

**Emergency Procedures**

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## 1.0 PURPOSE

The purpose of this procedure is to establish the requirements for the Hanford Site Emergency Management Drill Program. This procedure supplements the requirements of DOE/RL 94-02, *Hanford Emergency Management Plan*, Section 12.0, “Training and Drills,” and implements the core functions and guiding principles of the Integrated Safety Management System (ISMS).

## 2.0 SCOPE

The provisions of this procedure apply to Hanford Site contractors required to conduct emergency preparedness (EP) drills, including EP drills conducted to meet annual exercise requirements, in accordance with DOE/RL-94-02. Requirements for the U. S. Department of Energy (DOE), Richland Operations Office (RL), Office of River Protection, and Pacific Northwest Site Office oversight of contractor drill programs are contained in RLEP 3.29, “Emergency Management Assessment Program.”

## 3.0 RESPONSIBILITIES

### 3.1 Hanford Site Contractor Management

1. Develop and maintain emergency preparedness drill programs that meet the requirements of DOE/RL-94-02 and this procedure.
2. Appoint an adequate number of trained Drill Coordinators to implement contractor drill programs.
3. Assign an adequate number of technically qualified and trained personnel to serve as controllers and evaluators.
4. Submit documentation for evaluated drills conducted to meet annual exercise requirements to the RL EP Program Manager and their respective DOE EP office, as applicable.
5. Submit the annual drill schedule to the RL EP Program Manager and their respective DOE EP office, as applicable. The drill schedule must designate which drill will be performed to meet the annual drill for exercise credit requirement.<sup>1</sup>
6. Review lessons learned from drills, OPEX Share, and other applicable sources for relevance and incorporate into the emergency preparedness drill program as appropriate.

### 3.2 RL Support Contractor Emergency Management and Preparedness (EM&P) Site Drill Team

1. Maintain a schedule of Hanford Site drills requiring support from outside resources (Patrol Operations Center (POC), Hanford Emergency Operations Center (EOC) EOC Shift Office, etc.).
2. Schedule appropriate resources and provide support for contractor drills.
3. Disposition drill feedback forms received from contractors and revise processes as necessary.

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<sup>1</sup> Contractors with multiple EROs should schedule drills for exercise credit over the course of the year to facilitate DOE observation/oversight.

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## 4.0 DEFINITIONS

Drill definitions are contained in DOE/RL-94-02, Section 12.0. Tabletop, walk-through (coached), and evaluated EP drills are defined below.

**Emergency Preparedness Drill:** EP drills involve designated facility emergency response personnel and the Hanford Incident Command System. Such drills could include tabletop drills, walk-through (coached) drills, and evaluated drills.

**Tabletop Drill:** Drills conducted in a classroom setting with the intent to provide experience to participants in following the procedures and practicing communication strategies prior to, or as a result of, performing drills or exercises. Tabletop drills may be used to review and/or validate emergency response procedures, abnormal operating procedures, and alarm response procedures.

**Walk-through (Coached) Drill:** Hands-on, non-performance-based drills conducted for training purposes that involve controller interaction with players as coaches or instructors. Walk-through (coached) drills are generally used for drills leading up to emergency response organization (ERO) qualification drills, introducing new processes and procedures, or for training drills to focus on needed areas of improvement and lessons learned.

**Evaluated Drill:** Tabletop or hands-on, performance-based drills conducted to evaluate ERO performance and/or individual ERO member proficiency with no controller interaction as coaches or instructors for the evaluated portions. Evaluated drills shall include measurable objectives and criteria for determination of success of the drill and/or to evaluate individual ERO member proficiency, be graded, and the results documented in a drill report.—Portions of an evaluated drill may be coached and should be designated as such in the drill package. Coached portions of the drill shall not be used for ERO member proficiency demonstration.

## 5.0 PROCEDURE

### 5.1 Drill Program Requirements

1. Contractors shall develop a drill program for maintaining specific operational and emergency response capabilities for each hazardous facility and each low-hazards facility required by DOE/RL-94-02, Section 12.0. Drill programs shall provide supervised, hands-on training for members of emergency response organizations and shall include the range of emergency response and emergency management activities that could be performed by the organizations, based on hazards at the facility.
2. General-purpose facilities must conduct building evacuation drills when required by DOE/RL-94-02, Section 12.0, and may conduct drills for ISMS or Voluntary Protection Program purposes.
3. Tabletop drills shall not be used for initial qualification of HFD Battalion Chiefs (ICs) and ERO members at hazardous facilities.
4. Contractors shall ensure that a Drill Coordinator is assigned to each project/facility requiring a drill program in accordance with DOE/RL-94-02, Section 12.0. Drill Coordinators shall ensure that drill programs are implemented at their facilities to include:

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- Developing an annual drill schedule for hazardous facilities and low-hazards facilities required to conduct drills beyond the annual protective action drill.
  - Developing and/or ensuring the adequacy of the drill package.
  - Coordinating the conduct of drills.
  - Issuing drill reports.
  - Entering items requiring corrective action into the appropriate commitment tracking system in accordance with contractor corrective action management procedures.
  - Tracking of lessons learned for ongoing improvements to the drill program.
5. Drill Coordinators shall complete Drill Coordinator Training (course #02028R and #020282) or equivalent.
6. To meet the annual exercise requirements of DOE/RL-94-02, Section 13.0, each hazardous facility (or group of hazardous facilities with one FERO) that does not participate as the primary facility in a Hanford Site Emergency Exercise Program field or limited exercise during a fiscal year shall complete at least one evaluated EP drill during that year. Unlike drills performed for training purposes, the drill for exercise credit is conducted as a test to validate the capabilities of the FERO.
- a. The drill shall be performance-based and allow for real-time communications among FERO members and outside response facilities (i.e., POC, Hanford EOC, EOC Shift Office). The minimum requirements for this drill include the following:
- Scenario that involves a spill or release of hazardous materials that requires detection, monitoring, and control of the release. Drills involving radiological materials must include survey and decontamination of facility personnel affected by the release unless scenarios that support this are unpalusible (this should not be common).
  - Protective actions (e.g., take cover or evacuation), including determination of appropriate protective actions, notification of employees to implement protective actions, implementation of protective actions, and accountability.
  - Event recognition and categorization/classification and notification.  
Event mitigation by facility personnel, including initial mitigation in accordance with applicable emergency response procedures, obtaining outside emergency assistance; supporting emergency services response,, and demonstration of command and control.
  - Emergency and environmental notifications and communications, including RCRA determination and notifications, as applicable, and management and DOE notifications.
  - Interface with other Incident Command Organization functions, and other affected facilities, including HFD and/or Hanford Patrol (or drill team), POC, EOC Shift Office, and Hanford EOC.<sup>2</sup>

<sup>2</sup> The EP drill team may be used to demonstrate the interface with HFD and HP.

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- The overall drill evaluation must address the totality of the response (i.e., FERO and non-FERO support personnel).
- b. If a single ERO is designated to respond to multiple hazardous facilities, the annual drill for exercise credit must be rotated among all the hazardous facilities over a five-year period.
- c. A drill package consisting of scope, objectives, limitations, scenario, timeline that identifies when messages and key events are expected to occur, applicable technical data, evaluation criteria, a list of participants, and a facility-level evaluation and critique (drill report) shall be submitted to the RL EP Program Manager and, as applicable, the respective DOE EP office.
  - The drill documentation must be submitted via email to the RL EP Program Manager within 45-calendar days of the drill. The RL EP Program Manager will notify the facility within 45-calendar days if the submitted documentation is inadequate.

NOTE: If the drill is required to be independently evaluated by DOE, as identified on the annual exercise schedule, the drill package and report must be submitted to the RL EP Program Manager in accordance with RLEP 3.32.

### 5.1.1 Proficiency Requirements

Proficiency is defined as “demonstrated skill and competency acquired from training and experience.”

1. ERO member proficiency is measured against established performance criteria determined by the contractor and assessed by a trained evaluator.
  - Criteria for the determination of proficiency of each ERO member identified below, as applicable, shall be documented in accordance with contractor procedures.
  - Proficiency criteria or contractor procedures shall include the methodology for determining when proficiency issues warrant removal from the qualified ERO list.
2. The following ERO personnel assigned formal checklist ERO responsibilities shall participate in an evaluated drill (or exercise) at least annually<sup>3</sup> to demonstrate proficiency, or an additional number sufficient to demonstrate proficiency at their respective ERO position.
  - Building Emergency Director (BED) for hazardous facilities. (Building Emergency Directors are also required to demonstrate proficiency in a drill prior to assignment.)
  - Incident Command Post Communicator.
  - Incident Command Post Hazards Communicator.
  - Radiological/Chemical Hazards Assessor.
  - Facility Operations Specialist.

<sup>3</sup> Annually is defined as every 365 days. A calendar-year method may be used to track proficiency if described in contractor-specific procedures.

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- HFD Battalion Chief (IC).
  - Building Warden/BED for Low-Hazards Facilities. (Building Wardens are also required to demonstrate proficiency in a drill prior to assignment.)
3. An ERO member failing to demonstrate proficiency in an evaluated drill must subsequently demonstrate proficiency (via remedial activity or additional drill) prior to resuming ERO duties.
  4. Proficiency of ERO members cannot be extended beyond the annual requirement.

## 5.2 Drill Packages

1. The following sections shall be used in the development of EP drill packages (excluding tabletop drills). Note: Tabletop drill packages only need to include applicable sections.
  - a. Purpose and Scope
    - At a minimum, scope shall identify the purpose of the drill and the extent of participation (drill participants), including any findings and/or actions to be validated by the drill (can be identified in the objectives section).
  - b. Objectives
    - Objectives provide the basis for evaluating/validating the performance of response capabilities.
    - Identify the measurable actions and activities that the players are expected to perform during the conduct of a drill.
      - Specific objectives and associated criteria shall provide the basis for evaluating/validating the performance of response capabilities by each participating organization. Each objective should clearly state what is to be demonstrated and be specific, attainable, and measurable. Contractors shall develop and use standard objectives and criteria based upon the Baseline Criteria Review and Approach Document (CRAD) issued by DOE HQ. Additional objectives based upon the purpose and scope of each drill may be developed and used as necessary. For example, an additional objective may be appropriate to validate the effectiveness of corrective actions that were previously implemented.
    - Objectives may be weighted, depending upon their importance to the success of the drill to include requiring passing certain objectives for the drill to be considered successful.
  - c. Limitations
    - Limitations define the controls, ground rules and the extent of play of the drill to ensure it can be conducted safely and in accordance with facility requirements. At a minimum, limitations should be considered for:
      - Safety or hazard considerations.
      - Technical or operational safety requirements.
      - Safety considerations for the operation of simulation aides.

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- Security considerations for the facility.
  - Organizational extent of play.
- Administrative delays and predetermined reasons to terminate the drill (drill holds and abort limits) shall be explicitly defined in the drill package.
- d. Simulations
  - Simulations describe the alternate actions that will be taken during the drill to satisfy the actual demonstration of the expected action. For example, required phone calls to outside organizations may be simulated by making phone calls to actors located in a control cell.
- e. Scenario
  - Scenarios are a mechanism developed to provide responders with the opportunity to meet objectives. The scenario is a narrative of the background, initial conditions, initiating events, and expected player/responder actions. It contains descriptions of the simulated emergency situation, including the overall sequence of events, supporting data, and estimated timing of activities. The scenario reflects current facility/site or activity-specific hazards, correlates technically with the Emergency Planning Hazards Assessment, and is technically accurate in terms of operations, radiological, chemical, and meteorological data.
- f. Timeline/Messages
  - The timeline is a list that supplements the drill scenario with event synopses, expected/anticipated responses, anticipated timing and location of the opportunity for meeting objectives, and responsible personnel. It should include scenario events that prompt players to implement the plans, policies, and procedures and identifies the timing and summary content of key events and identifies when messages shall be delivered. A Master Scenario Events List may be used, which includes messages within the timeline.
  - Messages include instructions to controllers to begin simulations or inject information, and to provide earned information, acting instructions, or contingency messages. Messages should contain accurate, unambiguous, and non-prompting information and technical data for the players and provide proper direction for the drill. They should be formatted and presented in a manner as to reflect the actual data that would be observed by players in a real event. Types of messages include:
    - Initiating Message
      - Delivered to initiate action by the player. *Examples include alarms, props, moulaged victims, etc.*
    - Earned Message
      - Delivered after correct action taken by the player. *Examples include field radiological readings, patient medical symptoms, instrument readings, etc.*
    - Contingency Message
      - Delivered to initiate additional response and/or continue play. Usually delivered after player fails to take appropriate action within an appropriate

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timeframe. *Examples include event classification, calling the POC for emergency responders, etc.*

- g. Technical Data (may be included in messages)
  - Plant conditions and configuration.
  - Meteorological conditions.
  - Source terms.
- h. Controller/Evaluator/Observer Instructions
  - Prior to a drill, controllers and evaluators must receive a briefing on the scenario, the drill package, and the specific duties they are to perform. This may include a presentation on the various plans and procedures that the responders are expected to use. Controller briefings should cover the entire scenario and anticipated responder actions, the location and assignments of each controller (including actors), communication plans, administrative and logistical details, an in-depth presentation of safety and security issues, and an in-depth discussion of each controller's specific assignments. Details for controlling complex or sensitive elements of the drill should be presented in the briefing. Observer briefings should identify when interaction with players is authorized (e.g., safety or security concerns) and how general questions will be addressed.
- i. Player Instructions
  - Responders shall be provided information regarding rules of conduct; scope of the drill; safety and security precautions; approved simulations; methods for identifying various drill participants; and any special administrative, logistical, or communications arrangements in effect during the drill. Information on pre-approved simulations must be carefully considered since some may be very scenario-specific and may divulge too much information.

### 5.3 Drill Planning and Scheduling

1. Drill Coordinators shall determine and obtain appropriate reviews and approvals (i.e., safety, operations, Unreviewed Safety Question, classification, etc.) for drill packages prior to conducting the drill.
2. Drill Coordinators shall coordinate facility siren, criticality alarm, or other alarm activations for drills that can be heard by personnel outside of the facility in accordance with RLEP 3.1, "Hanford Site Emergency Alerting System Testing and Notification."
3. Drills (including operational drills) that require support or resources outside of the facility or project, including the POC, HFD, Hanford Patrol, Hanford EOC, EOC Shift Office, Hanford Site Emergency Alerting System activation, or RL Support Contractor EM&P Site Drill Team members shall be coordinated through the RL Support Contractor EM&P using the *Request for Facility Drill Support* form.
  - For drills not requiring an event scene response by HFD and/or Hanford Patrol personnel, the Drill Coordinator shall submit a resource request, along with the drill package, to the

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RL Support Contractor EM&P Site Drill Team at least three (3) working days before the drill date to ensure adequate time for review and determination of support.

- This ensures that planning can occur for appropriate support. Drills will be supported based upon resource availability and by order of drill requests. Drills requested less than three working days in advance may be supported on a case-by-case basis depending on the purpose of the drill, available resources, etc. If the specific date and time cannot be supported, the RL Support Contractor EM&P Site Drill Team will work with the requestor to schedule an alternate date and/or time.
- For drills involving HFD and/or Hanford Patrol<sup>4</sup> (with the exception of a firefighter for doffing), the Drill Coordinator must ensure the following actions are performed.
  - Submit a resource request to the RL Support Contractor EM&P Site Drill Team eight (8) weeks in advance of the drill date to allow a review by the participating agency(s) for a clear understanding of overall objectives and to ensure the acquisition of required resources. Drill dates will be reserved based upon resource availability and by order of drill requests. If the specific date and time cannot be supported, the RL Support Contractor EM&P Site Drill Team will work with the requestor to schedule an alternate date and/or time.
    - If HFD and/or Hanford Patrol resources will be required to enter radiologically controlled or posted areas or other areas that require exit controls (e.g., monitoring, sign outs) during a drill, that information shall be provided in the drill request form. The RL Support Contractor EM&P Site Drill Team will provide the request to HFD and/or Hanford Patrol management for review and approval.
  - Include the RL Support Contractor EM&P Site Drill Team in drill planning and/or scenario review groups. The RL Support Contractor EM&P Site Drill Team will assist with identification of drill planning considerations for HFD and/or HP participation for inclusion in the drill package.
  - Submit the drill package at least two (2) weeks in advance to ensure expected response actions, drill controls, and specific objectives are included in the package and understood.
    - This ensures that planning can occur for HFD/Hanford Patrol support. Drills will be supported based upon resource availability and by order of drill requests. Drill packages not submitted in accordance with these time constraints may be supported on a case-by-case basis depending on the purpose of the drill, available resources, adequacy of established drill controls, etc.

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<sup>4</sup> HFD has committed to supporting one drill annually for each hazardous facility ERO and WTP. Additional drills may be supported on a case-by-case basis, depending on resource availability to prepare for exercises, DOE evaluated drills, or readiness drills,

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- Ensure an Emergency Services drill controller is assigned to HFD/HP resources and briefed on the scenario, package, and specific duties they are to perform. This assignment and briefing must be coordinated through the RL Support Contractor EM&P Site Drill Team.
- Ensure HFD/HP participants are briefed on player instructions as described in Section 5.2. This briefing may be conducted by either the Drill Coordinator or the RL Support Contractor EM&P Site Drill Team but must be coordinated through the RL Support Contractor EM&P Site Drill Team.
- For drills involving the use of inert explosive training aids (explosive device props), the Drill Coordinator shall submit a resource request to the RL Support Contractor EM&P Site Drill Team at least 24 hours in advance of the drill date and time to allow the request to be coordinated with Hanford Patrol.
  - Use of inert explosive training aids is required to be controlled by Hanford Patrol.
  - Contractors shall provide the names of personnel authorized to check out inert explosive training aids to Hanford Patrol. Hanford Patrol shall maintain a list of authorized personnel.
  - Authorized personnel must be in possession of an approved *Prohibited/Controlled Article Pass* to check out or be in possession of inert explosive training aids.
  - Authorized persons in possession of an approved *Prohibited/Controlled Article Pass* will check out the appropriate inert explosive training aid from Hanford Patrol.
  - An inert explosive training aid can be checked out for a maximum of five (5) working days and shall be returned to Hanford Patrol. During this time positive control of the aid shall be maintained by the authorized person(s).
- No-notice drills require coordination with the RL Support Contractor EM&P Site Drill Team to ensure that appropriate controls are in place to prevent safety, security, or operational issues during the conduct of the drill and to ensure players fully understand the extent of play required.

#### 5.4 Drill Conduct

1. The Drill Coordinator shall obtain approval to conduct the drill as required by contractor procedures prior to commencing the drill.
2. The Drill Coordinator shall ensure that an adequate number of trained controllers are assigned to maintain safe control of the drill.
3. Controllers and evaluators shall be technically qualified in their assigned areas and shall have attended Exercise/Drill Controller and Evaluator Training (course #020285) or equivalent contractor drill controller and evaluator training.

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4. The Drill Coordinator shall ensure that a pre-drill briefing (or equivalent) is conducted for controllers, evaluators, and observers.
5. The Drill Coordinator shall conduct the drill in a manner that does not adversely affect the safety or security of personnel or the facility.
6. The Drill Coordinator shall be responsible for initiating drill holds or the termination of the drill if necessary to ensure safety and security is maintained during the drill. Controllers are responsible for notifying the Drill Coordinator of situations that may require a drill hold or termination.

### **5.5 Drill Evaluation**

1. Post-drill debriefs or hotwashes involving the drill participants shall be conducted as soon as possible following all drills.
  - A hotwash is a brief review conducted by the controller organization and key participants immediately following a drill. It is a means that players use for self-evaluation of objectives, expectations and to provide immediate feedback. The hotwash should identify major issues so they can be explored further in a formal evaluation that may follow.
2. Drill reports are completed for evaluated drills in which the following elements of the drill are documented and/or evaluated.
  - Scenario (event description).
  - A summary of the response.
  - A narrative assessment of the effectiveness of the response including good practices and opportunities for improvement.
  - The list of objectives and the grade/score assigned for each objective as determined by the Drill Coordinator.

### **5.6 Credit for Actual Events**

1. Participation in an actual event may be credited as participation in a drill for ERO proficiency if a post-event critique is conducted and documented and a drill report (i.e., a post-event or after-action report) is completed, in which the following elements of the response are documented and/or evaluated:
  - Objectives.
  - Scope (identification of participating organizations and extent of their respective responses).
  - Event description.
  - A narrative assessment of the effectiveness of the response including good practices and areas for improvement.

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- The response to the event by the assessed ERO member is graded as successfully passed, as determined by the cognizant EP Coordinator.

### **5.7 Lessons Learned**

1. Feedback from drill reports will be used to support contractor/project ERO training and future drill packages where appropriate. When a good practice or opportunity for improvement is identified that warrants immediate dissemination, it may be distributed using the lessons learned process or other means as determined appropriate by the contractor or project management.
2. To provide feedback on the adequacy of support provided by resources outside of the facility or project (e.g., POC, HFD, Hanford Patrol, Hanford EOC, EOC Shift Office, Hanford Site Emergency Alerting System activation, or RL Support Contractor EM&P Site Drill Team), complete the Emergency Management and Preparedness Drill Feedback Form (A-6008-694) and email to ^EP Drill Team.

### **5.8 Corrective Actions**

1. Drill Coordinators shall manage corrective actions from issues identified during drills in accordance with their contractor corrective action management procedures.

### **5.9 Drill Program Records Management**

1. Drill schedules, drill packages, drill participation records, and drill reports are records and shall be maintained in accordance with contractor records management procedures.

### **6.0 REFERENCES**

DOE O 151.1D, *Comprehensive Emergency Management System*

DOE G 151.1-1B, *Comprehensive Emergency Management System Guide*

DOE/RL-94-02, *Hanford Emergency Management Plan*

RLEP 3.29, "Emergency Management Assessment Program"

RLEP 3.32, "Emergency Management Exercise Program"

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