary without placing the forces in harm's way.
  - The facility emergency plan and implementing procedures do not adequately address the protective actions for a puff release of airborne plutonium or an enriched uranium plume. Personnel could therefore be mistakenly directed to evacuate to an assembly area rather than to shelter in place.
  - The protective action guides for emergency workers are not consistent with 10 CFR 835 dose limits and may not contain the 10 CFR 835 requirements for approvals.
  - The documents used by incident commanders for recommending initial protective actions for the public are uncontrolled and not specifically supported by any emergency plan implementing procedure. If job aids are provided, they may contain decision paths that lack observable criteria.

## Data Collection Activities

The following data collection activities have been found to be beneficial in evaluating this emergency management program element. The inspector should choose which of the activities to perform based upon the focus of the evaluation and the site-specific emergency management program.

### Document Review

**A.** Review the emergency plan and implementing procedures to determine whether they:

- Identify the individual in the ERO who is responsible for formulating and implementing protective actions for on-scene responders and co-located workers, and formulating protective action recommendations for offsite authorities
- Identify the individual in the ERO who is responsible for authorizing utilization of radio-protective drugs
- Identify the individual in the ERO who is responsible for authorizing emergency worker exposures in excess of site administrative limits
- Identify protective actions for the range of potential emergency events and conditions analyzed in the hazards assessment and note whether this information has been put into a form suitable (e.g., tabulated) for ready reference
- Provide methods for determining the area where protective actions are required. Ensure that the facility procedures include criteria for determining the most effective protective action.

**B.** Review re-entry implementing procedures to determine whether they require a rescue team for the re-entry team. Determine whether procedures are consistent with National Fire Protection Association requirements.

**C.** Determine whether the site has procedures that provide for search-and-rescue methods, that search-and-rescue team composition is predetermined, and whether team members are qualified to perform the task. Determine whether procedures are consistent with National Fire Protection Association requirements.

**D.** Review drill records to determine whether facility evacuation drills are periodically conducted. Review records to determine whether assembly for accountability can be completed within the required time (coordinate with inspection of Training and Drills program element).

**E.** Review training procedures and records for personnel responsible for recommending onsite and offsite protective actions to determine the frequency of training of the ERO on protective actions (coordinate with inspection of Training and Drills program element).

### Facility Walkdown

**F.** Walk down control areas and/or the incident commander's command vehicle to determine whether tools used to formulate and implement timely protective actions for all affected population groups are available in these locations as appropriate.

**G.** Walk down locations where consequence assessments and protective actions are formulated to determine whether necessary presentation materials, such as maps and data recording sheets, are available.

### Interviews

(Note: Coordinate with the team leader for setting up any discussions with offsite officials.)

**H.** Interview onsite emergency managers to determine whether they have a clear understanding of their responsibilities regarding determining and issuing protective actions for site personnel and protective action recommendations to state and local government organizations.

**I.** Interview offsite officials to determine whether they have a clear understanding of their actions to take upon receipt of protective action recommendations issued by the site emergency manager.

### **Tabletop Performance Tests**

(Note: General guidance on conducting the following performance tests is contained in OA-30's inspectors guide OA-30/IG-02, "Emergency Management Tabletop Performance Test Inspectors Guide.")

**J.** Conduct a tabletop performance test with initial decision-makers. Present a hypothetical scenario to the decision-maker, with incoming field information in real time. Determine the adequacy of tools for formulating and implementing protective actions for all population groups, and the adequacy of training and drilling of the decision-maker in implementing the tools.

**K.** Conduct a performance-based tabletop exercise with the site emergency manager (crisis manager). Present a hypothetical scenario with incoming staff recommendations to the emergency manager. Determine the adequacy of tools for formulating and implementing protective actions for all population groups, and the adequacy of training and drilling of the emergency manager in implementing the tools.

**L.** Conduct a performance-based tabletop exercise with the ERO consequence assessment team or person(s) responsible for performing technical analysis to assist the site emergency manager in formulating protective action recommendations. Present a hypothetical scenario to the team, with incoming field information in real time. Determine the adequacy of tools for performing continuous assessment and formulation of protective actions, and the adequacy of training and drilling of the consequence assessment team in implementing the tools. (Note: This performance-based tabletop exercise should be combined with the evaluation of the ERO consequence assessment function.)

## **Data Analysis and Ratings**

The results of the data collection effort may indicate areas where the protective actions and re-entry element of the emergency management program does not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best practices. The impact of any deficiency on the site's ability to use these documents as the basis for formulating and issuing protective actions and controlling re-entry efforts must be considered in rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating program elements.

## **Potential Impacts on Other Program Elements**

Analysis of the categorization and classification program element may identify impacts to/from other emergency management program elements. Examples of the relationship between protective actions and re-entry program element to other program elements are:

**Hazards survey and hazards assessment.** These documents describe the hazardous materials at the site and potential areas affected by a release of the hazardous materials. This information is used to develop initial (default) protective actions and in determining the type of protective actions that may be warranted.

**Categorization/classification.** The protective actions implemented in response to an event are directly linked to the event categorization and classification as determined using the EALs.

**Notification and communications.** Prompt and accurate communications and notifications to workers onsite and offsite agencies responsible for protecting the health and safety of the public are essential to ensure that protective actions can be implemented in time to be effective.

**Consequence assessment.** The assessment of consequences is the basis for determining the most effective protective actions.

**Offsite response interface.** DOE and contractors must coordinate with responsible offsite agencies to plan for the recommendation and implementation of protective actions.

**EPI.** The EPI organization and the Joint Information Center (JIC) are established as the single authoritative source of information regarding the event response, protective actions implemented on site and recommended to offsite authorities, and long-term implications.

**Emergency facilities and equipment.** The site/facility must have adequate equipment and supplies to implement the predetermined protective actions.

## Section 2D

# CONSEQUENCE ASSESSMENT

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### General Information

Consequence assessment is the process used to evaluate the impacts of a release of hazardous materials. The primary objective of this process is to provide timely, useful information to emergency managers for use in making informed decisions to protect site personnel, the public, and emergency responders.

Consequence assessment is conducted in three phases during an emergency response: (1) immediately upon recognition of the emergency using readily available tabulated results of consequence calculations conducted ahead of time; (2) in the first few minutes of a response using any available real-time event and meteorological information, and (3) throughout the event by the ERO consequence assessment staff, who typically report to the EOC.

The facility/site being evaluated is required to have the capability to evaluate the consequences of a

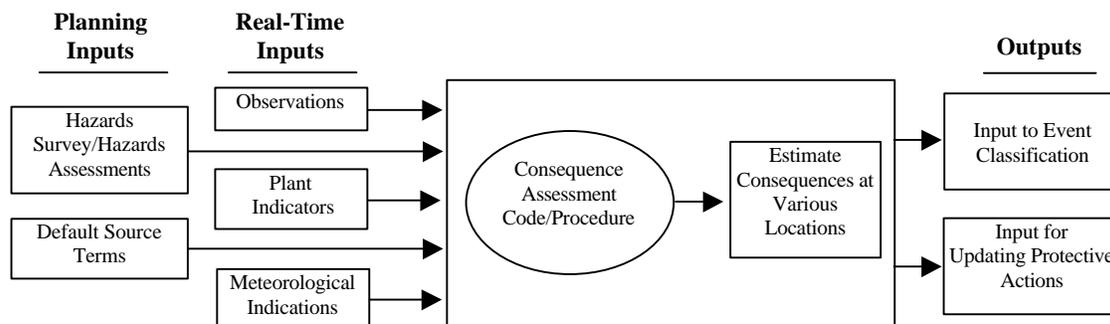
potential accidental release of both radiological and non-radiological (e.g., chemical) hazardous materials.

The facility/site hazards survey and hazards assessment form the basis for the consequence assessment capability. Key elements of the consequence assessment capability include:

- Consequence assessment codes/procedures
- Availability and identification of inputs to consequence assessment codes/procedures (e.g., meteorological data, source term data)
- Process for using the consequence assessment results for classifying events and formulating protective actions.

The figure below illustrates the inputs and outputs of consequence assessment codes/ procedures and the interface with other emergency management program elements.

### CONSEQUENCE ASSESSMENT ELEMENTS



## Relevant Site Documents

The following is a list of site documents that the inspector may choose to review before or during the performance of onsite data collection.

- **Site hazards survey**
- **Site hazards assessment(s) for facilities of interest**
- **Transportation hazards assessment**
- **EARM**
- **Emergency Plan** – includes a description of the roles and responsibilities of the ERO in performing consequence assessment
- **Emergency Plan Implementing Procedure(s)**
  - Procedures for implementing timely initial assessment (manual [EARM] or computer-aided assessments performed by initial responders and/or decision-makers) and continuous assessment performed by consequence assessment team
  - Sample printouts of the dispersion model output and meteorological monitoring data
  - Forms for recording and communicating consequence assessment results
  - Plans and procedures for conducting field monitoring and methods for refining consequence assessments based on measurement data
- **Computer manual(s):** procedures for operating consequence assessment hardware and software; documentation of the computer code(s) used to perform consequence assessment

- **Procedures or quality assurance manual:** for maintaining the integrity of computer codes and modeling software
- **Lesson plans:** curriculum lesson plans for members of consequence assessment team
- **Training and qualification records:** for individuals qualified to perform consequence assessment and dose modeling.

## Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principle(s) or core function(s) that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

### Competence Commensurate with Responsibilities

At some sites, initial decision-makers have not received comprehensive training on consequence assessment and personnel responsible for performing consequence assessments are not proficient. As a result, assessments may be delayed and/or less accurate. Proficiency problems have been found in the following areas:

- Understanding the impact of meteorological factors, such as wind direction, speed and atmospheric stability, on potential onsite and offsite consequences
- Reconciling differences among various consequence projections (e.g., pre-established consequence estimates versus those run during an exercise) based on the duration of the release (e.g., puff versus plume)

- Modifying default consequence modeling parameters to reflect site-specific requirements (such as modifying the level of concern in dose consequence codes, such as ALOHA, to reflect Emergency Response Planning Guidelines-2 values)
- Reconciling differences in field monitoring readings compared to dose projections and understanding the information provided by different instruments employed by various field teams
- Determining the potential for hazardous material release based on available plant indications, such as threat to integrity of material barriers
- Using the correct protective action criteria to compare with consequence assessment results for the purpose of formulating protective action recommendations to decision-makers
- Refining consequence projections based on updated or confirmed source term information and determining the consequences of “what-if” conditions.

#### **Identification of Safety Standards and Requirements**

OA-30 has found that consequence assessors sometimes lack ready access to the information/tools they need in order to perform timely and accurate consequence assessments. Examples of information/tools that were not available to consequence assessors include:

- Source-term information (such as container contents, not container size) and conversion factors for determining source terms from chemical reactions
- Field monitoring data from various field teams, because their communications systems are incompatible

- Tools to overlay consequence projections onto maps showing impacted areas and receptors.

#### **Data Collection Activities**

The following data collection activities have been found to be beneficial in evaluating this emergency management program element. The inspector should choose which of the activities to perform based upon the focus of the evaluation and the site-specific emergency management program.

#### **Document Reviews**

**A.** Inspectors should review the site emergency plan to determine whether it describes the roles and responsibilities of ERO members in performing (1) timely initial assessment (and the mechanisms to be employed), and (2) continuous assessment (and the mechanisms to be employed).

**B.** Inspectors should review emergency plan implementing procedures or other emergency management supporting documents to determine whether:

- Source term information has been identified for the range of potential emergency events and conditions and that this information has been put into a form (e.g., tabulated) for ready reference.
- The consequences of a release of hazardous materials for each accident scenario have been correlated to observable indicators.
- Mechanisms have been established for incorporating event-specific data (source term, meteorology, receptor locations) into consequence analyses as it becomes available.
- Procedures identify and reference data sources, such as instruments or documents, that are to be used to determine potential source terms.

- All receptors of interest have been identified and included in response documents, and that pertinent information, such as wind direction/speed relationships, is included.
- Standard protocols for communicating monitoring data and results have been established to minimize the potential for errors in interpretation.
- The procedure factors the results of onsite and offsite field monitoring results (direct measurements and analysis of samples) into consequence assessment estimates.
- Provisions have been established to request and procure the assistance of DOE emergency response assets, such as the Atmospheric Release Advisory Capability, the Accident Response Group, and the Aerial Measuring System, to support consequence assessment.

**C.** Inspectors should determine whether the methods for acquiring and incorporating meteorological parameters and forecast conditions into consequence assessment projections are commensurate with the quantities of hazardous materials present.

**D.** Inspectors should review emergency plan implementing procedures and/or code documentation to determine whether:

- Calculational methods have been developed for projecting the quantitative impact of an actual or potential release of hazardous materials within the EPZ, including airborne, aquatic, and ground pathways as applicable.
- The sophistication of the calculational method is commensurate with the severity of potential events, and timely results are available to support protective actions.
- Correlations between monitoring instrument readings and concentrations, cumulative dose values, and/or exposure/dose rates at specific

receptors have been established and are readily available to consequence assessors.

- All necessary conversion factors and calculation techniques are readily available for all identified instrumentation.

### Interviews

**E.** Inspectors should interview initial decision-makers to assess whether they can interpret initial assessment tools to refine prompt (default) decisions.

**F.** Inspectors should interview emergency planners to determine whether:

- Provisions have been established for continuous monitoring of critical parameters that provide information needed to continually assess the consequences of an event.
- A method has been established for sharing and comparing results and resolving differences among different response organizations.
- The format, content, and level of detail of consequence assessment projections or measurements will support public information activities.
- Technical personnel with knowledge of consequence assessment estimates and dispersion characteristics have been designated and trained to present results to the media, the public, and DOE management.
- Mechanisms are available to assure quality control of tools used in consequence assessment, such as meteorological system and dispersion analysis hardware and software.
- An evaluation of the consistency of calculation results among the hazards assessment scenarios, the ERO calculational methods, and DOE Headquarters and

state/local agencies' results for selected scenarios had been performed. Determine whether any differences have been rationalized and documented.

### Facility Walkdowns

**G.** Inspectors should walk down 24-hour watch stations, control rooms, and/or the incident commander's command vehicle to determine whether tools for performing timely initial consequence assessment are available as appropriate.

**H.** Inspectors should walk down the locations where consequence assessment is performed to determine whether:

- Consequence assessment hardware and software is operable in accordance with procedures and operators guides.
- Necessary presentation materials, such as maps and data recording sheets, are available.

**I.** Inspectors should confirm that the output of the consequence assessment codes provide results that are consistent with the hazards assessments and EALs, using a selected sample.

### Tabletop Performance Tests

(Note: General guidance on conducting the following performance tests is contained in OA-30's inspector guide OA-30/IG-02, "Tabletop Performance Test Inspectors Guide.")

**J.** Conduct a performance-based tabletop exercise with initial decision-makers. Present a hypothetical scenario to the decision-maker, with incoming field information in real time. Determine the adequacy of tools for performing timely initial assessment and the adequacy of training and drilling of the decision-maker in implementing the tools.

**K.** Conduct a performance-based tabletop exercise with the ERO consequence assessment team. Present a hypothetical scenario to the

team, with incoming field information in real time. Determine the adequacy of tools for performing continuous assessment and the adequacy of training and drilling of the consequence assessment team in implementing the tools.

### Data Analysis and Ratings

The results of the data collection effort may indicate areas where the consequence assessment element of the emergency management program does not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best management practices. The impact of any deficiency on the site's emergency response capability must be considered in evaluating and rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating program elements.

### Potential Impacts on Other Program Elements

Analysis of the consequence assessment program element may identify impacts to/from other emergency management program elements. Examples of the relationship between consequence assessment program element to other program elements discussed below.

**Hazards surveys and hazards assessments.** The source-term data and consequence calculations required in the hazards assessment provides the basis for selecting consequence assessment models and/or techniques available for use during actual emergencies.

**Categorization/classification.** The results of the initial and continuous consequence assessment are used to determine/confirm the event categorization/classification. (Note: Initial categorization/classification should be based upon plant indications and not wait for consequence assessment results.)

**Protective actions and re-entry.** The protective actions implemented in response to an event are initially based upon the event categorization/classification but should may be adjusted based upon consequence assessment results.

**ERO.** The continuous assessment process is cyclical, with increasing levels of sophistication in the analysis tools, input accuracy (e.g., source term and meteorology), technical expertise, and eventually feedback from field monitoring efforts. This part of the process is conducted with the resources and professional judgment of the ERO consequence assessment staff.

**Emergency facilities and equipment.** Methods and equipment used to acquire and use meteorological and other environmental data in consequence assessments are commensurate with quantities of hazardous materials present in the facility. The methods and instrumentation are specific to the point of release, pathway, and material of concern. Methods and equipment should be referenced and incorporated into consequence assessment procedures.

## Section 2E

# NOTIFICATIONS AND COMMUNICATIONS

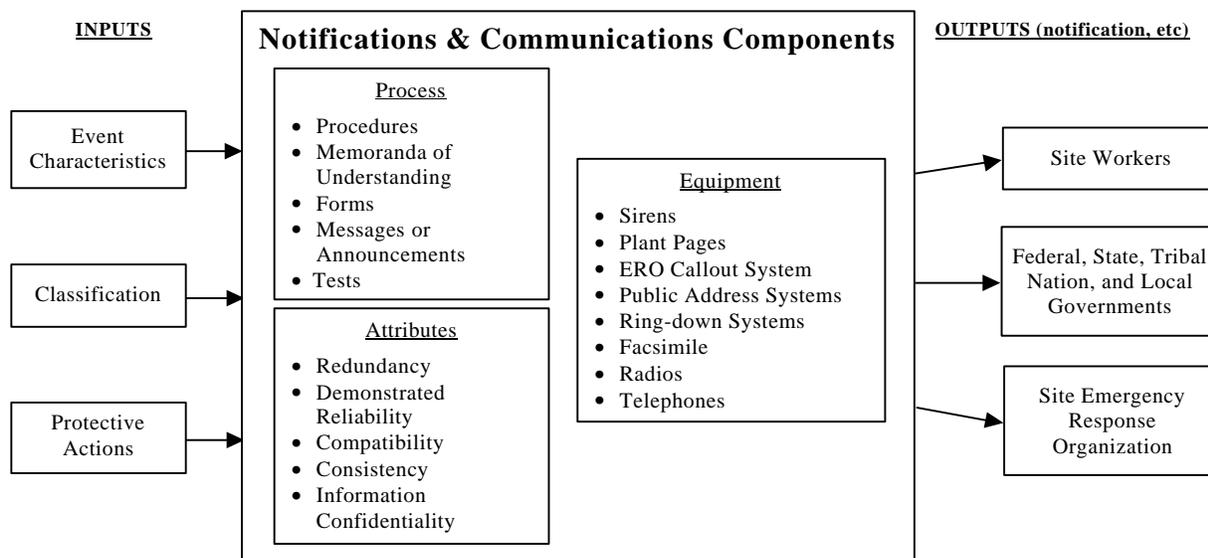
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### General Information

An effective process for notifying workers and emergency response personnel/organizations and for communicating among response components and/or organizations is an important element of an emergency management program. As described in EMG Volume III, the notifications and communications element of a site/facility emergency management program refers to the formal activity of promptly and accurately informing workers, emergency response personnel, organizations, the appropriate DOE elements, and other Federal, state,

local, and tribal organizations of emergency conditions that may affect the health and safety of personnel and/or the environment. The review of this element involves evaluation of procedures, training, and equipment for performing notifications. Communications equipment should include dedicated units as well as backup units, together with alarms, notification systems, and other communication links. The figure below illustrates the components of the notifications and communications program element of emergency management programs that are addressed by this section of the inspectors guide.



## Relevant Site Documents

The following is a list of site documents that the inspector may choose to review before or during the performance of onsite data collection.

- **Site emergency plan** – The inspector should be particularly mindful of the plan sections related to the ERO, offsite interfaces, notifications, and facilities and equipment to discern the notification plan bases and processes.
- **Site emergency plan implementing procedures** – Procedures should precisely state the roles, responsibilities, and requirements associated with EROs, individual positions, operations, and interfaces. Notifications to site workers and activation of the ERO may be imbedded in other procedures; typically, formal notification to offsite agencies following a classified emergency is a stand-alone procedure. The inspector should also obtain the occurrence reporting procedure (DOE Order 232.1A, *Occurrence Reporting and Processing of Operations Information*) to evaluate interfaces among occurrences and emergencies.
- **Transportation emergency preparedness plan** – This plan should detail the site's notification and communication responsibilities for transportation events, including fulfilling the site statutory responsibilities when the site is the shipper of record.
- **Memoranda of understanding or letters of agreement** – agreements among the site, local jurisdictions, and the state related to notifications and communications commitments and arrangements.
- **Local standards/requirements/protocols** – local standards required and applicable to the respective site.
- **Forms and lists** – identifying what information will be communicated and who will be notified. In addition to being formally controlled, contact lists should be routinely update and validated.
- **Training plan/program** – Obtaining training documents related to notifications should be coordinated with the inspector performing the training and drills evaluation to eliminate duplicative requests of the site.
- **Exercise evaluations** – documents the performance evaluation of notification and communication element during an exercise. Ideally, the inspector should review the two most recent exercises to track the strengths and weaknesses of the program and areas needing improvement. Program and plan changes resulting from these evaluations may be included in the Emergency Readiness Assurance Plan (ERAP) and identified in corrective action programs. Coordinate obtaining the exercise evaluations with the inspector evaluating the Training and Drills program element.
- **ERAPs** – provide status of notifications and communication issues and corrective actions identified by exercise and/or program evaluations.
- **Corrective action plans** – may delineate notification and communication issues requiring corrective action. Review corrective action plan issue status. Coordinate with the inspector performing evaluation of feedback and improvement area, when applicable.
- **Internal or self-assessments** – may delineate notification and communication issues.
- **State and/or local evaluations** – after a full or partial scale exercise/tabletop, offsite organizations may provide evaluation comments of the notifications and communications element. The document may be formatted as an evaluation report or as a lessons-learned report.

- **Communications systems testing and maintenance records** – site performance test of notifications systems, e.g., telephone callout, sirens. This is a useful source of data on the reliability of the communications systems.

### **Common Deficiencies/Potential Concerns**

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principle(s) or core function(s) that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

#### **Line Management Responsibility for Safety/Clear Roles and Responsibilities**

During some exercises, OA-30 has noted that the responsible official does not officially release notification messages.

#### **Identification of Safety Standards and Requirements**

OA-30 has found that standards and procedures for performing emergency response activities are sometimes not in place. Examples of deficiencies in this area include:

- Notification processes are not formalized.
- Notification processes are not in place for Operational Emergencies not requiring classification or for non-emergency significant events.
- Notification forms are not formalized or coordinated with offsite officials.

- Notification forms do not include sufficient data to support coordinated activities.
- Notifications are not correctly filled out.
- Points-of-contact lists are outdated and incomplete.
- Primary equipment is inadequate to ensure that timely and accurate emergency notifications are made (e.g., prompt notification equipment is not installed in facilities, nor is equipment available for co-located facilities).
- Backup systems are inadequate.
- A formal documentation process is not implemented to ensure that notifications and key communication messages were received and verified.

### **Data Collection Activities**

The following data collection activities have been found to be beneficial in evaluating this emergency management program element. The inspector should choose which of the activities to perform based upon the focus of the evaluation and the site-specific emergency management program.

#### **Document Reviews**

- A.** Review the emergency plan and implementing procedures to determine whether they clearly specify mechanisms for performing timely and accurate notifications, including applicable roles and responsibilities, such as:
- The specific ERO position that is responsible for notifications at any time during an emergency
  - The process for recalling the ERO and notifying site workers and offsite agencies.

**B.** Review emergency plan implementing procedures for making notifications to determine whether:

- Notification systems and processes are designed to permit notifications to multiple locations at the same time (in order to meet timeliness requirements).
- A message verification process is available.
- Procedural requirements dictate that if a change occurs while a notification message is being sent, the outgoing message is completed and then immediately followed with an updated report.
- Clear guidance (e.g., thresholds for required actions) is provided to decision-makers to implement the Secretarial directive concerning “Timely Notification of Emergencies and Significant Events,” and is integrated with the occurrence reporting and emergency categorization/classification procedure.
- Prearranged, standardized scripts for public address announcements implementing protective actions for facility personnel are available for various emergency scenarios and classifications.
- Recovery reporting is addressed by applicable procedures.
- Procedures require submittal of the Final Emergency Report in accordance with applicable requirements and guidance.
- Twenty-four-hour notification points-of-contact lists are maintained, readily available, and up to date. Verify the accuracy of several contact points.
- A rapid notification and recall system is used to make initial and follow-up notifications to primary and alternate staff.

- The use of language that is understood by recipients (including, for example, consistent time zones) is required.

- Security provisions are commensurate with the type of information to be transmitted.

**C.** Review the plan and procedures to determine whether:

- The evacuation and communication system is detailed in the plan and procedures.
- The communication system used to order facility and partial/full site evacuation is identified and is adequate.
- The process and communication system to achieve personnel accountability and assembly is identified and is adequate.
- A system is required for formal documentation of notifications made. (The evaluator should keep in mind the potential for legal review and litigation that may follow an emergency event that requires precise record keeping.)

**D.** Review both the initial and follow-up notification forms to ensure that they are standardized and specify critical information (such as the example in Appendix D of the Communications and Notification EMG).

**E.** Determine whether forms or lists are used to identify what information will be communicated and who will be notified.

**F.** Review the site plan and procedures to confirm documentation of a formal communications system used to report emergency information and make notifications to:

- Facility workers
- Co-located site workers
- Onsite and offsite initial responders

- ERO
- Public present on site
- Public located outside the site boundary.

**G.** Confirm that communication frequencies, ERO telephone numbers, and message verification details are not available in public documents.

**H.** Review the memoranda of understanding to determine whether commitments made to offsite officials are current and maintained.

**I.** Review the training program (or interview the training program coordinator) to determine whether notification protocols comprise an established part of the training offered to affected organizations on an annual basis.

**J.** Review testing and maintenance records to determine whether periodic testing of communication equipment is performed during normal and backshift periods, and demonstrated adequate during drills and exercises. Determine whether equipment is included in a formal preventive maintenance program.

### Interviews

**K.** Interview onsite personnel responsible for notifications and communications to determine whether the understanding of the individual(s) responsible for the notifications and communications is consistent with the plan and procedures. (Interviews may reveal processes and procedures that have not been included in the emergency plan).

**L.** Interview the manager of the site's emergency planning department to determine whether:

- Organizations receiving emergency notifications have agreed to the contents of the message notification form, use the same form as the site to minimize errors, and have the capability to receive reports on a 24-hour basis.

- Development of the form was coordinated with, and agreed upon by, offsite officials.
- The forms or lists are formally controlled and are routinely updated and validated.
- The emergency manager, or designee, approves the release of notification information in accordance with procedural requirements.
- The emergency manager implements a review of the notification messages for classified information or for unclassified controlled nuclear information.
- The communication system effectively accomplishes the processes of notification and information exchange.

**M.** Interview the ERO incident commander (or equivalent) to determine whether he/she is knowledgeable of his/her responsibility for making offsite notifications and can implement applicable procedural requirements.

### Facility Walkdown

**N.** Walk down the facilities housing the notification equipment to determine whether:

- Highly reliable primary communication equipment is installed, together with identified backup equipment.
- Determine whether special circumstances, such as unplanned power outages, will adversely affect the timeliness and accuracy of formal notifications.

**O.** Walk down the facility where notifications are made to:

- Verify that a points-of-contact list is available. Note the date of the last revision.
- Verify the availability of correct notification forms. Confirm its consistency with the notification procedure.

- Verify that the rapid notification and recall system is able to make initial and follow-up notifications to primary and alternate staff. Determine whether the system provides for feedback indicating failed attempts to contact.
- Identify the strengths and weaknesses of the backup system.

**P.** Walk down facilities, review procedures, and/or interview responsible site staff to verify that the buildings have alarms. Note the location of area alarms and public address systems, how they are activated, and who approves the activation.

### Data Analysis and Ratings

The results of the data collection effort may indicate areas where the notifications and communications element of the emergency management program does not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best practices. The impact of any deficiency on the site's emergency response capability must be considered in rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating program elements.

### Potential Impacts on Other Program Elements

Analysis of notifications and communications may identify impacts to/from other emergency management program elements. Examples of the relationship between notifications and communications to other program elements are listed below:

**Hazards surveys and hazards assessments.** The transport times and the impacts of hazardous material releases define the need for systems, procedures, and staff to carry out notifications in a timely manner. The level of sophistication and redundancy in communications systems should

be directly related to the potential need for performing prompt notification to co-located workers on site, and timely notifications specified by the order to offsite jurisdictions together with requests for assistance.

**Categorization/classification.** Prompt and accurate notifications of event categorization and classification are essential 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.

**Protective actions and re-entry.** Prompt and accurate communications and notifications to onsite workers and offsite agencies responsible for protecting the health and safety of the public are essential to ensure that protective actions can be implemented in time to be effective.

**ERO.** A timely, reliable, and accurate communications system is essential for notifications, and supplies the framework for conducting response operations by the ERO. Onsite notification messages to facility personnel should support activation of the facility ERO. Effective communications methods must be established between event scene responders, emergency managers, and response facilities.

**Offsite response interfaces.** Prompt and accurate communications and notifications to offsite agencies responsible for protecting the health and safety of the public are essential to ensure that protective actions can be implemented in time to be effective.

**EPI.** Prompt and accurate notifications are essential to the operation of the EPI program and provides the means for a facility to coordinate the timely exchange of information with other organizations. This coordination is critical to prevent dissemination of confusing, conflicting, and erroneous information during emergencies. A timely, reliable, and accurate communications system is essential for notifications to the JIC.

## Section 2F

# EMERGENCY RESPONSE ORGANIZATION

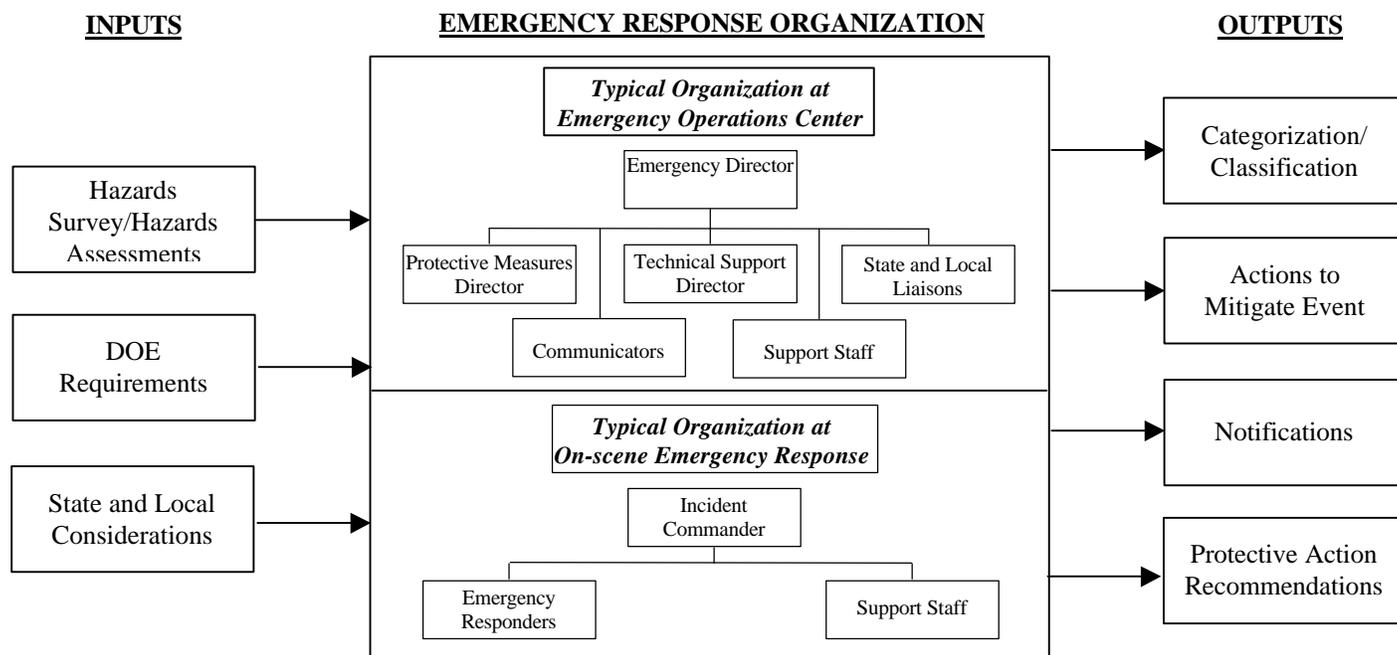
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### General Information

The size, composition and functions of the site ERO will be based upon the hazards present at the site and the environs around the site. For example, the more hazards at the site, the larger and more sophisticated the ERO will be. All facilities are required to have an Operational Emergency base program. Sites with significant quantities of hazardous materials are also required to have an Operational Emergency hazardous material program. Primary outputs of the ERO are the notifications to site workers,

state, tribal nations and local governments as to the severity of the event (i.e., classification) and protective actions that should be implemented to protect the site workers and the public. Furthermore, the ERO is responsible for mitigating the consequences of the event. Typically the ERO will consist of on-scene emergency responders and a supporting cadre of emergency responders located at a technical support center and/or EOC. The figure below illustrates this concept and provides an indication of the typical makeup of some parts of the ERO.



The objective of the inspector's review is to evaluate whether the ERO is adequately staffed and has adequate tools (procedures and equipment) to perform its duties.

### Relevant Site Documents

The following is a list of site documents that the inspector may choose to review prior to or during the performance of onsite data collection.

- **Emergency plan** – provides an overview of site operations, facilities on the site and the hazards present, and a description of the ERO.
- **Emergency plan implementing procedures** – provide the “how” for the implementation of the Emergency Plan requirements.
- **ERO roster** – provides the names of the persons assigned to ERO positions, including alternates.
- **Hazard assessment(s)** – identifies the hazards resident at the site/facility. This information provides the emergency planners the information necessary to develop the ERO, the emergency plan, and emergency plan implementing procedures.
- **Site hazards survey** – the qualitative examination of emergency conditions that can affect site facilities and activities; the potential health, safety, or environmental impacts; and the summary of planning and preparedness requirements that apply.

### Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principle(s) or core function(s) that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities.

However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

#### Clear Roles and Responsibilities

The following are examples of areas OA-30 has identified where roles and responsibilities could have been better defined.

- The ERO chain of command between the Emergency Director and the Incident Commander is not fully documented. This may cause delay and/or confusion in responding to and mitigating an event.
- ERO staffing and organization are not analyzed and updated when changes occur in the hazards surveys and assessments. This may cause either over- or understaffing of key positions.

#### Competence Commensurate with Responsibilities

At some sites, the ERO does not have sufficient trained and knowledgeable personnel assigned to primary and alternate positions. This impacts effective mitigation of the event and hinders 24-hour or extended operations. Other deficiencies related to ERO competence that have been identified include:

- The ERO is not adequately trained and has not been adequately tested in drills and exercises. This results in an ERO that is not proficient in conducting emergency operations.
- Personnel who receive initial notification of an event in progress are slow in categorization and classification of the event. This results in a delay in applying adequate response assets to mitigate the event. It also causes a delay in determining and implementing protective actions and protective action recommendations.

## Data Collection Activities

The following data collection activities have been found to be beneficial in evaluating this emergency management program element. The inspector should choose which of the activities to perform based upon the focus of the evaluation and the site-specific emergency management program.

### Document Reviews

#### Site/Facility Base Program ERO Program Document Review and Evaluation

**A.** Review the Operational Emergency Base Program Emergency Plan to determine whether:

- It includes a diagram or list of persons responsible for emergency actions.
- A single individual is identified as being responsible for the overall response based on actual or potential emergency conditions.
- The person responsible for activating onsite responders and notifying offsite agencies is identified.
- It provides criteria for determining quickly whether an event is an Operational Emergency and the person(s) responsible for this determination are identified.
- The personnel (positions) responsible for both initiating and receiving notifications to onsite and offsite agencies/organizations are identified.
- It identifies the person(s) or position(s) responsible for determining protective actions, as well as the person or position that accountability is reported to.
- The person(s) or positions responsible for determining re-entry at each facility are identified.

- The person(s) or positions responsible for ensuring the safe shutdown of operations are identified.
- The number of personnel, organization, or offsite assets responsible for emergency medical services are identified. If the organization is off site, a mutual aid agreement or equivalent should be documented.
- The person or organization responsible for providing information to the media during the event is documented.
- The decision-maker for terminating the event and determining the criteria for resumption of normal operations is indicated.
- The person(s) (title) and organization responsible for the training and drills program and the exercise program are indicated.
- The name and position of the program administrator at the site/facility level are provided in the emergency plan.

**B.** Review the ERO structure with staffing rosters. At least one alternate for each position should be indicated.

#### Site/Facility Hazardous Material Program ERO Program Document Review and Evaluation

**C.** Review the Hazardous Material Program Emergency Plan to determine whether:

- The ERO structure is consistent with the hazards at the site. For example, if radiation is a hazard, the ERO should have radiological decontamination and field monitoring capabilities.
- Each organization in the ERO has its functions, authorities, and responsibilities documented in the emergency plan.

- The relationship to other onsite response elements, DOE field/operations office, DOE Headquarters, and offsite response agencies/organizations (state, local, tribal) is identified.
- The site chain of command during an emergency is documented. For each position, check to see whether the roles, responsibilities, and authorities are documented.
- The process of transferring command and control between emergency facilities is documented.
- The division of authority and responsibility between the incident commander and the ERO Emergency Director is clearly delineated.
- Control of operations, monitoring, and repair teams is clearly vested in a single emergency facility or clearly defined between multiple emergency facilities (EOC, JIC, control centers, communications centers, etc.).
- The responsibility to authorize response personnel to receive exposures in excess of site limits is documented.
- The responsibilities and authorities for re-entry are documented.
- Offsite relationships are documented to include mutual aid agreements.
- The state and local governments' and tribal nations' emergency response roles and/or regulatory control responsibilities are documented.
- The authorities for terminating the emergency event are documented.
- The responsibilities for notifications and information flow are documented.

- The responsibilities for shutdown of operations are documented.
- The communications and information flow between the command and control organization and emergency medical support is documented.
- The communications, information flow, and authorities between the command and control organization and the JIC or equivalent are documented.
- The organization responsible for the administration of the emergency plan is documented.

### Interviews

**D.** Interview a site emergency director to evaluate his/her understanding of the ERO and its functions and responsibilities. Determine whether a single individual is in charge of the overall response and has the necessary authority to use necessary resources to mitigate the emergency.

**E.** Interview an incident commander to evaluate his/her understanding of the ERO and its functions and responsibilities.

### Data Analysis and Ratings

The results of the data collection effort may indicate areas where the ERO element of the emergency management program does not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best practices. The impact of any deficiency on the capability of the ERO must be considered in evaluating and rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating program elements.

## Potential Impacts on Other Program Elements

Analysis of the ERO may identify impacts to/from other emergency management program elements. Examples of the relationship between the ERO and other program elements are:

**Hazards surveys and hazards assessments.** Analysis of potential facility events (the emergency scenarios) should lead planners to determine how many, and of what qualifications, the augmenting ERO staff should be.

**Protective actions and re-entry.** The ERO must identify, initiate, and coordinate protective actions for workers onsite and identify protective action recommendations for offsite agencies to implement to protect the public.

**Offsite response interfaces.** The ERO interfaces with agencies and organizations

responsible for protecting the public and the environment within the vicinity of the facility/site. The ERO must have information available on all necessary local, state, and Federal interfaces to determine authorities, responsibilities, notification, and procedures necessary in the event of an emergency at the DOE facility. The ERO must be able to effectively use all services that may be needed to respond to postulated accident conditions.

**Emergency facilities and equipment.** To be fully effective, the ERO must have a workspace that is properly equipped to provide for communications, safety, and the tools necessary to perform all required functions.

**Training and drills.** Training supported by a drill program has broad, cross-cutting impacts on the proficiency of the ERO to effectively prepare for and mitigate an event.

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## Section 2G

### TRAINING AND DRILLS

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#### General Information

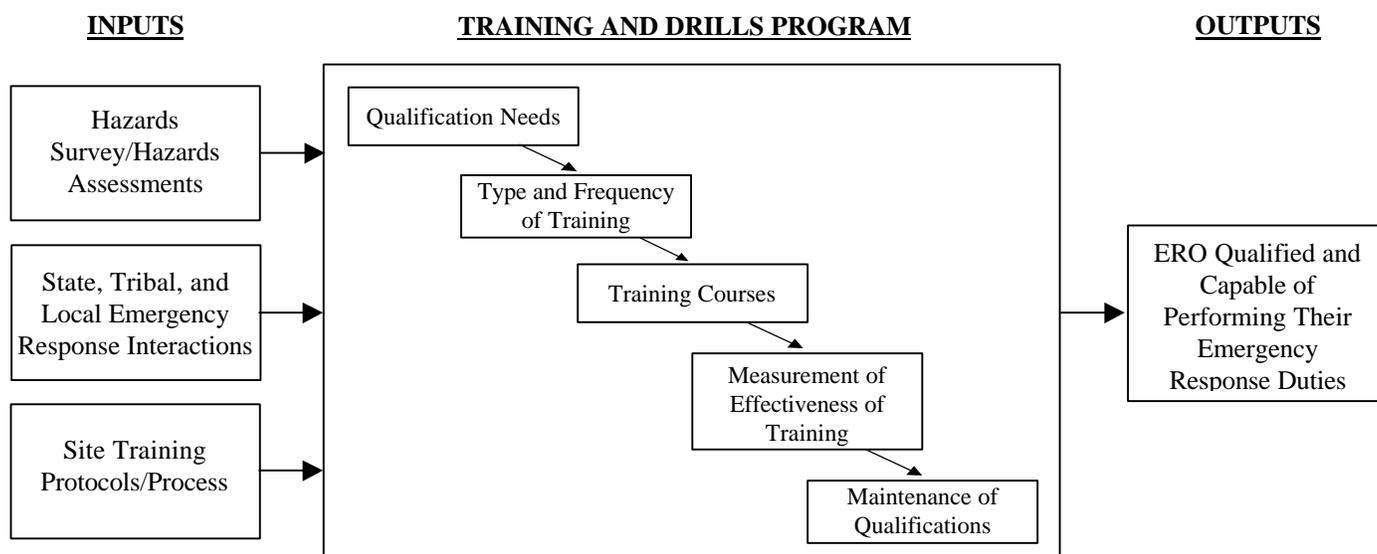
The training and drill element of the emergency management program includes the process used to determine what training is necessary for the ERO, the presentation of that training, and the process used to measure the effectiveness of the training and to ensure that all ERO personnel are qualified. The hazards surveys and hazards assessments provide a basis for the type of training that is needed. In addition, the site needs to consider what training is needed for offsite personnel (e.g., hospital personnel) who may support the site during an emergency. The outcome of the training and drills program should be ERO personnel who are capable of performing

their emergency response duties. The figure below illustrates these concepts.

#### Relevant Site Documents

The following is a list of site documents that the inspector may choose to review before or during the performance of onsite data collection.

- **Emergency plan** – should provide a description of the training and drills program.
- **ERAP** – should provide an annual summary of training and drills that have been accomplished. The ERAP also details any



waivers of training that have been approved due to safety and other hazards.

- **Training plan or administration document** – provides the administration requirements for the training of each team within the ERO (EOC cadre, hazardous materials, etc.); provides the frequency of the drills; provides for the administrative requirements to provide training and record the results; details the instructor requirements.
- **ERO rosters** – identify the persons assigned to each position.
- **Training schedule** – provides the site/facility annual training schedule for training classes, exercises, and drills.
- **Training records** – identify the training for each person assigned to an ERO position.
- **Qualification criteria** – provide the set of training and experience needed to staff certain ERO positions.
- **Training rosters** – records attendance in specific training classes.
- **Training courseware** – includes instructor guides and notes, student handouts, learning objectives, tests, and other training-related materials used to present and document the training course.
- **Drill packages** – identify the purpose, scope, and training objectives.
- **Drill rosters** – records of participation in specific drills.

### Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principle(s) or core function(s) that are most applicable. By reviewing this information

before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

### Line Management Responsibility for Safety/Clear Roles and Responsibilities

Some sites (in particular those with multiple contractors [prime and subcontractors]) have not adequately supported the emergency management training function.

### Identification of Safety Standards and Requirements

OA-30 has sometimes found that training requirements are not defined or met. Examples include:

- Minimum training and drill requirements have not been defined for all ERO members.
- Minimum training prerequisites for ERO position assignments are not documented. For example, field monitoring team members may require training as an industrial hygienist or health physicist to fill the position or emergency medical technicians may require state certification.
- Training requirements for offsite emergency support organizations, such as hospitals and mutual aid assets, are not documented.
- Training requirements for transportation events have not been documented.
- No annual requalification training is specified.
- Training records are incomplete.

- Lesson plans and training materials are not formally documented and maintained.
- Training requirements are not consistent with the site hazards. Changes in site hazards are frequently not provided to the training organization to evaluate the sufficiency of the training programs.
- New plans and procedures are implemented before the development and implementation of training.
- New plans and procedures are provided with an implementation date that provides insufficient time to develop training.
- Matrices are not developed identifying the training necessary for each position.
- Training is not formally reviewed annually.
- Student feedback is infrequently used to update the courseware.
- Drills are not used as a source of lessons learned or as part of a feedback and improvement program.
- Drill packages are incomplete. Frequently, they are missing the objectives to be demonstrated and an evaluation component.
- Student feedback, actual events, and exercise results are not used to update the drill packages.
- Persons assigned as alternates are less likely to participate in drills to maintain proficiency.
- New ERO members are assigned without notification of the emergency management training organization, thus resulting in untrained persons staffing ERO positions.
- Documentation on both onsite and offsite instructors is not maintained to include qualifications, experience, and courses they are authorized to teach.

### Data Collection Activities

The following data collection activities have been found to be beneficial in evaluating this emergency management program element. The inspector should choose which of the activities to perform based upon the focus of the evaluation and the site-specific emergency management program.

#### Training Program Document Review and Evaluation

**A.** Review the emergency plan to determine whether it provides:

- Training requirements for key emergency management positions and response teams
- Examination requirements
- Record-keeping requirements to verify that training requirements are met
- Description of the training available and required for visitors, vendors, and subcontractors
- Offsite training support
- Instructor training and qualifications
- Drill program description, including evaluation and corrective actions.

#### Competence Commensurate with Responsibilities

The following deficiencies may be noted in this area.

- Alternates assigned to the ERO generally receive less training than primary personnel do.

**B.** Review documentation that demonstrates that the training program is reviewed and updated annually or as required based on emergency management program changes.

**C.** Determine whether the standards for successful completion of each training activity (including retraining criteria) are documented.

**D.** Determine whether the training goals, organizational responsibilities, resources, and planned activities are well defined and understandable.

**E.** Review the ERAP for the following:

- **Base program:** Review the list and description of related training programs, including general employee training (GET), fire drills, or any other related training programs that are required. Check this list against the list of courses available in the Emergency Plan or procedure.
- **Hazardous materials program:** Review the list of the training programs designated to meet the individual and specialized needs of the ERO. Review the training plans to ensure that they meet what was documented in the Emergency Plan.
- **Findings and corrective actions:** Review this section of the ERAP. Identify training issues and check to see whether they have been addressed in the training program review and update.

**F.** Review the site/facility-training matrix (this is normally located in either the Emergency Plan, Chapter 12 or in the Training and Drills Plan or Manual). If the matrix is not developed, request a copy of the training requirements document used to develop the emergency management training program.

**G.** Review the Emergency Plan to determine whether the site/facility is under the base program requirement only. If so then emergency management training responsibilities may be within

the purview of the GET program (EMG, Volume V, Section 4.2).

**H.** Determine whether annual refresher training in notification procedures for hazardous material releases is adequately provided to operators, supervisors, and workers having responsibility for monitoring site conditions.

**I.** Review the training requirements for each key ERO position. Key positions may include the incident commander, Emergency Manager, senior person within each ERO organization (Fire Chief, Security Captain, etc.) and various critical positions within the ERO (plume modeler, recovery manager, etc.).

**J.** Review the training records of both the primary and alternate persons assigned to each key position. Use 100 percent inspections for smaller EROs or sampling techniques for larger EROs to record the level of training accomplished by non-key positions, including alternates.

**K.** Determine the percentage of GET completion.

#### **Training Course and Instruction Document Review and Evaluation**

The intent of this review is to identify the process for development and presentation of training courses, instructor qualifications, and course quality control.

**L.** Review the emergency plan or training and drills administrative document to identify the qualifications of instructors.

- Request instructors' qualification records or personnel records that demonstrate whether they have attended the requisite instructor training, "been grandfathered," or received a waiver due to experience.
- Request the qualifications of instructors for offsite (contracted) training. Compare the qualifications with the site requirements.

**M.** Review the emergency plan or training and drills administrative document to identify site/facility requirements for training development.

- Check for a formalized process for the development of training
- Check for the quality control of information contained in the training. This should include accurately identifying the hazards documented in the hazards surveys and assessments.
- Check for the requirement of annual reviews and updates of the training.

**N.** Request copies of the site/facility training courses, including GET. Ensure that each course has:

- Target audience
- Purpose/scope
- Training objectives
- Student handouts
- Instructor notes
- Examinations.

**O.** Request copies of the student feedback or course critiques. Check the use of the critiques and feedback mechanisms during the annual review and update.

#### **Drill Program Document Review, Walkdowns, and Evaluation**

**P.** Review a representative sample of drill packages. Packages requested should include:

- Building evacuation
- Protective action decision-making
- Functional drills to test training of a specific function (notification, medical response, mutual aid)
- Integrated drills to test two or more functions/organizations.

**Q.** Review the participants' critique sheets and after-action/lessons-learned reports from drills.

**R.** Review a sample of drill packages to verify that:

- They contain a purpose, scope, and objectives to be demonstrated.
- The expected performance is in accordance with the site/facility emergency plan and procedures.
- The data accurately reflects the results of hazards surveys and assessments.

#### **Data Analysis and Ratings**

The results of the data collection effort may indicate areas where the protective actions and re-entry element of the emergency management program does not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best practices. The impact of any deficiency on the site's emergency response capability must be considered in evaluating and rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating program elements.

#### **Potential Impacts on Other Program Elements**

Training supported by a drill program has broad crosscutting impacts on the proficiency of the ERO in effectively preparing for and mitigating an event. Scenarios from the SAR and the hazards assessments define necessary response actions, which in turn provide the basis for determination of all tasks emergency responders must be capable of performing. Analysis of training and drills will likely identify impacts to/from other emergency management program elements, such as the proficiency with which the ERO performs categorization/classification, protective actions and re-entry, notifications and communications, consequence assessment, and EPI.

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## Section 2H

# EMERGENCY PUBLIC INFORMATION

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### General Information

Communication with the Federal, state, tribal nation, and local government officials and the general public is important to provide for an awareness of emergency conditions and actions being taken to respond to the emergency and to protect workers and the public. This section provides guidance for inspectors reviewing this aspect of the emergency management program. In particular, this section provides guidance for the review of:

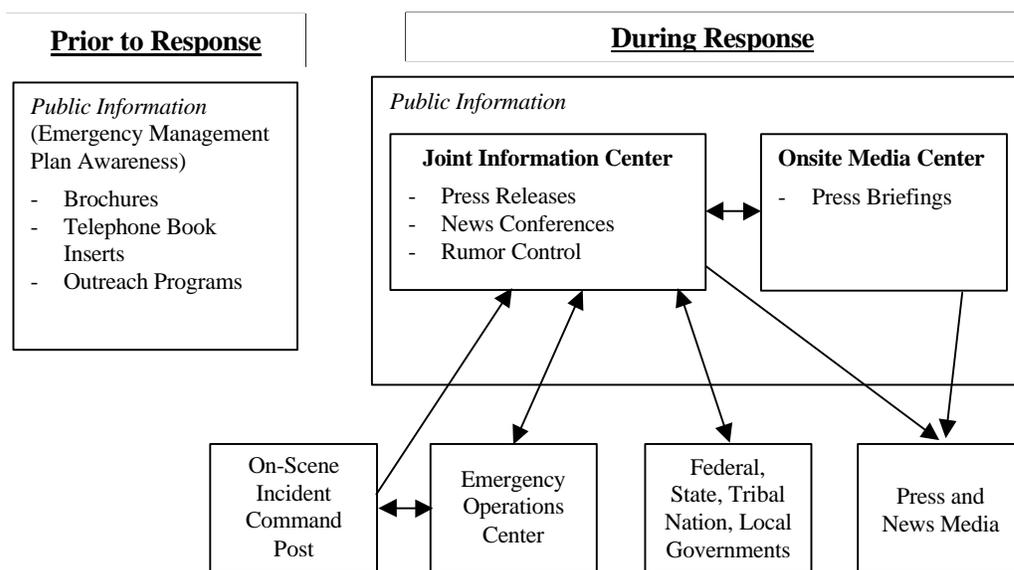
- 1) Information provided to the public regarding preparations made for responding to emergencies.

- 2) Plans and capabilities for providing information to the public during an emergency.

This section does not address assessment of notifications made by Federal, state, tribal nation, and local government response organizations to prompt response actions.

The figure below provides a schematic model of the EPI emergency management program element, including lines of communications that may be expected during a response to an event.

### EMERGENCY PUBLIC INFORMATION



## Relevant Site Documents

The following is a list of site documents that the inspector may choose to review before or during performance of the onsite data collection.

- **Site emergency plan** –The inspector should review the ERO and EPI portions of this plan to comprehend the EPI plan bases and processes, and how the initial and ongoing provision of emergency information will be accomplished.

### Site Emergency Plan Implementing Procedures

- **Site EPI plan and procedures** – provides an overview of the site EPI planning bases, operations, processes, tools, roles, responsibilities, facilities, equipment, and supplies used by the EPI cadre and a description of how the processes interrelate and interact. The EPI plan may stand alone or be an appendix to the site emergency plan. Additionally, it may or may not include the JIC component. If not, obtain the JIC plan and procedures.

The EPI procedures support the EPI plan, and should detail steps taken by each member of the EPI cadre to fulfill their role and responsibilities.

- **Local/state JIC plans** – may be reviewed to provide the inspector with the planning bases and interface process of the respective local or state EPI operations, facilities, equipment, and supplies used by the JIC cadre. These plans may include a description of how offsite and onsite EPI operations and the JIC interrelate and interact.

### Transportation Emergency Preparedness Plan

- **Operations Area Office/Field Office EPI components of their emergency plan** – details EPI support to the site from other DOE offices, including roles and

responsibilities, interface, and programmatic actions in support of the EPI plan.

- **Memoranda of understanding or letters of agreement** – agreements among the site, local jurisdictions, and the state relating to the use of onsite and offsite facilities, equipment, and support staff committed in support of EPI and the JIC. These memoranda of understanding/letters of agreement should include all EPI commitments made to offsite organizations in support of EPI activities.
- **Maps of the JIC facility and on-/near-site media center** – maps and descriptions of facilities should include the location and layout of facility space, equipment and supplies, communication lines, and other information resources delineated in the EPI plan.
- **Regional/local standards, requirements, and/or protocols** – local standards required and applicable to the respective site.
- **Training documents** – Training should comprise detailed roles and responsibilities of the onsite and offsite JIC cadre; notification and activation; interfaces; approved information process; information distribution; news conference coordination and production; media monitoring; telephone bank information flow, rumor control detection, correction, and distribution; and the internal information flow process.
- **Exercise evaluations** – documents the performance of the EPI element during an exercise.
- **ERAP** – provides status of the EPI issues and corrective actions identified by program and exercise evaluations.
- **Corrective action plans** – delineates each EPI program element requiring corrective action.

- **Internal or self-assessments** – sites perform periodic self-assessments of their emergency management program, or any component thereof. These assessments may identify program and performance weakness and negative trends.
- **State and/or local evaluations** – after a full or partial scale exercise/tabletop, offsite organizations may provide their evaluation of the onsite EPI program. The document may be formatted as an evaluation report or as a lessons-learned report.
- **Public education materials** – Public education materials may include but are not limited to:
  - Information brochure/pamphlet for public visits: includes information about the site and its operation, and purpose.
  - Materials provided to, developed by, or distributed by the local emergency planning committee in support of site operations or emergency response. These materials inform the public about emergency response planning and should include the alert notification process, emergency broadcast system/ emergency alert system, emergency planning areas/zones, protective actions, evacuation routes, and emergency numbers for help.
  - Local telephone book emergency response information: this usually takes the form of an advertisement placed in the telephone book detailing emergency response actions to be taken by the public in the event of an emergency. The information includes a map of the area, including emergency planning areas/zones, evacuation routes, sheltering procedures, other protective action procedures, location of the American Red Cross, congregate care, and an emergency telephone number.
  - Local hotel/motel/campsite emergency response information: same as the telephone book but provided to overnight facilities for their guests.
  - Media kit: made available to all members of the media during emergency response training, site tours, and upon arrival at the JIC. The kits should contain up-to-date information about the site operations, location, history, emergency response planning, emergency planning areas/zones, local community response activities, and technical information regarding response equipment and actions.
  - Public service announcements: public announcements dealing with the site and/or emergency planning area.

### Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principle(s) or core function(s) that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

#### Competence Commensurate with Responsibilities

At some sites, ERO personnel responsible for the dissemination of information to the public have not received comprehensive training on the importance of relaying timely and accurate information and the process for accomplishing

this task. Some specific proficiency problems that have been identified include:

- Site emergency managers do not understand the importance of timely, candid, and accurate information to the public.
- The EPI cadre does not participate with other members of the ERO in appropriate drills and exercises. There is inadequate participation by the EPI cadre and its components during exercises and drills. Participation should include telephone banks, media monitoring, JIC decision-making, and information flow support.
- Public affairs professionals believe that the plans and procedures they employ daily, for routine public affairs issues, are the same as those required during an emergency.
- Initial news releases are not issued within an hour following an event.
- News releases routinely contain inaccurate and/or outdated information.
- Technical advisors are not trained to use plain English during news conferences.
- The EPI cadre lacks understanding of vital EPI processes including:
  - Approval process: how and who is responsible for this multi-step process and coordination
  - Rumor control: how rumors are identified, tracked, and corrected.
- The EPI cadre does not understand or have an appreciation for onsite hazards and their potential effect on public health and safety.

#### **Line Management Responsibility for Safety/Clear Roles and Responsibilities**

The following are examples of concerns OA-30 has identified in this area:

- There is reluctance to activate the JIC.
- The JIC organization is developed without offsite coordination or input.
- A DOE official does not attend news conferences.

#### **Identification of Safety Standards and Requirements**

OA-30 has found that EPI personnel sometimes lack ready access to the information/tools they need in order to perform their duties. Examples include:

- Following the decision that the JIC is operational, there is no effective, coordinated procedure to ensure a smooth turnover of information flow and responsibility from the site EOC to the JIC.
- Reference materials for use by news conference team, telephone teams, and the media coordinator are unavailable in procedures or other sources at the JIC. Materials include:
  - Site fact sheets
  - Site and area maps
  - Hazardous material details.
- Adequate media workspace and telephone equipment are not available at the JIC.
- Memoranda of agreement between individuals or organizations that are responsible for supplying the media and/or JIC facility do not include the required level of detail, such as roles, responsibilities, authorities, and provisions for providing and maintaining equipment in support of the EPI program.
- Public meetings and associated logistics and supplies are not included in the plan.
- Performance deficiencies identified during drills, exercises, tabletops, and assessments

are not corrected by site public affairs offices.

- Adequate 24-hour staffing is not provided consistent with the nature, severity, duration, and public and media perception of the event.

### Data Collection Activities

Document reviews, facility walkdowns, and interviews with management and technical staff (including interviews with DOE field element personnel responsible for the administration of the emergency management program) are key methods of data collection for this subtopic.

#### Document Review

**A.** Review the site emergency plan and EPI plans and procedures to determine whether they:

- Define the EPI roles and responsibilities from the time off-normal conditions are initially discovered until the emergency is terminated.
- Provide an adequate level of detail to permit the following staff to perform their functions under stress of an emergency:
  - Incident commander and staff
  - Emergency Director and staff
  - EPI staff assigned to the EOC
  - JIC manager and EPI staff
  - Individuals who coordinate information with local, state, and/or Federal officials (e.g., Government Relations)
  - Individuals who provide emergency information to on- and offsite workers and their families (e.g., Human Resources)
  - Authorized derivative classifier
  - Senior DOE official.

(Note: If procedures do not exist, determine who is responsible for these roles during interviews.)

- Support issuing a meaningful, *initial* news release within the first hour of an emergency, and before the JIC is declared operational. (The procedures should include a preapproved, formatted initial news release.)
- Provide clear guidelines to the incident commander or Emergency Director (including interim) concerning release of information during emergency response.

**B.** Review the site EPI plan and procedures to determine:

- How site workers are informed of emergency response plans, response capabilities, and planned protective actions
- How onsite workers, both within the immediate vicinity of the emergency and at other locales on site, are provided timely emergency information. (Verify that it is clearly documented in the plan and procedures.)
- How EPI is distributed to the public
- How *initial* information regarding an onsite emergency is communicated to offsite officials (local, state, and tribal)
- Whether the public education plan is ongoing and current. (Note: The public education plan should be coordinated and integrated with local, state, and tribal governments and outside interested parties. The program should include regular meetings, routine correspondence, and the provision of current materials to ensure that the content is up to date, accurate, and in compliance with site and local emergency plans.)

- Whether points of contact are up to date
  - Whether the plan provides annual updates to area media for the purpose of acquainting them with the site, management personnel, emergency plans, and points of contact
  - The role of the site within the local emergency planning committee
  - The process used to provide effective *internal* information flow within the JIC. (This process includes accumulation of all raw data – emergency details, rumors, media questions, tour requests, etc. Raw data is then coordinated and converted into approved information, and distributed throughout the JIC system. The process should include coordination between and among decision-makers, news writers, media briefing area, media monitoring, community and government affairs, telephone banks, and information/ administrative support.)
  - Whether the JIC, when needed, will be immediately available, equipped, and maintained to accommodate JIC EPI cadre, local/state/tribal/Federal officials, and the media
  - Whether provisions are in the plan for procurement of supplies, equipment, and communications (telephone service, television and radio broadcast equipment, copying, faxing, audio-visual equipment, maps and displays). (Note: Alternative arrangements should also be in place.)
  - Whether security provisions are adequate and a process has been developed to readily identify media within the JIC (the plan should provide for security into and around the JIC).
- C.** Review the plan and procedures to determine whether they provide for:
- Initial news conference within an hour of the JIC being declared operational
  - Ongoing, periodic news conferences – preferably hourly, or upon significant change in emergency conditions
  - Prebriefing of all spokespersons, including discussion of topics such as:
    - Who addresses onsite issues (current emergency situation, emergency response activities, consequence assessment, technical questions, and historical information) during a news conference?
    - Who addresses offsite issues (emergency response activities, protective actions, and health issues) during a news conference?
    - Who addresses onsite and offsite recovery issues during a news conference?
  - Proper arrangement of tables, podium, microphones, and organizational signs
  - Name tags for spokespersons
  - Availability of the appropriate visual aids – emergency conditions emergency classifications, impacted areas, emergency planning areas, and protective actions.
- (News conferences serve as the “face of the response” and should be organized and professionally managed.)
- D.** Review the site and offsite plans and procedures to determine whether site, local, tribal, and state EPI processes and interfaces are coordinated and integrated. (The development of the JIC roles and responsibilities, and authorities for JIC operations, should be coordinated with offsite public information officials before an emergency occurs.)
- E.** Review the plan and procedures to determine the adequacy of EPI process for low-severity events where public interest may be high, but

emergency severity does not warrant activation of the EOC or the JIC.

**F.** Review the plan and procedures to determine who is responsible for:

- Activating the JIC (in coordination with local and state officials)
- Deciding the level of activation
- Inviting the offsite officials to participate
- Coordinating the effort
- Declaring the JIC operational and identifying the turnover process for changing the information distribution flow from the site to the JIC. The plan and procedures should clearly detail (1) prerequisites and responsibility for determining whether the JIC is operational, (2) the turnover process, (3) notification of the turnover to the public and media.

**G.** Review the plan and procedures to evaluate the approval process for the *initial* and *ensuing* EPI releases (news releases, updates, media advisories, etc.). Determine whether the process is clearly delineated in the plan and precisely detailed in the procedures. Determine whether the process includes identification and assignment of responsibility for:

- Proactive procurement of information from the scene and other members of the ERO
- Development of information, including news releases
- Review by classifier
- Review by legal
- Coordination, review, and approval by local, state, and tribal officials as applicable
- Involvement/review/approval by the Area Operations Office

- Review/approval by Headquarters as applicable

- Delivery of information to the public; site workers and their families; local, state, tribal public information officials; and the media.

**H.** Review the plan and procedures to determine whether there are provisions for:

- Coordinating and controlling news media access to the JIC and site
- Developing and distributing accurate, candid, and timely news releases, fact sheets, and internal employee communications
- Providing regular (periodic) and critical, developing (breaking) news conferences
- Identifying, correcting, and controlling rumors and incorrect information.

**I.** Determine who is specified as the “primary voice” during an emergency and how each emergency information source (on-scene, site EOC, local EOC) coordinates information with the “primary voice” in the JIC.

**J.** Review the 24-hour staffing levels and determine whether they are adequate, and consistent with the nature, severity, and duration of potential emergencies, and public and media perception of an event.

**K.** Review the procedures to ensure that 24-hour media points of contacts are available and current. (Provisions for media contacts should include local media and state media [print, radio, and television], and the method for providing information to remote media [national].)

**L.** Review the memorandum of agreement with the appropriate organization detailing the provisioning and availability of the facility. For events identified in the hazards assessment where the primary JIC may become uninhabitable, determine that an alternate JIC is identified and detailed in procedures.

**M.** Review the plan and procedures to determine whether the plan clearly identifies the rumor control process and the procedures precisely detail how to detect, correct, and control rumors and misinformation. The process should include:

- How rumors are identified – telephone banks, media, news conferences, review of media articles, media monitoring
- The information flow used to relay identified rumors to the JIC decision-makers
- The information flow used by JIC decision-makers to validate the facts
- The information flow to prepare and distribute the correction to telephone banks, media, and the public
- Documentation of all rumors.

**N.** Review procedures to ensure that the public and media telephone banks have procedures that include reference information regarding the site, the emergency planning areas, emergency classifications, and history of the site and emergency preparedness. (All information and maps should be available and current.)

**O.** Review procedures to ensure that the JIC has a formal documentation system in place that logs *all* information received and distributed, including significant decisions, such as event classification, protective actions, raw data, rumors, media requests, all released information, etc. Areas recorded should include:

- JIC manager/decision area
- Information flow manager
- Telephone banks
- Media relations manager
- Government and community relations.

(Note: Staff should be procedurally required to keep a personal chronological log. Original documents and documentation should be kept in a chronological file.)

**P.** Review public education materials to determine whether they include the following:

- Alert and notification description – how the public will be alerted and notified of an emergency, including use of sirens and emergency broadcast system/emergency alert system
- Descriptions of the emergency planning areas/zones
- Public actions to be taken in the event of an emergency
- Protective action descriptions
- Evacuation routes
- Provisions and facilities available for use during the emergency
- Points of contact for additional information
- Transient population information.

### Interviews

(*Caution* – In performing the following activity, coordinate with the site emergency planning coordinator to set up interviews with offsite EPI officials. Remember that offsite officials/plans *are not being evaluated* and are only providing input regarding the effectiveness and coordination of the onsite EPI program.)

**Q.** Interview the onsite contractor and DOE public information personnel, EPI trainer, emergency preparedness coordination lead, and Area Operations public affairs office. Ideally, interview or speak with one or two representatives of the offsite organizations identified in the offsite plan. From the interview, determine:

- Whether the understanding of the EPI cadre member is consistent with the plan and procedures

- Whether the EPI plan contains all the relevant processes and procedures cited in the emergency management plan
  - Whether the ERO Emergency Director understands the importance of establishing credibility by providing timely and accurate facts to the public, as well as the pitfalls of public/media speculation
  - The effectiveness of the relationship between the incident command/on-scene Coordinator/Emergency Director and EPI role (e.g., is there an understanding of the EPI issues?)
  - How the EPI is first notified and activated
  - Whether there is a possibility for on-scene media coverage. If there is a possibility, describe the information distribution and control between on-scene and the EOC/JIC
  - How information is obtained from the ERO
  - How each type of EPI document is processed during an emergency:
    - News releases
    - Fact sheets
    - Media advisories
    - Updates
    - Informational inserts for media kits
  - How information regarding onsite incident control and response activities, and offsite response actions and implementation of protective actions are coordinated in the JIC
  - The process for issuing news releases (they should be released regularly). For example, determine whether:
    - All JIC representatives issue a *single, joint* news release. If so, what is the approval process?
    - Representatives issue their own respective news release. If so, what is the approval/review process of all JIC participants?
      - What actions will be taken when timeliness is imperative, and there is no agreement among JIC participants regarding information to be released.
      - There are provisions for transportation of film footage or approved site operations information from the site if required or requested at the JIC.
      - There is a process to detect, correct, and control rumors and misinformation.
  - Whether the entire cadre received initial and annual refresher training and the EPI responder's impression of the training detail and effectiveness.
- R.** When there is no information flow from the site, the JIC should provide informational activities for the media. Request the interviewee to describe some of these activities. These should include, but not be limited to:
- Provision of support emergency information and historical issues
  - Provision of equipment descriptions and/or response methods
  - Telephone interviews with technical specialists, such as consequent assessment
  - Individual media interviews with individual JIC participants.

### Facility Walkdown

- S.** Walk down the JIC to determine whether the overall space within the facility is adequate for JIC operations, offsite EPI officials, and the media. The number in the JIC cadre will vary depending on the severity and duration of the emergency. Estimate a cadre of between 25 and 50. Assume a minimum of 100 media plus equipment (trucks, dishes, electrical

requirements) for a significant event. Space for activities and equipment such as the following should be provided:

- Security
  - Media registration and badging
  - Written materials, such as fact sheets and media kits
  - Posting of all news releases
  - Media room outfitted with telephones
  - Information regarding tours of the scene
  - News conference room
  - Decision area for JIC Manager, all spokespersons, and technical advisor to discuss and plan information flow and distribution
  - Government and community relations coordination; adequate space must be available for offsite officials (local, state, tribal, Federal)
  - News writers
  - Media monitoring (including rumor control)
  - Administrative support area, including photocopying, faxing, filing, status boards, logistical support for communications, equipment, and supply support.
- T.** Walk down EPI-related facilities (site EOC, onsite media center, JIC) to be used during an emergency to determine whether:
- Staff space allocation, maps, equipment lists, and layouts are as depicted in the emergency plan, EPI plan, and implementing procedures.
  - Equipment and supplies to support JIC operations are available, such as:

- Computers that are compatible (JIC to EOC, local EOCs, state EOC)
- Equipment for photocopying and faxing news releases, fact sheets, and maps
- Communications equipment for telephones, outlets, telephone teams, media use, media monitoring
- Audiovisual equipment
- Status boards in work areas
- Provisions for alternate equipment and supplies.

### **Tabletop Performance Test**

(Note: The following provides specific types of focused performance tests that may be beneficial for evaluating this specific area. General guidance on performing these tests is contained in inspectors guide OA-30/IG-02, “Emergency Management Tabletop Performance Test Inspectors Guide.”)

**U.** The inspector should develop a tabletop/drill scenario that will activate and demonstrate the fundamental plan bases and processes if an exercise is not otherwise scheduled during the evaluation period. Tabletop performance test objectives should include, but not be limited to:

- Procurement of information from the Emergency Director/incident commander to the senior public information official in the EOC and/or the JIC
- Classification review of that information
- Full approval process demonstrated from EOC through distribution at JIC
- Organization and coordination of JIC teams demonstrating the roles and responsibilities, including:

- JIC manager
  - DOE spokesperson
  - State public information official
  - Local public information officials
  - Public and media telephone bank
  - News writer
  - News conference organization
  - Media monitoring
  - Information flow process
- Identification and correction of rumors and misinformation, and distribution of corrections.

When developing the scenario, provide *ongoing contingency messages* to challenge the EPI cadre knowledge and keep the information flow requirements at the expected high level. Effective messages will result in the expected cadre performance. Observe and evaluate the capability of the EPI cadre to provide accurate, candid, and timely information to workers, the public, and the news media.

If state and local participation is not available, it is *necessary* to provide appropriate contingency messages reflecting actions that take the place of their roles and responsibilities.

### Data Analysis and Ratings

The results of the data collection effort may indicate areas where the EPI element of the emergency management program does not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best management practices. The impact of any deficiency on the site's emergency response capability must be considered in evaluating and rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating program elements.

### Potential Impacts on Other Program Elements

Analysis of the EPI program may identify impacts to/from other emergency management program elements. Examples of the relationship between the EPI program and other program elements are:

**Hazards surveys and hazards assessments.** EPI activities and the number of EPI staff required to respond to an emergency is a function of the emergencies analyzed in the hazards assessment.

**Categorization/classification.** EPI activities and the number of EPI staff required to respond effectively to an emergency will vary in part with the nature, severity (emergency category and class), and duration of the emergency.

**Protective actions and re-entry.** The EPI organization and the JIC are established as the single authoritative source of information regarding the event response, protective actions implemented on site and recommended to offsite authorities, and long-term implications.

**Notification and communications.** Prompt and accurate notifications are essential to the operation of the EPI program and provide the means for a facility to coordinate the timely exchange of information to other organizations. This coordination is critical to prevent dissemination of confusing, conflicting, and erroneous information during emergencies. A timely, reliable, and accurate communications system is essential for notifications to the JIC.

**ERO.** The EPI program provides the means for the ERO to coordinate the timely exchange of information among representatives from DOE and other organizations. This coordination is critical to prevent dissemination of confusing, conflicting, and erroneous information.

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## Section 3

# ANALYZING DATA AND INTERPRETING RESULTS

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### General Information

This section provides guidelines to help inspectors analyze data and interpret the results of data collection. The guidelines include information on the analysis process, including factors to consider while conducting an analysis. Information is also included on the significance of potential deficiencies, as well as suggestions for additional activities when deficiencies are identified. After completing each activity, inspectors can refer to this section for assistance in analyzing data and interpreting results and for determining whether additional activities are needed to gather the information necessary to accurately evaluate the system. When analyzing the data collected on a particular aspect of the site emergency management program, it is important to consider both the individual elements of the emergency management program and the program as a whole. In other words, the failure of a single area of an emergency management program element does not necessarily mean the entire emergency management program failed. However, a number of relatively insignificant systemic deficiencies can point to a failure of the entire emergency management program. This is why integration among program element inspection teams is so important. It provides for a look at the “big picture” within the framework of the site mission when determining whether the overall emergency management program is effective.

### Analyzing Data

Data review consists of sorting out and logically grouping all validated data collected for each program element during each phase of the inspection (remembering that data is collected during the planning process as well as the conduct phase). Although the inspection team is generally aware of most of the data, not all team members will be familiar with all data collected. Therefore, it is important for the inspection team to review data at the end of each day to begin to develop a comprehensive picture of how effectively the emergency management program meets requirements. This can be best accomplished while preparing for the nightly inspection team meeting. In this way individual inspectors of the emergency management program can come together to discuss each validated data point, begin the process of analysis, and identify impact as it may exist at that point in time (recognizing that additional data may eliminate, mitigate, or increase the impact of a particular concern). Generally, it is helpful to arrange the data according to positive or negative features. This will aid in clearly identifying strengths, weaknesses, and positive or negative trends. Proper organization and thorough review of all inspection data are essential to analysis and report preparation.

## Interpreting Results

The process for analyzing results begins with the first document to be reviewed, briefing received, or person interviewed during planning. It is not completed until the final inspection report is disseminated. By recognizing this concept early in the inspection process, the inspection team can enhance the completeness and usefulness of its analysis. The information collected for each of the emergency management program elements is reviewed to determine whether the overall emergency management program complies with the requirements in DOE orders.

In addition to mere compliance, the analysis process involves the critical consideration by team members of all inspection results, particularly identified strengths and weaknesses or deficiencies, framed within the parameters of the site mission. Analysis should lead to a logical, supportable conclusion regarding how well the emergency management program is meeting the required standards and satisfying the intent of DOE requirements. A workable approach is to first analyze each program element individually. The program element inspection tools (Sections 2A-2H) provide guidance to assist in this evaluation. The results can then be integrated to determine the effects of the program element on each other and, finally, the overall status of the program.

As mentioned before, it is important to weigh the significance of a weakness or deficiency in light of the entire system. If there are no deficiencies, or those identified do not impact the rating, the analysis is relatively simple. In this event, the analysis is a summary of the salient inspection results supporting the conclusion that emergency management program needs are being met. If compensatory systems or measures were considered in arriving at the conclusion, these should be discussed in sufficient detail to clearly establish why they counterbalance the identified deficiencies. If there are negative findings, weaknesses, deficiencies, or standards that are not fully met, the analysis must consider the significance and impact of these factors. The

deficiencies must be analyzed both individually and collectively, then balanced against any strengths or mitigating factors to determine their overall impact on the site emergency management program's ability to meet DOE requirements and site mission objectives. Other considerations include:

- Whether the deficiency is isolated or systemic
- Whether the operations office or contractor management previously knew of the deficiency and, if so, what action was taken
- The importance or significance of the standard affected by the deficiency
- Mitigating factors, such as the effectiveness of other emergency management program elements that could compensate for the deficiency
- The deficiency's actual or potential effect on the ability of the site to protect workers and the public in the event of an emergency.

## Ratings

OA-30 assigns ratings by the supporting elements of a facility's emergency management program. For OA-30 program reviews, follow-up reviews, and emergency response exercise evaluations, an overall rating is normally assigned. The conclusions reached through analysis of inspection results lead to the assignment of ratings. The teams are responsible for assigning the ratings; however, the Director of OA has established a quality control process to ensure that the assigned ratings are supported by the analysis and conclusions drawn by the team. The rating process involves the critical consideration of all evaluation results, particularly identified strengths and weaknesses.

OA uses three rating categories: Satisfactory, Marginal, and Unsatisfactory, which are also depicted by colors as green, yellow, and red, respectively.

**Satisfactory (Green):** An overall rating of Satisfactory is assigned when the emergency management program being evaluated provides reasonable assurance that all of the site's emergency responders are ready to respond promptly and effectively to an emergency event or condition. An emergency management element being evaluated would normally be rated Satisfactory if the emergency management function is effectively implemented. An element would also normally be rated as Satisfactory if, for any applicable standards that are not met, other compensatory factors exist that provide equivalent protection to workers and the public, or the impact is minimal and does not significantly degrade the response.

**Marginal (Yellow):** An overall rating of Marginal is assigned when the emergency management program being evaluated provides questionable assurance that site workers and the public can be protected following an emergency event or condition. An emergency management element being evaluated would normally be rated Marginal if one or more applicable standards are not met and are only partially compensated for by other measures, and the resulting deficiencies in the emergency management function degrade the ability of the emergency responders to protect site workers and the public.

**Unsatisfactory (Red):** An overall rating of Unsatisfactory is assigned when the emergency management program being evaluated does not provide adequate assurance that site workers and the public can be protected following an emergency event or condition. An emergency management element being evaluated would normally be rated Unsatisfactory if one or more applicable standards are not met, there are no compensating factors, and the resulting deficiencies in the emergency management function seriously degrade the ability of the emergency responders to protect site workers and the public.

## Findings

Inspection findings are the primary means of identifying those elements of the emergency management program that are having a significant negative impact on the effectiveness of the overall program. The inspection team is expected to exercise judgment in determining findings, omitting minor and non-systemic items, and limiting formal findings to items of significance. Where several findings address specific aspects of a requirement, the inspection team should determine whether a single rollup finding should be reported addressing that requirement. It is more important that the finding identify the specific nature of the deficiencies, and the finding should be clear whether the deficiency is specific to a location at the site or to a specific system.

Program elements that are rated as "Marginal" or "Unsatisfactory" would typically have one or more findings associated with them. However, even an area rated as "Satisfactory" may have a finding if there is a deficiency in that area that has a significant negative impact on the program element or on the emergency management program as a whole.

## Consideration of Integrated Safety Management Concepts

As discussed in Section 1, DOE uses an ISM approach to systematically integrate safety into management and work practices at all levels so that missions are accomplished while protecting the public, the worker, and the environment. The ISM concept provides a useful diagnostic framework for analyzing the causes of identified deficiencies. For example, inspectors may find that a required action is not being completed. Upon further investigation, the inspectors may determine that the reason is that there has not been a clear designation of responsibility for completing the required action. This situation may indicate a weakness related to line management responsibilities. In such cases, the inspectors would cite the deficient condition (i.e., the failure to complete the required action) as the

finding and reference the requirement. In the discussion and opportunities for improvement, however, the inspectors may choose to discuss the general problem with assignment of responsibilities as a contributing factor.

As part of the analysis process, OA-30 inspectors should review the results (both positive aspects and weaknesses/findings) of the review of emergency management program in the context of the ISM concept. Using this diagnostic process, inspectors may determine that a number of weaknesses at a site or particular facility may have a common contributing factor that relates to

one or more of the management principles. For example, a problem in hazards assessments maintenance within a particular facility could indicate that line management had not fully accepted its responsibility for emergency management and had not established and communicated expectations to the workforce and held personnel accountable for performance. In such cases, the analysis/conclusions section of the emergency management program inspection report could discuss the weaknesses in management systems as a contributing factor or root cause of identified deficiencies.

## **APPENDIX A**

### **DRAFT VOLUME VI OF DOE ORDER 151.1 PERFORMANCE GOALS AND CRITERIA**

This appendix provides extracts from draft Volume VI of the emergency management guide (DOE Guide 151.1) arranged in according to each of the program areas reviewed in the main part of this guide. This information is provided as a ready reference to inspectors.

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**APPENDIX A1.  
PERFORMANCE GOALS AND CRITERIA  
RELATED TO**

**HAZARDS SURVEYS AND HAZARDS ASSESSMENTS**

**EMERGENCY MANAGEMENT PROGRAM ELEMENT**

**I. Performance Goal**

The hazards survey is a *qualitative* examination of site-/facility-specific hazards that identifies potential emergency events/conditions to be addressed by the site/facility comprehensive emergency management program. The survey provides a qualitative summary and description of potential emergency events/conditions, characterizes their health and safety impacts, and identifies related emergency planning and preparedness requirements that will constitute the Operational Emergency Base Program. In addition, the hazards survey identifies those facilities for which a hazards assessment is required. A hazards assessment is a *quantitative* analysis of airborne hazardous material releases that provides the bases for determining the necessary plans/procedures, personnel, resources, equipment, and analyses (e.g., determination of emergency planning zone (EPZ) for an Operational Emergency Hazardous Materials Program.

**II. Evaluation Criteria**

**Hazards Survey**

- P 1.1 The hazards survey identifies generic emergency events/conditions associated with specific sites/facilities that will be addressed by a comprehensive emergency management program.
- a. Generic emergency events/conditions considered include: fires; natural phenomena; releases of hazardous materials, regulated pollutant, or oil; work place accidents; malevolent acts; classified material loss; mass casualties; and hazardous material transportation accidents (e.g., rail, highway, waterway, air).
  - b. Site-/facility-specific conditions considered that associate generic emergency events/conditions with specific sites/facilities include: onsite and nearby offsite hazardous materials facilities, nearby non-DOE offsite hazardous materials transport routes, upstream dams, accidental criticality, onsite and offsite environmentally sensitive areas, high-energy systems, construction or destruction activities, exposure to extreme natural phenomena events, and onsite/offsite DOE transport of hazardous materials.
- P 1.2 The impact on health and safety of workers and the public, the environment, and/or national security is qualitatively identified and described in the hazards survey for each potential emergency event/condition.

- P 1.3 Planning and preparedness requirements, including DOE orders [excluding DOE Order 151.1] and other Federal, state, and local regulations, that apply to the site/facility and constitute the Base Program, are summarized in the hazards survey.
- P 1.4 The hazards survey is periodically reviewed and updated to incorporate relevant changes in site/facility conditions and hazards at intervals not to exceed three years.
- P 1.5 DOE facilities/sites are designated in the hazards survey as requiring a formal, quantitative hazards assessment if they contain hazardous materials in quantities greater than specified screening thresholds [cf. DOE Order 151.1, Chapter IV].
- P 1.6 Each hazards survey combines as many facilities as possible that are subject to the same types of hazards. For sites having facilities that require development of quantitative hazards assessments, the remaining facilities may be covered by one hazards survey.
- P 1.7 Existing plans, such as catastrophic earthquake plans or mass casualty plans detailing compliance with Federal, state, and local standards, may be incorporated directly into the Operational Emergency Base Program or invoked by reference.

#### **Hazards Assessment**

- P 1.8 Directly or by reference, the hazards assessment describes facility operations, mission, processes, site location, facility locations (including proximity to adjacent facilities, site boundary, and transportation networks), tenant activities, transportation activities, and characteristics of the region beyond the site boundary.
  - a. Demographics, including special populations, administrative boundaries, geographic features, and economic enterprises (e.g., farms, factories) beyond the site boundary are identified and summarized.
  - b. Onsite transportation hazards assessments describe the type and quantity of material transported, containers, routes, speeds, and controls exercised.
- P 1.9 The hazards assessment is a current, accurate quantitative compilation of hazardous material inventories or maximum quantities associated with a facility.
  - a. Reliable and comprehensive methods of hazardous materials identification are used to provide an accurate representation of materials associated with the facility (e.g., walk-throughs, shipping records, local chemical inventory systems).
  - b. Implemented procedures ensure that emergency planners are notified of significant changes in facility inventories, processes, or activities that may affect results of documented hazards assessments.
  - c. Hazards assessments are updated prior to significant changes, and in any case, are reviewed annually.
  - d. Common hazardous materials, such as fuel and oil, materials in general use by the public, and laboratory scale quantities of chemicals, are not unnecessarily included in the hazards assessment.

- e. Large quantities of fuels that may serve as dispersion drivers for hazardous materials, and large quantities of exotic materials known to cause health problems (e.g., beryllium, depleted uranium) are considered in the hazards assessments.
- P 1.10 Storage location, process use, physical properties, and health effect parameters of Materials at Risk (MAR) are documented in the hazards assessment for hazardous materials exceeding threshold planning quantities.
- a. Engineered controls, administrative controls, safeguards, and safety systems for prevention and/or mitigation of releases of the MAR are identified, as well as the actual barriers to release, such as containers, buildings, berms, sumps, and catch basins.
- P 1.11 A spectrum of potential emergency event/condition scenarios are analyzed in the hazards assessment, including all applicable categories of initiating events, such as internal accidents and events, external events, and malevolent acts. Assumptions, methodology, and evaluation techniques are documented.
- a. Primary and secondary barriers, their challenge and failure modes or mechanisms are analyzed, and associated indicators of barrier failure are recorded for development of Emergency Action Levels (EALs).
  - b. Magnitudes of releases from primary barriers, and effects of secondary barriers are analyzed to arrive at a “source term” (quantity or rate of MAR released) for each event analyzed.
  - c. The spectrum of scenarios analyzed includes a broad range of events covering high-probability, low-consequence through low-probability, high-consequence beyond-design-basis events.
- P 1.12 Consequences of releases are estimated and documented in the hazards assessment.
- a. Methods and models used for consequence analysis are applicable to the releases analyzed. Meteorological assumptions used in the model are valid.
  - b. Consequences (radiological and chemical) are computed at the facility boundary, onsite receptors, co-located onsite facilities, site boundary, and offsite locations, including those receptors of particular interest such as special populations (e.g., schools, hospitals, prisons).

### **Emergency Planning Zone**

- P 1.13 Emergency Planning Zone (EPZ) characteristics facilitate planning for the implementation of offsite protective actions by local authorities. The size and shape of the EPZ is determined by health effect parameters, the spectrum of scenarios, the consequences of the potential releases, and the geo-political boundaries beyond the site boundary.
- a. Thresholds for Early Lethality (TELs) are used to define minimum EPZs, and Protective Action Criteria (PACs) are used to define maximum EPZs.

- b. EPZ sizing and shape is refined by economic, demographic, and geo-political factors. The EPZ configuration (i.e., sector designations) is coordinated among all site facilities, and agreed to with state, local, and tribal authorities.
- c. The EPZ is sufficiently large that the planning and preparedness for actions within the defined EPZ provide authorities with a reasonable basis for extending their preplanned response activities to areas outside the EPZ, *if warranted by the actual conditions*.
- d. Protective actions for the airborne release pathway for hazardous materials will most likely not be required outside the EPZ for credible, severe events.
- e. In the unlikely occurrence of even the worst case severe event, the EPZ is of sufficient size that protective actions within the zone will provide for substantial reduction in early lethality effects.
- f. The maximum EPZ for any DOE site/facility should be 10 miles (16 km).

**APPENDIX A2.  
PERFORMANCE GOALS AND CRITERIA  
RELATED TO**

**CATEGORIZATION AND CLASSIFICATION**

**EMERGENCY MANAGEMENT PROGRAM ELEMENT**

**I. Performance Goal**

Unplanned, non-routine, and significant abnormal events or conditions caused by, involving, or affecting DOE facilities, sites, or activities, are promptly recognized, *categorized*, and declared as Operational Emergencies if they require time-urgent response from outside the immediate/affected facility or area of the incident to augment/reinforce/supplement the normal (typical) initial response, and, in addition, time-urgent notifications to initiate response activities beyond the local event scene. Incidents that can be controlled by employees or maintenance personnel in the immediate/affected facility or area, or by the normal (typical) initial response from site-wide capabilities (e.g., fire department) are not Operational Emergencies. In addition to categorization as Operational Emergencies, events involving the actual or potential airborne release of hazardous materials from a site/facility also require prompt and accurate *classification* based on health effect thresholds (for initiating protective actions) measured or estimated at specific receptor locations (i.e., facility and site boundaries). Associated with the classification of these Operational Emergencies are default conservative onsite Protective Actions (PAs) and offsite Protective Action Recommendations (PARs).

**II. Evaluation Criteria**

**General**

- P/E 9.1 Authority and responsibility for categorizing an event/condition, and if necessary, determining the emergency classification, is clearly defined, recognized, and understood by emergency response personnel.
- P/E 9.2 The designated (authorized) individual with the responsibility for categorization and classification makes the determination(s).
- P/E 9.3 The recognition/categorization/classification process of Operational Emergencies is effectively integrated with existing operations, management, emergency response, and reporting activities.

**Categorization**

- P/E 9.4 The categorization of abnormal events/conditions as Operational Emergencies is accomplished promptly and accurately using site-/facility-specific criteria to define the threshold between the Unusual Occurrence category and an Operational Emergency.
- a. The set of site-/facility-specific criteria is readily accessible to the responsible decision-maker.

- b. The criteria for categorizing Operational Emergencies are clear, straightforward, and unambiguous to the decision-maker, and dependent on readily available event or response observables.

P/E 9.5 If the event or condition is categorized as an Operational Emergency involving an airborne release of hazardous materials (i.e., from a site/facility), the authorized individual recognizes the requirement to promptly classify the event.

P/E 9.6 An abnormal event/condition, categorized as an Operational Emergency, is only downgraded (e.g., to Unusual Occurrence) if the original categorization was incorrect.

- a. An Operational Emergency remains in effect until the emergency response is terminated.

### **Classification**

P/E 9.7 If applicable, a site-/facility-specific set of current Emergency Action Levels (EALs) is used to appropriately classify the actual or potential emergency conditions as Alert, Site Area Emergency, or General Emergency, based on the severity of health effects.

- (1) *Site-/facility-specific EALs are developed and approved for the spectrum of potential airborne hazardous material release Operational Emergencies analyzed in the Hazards Assessment.*
- (2) *Protective Action Guides (PAGs) and Emergency Response Planning Guidelines (ERPGs), prepared in conformance with DOE-approved guidance applicable to the actual or potential release of hazardous materials to the environment, are used in defining emergency conditions such as Alert, Site Area Emergency, or General Emergency.*
- (3) *The set of EALs should provide for early recognition and response, be reliable and relate directly to the consequences of the event (as possible), internally consistent, anticipatory (of potential/future consequences), redundant, complete and comprehensive, conservative, and usable.*
- (4) *A proposed set of EALs should be tested against a range of initiating conditions and emergency event/accident scenarios to validate the indicated emergency class.*
- (5) *A discretionary EAL is included in the set to compensate for possible incompleteness and ensure that a decision can be made rapidly based on the current understanding of the situation.*

P/E 9.8 The decision-maker has efficient access to the appropriate EALs, since they are integrated with normal and off-normal operations procedures, indicators (i.e., control panels or instrument read-out stations), checklists, safety precautions, and other operational practices.

P/E 9.9 If a suspected hazardous material release fails to satisfy or trigger an EAL, then a common sense, conservative assessment of the event/response observables leads to an initial default estimate of the classification of the emergency event/condition using the discretionary EALs.

- P/E 9.10 Associated with a specific event classification, the decision-maker obtains default conservative Protective Actions (PAs) and Protective Action Recommendations (PARs), for immediate implementation on site or recommendation for off site.
- P/E 9.11 The available technique for classifying events is used directly by the decision-maker to determine the classification based on health effect thresholds (i.e., for initiating protective actions) measured or estimated at specific receptor locations (i.e., facility and site boundaries).
- P/E 9.12 The current classification is modified based on continuous monitoring for changes in event/response conditions that require or might support a change in the emergency classification.
- P/E 9.13 Site-wide, non-facility-specific EALs are used to classify an event or condition (e.g., applicable to unstaffed surplus facilities or affecting multiple facilities simultaneously), such as: terrorist threats, major natural phenomena, explosions of unexplained nature, and onsite transportation accidents.

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**APPENDIX A3.  
PERFORMANCE GOALS AND CRITERIA  
RELATED TO**

***PROTECTIVE ACTIONS AND RE-ENTRY***

**EMERGENCY MANAGEMENT PROGRAM ELEMENT**

**I. Performance Goal**

Protective actions are promptly and effectively implemented or recommended for implementation, as needed, to minimize the consequences of emergencies and to protect the health and safety of workers and the public. Protective actions are reassessed throughout an emergency and modified as conditions change. Re-entry activities are properly planned, coordinated, and safely accomplished.

**II. Evaluation Criteria**

**General**

- P/E 12.1 Protective Action Guides (PAGs) and Emergency Response Planning Guidelines (ERPGs), prepared in conformance with DOE-approved guidance applicable to the actual or potential release of hazardous materials to the environment, are used in protective action (e.g., sheltering, evacuation) decision-making.
- P/E 12.2 Protective actions reflect a conservative assessment of level of health effect and extent of potentially affected/impacted area and populations.
- P/E 12.3 The notification and implementation of onsite PAs and notification of offsite PARs is made in a timely, efficient, and unambiguous manner, confirmed and monitored by the ERO.
- a. Initial default onsite Protective Actions (PAs) and offsite Protective Action Recommendations (PARs) are linked to emergency event classification criteria (i.e., Emergency Action Levels (EALs) and/or the Timely Initial Assessment process associated with consequence assessment for response.
  - b. Modifications to initial protective actions are developed and implemented based on updated and refined data generated from the continuous consequence assessment process.
- P/E 12.4 “Other” possible protective actions for onsite and offsite populations, such as thyroid blocking agent, chemical neutralizing agents, water and food intervention levels, transportation route access controls, and impromptu respiratory protection are considered by decision-makers.

**Onsite Protective Actions (PAs)**

- P/E 12.5 Accountability of all facility personnel is completed within 45 minutes of emergency determination, with all personnel positively identified by name and either (1) their location established or (2) those not located identified as missing for purposes of search and rescue.
- a. Following initial accountability, continued tracking of personnel is maintained.
- P/E 12.6 Habitability of onsite facilities, including emergency facilities, is periodically determined using dosimetry and survey instruments, and relocation/evacuation measures are taken, if necessary.
- P/E 12.7 Actions that may be taken to increase the effectiveness of protective actions (i.e., heating, ventilation, and air conditioning [HVAC] shutdown during sheltering) are implemented in a timely and efficient manner.
- P/E 12.8 Evacuee routing, transportation modes, and logistic details are implemented expeditiously and the reception/relocation center is sufficient to accommodate the expected number of personnel.
- a. Multiple evacuation egress routes provide options based upon release type and wind direction.
  - b. Evacuation routes are familiar to site personnel and are coordinated with offsite authorities.
  - c. Adequate personnel are assigned to control evacuees and are kept aware of changes in onsite protective action modifications.
- P/E 12.9 Access to and egress from actual or potentially contaminated areas, or the site, is effectively monitored and controlled.
- a. People, vehicles, and equipment are effectively monitored before leaving contaminated areas and the site, if possible; or, upon arrival at designated decontamination, relocation, or assembly areas.
  - b. Sufficient staffing and equipment are available to activate designated monitoring locations.
- P/E 12.10 Emergency facilities, equipment, and personnel provide effective decontamination of personnel and equipment.
- a. Correctly implemented methods and criteria provide effective decontamination for various levels and types of contamination (e.g., skin contamination).

**Offsite Protective Action Recommendations (PARs)**

- P/E 12.11 Timely recommendations are made to appropriate state, tribal, or local authorities of protective actions, such as sheltering, evacuation, relocation, and food control.

P/E 12.12 Candidate PARs are coordinated with offsite authorities and well-defined geographic areas for sheltering and evacuation, special needs areas or special populations, and evacuation routes are readily available.

P/E 12.13 Ingestion pathway PARs are formulated when appropriate and communicated to offsite authorities.

### **Re-entry Activities**

P/E 12.14 Re-entry and approval of extended dose or exposure limits is within the authority and responsibility of the emergency director.

P/E 12.15 Re-entry activities are performed safely and efficiently, with specific team composition (e.g., minimum of one medically trained member) and equipment that accomplishes the mission.

- a. The re-entry plan addresses subject areas such as: range of hazardous materials which may be encountered; type and nature of potential safety failures; guidelines for prioritization of re-entry activities; team selection, personnel safety, job planning, record-keeping; and provisions for backup to every re-entry. Emergency procedures for activities such as lockout/tagout and work orders are readily available.
- b. Exposure criteria are established and available for each type of re-entry activity, including search and rescue, and repair. CFR/EPA limits are observed for radiological events, such as lifesaving, protection of health and property, and recovery of deceased.
- c. Pre- and post-re-entry activities are adequately briefed.
- d. Volunteers are used for high-risk situations.

### **Record-keeping**

P/E 12.16 Records of personnel exposures to hazardous materials (radiological and non-radiological) are effectively controlled, monitored, and maintained.

- a. Names of individuals surveyed, together with the extent of any contamination found, the instruments used and the methods employed, and results of any decontamination efforts are recorded.
- b. Contaminated individuals are scheduled for follow-up actions (e.g., subsequent whole body counts, bioassays).

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**APPENDIX A4.  
PERFORMANCE GOALS AND CRITERIA  
RELATED TO**

**CONSEQUENCE ASSESSMENT**

**PROGRAM ELEMENT**

**I. Performance Goal**

Estimates of onsite and offsite consequences of actual or potential releases of hazardous materials are correctly computed and assessed in a timely manner throughout the emergency. Consequence assessments are integrated with classification and protective action decisions, incorporate facility and field indications and measurements, and are coordinated with offsite agencies.

**II. Evaluation Criteria**

**General**

- P/E 11.1 Consequence estimates, performed by hand- and/or computer-based calculations, are accomplished in a timely and efficient manner throughout the emergency to adequately assess the actual or potential onsite and offsite consequences.
- P/E 11.2 The consequence assessment process is integrated with processes for categorizing an event as an emergency, determining the appropriate emergency class, protective action decision-making, and locating and recovering materials.
- P/E 11.3 The tools used in consequence assessment, such as system hardware and software for meteorological monitoring and dose modeling, etc., are available, reliable, calibrated, and consistent with DOE and industry standards.
- (1) A formal Quality Assurance Program is implemented for control of the tools used in consequence assessment, such as the meteorological monitoring system hardware and software, and dose modeling hardware and software.*
- P/E 11.4 Provisions are made for requesting support from the DOE radiological emergency response assets (e.g., Aerial Measuring System or the Atmospheric Release Advisory Capability) to assist in accident and consequence assessments as well as to estimate the integrated impact of a hazardous materials release to onsite and offsite populations within the Emergency Planning Zone.
- P/E 11.5 Natural phenomena (e.g., tornados, floods, severe wind, ice, or snow), which may result in or exacerbate an emergency condition at the facility, operation, and/or activity, are monitored.
- P/E 11.6 A formal document control system is implemented during an emergency to record, sequence, validate, and track the flow and chronology of information.

### Process

- P/E 11.7 An initial, conservative assessment (Timely Initial Assessment) of the consequences of an emergency is made in a timely and effective manner, which results in a more event-specific description of the consequences than was provided by the initial default estimate.
- P/E 11.8 In-depth assessment of event consequences is made continuously throughout an emergency.
- a. Assessments are updated when there are actual and projected changes in facility status, release condition, or meteorology.
  - b. Different models, assumptions, and input data are used to add to the understanding of the event and its consequences.
  - c. The indicators (e.g., system pressures, flow rates, radiation levels, release rates), necessary to continually assess the consequences of the emergency events/conditions, are identified and monitored.

### Input Data

- P/E 11.9 The type of hazard and source term for the release of a hazardous material is successfully determined based on either available and reliable facility system parameters and effluent monitors or without normally monitored and measured data.
- a. Data for source term estimates is available from reliable sources (e.g., stack or process flow rates, concentrations, tank volumes, containment or process building leak rates).
  - b. The methodology for determining the type of hazard and source term is compatible with instrumentation/monitor values (e.g., engineering units, range, conversion factors).
  - c. The instruments used for detection of chemical releases to the atmosphere have sufficient range to accurately determine the concentration of the released chemical(s) in air versus the ERPGs.
  - d. Indicators that are not continually monitored (e.g., chemical analyses of fluids, contamination levels) are sampled to identify the particular indicators to be continually monitored to assess the consequences of potential events, in addition to occurring events, by identifying trends, relationships, etc., that would indicate degrading conditions.
- P/E 11.10 Adequate meteorological information is obtained for use in transport and dispersion calculations to project the consequences of the hazardous material release to the environment onsite and offsite, to the population within the Emergency Planning Zone (EPZ).
- (1) Provisions are in place to acquire and evaluate short- and long-term meteorological information to support characterization of atmospheric diffusion and transport conditions and the consequences of a hazardous materials release.*

P/E 11.11 Onsite and offsite receptors of interest are identified quickly and are readily available to emergency managers (e.g., receptor locations at the facility and site boundaries, to or beyond the EPZ boundary, populations with special needs.)

### **Consequence Calculations**

P/E 11.12 The consequence estimates (i.e., transport/dispersion) for actual or potential releases of hazardous materials are made in a timely manner, efficiently, and accurately (i.e., consistent with the accuracy of the input data), reflecting appropriate receptors, exposure pathways, and release characteristics.

- a. Exercise of consequence assessment projection capabilities has included ground level and elevated release points, monitored and unmonitored pathways, post accident analysis results, field team data, as appropriate.
- b. The consequence assessment capability performs calculations of radiological dose or toxic chemical exposure projections estimated for the external, inhalation, and ingestion pathways, as appropriate.
- c. Assessment capabilities provide release estimates for receptor locations at the facility and site boundaries, to or beyond the EPZ boundary, and at populations with special needs.
- d. Appropriate facility-specific Protective Action Criteria (i.e., PAGs for radiological materials, and ERPG-2 values for non-radiological materials) are identified and readily available to consequence assessment teams for estimating health effects at a specified distance from the event.

### **Field Measurements**

P/E 11.13 Field sampling and monitoring activities are used to verify, update, and refine the source term and projected consequences through coordination with those responsible for consequence estimates.

- a. The field team (i.e., radiological and non-radiological field teams) successfully accomplishes field monitoring and plume tracking within and beyond the EPZ, and, similarly, verifies the absence of consequences in specific areas.
- b. As available, data from environmental monitoring programs is used to support consequence assessment, including data from area and radiation monitors and in-plant surveys for assessment under accident conditions.

### **Coordination**

P/E 11.14 Effective coordination is established with Federal, state, tribal, and local organizations to estimate the impact of the release on the public and the environment, locate and track hazardous materials released, and locate and recover materials, especially those with national security implications.

- a. Field monitoring and data collection by facility and site teams, state and local teams and Federal teams is coordinated to facilitate exchanges and correlation of information.

P/E 11.15 Assessments and analyses are clearly communicated to offsite emergency management decision-makers.

- a. Engineering units used in facility/site consequence assessment are understood and compatible with the units used by offsite emergency response authorities. Differences in modeling methods are well understood by onsite and offsite emergency response personnel.

**APPENDIX A5.  
PERFORMANCE GOALS AND CRITERIA  
RELATED TO**

***NOTIFICATIONS AND COMMUNICATIONS***

**PROGRAM ELEMENT**

**I. Performance Goal:**

For Operational Emergencies, prompt initial emergency notifications are accurately and efficiently made to workers and emergency response personnel/organizations, including appropriate DOE Elements and other Federal, state, tribal, and local organizations. Proper, accurate, and timely follow-up notifications are made when conditions change or when the emergency classification is upgraded or terminated. Continuous, effective, and accurate communications, among response components and/or organizations, is reliably maintained throughout an Operational Emergency.

**II. Evaluation Criteria:**

**Notifications**

- P/E10.1 For Operational Emergencies, prompt initial emergency notifications are accurately and efficiently made to workers and emergency response personnel/organizations, including appropriate DOE Elements and other Federal, state, tribal, and local organizations.
- a. Points of contact for emergency notifications are accurate and readily available to response personnel.
  - b. State and local officials and the DOE Field and Headquarters Operations Center are notified promptly, but no later than 15 minutes after classification of an Operational Emergency involving the airborne release of hazardous materials from a site/facility; all other organizations are notified of the Operational Emergency within 30 minutes.
  - c. The DOE Field and Headquarters Operations Center are notified promptly, within 30 minutes of the categorization of Operational Emergencies not involving the airborne release of hazardous material.
  - d. Local, state, and tribal organizations are notified promptly, within 30 minutes or as established in mutual agreements, of the categorization of Operational Emergencies not involving the airborne release of hazardous material.
- P/E10.2 Initial oral notification messages are not delayed by the inclusion of event information beyond a minimum set, that includes:
- Location of the event, and the name, organization, location, and telephone number of the caller.
  - Brief description, date and time of the event.

- Categorization/classification and time of declaration.
- Release in progress (yes/no).
- Recommended protective actions.

- P/E10.3 Follow-up notifications use a pre-arranged and standardized content and format that supports the inclusion of critical information concerning the nature of the event, description and status, key times, classification and release status (as required), meteorology, protective actions, affected facility, notification authority.
- P/E10.4 The emergency manager or designee personally approves the release of notification information.
- P/E10.5 A rapid notification and recall system is used to make initial and follow-up notifications to primary and alternate response staff. The system provides for feedback indicating unsuccessful contact.
- P/E10.6 Accurate and timely follow-up notifications are made when conditions change or when the emergency classification is upgraded or terminated.
- P/E10.7 Emergency status reports are forwarded to the next-higher Emergency Management Team (EMT) on a continuing basis throughout the Operational Emergency.
- P/E10.8 The Headquarters Watch Office staff in the Headquarters Operations Center and Headquarters EMT personnel record incoming verbal notifications, receive emergency event information by other data transmission means or mechanisms, and disseminate such information to Cognizant Secretarial Officer representatives and appropriate Headquarters organizations of other Federal agencies.

### Communications

- P/E10.9 A formally established communication chain for reporting and notification within the facility, site-wide, and to offsite organizations is properly followed.
- (1) *Procedures provide for correct prioritization of notifications.*
- (2) *Systems and procedures provide for notifications of workers, ERO, and offsite responders.*
- P/E10.10 Installed communications systems adequately accomplish the notification and information exchange processes.
- a. Reliable equipment exists for communications with emergency organizations and response personnel.
  - b. Building and area alarms or public address (PA) systems are installed to alert facility personnel to emergency conditions.
  - c. Systems are in place for notification of onsite workers and public present onsite but outside the immediate vicinity of the affected facility.

- d. Where agreements with offsite agencies dictate, systems alert the public outside the site boundary.
  - e. Dedicated primary and backup voice communications links are provided between key emergency response facilities and sufficient non-dedicated voice communication links are provided to access offsite organizations.
  - f. Mobile and commercial phone lines are available.
- P/E10.11 Continuous, effective, and accurate communications among response components and/or organizations (e.g., event scene responders, emergency managers, response facilities) is reliably maintained throughout an Operational Emergency.
- a. Communications systems are in place to support management and tracking of evacuation of facility personnel, personnel accountability and assembly.
- P/E10.12 The Headquarters Watch Office staff in the Headquarters Operations Center and Headquarters EMT personnel facilitate communications among Headquarters organizations, DOE field organizations, and contractor personnel.

### **Documentation/Reports**

- P/E10.13 Notifications and key communications are properly documented and displayed in emergency response facilities.
- P/E10.14 The flow and chronology of emergency information is recorded, sequenced, validated, and tracked.
- (1) A formal system is in place to record, sequence, validate and track the flow and chronology of emergency information.*
- P/E10.15 Logs are maintained and other record-keeping methods utilized to support post-event analysis, report production, and a legally defensible chronology of notification and communications activities.
- (1) Provisions are in place for maintaining logs and other record-keeping methods.*
- P/E10.16 All reports and releases are reviewed for classified or Unclassified Controlled Nuclear Information prior to being provided to uncleared personnel, entered into unclassified data bases, or transmitted using non-secure communications equipment.
- P/E10.17 Following termination of the emergency response, and in conjunction with the Final Occurrence Report, each activated EMT develops and submits a final report on the emergency response.

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**APPENDIX A6.  
PERFORMANCE GOALS AND CRITERIA  
RELATED TO**

***EMERGENCY RESPONSE ORGANIZATION***

**PROGRAM ELEMENT**

**I. Performance Goal**

A structured organization is established and maintained for each site/facility with overall responsibility for initial and ongoing response to and mitigation of an emergency. The ERO establishes effective control at the event/incident scene and integrates local agencies and organizations that provide onsite response services. An adequate number of experienced and trained personnel, including designated alternates, is available on demand, for timely and effective performance of ERO functions.

**II. Evaluation Criteria – Response Subelements**

**General**

- P/E 6.1 The ERO configuration and activation is based on actual or potential emergency conditions.
- P/E 6.2 Management of the emergency response facility provides for the collection and dissemination of accurate data, setting priorities, assigning work to functional groups, and keeping key emergency response staff abreast of emergency response status.

**ERO Control**

- P/E 6.3 A single individual is in charge of the overall response and has the authority to use necessary resources to mitigate the emergency.
- a. An “Emergency Director,” “Emergency Coordinator,” or equivalently titled individual, is available, and possesses and exercises the authority and responsibility to perform required functions, including initial activation of onsite response assets and requests for offsite assistance.
  - b. The division of authority and responsibility between the Incident Commander (IC) and the ERO Emergency Director (ED) position is clearly and effectively maintained.
- P/E 6.4 Control of operations, monitoring, and repair teams is clearly vested in a single emergency facility or clearly defined between multiple emergency facilities.
- (1) Command and control functions are clearly defined and other key management positions are prescribed.*

P/E 6.5 Transfer of a command and control function to another emergency facility, within an emergency facility, or to a command external to the ERO or ICS (e.g., another Federal agency, such as DOJ/FBI) is completed in an orderly and formal manner and ERO personnel are informed of the transfer.

*(1) A formal methodology is established for orderly transfer of command and control.*

P/E 6.6 The responsible individual authorizes emergency response personnel to receive exposures in excess of site administrative limits (or other Federal criteria) for carrying out lifesaving or other emergency activities.

### **ERO Staffing**

P/E 6.7 The emergency facilities and teams are staffed with adequate and qualified response personnel.

- a. The ERO is staffed with management contractor personnel in most key positions, unless site arrangements involve DOE or subcontractor personnel being assigned key positions.
- b. Sufficient experienced and trained personnel for initial and ongoing response, including designated alternates, have been assigned to each functional area.
- c. An adequate number of personnel are assigned for each function.
- d. At least one *annual* drill, exercise, or actual event response is required for maintenance of proficiency for each assigned ERO member.

P/E 6.8 The lead individual responsible for the emergency response adequately and effectively performs assigned functions utilizing sufficient and practical knowledge of the effected facility and its operations, the emergency response team and its mission, and the available resources necessary to effect an appropriate response and mitigate the emergency.

P/E 6.9 The order of succession of management personnel responsible for managing the emergency in the absence of the primarily designated emergency manager is implemented.

*(1) Procedures incorporate a formal method for an orderly transfer of management authority and responsibility.*

P/E 6.10 Extended operations (i.e., shift arrangements to cover 24-hour operations) are anticipated and planned.

### **ERO Activation**

P/E 6.11 The ERO is functionally staffed and activated in a timely manner. Key emergency response facilities are operational within an hour after declaration of an Operational Emergency.

- a. Response functions are initially performed by on shift operations staff.

- P/E 6.12 Procedures and/or checklists that describe the major activation and response activities of key members of the emergency response organization are used.
- P/E 6.13 Staffing of ERO positions following the declaration of an Operational Emergency is orderly, controlled, and verifiable.
- a. Personnel assigned to ERO positions gain access to their response stations without impediment.
  - b. Non-ERO personnel are excluded from emergency response work areas.
  - c. Individuals who assume key response positions/functions are readily identified by other ERO staff (e.g., through use of status board[s] or badging).

### General ERO Functions

- P/E 6.14 Members of the ERO perform in their roles, functions and interfaces, and use of emergency equipment, facilities, and resources in a timely, effective, and efficient manner.
- a. Functional areas are staffed to mitigate and respond to emergencies.  
*(1) The emergency plan and procedures define functional areas that must be staffed to mitigate and respond to emergencies.*
  - b. Functional area authorities and responsibilities are known and clearly understood.  
*(1) The emergency plan and procedures clearly define functional area authorities and responsibilities.*
  - c. Key ERO functional activities include initial activation and continuing activities.  
*(1) Key ERO functional activities are covered by implementing procedures which address initial activation and continuing activities.*
  - d. ERO staff identify and access available response resources (e.g., personnel, equipment, consumables, replacement parts), and, as appropriate, take account of resource limitations and specific capabilities.
  - e. The fully staffed ERO establishes effective internal and external interfaces with other agencies and organizations; external interfaces may include: local, state, tribal, and Federal agencies, and non-governmental groups such as concerned citizens and the media.
- P/E 6.15 Information is accurately and efficiently transmitted in an orderly and documented manner throughout the chain of command and between/within emergency facilities.
- a. Communications are maintained with and information is provided regularly to the DOE Headquarters Emergency Management Team.
  - b. The ERO management effectively coordinates state and DOE site requests for use of assets such as the Radiological Assistance Program (RAP).

*(1) Methods for requesting Federal support are detailed in the site emergency plan or implementing procedures and coordinated with the DOE Field Office.*

- P/E 6.16 The use of acronyms, code words, convention and/or technical terminology causes no misunderstandings related to the response and associated data.
- P/E 6.17 The facility/site Incident Command System (ICS) is compatible with any offsite supporting agency structure for incident command that may be invoked for a severe event.
- P/E 6.18 Periodic briefings are provided on the status of the emergency and current significant response priorities and activities.
- P/E 6.19 When priority actions are identified, tasking is clearly made to emergency response staff, and actions are followed through to completion.
- P/E 6.20 Specialty groups supporting the emergency response staff provide timely information to the decision-making process.
- P/E 6.21 Adequate data are obtained and analyzed to support the operations staff in assessing and mitigating the emergency events.
- P/E 6.22 Based on current knowledge of the situation, the responsible ERO operations and technical support staff determine and implement a reasonable, well-planned course of action.
- P/E 6.23 ERO personnel are provided with adequate briefings concerning safety, operations, communications, and hazards before being deployed.
- P/E 6.24 ERO teams are debriefed upon return from assigned missions and their accomplishments, failures, exposures, and status information are recorded and made available to other teams and emergency facilities.

#### **Incident Command System (ICS)**

- P/E 6.25 An Incident Command System for response to an Operational Emergency is established.
- P/E 6.26 The incident is assessed and priorities are established with life-saving, safety, incident stabilization, and property conservation receiving top priority.
- P/E 6.27 Incident command strategic goals and tactical objectives are clear and a flexible action plan is implemented.
- P/E 6.28 An ICS command post is established in a safe area away from the event scene, where command and control may take place safely and effectively.
  - a. Command post habitability is periodically assessed.
  - b. The command post is moved for safety purposes.
- P/E 6.29 Incident command staff continually assess the situation, develop a mitigation strategy, and request additional assets as needed.

- P/E 6.30 Incident command coordinates internal and external response assets in an effective manner.
- a. The local version of the Incident Command System (ICS) or the Unified Incident Command System is effectively integrated with the facility/site ERO to control response activity at event scenes.
- P/E 6.31 Incident command staff ensures that response personnel take necessary precautions for personal safety and contamination control.
- a. Incident command staff establishes a staging area where arriving asset personnel are briefed; communications are checked; special equipment is issued; and the assets are deployed upon request.
  - b. Asset personnel being released are debriefed; personnel are accounted for; personnel and equipment are surveyed for contamination; and issued equipment is returned.

### **Hazardous Material Survey, Sampling, and Sample Analysis Teams**

- P/E 6.32 Teams implement survey and sampling procedures in a timely manner.
- a. Field teams are provided with adequate monitoring equipment and personnel protective equipment to accomplish field monitoring and plume tracking within and beyond the Emergency Planning Zone (EPZ).
  - b. Teams effectively use protective equipment such as protective clothing and respirators, filter masks, and dosimetry.
- P/E 6.33 Equipment needed is adequate, accessible, functional, and calibrated.
- P/E 6.34 Teams make effective use of maps or general arrangement drawings showing predetermined and potential monitoring points.
- P/E 6.35 Teams are briefed on facility and meteorological conditions and exposure control procedures before deployment and when changes occur.
- P/E 6.36 Teams maintain effective communications to transmit accurate and timely readings and results to their team coordinator.
- P/E 6.37 Field teams are well-directed and effectively controlled by emergency response management, who provide directions and crucial information, including:
- Directions to survey specific areas;
  - Directions to minimize hazardous material exposure by exiting high airborne and whole body dose areas (i.e., for radiological materials), or high concentration areas (i.e., for toxic non-radiological materials), when not actively engaged in sample and survey activities;
  - Setting exposure limits for survey teams;

- Tracking teams exposures; and
- Soliciting and recording survey results.

P/E 6.38 Teams utilize proper survey equipment and log results accurately.

P/E 6.39 Teams collect samples, bag and mark them, and log results accurately and efficiently.

- a. Sampling for radiological materials is only done in an area with low background radiation.

P/E 6.40 Analysis procedures and equipment are used to support processing of samples received.

- a. Samples are properly analyzed in the field or transported to a laboratory.
- b. Samples are received, properly packaged, and labeled with information such as sample time and date, sample location, volumetric data, sample media, and sample or survey collection person's name.

P/E 6.41 Analysis results are promptly and accurately communicated to other emergency response facilities.

#### **Security Staff**

P/E 6.42 Security procedures for response to Operational Emergencies are safely and effectively implemented.

P/E 6.43 Timely, efficient, effective, and safe practices are used by protective forces in carrying out their responsibilities.

P/E 6.44 The Incident Command System is implemented for security emergencies.

P/E 6.45 The response of protective force personnel and equipment is characterized by effective command and control.

P/E 6.46 Access and egress control is quickly and properly maintained for the site/facility, site/facility areas, impacted areas, emergency response and other facilities.

P/E 6.47 Security practices facilitate timely movement and access of site/facility operating and response personnel (including offsite personnel) to required areas during the emergency situations.

P/E 6.48 The timely material accountability and protection for Special Nuclear Material (SNM) and other critical DOE assets under emergency conditions are effectively implemented.

P/E 6.49 Common protocol for local law enforcement backup of the onsite security force is used (e.g., use of deadly force, weapons employment, tactics, code words, radio frequencies).

**Fire and Rescue**

- P/E 6.50 Fire/rescue personnel and equipment are assembled and deployed to the scene of the emergency in a safe and timely manner.
- P/E 6.51 Fire/rescue personnel take necessary precautions for contamination, exposure, heat, and personal safety.
- P/E 6.52 Search and rescue operations are carried out in an efficient, coordinated manner:
- a. Medical, industrial hygiene, and health physics personnel coordinate their efforts.
  - b. Injured personnel are properly extricated, immobilized, and moved.
- P/E 6.53 When responding onsite, both onsite and offsite fire personnel are outfitted with the appropriate specialized equipment and supplies specific to the onsite hazards.

**Repair and Maintenance**

- P/E 6.54 Facility and field repair and maintenance activities are carried out in a timely and efficient manner:
- a. Proper tools are available.
  - b. Procurement of replacement parts is expedited.
  - c. Emergency work order procedures are used.
  - d. Emergency tagging (e.g., lockout/tagout or clearance) is implemented.
  - e. Personnel protection and monitoring are conducted.
  - f. Coordination with support groups, such as health physics and chemistry personnel, is conducted.

**III. Evaluation Criteria – Programmatic Subelements****ERO Maintenance**

- P 6.55 Communication systems used to activate both on-shift and off-shift augmentation of emergency response personnel are adequate and reliable, and are tested and maintained regularly.
- P 6.56 The ongoing, standby staffing of emergency facility positions and response teams is effectively accomplished using techniques, such as duty-cycles or static rosters, to ensure that qualified personnel are available on-demand, and properly assigned.
- a. Sufficient qualified and trained personnel for initial and ongoing response, including designated alternates, are candidates for call-up in each functional area.
  - b. ERO rosters are reviewed periodically (quarterly) for accuracy (e.g., current qualification, correct phone number, correct response time).
  - c. Personnel qualifications are reviewed and updated periodically.

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**APPENDIX A7.  
PERFORMANCE GOALS AND CRITERIA  
RELATED TO**

***TRAINING AND DRILLS***

**EMERGENCY MANAGEMENT PROGRAM ELEMENT**

**I. Performance Goal**

A coordinated and comprehensive program of training and drills is an integral part of the emergency management program that ensures that training for program-specific emergency response capabilities is developed, offered, delivered, validated through testing or drills, maintained, and documented. The training program consists of self-study, classroom training, and drills, and applies to onsite emergency response personnel and offsite response organizations that are expected to respond to onsite emergencies. Drills provide supervised, “hands-on” training and/or validation of classroom training for members of the Emergency Response Organization (ERO).

**II. Evaluation Criteria**

**General**

- P 3.1 The emergency management training program is effectively integrated and coordinated with related training programs provided by other organizations.

**Training Program**

- P 3.2 The emergency management training program provides a current and structured view of program-specific training requirements, training goals/objectives, organizational responsibilities, resources, and planned activities.
- a. The training program is reviewed and updated annually, or as required, based on changes in related emergency plans/procedures.
  - b. The training program consists of self-study, classroom training, and drills.
  - c. Administrative records provide the source for identifying qualified instructors, training material approval authority, and qualification signature authority.
  - d. A detailed list of courses and drills provided by the emergency management program is developed and maintained.
  - e. Matrices for the identification and implementation of required training topics versus ERO positions are developed and maintained.
  - f. Standards for successful completion of each training activity and requirements for updating, retraining, and remedial training are established and enforced.

- g. A schedule for developing, delivering, and evaluating training activities is developed and updated as needed.

**Training Requirements – Onsite**

- P 3.3 General Employee Training (GET) is provided to all new personnel, and covers site hazards, security, and protective actions, such as evacuation, assembly, and sheltering.
- P 3.4 Both initial training and annual refresher training is provided for the instruction and qualification of all Emergency Response Organization (ERO) personnel (i.e., primary and alternate) for their assigned position or function.
- P 3.5 Annual refresher training in notification procedures for hazardous material releases is provided to operators, supervisors, and workers having the responsibility for monitoring facility/site conditions, for recognizing emergency events/conditions, and for initiating the appropriate response.
- P 3.6 Streamlined qualification for personnel with prior experience is well documented and includes training on program-specific topics.
- P 3.7 Special team training is conducted for functional groups, in particular those with technical and management team assignments.

**Training Requirements – Offsite**

- P 3.8 Emergency-related information, annual hazards and emergency response program training is made available to offsite responders, such as state, local, tribal, or private medical and ambulance services, to ensure that they can effectively respond onsite for facility emergencies.

**Training Development**

- P 3.9 Training courses are performance-based, customized to program-specific ERO positions, contain learning objectives, and have testing as a final validation of satisfactory completion.
- P 3.10 Refresher training includes details of program changes and lessons-learned from actual events, exercises, DOE and industry operating experience, and program evaluations.

**Drills**

- P 3.11 Drills provide supervised, “hands-on” training and/or validation of classroom training for members of the Emergency Response Organization (ERO).
- P 3.12 Building evacuation, and other protective action drills are conducted and documented in accordance with Federal, state, and local laws and regulations.
- P 3.13 Drills are developed or modified based upon feedback from actual events, exercise evaluations, and self-assessments, or to validate new or revised procedures and equipment modifications.

**Training Documentation and Records**

- P 3.14 Lesson plans, drill plans, training materials and facilities, instructor and student manuals, and training software are formally documented and maintained and included in an index or matrix.
- P 3.15 Training records are maintained for all personnel assigned ERO positions, primary and alternate, showing in-progress, final, and upcoming requalification status.
- P 3.16 Drill participation and performance is documented for each member of the ERO.

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**APPENDIX A8.  
PERFORMANCE GOALS AND CRITERIA  
RELATED TO**

***EMERGENCY PUBLIC INFORMATION***

**EMERGENCY MANAGEMENT PROGRAM ELEMENT**

**I. Performance Goal**

Accurate, candid, and timely information is provided to workers, the news media, and the public during an emergency, to establish facts and avoid speculation. Emergency public information efforts are coordinated with state, local, and tribal governments, and Federal emergency response plans, as appropriate. Workers and the public are informed of DOE emergency plans and planned protective actions before emergencies.

**II. Evaluation Criteria – Response Subelements**

**General**

P/E 14.1 Accurate, candid, and timely information is provided to workers and the public (through the news media) during an emergency, to establish facts and avoid speculation.

**Response Organization**

P/E 14.2 Emergency public information functions are staffed, consistent with the nature, severity, duration, and public and media perception of the event or condition.

*(1) Key emergency public information positions, and the respective responsibilities and locations, are specified and individuals to fill these positions are identified.*

*(2) The emergency-related activities and the number of staff required to respond effectively are specified in plans/procedures, based on the nature, severity, duration, and public and media perception of the event.*

P/E 14.3 The management team and outside agency representatives effectively, openly, and readily share and coordinate information.

P/E 14.4 The functions of information collection, coordination, production, dissemination, and monitoring and analysis of media coverage and public concerns and information needs are represented in the organization.

P/E 14.5 Emergency public information staff are proactive in obtaining emergency information from the command center.

### **Joint Information Center**

- P/E 14.6 The designated “Joint Information Center” (JIC) provides adequate space, equipment, communications lines, and information resources to accommodate personnel and to accomplish required functions.
- (1) JIC is available, equipped, maintained and controlled to accommodate members of the news media, DOE, contractor, and offsite agency representatives, and to facilitate the preparation and coordination of emergency information release to the public through the news media.*
  - (2) Provisions are in place to support response to public inquiries in a timely manner.*
  - (3) Provisions are in place to detect, correct, and control rumors and misinformation.*
  - (4) The JIC location and layout is documented in plan/procedures.*
  - (5) The JIC includes adequate services and equipment (e.g., telephone service, television and radio broadcast equipment, copying/telefax equipment, audio-visual equipment) maps and displays, security provisions and working space for both the media and staff.*
  - (6) Provisions are in place for an alternate JIC in the event, based on HA results, that the primary JIC may become uninhabitable.*
- P/E 14.7 JIC access control is adequate and there is a means to readily identify media representatives and staff.
- P/E 14.8 Pre-prepared relevant information concerning affected facilities, emergency plans, hazards, and logistics is provided to news media in the JIC.
- P/E 14.9 Appropriate visual aids are available and utilized for briefing news media regarding events, impacted areas, consequences and protective actions.

### **Media/Public/Worker Relations**

- P/E 14.10 Information released to the public through the news media regarding the emergency is accurate, timely, and relevant.
- (1) Provisions are in place for press briefings to be held with regular frequency and whenever new or breaking information is available concerning emergency conditions, protective actions, or response.*
  - (2) Persons with technical expertise about the emergency and with spokesperson training are assigned to support the emergency public information staff.*
  - (3) A list of 24-hour media points of contact are available and maintained current.*
  - (4) Provisions call for news releases or public statements that contain information that may present a security risk to be reviewed by an authorized Derivative Classifier.*

- P/E 14.11 Rumors and misinformation are detected, controlled, and corrected; accurate information disclaiming rumors and correcting misinformation is incorporated in media briefings and press releases as necessary.
- P/E 14.12 Emergency response and protective actions required for the health and safety of workers and the public are adequately explained with unclassified information.
- P/E 14.13 Authority for approving release of emergency information to the media and public is vested in a single individual, or designee, and the appropriate DOE official.
- P/E 14.14 Technical briefers are utilized and are knowledgeable and effective in communicating with the news media.
- P/E 14.15 Communications with the media and public are timely and responsive to public concerns.
- a. The frequency and content of news conferences are consistent with information needs of the public and media.
  - b. Press briefings are held with regular frequency and whenever new or breaking information is available concerning emergency conditions, protective actions, or response.
- P/E 14.16 Information distributed to workers and site personnel regarding the emergency is candid, current, and understandable.

### **Offsite Coordination**

- P/E 14.17 Public information functions during the emergency are coordinated with DOE Headquarters, other Federal agencies, and tribal, state, and local government organizations.
- (1) Internal and external organizational relationships for emergency public information are documented in the public information program.*
- a. Information (written and verbal) which is to be released to the news media is coordinated with DOE, and other Federal, state, tribal and local response organizations, as appropriate.

## **III. Evaluation Criteria – Programmatic Subelements**

### **Education Programs**

- P 14.18 Prior to emergencies, workers and site personnel are informed of emergency response plans, response capabilities, and planned protective actions.
- P 14.19 Continuing education is provided to the area news media for the purpose of acquainting the media with the facility, management personnel, emergency plans, and points of contact.

- P 14.20 In coordination with state and local governments, information is disseminated to the public regarding how they will be alerted and notified of an emergency, what their actions should be in the event of an emergency, and points of contact for additional information.

## **APPENDIX B**

## **REFERENCES**

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## APPENDIX B

### REFERENCES

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