

U.S. Department of Energy
Washington, DC

ORDER

DOE O 151.1E

Approved: 10-28-2024

SUBJECT: COMPREHENSIVE EMERGENCY MANAGEMENT SYSTEM

1. **PURPOSE.** To provide the Department of Energy (DOE), including the National Nuclear Security Administration (NNSA), (herein referred to as DOE or Department) policy for the development, management, and administration of the DOE Emergency Management System. This Order meets the requirements of Executive Orders, Policies, and Directives regarding emergency management, including Presidential Policy Directive 8 (PPD-8) and Homeland Security Presidential Directive 5 (HSPD-5), which mandates that the Department adopts the National Incident Management System, in support of the National Response Framework. This Order assigns responsibilities, authorities, and accountabilities to the appropriate levels of Departmental management and promotes collaboration through consensus based programmatic decision making. It provides policy direction for coordination of planning, preparedness, response, and recovery activities within the Department and with other government and non-government organizations.
2. **CANCELLATION.** DOE O 151.1D, *Comprehensive Emergency Management System*, dated 10-04-2019. Cancellation of a directive does not, by itself, modify or otherwise affect any contractual or regulatory obligation to comply with the directive. Contractor Requirements Documents (CRD) that were incorporated into a contract remain in effect throughout the term of the contract unless and until the contract or regulatory commitment is modified to either eliminate requirements that are no longer applicable or substitute a new set of requirements.
3. **APPLICABILITY.**
 - a. **Departmental Elements.**
 - (1) Except for the equivalencies and exemptions in Section 3.c., the provisions of this Order apply to all Departmental elements.
 - (2) The Administrator of the NNSA must ensure that NNSA employees comply with their responsibilities under this directive. Nothing in this directive will be construed to interfere with the NNSA Administrator's authority under Section 3212(d) of Public Law (P.L.) 106-65, *National Defense Authorization Act for Fiscal Year 2000*, to establish Administration specific policies, unless disapproved by the DOE Secretary.
 - b. **DOE Contractors.**
 - (1) Except for the equivalencies and exemptions in Section 3.c., the CRD

- (2) (Attachment 1) sets forth the requirements of this Order that apply to contracts that include the CRD. The CRD or its requirements must be inserted in laboratories, plants, and sites management contracts.
- c. Equivalencies and Exemptions. Equivalencies and exemptions to this Order must be processed in accordance with DOE O 251.1, *Departmental Directives Program*, current version. The DOE/NNSA's Office of Emergency Management is the Office of Primary Interest (OPI) for equivalencies and exemptions related to this Order.
- (1) Equivalency. In accordance with the responsibilities and authorities assigned by Executive Order 12344, *Naval Nuclear Propulsion Program*, codified in 50 United States Code (U.S.C.) Section 2406, *Deputy Administrator for Naval Reactors* and 50 U.S.C. Section 2511, *Naval Nuclear Propulsion Program*, and to ensure consistency throughout the joint Navy and DOE Naval Nuclear Propulsion Program, the Deputy Administrator for Naval Reactors (Director) will implement and oversee requirements and practices pertaining to this Directive for activities under the Director's cognizance, as deemed appropriate.
 - (2) Exemption. This Order does not apply to activities that are regulated by the U.S. Nuclear Regulatory Commission (NRC) or a State under an agreement with the NRC, including activities certified by the NRC under Section 1701, *Licensing and Regulation of Uranium Enrichment Facilities*, of P.L. 73-703 *Atomic Energy Act of 1954*, as amended. This Order will apply to activities where the NRC does not exercise regulatory authority or by agreement with the NRC.
 - (3) Exemption. This Order does not apply to transportation activities that are regulated by the U.S. Department of Transportation.
 - (4) Exemption. Power Marketing Administrations (PMAs) are to comply with Appendix A, "Power Marketing Administration Emergency Management Program," and are exempt from all other sections of this Order, unless specified in Appendix A.
4. REQUIREMENTS.
- a. General.
- (1) Each DOE laboratory, plant, or site, as defined in this Order, must develop and participate in an integrated and Comprehensive Emergency Management System to ensure:
 - (a) The Department can effectively and efficiently respond to all Operational and Energy Emergencies and ensure appropriate response measures are taken to protect workers, the public, the environment, and national security.

- (b) Emergencies are recognized, categorized and, as necessary, classified promptly; and parameters associated with the emergency are monitored to detect changed and degraded conditions.
 - (c) Emergencies are reported to all relevant parties, and notifications are made in a timely manner.
 - (d) Reentry activities are properly and safely accomplished in accordance with approved guidance, and recovery and post-emergency activities commence in a timely and efficient manner.
 - (2) Each DOE laboratory, plant, and site must establish and maintain a documented emergency management program that implements the requirements of this Order along with applicable federal, state, and local laws, regulations, and ordinances for fundamental worker safety programs.
 - (3) The Headquarters Emergency Operations Center (EOC) (which includes the Headquarters Watch Center) must serve as the point of contact for all incident and emergency notification and reporting. At the Departmental level, the Headquarters EOC will be the central coordinator for vertical and horizontal information exchange with headquarters elements, Program Officers, Program Officer emergency points of contact, Field Elements, the White House Situation Room, other federal, state, local and tribal agencies and, as appropriate, nongovernment organizations.
 - b. Appendix A, Power Marketing Administration (PMA). This appendix outlines the PMA's emergency management program requirements.
 - c. Attachment 1, Contractor Requirements Document (CRD). The CRD outlines contractor requirements necessary to execute responsibilities outlined in this Order.
 - d. Attachment 3, Emergency Management Program. Provides requirements associated with DOE O 151.1E and requirements applicable to contracts in which the associated CRD (DOE O 151.1E, Attachment 1) is inserted.
5. RESPONSIBILITIES.
- a. DEPUTY SECRETARY, DEPARTMENT OF ENERGY. Serves as the senior Departmental emergency management official. In consultation with the Secretary, issues emergency management policy, requirements, and directives; and designates or delegates responsibility and authority, as appropriate. Administers, activates, convenes, and chairs the Emergency and Incident Management Council (EIMC). Appoints the EIMC Secretariat and establishes and maintains charters.
 - b. UNDER SECRETARY FOR INFRASTRUCTURE. Responsible for the line management and implementation of emergency management programs in accordance with the requirements of this Order. This includes providing respective laboratories, plants, and sites with the necessary guidance for meeting requirements in this Order.

- c. UNDER SECRETARY FOR SCIENCE AND INNOVATION. Responsible for the line management and implementation of emergency management programs for the DOE Office of Science national laboratories, plants, and sites in accordance with the requirements of this Order. This includes providing respective laboratories, plants, and sites with the necessary guidance for meeting requirements in this Order.
- d. UNDER SECRETARY FOR NUCLEAR SECURITY AND ADMINISTRATOR, NATIONAL NUCLEAR SECURITY ADMINISTRATION. Serves as the NNSA senior emergency management program official, and designates or delegates programmatic responsibility and authority, as appropriate. Responsible for the line management and implementation of emergency management programs for NNSA laboratories, plants, and sites in accordance with the requirements of this Order, including development of procedures and guidance on how to apply the requirements of this Order.
- e. ASSOCIATE ADMINISTRATOR FOR EMERGENCY MANAGEMENT, NNSA.
 - (1) Serves as the Department's OPI for emergency management program activities.
 - (2) Manages, directs, coordinates, and approves the activities, including administrative functions, of the various organization units in the DOE/NNSA's Office of Emergency Management.
 - (3) Recommends to the Deputy Secretary, through the NNSA Administrator, directives, communications, and policy options for the Secretary's consultation on matters within delegated authority.
 - (4) Maintains operational awareness of the Department's Emergency Management System to ensure activities are conducted in accordance with this Order. Ensures the program provides a comprehensive and integrated approach to emergency management, including planning, preparedness, response, mitigation, and recovery, and reports the results to the Under Secretaries, Program Secretarial Officers, and Field Element Managers (FEM) or Field Office Managers (FOM) for consideration and action, as appropriate. For laboratories, plants, and sites with Defense Nuclear Facilities, verifies program performance measures at each organizational level, including specific emergency management oversight objectives, areas of attention, and defined assessment frequencies.
 - (5) Coordinates with the Under Secretaries and Program Secretarial Officers to provide the Deputy Secretary, through the NNSA Administrator, an annual status report on Departmental readiness assurance.
 - (6) Oversees coordination, including communication systems and protocols, of all DOE emergency management related activities, including intra- and inter-Departmental and international activities.
 - (7) Prepares, manages, and approves interpretations, instructions, and guidance on

matters within delegated authority for use by Department elements and contractors.

- (8) Implements, manages, and coordinates a readiness assurance program to ensure the DOE emergency management program is executed in accordance with directives, regulations, policies, and applicable laws. This includes issuing format and content guidelines for the annual Emergency Readiness Assurance Plan (ERAP) in accordance with Attachment 3, 14.c. of this Order.
- (9) Collects and disseminates information, as appropriate, to the Secretary, Deputy Secretary, NNSA Administrator, Under Secretaries, DOE elements, other government agencies, and contractors.
- (10) Ensures the Secretary, Deputy Secretary, NNSA Administrator, Under Secretaries, Program Secretarial Officers, and field and site managers are kept informed about emergency management matters that affect their responsibilities.
- (11) Subject to appropriate coordination with relevant offices and where DOE/NNSA's Office of Emergency Management is a signatory, enters into, extends, modifies, and terminates agreements with federal, state, tribal, and local agencies.
- (12) In coordination with relevant offices, ensures adequate resources are available to effectively execute the responsibilities of DOE/NNSA's Office of Emergency Management.
- (13) Promotes the Department's emergency management safety culture.
- (14) Performs functions as required, and in accordance with, applicable laws, statutes, and regulations.
- (15) Establishes, charts, administers, convenes, and chairs the Emergency Management Advisory Committee (EMAC).
- (16) Integrates DOE response plans and procedures.
- (17) Administers and manages the Headquarters EOC, headquarters incident coordination and support, and related activities.
- (18) Develops Critical Information Requirements (CIRs), and issues the CIRs to the laboratories, plants, and sites. Reviews and revises the CIRs, as appropriate.
- (19) Supports and augments NNSA's Office of Counterterrorism and Counterproliferation and DOE's Office of Cybersecurity, Energy Security, and Emergency Response (CESER) resource needs during responses to radiological/nuclear incidents and energy emergencies. Supports and augments, upon request, DOE and NNSA laboratories, plants, sites, and headquarters organizational elements during other emergency responses.

- (20) Coordinates with relevant offices to develop and maintain a comprehensive emergency management risk profile for integration into the NNSA and DOE annual risk profile.

f. ASSOCIATE ADMINISTRATOR FOR COUNTERTERRORISM AND COUNTERPROLIFERATION, NNSA.

- (1) Manages, directs, coordinates, and approves the activities, including administrative functions, of the various organization units in NNSA's Office of Counterterrorism and Counterproliferation.
- (2) Administers and manages the Department's radiological/nuclear assets activities in accordance with DOE O 153.1, *Departmental Nuclear Emergency Support Team Capabilities*, current version.
- (3) Coordinates radiological/nuclear asset activities with the responsible FEM/FOM in accordance with DOE 153.1, *Departmental Nuclear Emergency Support Team Capabilities*, current version.
- (4) Provides strategic direction and oversight for NNSA's Nuclear Emergency Support Team (NEST) capabilities in response to countering weapons of mass destruction, U.S. nuclear weapons accident/incident response, public health and safety, and nuclear forensics events.
- (5) Coordinates NEST emergency response asset planning and support, including the National Atmospheric Release Advisory Center, provided to Field Elements and other federal, state, local, or tribal agencies to ensure a cohesive Departmental response to a nuclear/radiological emergency.
- (6) Designates the Senior Response Official for any NEST response, including nuclear weapon accidents that occur while the nuclear weapon is in DOE or Department of Defense (DoD) custody.
- (7) Keeps the Associate Administrator for Emergency Management apprised of NNSA NEST deployments.

g. ASSISTANT DEPUTY ADMINISTRATOR, OFFICE OF SECURE TRANSPORTATION (OST), NNSA.

- (1) Provides safe and secure transportation of nuclear weapons, nuclear weapon components, Special Nuclear Material (SNM), and Materials of National Security Interest in support of U.S. national security.
- (2) Coordinates and manages the Transportation Safeguards System for the safe and secure movement of nuclear weapons and government owned SNM.
- (3) Develops and implements appropriate security procedures and protocols for use

during an Office of Secure Transportation (OST) Operational Emergency (OE) or OST transportation emergency in the public domain, federal facilities, or military installations.

- (4) Assists recipient and DoD sites by:
 - (a) Providing recipient and DoD site responders with all necessary documentation about the specific hazardous materials being transported.
 - (b) Coordinating and communicating through the recipient site's Emergency Response Organization, and the Headquarters EOC during an incident.
 - (c) Maintaining security and control of the cargo and immediate area surrounding the OST convoy. Admittance into the OST-controlled area must be approved by and is at the discretion of the OST Convoy Commander in Charge or designee.
 - (d) Recalling the OST Emergency Response Officer Cadre (EROC) when an OST OE or OST transportation emergency is declared.
 - (e) Developing and providing procedures to ensure coordination of emergency public information activities between the recipient site and OST's General Attorney.
 - (f) Providing timely and accurate emergency information to NNSA's Office of Communications, to coordinate among DOE, federal, state, local, and tribal agencies prior to release.
- (5) If an emergency occurs in the public domain, OST must:
 - (a) Provide security for the shipment.
 - (b) Declare an OST OE and recall the OST EROC.
 - (c) Retain custody of the cargo.
 - (d) Assume responsibilities as the initial Incident Commander and participate in the Unified Command with responding agencies.
- (6) OST tenant facilities co-located with a federal or DOE laboratory, plant, or site will integrate into the laboratory, plant, or site emergency response plan and Emergency Management System.
- (7) OST stand-alone facilities must comply with the requirements outlined in Attachment 3.
- (8) Receives and reviews recipient site emergency response plans to ensure proper

integrated response during OST-declared OEs or OST transportation emergencies.

- (9) Develops and maintains procedures to establish a National Security Area (NSA) as authorized by the *Atomic Energy Act of 1954*, as amended, and the Nuclear/Radiological Incident Annex to the National Response Framework, if applicable, during an OST OE.
- (10) Develop indicators that would require an OST OE categorization of an OST shipment. Provide OST OE categorization indicators to the recipient sites. Review the indicators annually and update as appropriate.
- (11) Develops an Emergency Planning Hazards Assessment (EPHA) for its shipments to provide the planning basis for the OST Hazardous Materials Program. An unclassified version of the EPHA will be provided to the recipient site for the recipient site's use in emergency planning.
- (12) Develops review criteria for OST vehicle recovery and incident termination. Reviews annually and updates, as appropriate.
- (13) Develops and maintains procedures that ensure reports prepared by the OST EROC are reviewed in accordance with DOE O 471.1, *Identification and Protection of Unclassified Controlled Nuclear Information*, current version and DOE O 475.2, *Identifying Classified Information*, current version, and reviewed by an appropriate classification official, Unclassified Controlled Nuclear Information (UCNI) Reviewing Official, or an appropriate person for Controlled Unclassified Information (CUI) and the Emergency Manager for classified information, UCNI, and CUI prior to release.
- (14) Implements aviation-specific OST OE criteria that reflects aviation incidents.
- (15) Coordinates the establishment of classified video teleconferencing with the Headquarters EOC as soon as possible after the OST EROC is declared operational.
- (16) Develops procedures, in coordination with recipient sites, to address OST OE and OST transportation incident termination and recovery.
- (17) Vehicle recovery actions for OST equipment must only occur after a predetermined set of criteria has been met and termination has been coordinated between the Unified Command at the scene (including the Senior Response Official), OST Headquarters, DOE Headquarters, and other participating federal agencies.
- (18) Conducts a minimum of one discussion or operations-based exercise per quarter with the OST EROC.
- (19) Plans, develops, and conducts at least one transportation OE functional exercise

every two years that includes participation of the entire OST EROC.

- (20) Conducts a minimum of one discussion or operations-based exercise with a DOE OST recipient site annually and conducts exercises with all DOE recipient sites over a rolling five-year period. OST, in coordination with the recipient site and based on recipient site risk, will determine the type and scope of the exercise.

h. DIRECTOR, OFFICE OF CYBERSECURITY, ENERGY SECURITY, AND EMERGENCY RESPONSE (CESER).

- (1) Manages the Department's responsibilities as the Sector Risk Management Agency (SRMA) for the energy sector under PPD-21, *Critical Infrastructure Security and Resilience*, PPD-41, *United States Cyber Incident Coordination*, Executive Order 13636, *Improving Critical Infrastructure Cybersecurity*, and P.L. 114-94, *Fixing America's Surface Transportation (FAST) Act*.
- (2) Serves as the coordinating office for Emergency Support Function 12 (ESF #12) under the National Response Framework. As the lead for ESF #12, CESER assesses the impacts of a disaster on the local and regional energy infrastructure; provides situational awareness updates to federal, state, local, tribal, territorial, and private sector partners; facilitates legal and regulatory waivers to support energy delivery; and provides technical subject matter expertise on energy damage assessment, restoration, and logistical assistance.
- (3) Manages and activates the Energy Response Organization to administer ESF #12 and SRMA response activities, including deployment of DOE responders and sector engagement.
- (4) Coordinates an interagency response as the Lead Federal Agency, pursuant to PPD-44, *Implications for Domestic Incident Management*, to energy sector incidents that are outside the scope of the National Response Framework. This can include major disruptions to energy resources that do not meet criteria under P.L. 93-288, *Robert T. Stafford Disaster Relief and Emergency Assistance Act*.
- (5) Coordinates the Department's response to cyber incidents impacting or potentially impacting the energy sector. For an energy sector cyber incident that requires a coordinated response, CESER activates the Cyber Crisis Action Team. The team coordinates with other Departmental elements, including the Headquarters EOC and EIMC (or other supporting structure), and interagency partners, including a Unified Command Group convened per PPD-41 and the National Cyber Incident Response Plan.
- (6) Coordinates the use of the Department's emergency response authorities for the energy sector, such as those authorities under P.L. 81-774, *Defense Production Act of 1950*, and Sections 202(c) and 215(a) of the *Federal Power Act*, as amended under P.L. 115-325. CESER supports other Departmental and federal authorities, as needed, and provides subject matter expertise and formal

concurrence on legal and regulatory waivers issued by other federal agencies.

- (7) Manages the operation of the Strategic Petroleum Reserve, including the sales, releases, and exchanges authorized by the President or Secretary in response to domestic and international disruptions.
- (8) Collects and disseminates information, in coordination with the Headquarters EOC, to the Secretary; Deputy Secretary; NNSA Administrator; DOE officials; government agencies; state, local, tribal, and territorial governments; industry; and the public.
- (9) Performs additional activities to fulfill CESER's responsibilities to include:
 - (a) Providing technical expertise and assistance to energy industry partners as applicable.
 - (b) Providing annual and refresher training to all ESF #12 responders. Refresher training must be provided when plans, procedures, or systems/equipment change. Annual refresher training must also be provided to responders who are likely to be deployed.
 - (c) Implementing, managing, and coordinating a preparedness program with other Departmental elements, when appropriate, to ensure the DOE Energy Emergency Response Program capabilities are maintained in accordance with directives, regulations, policies, and applicable laws.
 - (d) Conducting annual response exercises and participating in additional exercises sponsored by industry or other government entities.
 - (e) Identifying and resolving issues in accordance with respective processes associated with DOE O 226.1, *Implementation of Department of Energy Oversight Policy*, current version.
 - (f) Incorporating and tracking lessons learned from training, exercises, and actual responses.
- i. DIRECTOR, OFFICE OF MANAGEMENT. Develops and maintains the Headquarters Occupant Emergency Program and necessary plans and implementing procedures.
- j. DIRECTOR, OFFICE OF ENVIRONMENT, HEALTH, SAFETY, AND SECURITY (EHSS). Develops and maintains emergency plans and procedures for Headquarters facilities and senior executive physical security.
- k. PROGRAM SECRETARIAL OFFICERS.
 - (1) Ensures implementation of emergency management policy and requirements and

maintains programs and systems consistent with policy and requirements.

- (2) Ensures that resources for laboratories, plants, and sites, including transportation activities, are adequate for the effective implementation and maintenance of emergency management programs, emergency response assets, and capabilities.
- (3) Coordinates with the responsible Under Secretary and the Associate Administrator for Emergency Management regarding emergency management activities.
- (4) Designates a round-the-clock single point of contact to provide two-way notifications and communications between the Program Secretarial Officers and the Headquarters EOC and to provide internal notifications within their Office.
- (5) Coordinates with the DOE Director of Public Affairs and the Associate Administrator for Emergency Management for the dissemination of emergency information.
- (6) Disseminates delegations of authority from laboratories, plants, and sites to the DOE/NNSA's Office of Emergency Management.
- (7) Assigns a senior office representative for the EIMC and the EMAC.
- (8) Ensures the Secretary, Deputy Secretary, NNSA Administrator, Associate Administrator for Emergency Management, and laboratory, plant, and site managers are kept informed about matters that affect their responsibilities.

1. FIELD ELEMENT MANAGER OR FIELD OFFICE MANAGER.

- (1) The FEM/FOM may delegate approval responsibilities, after initial approval, for individual requirements, in accordance with Contractor Assurance Systems with appropriate oversight. Delegations must be formally documented and sent to the Program Secretarial Officers and Associate Administrator for Emergency Management.
- (2) Implements emergency management policy and requirements and maintains programs and systems consistent with the Order.
- (3) Reviews and approves laboratory, plant, and site emergency management plans, including updates.
- (4) Reviews and approves laboratory, plant, and site All-Hazards Surveys.
- (5) Reviews and approves laboratory, plant, and site EPHAs.
- (6) Reviews and approves laboratory, plant, and site-level consolidated and integrated Emergency Planning Zones.

- (7) Works with contracting officers to ensure laboratory, plant, and site performance measures for the emergency management program are incorporated into contractual agreements.
- (8) Assesses the Field Element emergency management program annually and documents the results of the self-assessment in the Field Element portion of the ERAP.
- (9) Reviews laboratory, plant, and site self-assessment reports.
- (10) Reviews and approves the annual laboratory, plant, and site exercise plan.
- (11) Reviews and approves laboratory, plant, and site corrective action plans for external issues identified during assessments, exercises, real-world incidents, and equipment maintenance and testing.
- (12) Based on laboratory, plant, and site performance, periodically reviews corrective action plans, as defined in the laboratory, plant or site emergency management plan or implementing procedures, to ensure programmatic effectiveness.
- (13) Ensure corrective actions are identified, tracked, and implemented.
- (14) Reviews and approves the annual ERAP for each laboratory, plant, and site under the FEM/FOM responsibility. In doing so, prepares the Field Element portion for submittal to the Associate Administrator for Emergency Management by November 30 of each year. The FEM/FOM determines if the ERAP will be submitted individually for each laboratory, plant, and site, or consolidated.
- (15) Coordinates with the Program Secretarial Officers to ensure resources are available to implement this Order on behalf of laboratories, plants, and sites.
- (16) Ensures emergency public information planning is integrated with laboratory, plant, and site emergency management plans.
- (17) Ensures effective communication systems, reporting, and protocols are coordinated and maintained with the Headquarters EOC regarding emergencies involving or affecting laboratories, plants, and sites or materials under DOE jurisdiction or requiring DOE assistance, to include those defined in the Headquarters EOC issued CIRs.
- (18) Where applicable, pre-designates a DOE employee as the initial on-scene coordinator for Federal responses under 40 Code of Federal Regulations (CFR) Part 300, *National Oil and Hazardous Substances Pollution Contingency Plan* or its replacement.
- (19) Participates in the development and implementation of mutual assistance agreements, to which the Field Element is a signatory, with state, tribal, and local

authorities.

- (20) Ensures Field Element personnel and laboratory, plant, and site personnel participate in an emergency preparedness program consisting of the appropriate level of training and exercises.
 - (21) During an emergency, conducts appropriate and necessary emergency actions in accordance with approved plans and implementing procedures.
 - (22) Implements corrective actions and lessons learned identified from assessment, exercises, real-world incidents, and equipment maintenance and testing.
 - (23) Assigns senior Field Element representatives to the EMAC.
 - (24) Identifies a Senior Official with decision-making authority and responsibilities to serve as an emergency manager, supported by personnel with communications, technical, and public affairs expertise.
 - (25) Where applicable, assigns a Senior Federal Official in the capacity as the FEM/FOM, with decision-making authority and responsibilities, to the EOC.
 - (26) Integrates the activities of facilities leased by DOE and NRC licensed facilities into the DOE site-wide emergency management program. DOE facilities that are leased to other government agencies must comply with this Order. At a minimum, the lease arrangements must include a description of how each of the lessee's emergency management program elements is integrated into the site-wide program and must also include a requirement that tenant hazardous material inventories be reported to the site emergency management organization annually and before hazardous materials are introduced or inventories exceed existing analyzed quantities.
 - (27) Ensures that the responsible Program Secretarial Officers and the Associate Administrator for Emergency Management are kept informed about matters that affect their responsibilities. Makes available, upon request, emergency management documentation to the Program Secretarial Officer and Associate Administrator for Emergency Management.
- m. DIRECTOR, HEADQUARTERS OFFICE OF PUBLIC AFFAIRS. In coordination with the NNSA Director of Communications, develops and maintains the Headquarters Emergency Public Information Plan and necessary implementing procedures. Provides copies of the plan to the Program Secretarial Officers and the Associate Administrator for Emergency Management.
 - n. INITIATORS OF PROCUREMENT REQUESTS. Specifies, in the procurement request, whether the requirements in the CRD for this Order are applied to the award or sub-award resulting from the procurement request.
 - o. CONTRACTING OFFICER. Ensures that the CRD is incorporated into the

laboratory, plant, and site management contract in accordance with the laws, regulations, and DOE directives clause, through negotiation or modification, as appropriate.

6. INVOKED STANDARDS. There are no invoked standards.
7. ACRONYMS AND ABBREVIATIONS. See Attachment 2.
8. REFERENCES. See Attachment 4.
9. DEFINITIONS. See Attachment 5.
10. CONTACT. For assistance regarding this Order, contact the Associate Administrator for Emergency Management at 202-586-8100.

BY ORDER OF THE SECRETARY OF ENERGY:



DAVID TURK
Deputy Secretary

APPENDIX A POWER MARKETING ADMINISTRATION (PMA)

1. PURPOSE. Establishes emergency management policy and requirements for emergency planning, preparedness, response, and recovery for the Department of Energy (DOE) PMAs. Clarifies requirements for specific application to PMAs and is compatible with emergency preparedness and disaster reporting requirements of the electric utility industry.
2. APPLICABILITY.
 - a. DOE Elements.
 - (1) The provisions of this Appendix apply to all PMAs (Bonneville Power Administration, Southeastern Power Administration, Southwestern Power Administration, and Western Area Power Administration).
 - (2) The DOE/National Nuclear Security Administration's (NNSA) Office of Emergency Management and the DOE's Office of Public Affairs have limited responsibilities in coordinating emergency management with the PMAs.
 - b. DOE Contractors. This Appendix does not apply to contractors.
 - c. Exclusions. Except for the DOE elements listed in Appendix A, Section 2.a., of this Order, all other DOE elements are excluded from this Appendix.
 - d. Exemptions or Equivalencies.
 - (1) If a PMA can demonstrate that it is subject to emergency management program requirements under the authority of other Federal regulatory agencies and those requirements are at least as stringent as the requirements of this Appendix, an exemption or equivalency may be requested.
 - (2) Requests for exemptions or equivalencies are submitted in accordance with DOE O 251.1, *Departmental Directives Program*, current version.
 - (3) Each PMA Administrator defines "facility" for the purpose of implementing this Appendix. PMAs may group activities and operations for certain requirements to meet their organizational needs without requesting an exemption or equivalency.
3. REQUIREMENTS.
 - a. Each PMA must develop and participate in an integrated and Comprehensive Emergency Management System, to ensure:

- (1) The PMAs respond to Operational Emergencies (OE) and Energy Emergencies.
 - (2) The PMAs can provide emergency assistance, which includes offers of resources to support other electric utilities, state or local authorities, or other government agencies in emergency response.
- b. Notify the Headquarters Emergency Operations Center (EOC) and maintain two-way information exchange for the duration of the incident, including recovery operations.

4. RESPONSIBILITIES.

- a. Deputy Secretary or Designated Chief Operating Officer. Provides the final decision on requests for exemptions and equivalencies from the requirements of this Appendix in accordance with DOE O 251.1, *Departmental Directives Program*, current version.
- b. Associate Administrator for Emergency Management. See DOE O 151.1E, *Comprehensive Emergency Management System*, 5.e., Responsibilities.
- c. PMA Administrators.
 - (1) Develop, approve, implement, and manage their individual emergency management programs.
 - (2) Designate, by name, title, or position, a person to manage the PMA emergency management program, receive emergency notifications, participate in any Headquarters response, and represent the PMA at DOE headquarters' emergency management meetings or planning activities.
 - (3) Establish and maintain integrated plans and procedures detailing responsibilities for emergency response. Ensure that all emergency plans and procedures:
 - (a) Are consistent with the requirements of this Appendix, electric utility reliability criteria, and appropriate PMA business objectives and operations.
 - (b) Provide support and electrical energy assistance, within resource constraints, for electrical energy emergencies and emergency assistance. Emergency assistance may include emergency generation or grid restoration.
 - (c) Are coordinated with the appropriate Departmental elements and other federal, state, local, and tribal agencies, and other utilities as applicable.
 - (d) Provide a program for emergency management training and exercises.

- (e) Provide opportunities for training and exercise participation by appropriate utilities and local, state, and tribal organizations.
 - (f) Are reviewed annually and updated, if necessary.
 - (4) Establish a formal procedure to keep copies of emergency plans, procedures, and associated documents up to date and accessible at locations where they may be needed during an emergency.
 - (5) Identify and maintain emergency operations records as outlined in DOE O 243.1, *Records Management Program*, current version.
 - (6) Ensure that supporting mutual assistance agreements are developed with tribal, state, and local governments, and other utilities as needed.
 - (7) Ensure that immediate emergency response is initiated and followed with appropriate recovery and restoration activities.
 - (8) Ensure the PMA's Public Affairs Office is part of emergency planning and response.
 - (9) Assess the PMA emergency management program annually and record the results of the self-assessment in the Emergency Readiness Assurance Plan (ERAP).
 - (10) Ensure that potential hazards are reviewed and documented for emergency planning purposes.
 - (11) Coordinate updates of initial news releases and public statements between PMA Public Affairs, DOE's Office of Public Affairs, and the Headquarters EOC for electrical energy incidents that draw national attention.
5. PROGRAM REQUIREMENTS. Each PMA must establish and maintain an emergency management program that complies with the emergency management program requirements.
- a. Program Administration.
 - (1) An individual must be designated to ensure the development and maintenance of the emergency plan and implementing procedures, development of the annual ERAP, conduct training and exercises, coordination of self-assessment activities, maintenance of related facility documentation, and coordination of facility emergency resources.
 - (2) Analyze capabilities and resource gaps that would stress the PMA's capabilities to plan for, respond to, and recover from the hazards identified in the All-Hazards Planning Basis; and use the analysis in development of the emergency

management plan.

- (3) Emergency plans and procedures must:
 - (a) Clearly state roles, responsibilities, and requirements associated with program administration, individual positions, operations, and interfaces.
 - (b) Be reviewed annually and updated as necessary.
 - (c) Be integrated with DOE and site security conditions response plans and procedures.
- b. All-Hazards Planning Basis. See DOE O 151.1E, *Comprehensive Emergency Management System*, Attachment 3, Section 2.
- c. Emergency Response Organization. An individual with decision-making authority must be assigned and trained to manage and control all aspects of the PMA emergency response, and must:
 - (1) Activate for any declared OE or other severe incidents.
 - (2) Maintain the capability to provide a common operating picture.
 - (3) Maintain two-way information exchange with the Headquarters Emergency Operations Center for the duration of the incident.
- d. Training. Training must cover hazards and protective actions site workers and visitors may be expected to take based on the All-Hazards Planning Basis.
 - (1) Training must be conducted and documented upon initial assignment and when there are changes affecting worker actions or responsibilities.
 - (2) Refresher training must be provided annually. If a protective action is performed successfully during an exercise or actual incident, the annual training requirement is met for that protective action.
 - (3) Emergency-related information and training on site-specific conditions and hazards must be offered to off-site response agency personnel and organizations, including hospitals, that are expected to support on-site response efforts.
- e. Emergency Medical Support. See DOE O 151.1E, *Comprehensive Emergency Management System*, Attachment 3, Section 5.
- f. Off-site Response Agencies. Establish and maintain interfaces with federal, state, local, and tribal agencies responsible for emergency response or those

who may be used to supplement response capabilities based on the All-Hazards Planning Basis.

g. Categorization.

- (1) Facility-specific indicators to recognize abnormal incidents or conditions as OE must be developed. Specific indicators must be developed for the spectrum of emergency conditions identified in the All-Hazards Planning Basis.
- (2) Predetermined decision-makers must categorize an incident as an OE within 15 minutes after the availability of laboratory, plant, or site's defined indicators that an OE has occurred. Categorization must occur no more than 30 minutes after discovery.
- (3) In addition to an OE, PMAs must categorize electrical energy emergencies as described in 10 Code of Federal Regulations (CFR) Parts 205.350-353, *Report of Major Electric Utility System Emergencies*.

h. Protective Actions.

- (1) Plans must be developed for the timely evacuation and/or sheltering of on-site personnel and must identify protective actions commensurate for the potential hazards at the PMA.
- (2) Maintain procedures for prompt issuance of protective actions to workers.
- (3) In the event of a facility emergency evacuation, accountability actions must continue until all employees are located.

i. Emergency Facilities, Equipment, and Systems.

- (1) Facilities and equipment must be adequate to support emergency response and be able to notify employees of an incident and protective actions, including safe evacuation from work areas.
- (2) For each PMA, the organization responsible for communication with DOE Headquarters EOC and off-site agencies must test communication systems, at a minimum, annually or as often as needed to ensure that communication systems are operational.

j. Notifications and Communications.

- (1) Notifications for electrical energy emergencies must be conducted in accordance with 10 CFR Part 205.350-353, *Report of Major Electric Utility System Emergencies* and applicable DOE Orders and Manuals.

- (2) Provide immediate notification and protective actions to affected employees no later than 10 minutes after the protective actions have been identified in accordance with the emergency management plan and related procedures.
- (3) Each facility and activity must establish procedures for prompt initial notification of OE to workers, emergency response personnel, and response organizations, including, as appropriate, other DOE elements and federal, state, local, and tribal agencies. Provisions must also be established for continuing effective communication among response organizations throughout an emergency.
- (4) The PMA must notify the Headquarters EOC as promptly as possible, but no more than 30 minutes after an incident has been categorized as an OE.
- (5) As appropriate, notify applicable federal, state, local, and tribal agencies as promptly as possible. This must occur within 30 minutes, or at an interval established in mutual agreements, after an incident has been categorized as an OE.
- (6) At a minimum, notification of OE to the Headquarters EOC must consist of a human phone call providing as much information as is known at the time. The same information must be provided by e-mail either immediately prior to or following the phone call. Information for initial notification includes, as available, the following:
 - (a) Description of the emergency.
 - (b) Date and time the emergency was discovered.
 - (c) Damage and casualties.
 - (d) Whether the emergency has stopped other facility/site operations or program activities.
 - (e) Protective actions taken and/or recommended.
 - (f) Potential impacts.
 - (g) Agencies involved.
 - (h) Level of public/media attention.
 - (i) Contact information of the DOE on-scene point of contact.
- (7) Incident status updates and situation reports must be forwarded to the DOE Headquarters EOC on a continuing basis until incident termination.

- (8) Develop and maintain procedures that ensure reports prepared by the PMA are reviewed in accordance with DOE O 471.7, *Controlled Unclassified Information*, current version, and DOE O 471.1, *Identification and Protection of Unclassified Controlled Nuclear Information*, current version, and reviewed by an appropriate classification official, Unclassified Controlled Nuclear Information (UCNI) Reviewing Official or an appropriate person for Controlled Unclassified Information (CUI) and the Emergency Manager for UCNI and CUI prior to release.

k. Emergency Public Information.

- (1) The PMA must provide accurate, candid, and timely information consistent with requirements of the Freedom of Information Act and the Privacy Act to ensure the health and safety of workers and the public during all incidents. Information must establish facts, avoid rumors and speculation, and be responsive to public concern and information needs.
- (2) Procedures must be in place to address media inquiries and, as necessary, conduct briefings or press conferences for other operational emergencies.
- (3) Initial news releases or public statements must be approved by the PMA official responsible for emergency public information review and dissemination. Following initial news releases and public statements, updates must be coordinated with the PMA Public Affairs, DOE Public Affairs, and Headquarters EOC, unless approval is delegated to the PMA.

l. Termination and Recovery.

- (1) Predetermined criteria for terminating emergencies must be developed and termination coordinated with off-site agencies.
- (2) Reporting requirements must be specified during recovery planning.
- (3) Following termination of the incident response and in conjunction with the Final Occurrence Report DOE O 232.2, *Occurrence Reporting and Processing of Operations Information*, current version, each activated ERO must submit a final report on the emergency response to the site Emergency Manager.
- (4) Recovery must include notifications about the termination and establishment of criteria for resumption of normal operations.
- (5) The facility and the accident investigation team must coordinate their activities to facilitate an orderly transition of responsibilities in accordance with DOE O 225.1, *Accident Investigations*, current version.

- m. Readiness Assurance. The PMA must participate in a formal Readiness Assurance Program that establishes a framework and associated mechanisms to validate their emergency plans, procedures, and resources to adequately address the threats and hazards identified in the All-Hazards Planning Basis and to ensure timely improvements are made when identified. The Readiness Assurance Program consists of evaluations, issues management, and the ERAP.
- (1) Evaluations include assessments and exercises.
- (a) Assessments. Each PMA must assess its emergency management program annually and record the results of the self-assessment in the ERAP.
- (b) Exercises. At a minimum, each site/facility must conduct building evacuation drills consistent with Federal regulations (to include 41 CFR Part 102-74.360, *What are the Specific Accident and Fire Prevention Responsibilities of Occupant Agencies?*), local ordinances, or appropriate National Fire Protection Association Standards. Exercises must be conducted no less than annually to ensure that employees are able to safely evacuate their work area.
- (2) Issues Management includes the identification of issues to create the corrective action plan and lessons learned.
- (a) Corrective action plans for external evaluations must be developed within 45 calendar days of receipt of the final evaluation report.
- (b) Corrective actions must be completed as soon as possible. Corrective actions addressing revision of procedures or training of personnel must be completed before the next annual emergency management program self-assessment.
- (c) Completion of corrective actions must include a verification and validation process, independent of those who performed the corrective action, that verifies that the corrective action has been put in place and validates that the corrective action has been effective in resolving the original issue.
- (d) The readiness assurance program must include a system for incorporating and tracking lessons learned from training, drills, actual responses, and a PMA-wide lessons learned program.
- (3) Emergency Readiness Assurance Plan. See DOE O 151.1E, *Comprehensive Emergency Management System*, Attachment 3, Section 14.c.

ATTACHMENT 1
CONTRACTOR REQUIREMENTS DOCUMENT (CRD)
DOE O 151.1E, *COMPREHENSIVE EMERGENCY MANAGEMENT SYSTEM*

Regardless of the performer of the work, the contractor is responsible for complying with the requirements of this CRD. The contractor is responsible for flowing down the requirements of this CRD to subcontractors at any tier to the extent necessary to ensure the contractor's compliance with the requirements. That is, the contractor must (1) ensure that it and its subcontractors comply with the requirements of this CRD to the extent necessary to ensure the contractor's compliance and (2) only incur costs that would be incurred by a prudent person in the conduct of competitive business.

The contractor must establish and maintain a documented emergency management program that implements the requirements of applicable federal, state, local, and tribal laws, regulations, and ordinances for fundamental worker safety programs.

In addition to the requirements set forth in this CRD, contractors are responsible for complying with Attachment 3 to Department of Energy (DOE) O 151.1E, which provides program requirements applicable to contracts in which this CRD is inserted. References to a DOE directive in this CRD or in its attachments refer to the CRD associated with the referenced DOE directive.

Contractors may meet, with prior approval through the formal equivalency and exemption process, the requirements of this Order by implementing nationally recognized standards or host institutions applicable standards. See Section 3.c., Equivalencies and Exemptions of this Order.

ATTACHMENT 2 ACRONYMS AND ABBREVIATIONS

AAR	After-Action Report
AEGLs	Acute Exposure Guideline Levels
AEOC	Alternate Emergency Operation Center
CESER	Office of Cybersecurity, Energy Security, and Emergency Response
CFR	Code of Federal Regulations
CIR	Critical Information Requirements
COP	Common Operating Picture
CRD	Contractor Requirements Document
CUI	Controlled Unclassified Information
DoD	Department of Defense
DOE	Department of Energy
EAL	Emergency Action Level
EIMC	Emergency and Incident Management Council
EMAC	Emergency Management Advisory Committee
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
EPHA	Emergency Planning Hazards Assessment
EPZ	Emergency Planning Zone
ERAP	Emergency Readiness Assurance Plan
ERO	Emergency Response Organization
EROC	Emergency Response Officer Cadre
ERPG	Emergency Response Planning Guidelines
ESF	Emergency Support Function
FEM	Field Element Manager
FOM	Field Office Manager
FSE	Full-Scale Exercise
GE	General Emergency
GHS	Globally Harmonized System
HDBK	Handbook
HEPA	High Efficiency Particulate Air
HSEEP	Homeland Security Exercise and Evaluation Program
HSPD	Homeland Security Presidential Directive
ICS	Incident Command System
JIC	Joint Information Center

NARAC	National Atmospheric Release Advisory Center
NEST	Nuclear Emergency Support Team
NFPA	National Fire Protection Association
NIMS	National Incident Management System
NNSA	National Nuclear Security Administration
NRC	Nuclear Regulatory Commission
OE	Operational Emergency
OPI	Office of Primary Interest
OST	Office of Secure Transportation
PAC	Protective Action Criteria
PAG	Protective Action Guide
PAR	Protective Action Recommendation
P.L.	Public Law
PMA	Power Marketing Administration
PPD	Presidential Policy Directive
PPE	Personal Protective Equipment
SAE	Site Area Emergency
SRMA	Sector Risk Management Agency
SNM	Special Nuclear Material
TED	Total Effective Dose
TEEL	Temporary Emergency Exposure Limits
UCNI	Unclassified Controlled Nuclear Information

ATTACHMENT 3 EMERGENCY MANAGEMENT PROGRAM

This Attachment provides requirements associated with Department of Energy (DOE) O 151.1E, *Comprehensive Emergency Management System* and is applicable to DOE owned, leased, and operated laboratories, plants, and sites. This includes contracts in which the associated Contractor Requirements Document (Attachment 1 of this Order) is inserted.

Each DOE laboratory, plant, and site must establish and maintain an emergency management program that complies with the *Emergency Management Program* requirements.

1. PROGRAM ADMINISTRATION AND MANAGEMENT. Program administration and management must be established to provide effective organizational management and administrative control of the laboratory, plant, or site emergency management program by establishing and maintaining authorities and resources necessary to plan, develop, implement, and maintain a viable, integrated, and coordinated Comprehensive Emergency Management System. DOE federal and contractor managers responsible for DOE laboratories, plants, and sites must:
 - a. Designate an individual to administer the emergency management program. This individual must:
 - (1) Be responsible for and have authority for day-to-day operation and maintenance of the emergency management program.
 - (2) Have access to management personnel who have authority for laboratory, plant, and site-level resources and operations.
 - (3) Brief senior leadership on the emergency management program and their expected roles and responsibilities during an emergency. This briefing must be conducted initially and when changes occur that modify their roles and responsibilities.
 - (4) Integrate emergency management planning with other applicable programs and associated documents, as made available, such as the Baseline Needs Assessment, Site Security Plan, Cybersecurity Plan, Continuity of Operations Plan, Documented Safety Analysis, and any other programs or documents identified by the Field Element Manager/Field Office Manager (FEM/FOM).
 - (5) Oversee implementation of the emergency management plan in accordance with the requirements of this Order.
 - (6) Approve or concur on planning documents addressing the program elements listed in Section 1.b of this Attachment.
 - b. Ensure the emergency management program addresses the following 14

program elements, where applicable:

- (1) Program Administration and Management
 - (2) All-Hazards Planning Basis
 - (3) Emergency Response Organization
 - (4) Training
 - (5) Emergency Medical Support
 - (6) Off-site Response Agencies
 - (7) Emergency Categorization and Classification
 - (8) Protective Actions
 - (9) Consequence Assessment
 - (10) Emergency Facilities, Equipment, and Systems
 - (11) Notifications and Communications
 - (12) Emergency Public Information
 - (13) Termination and Recovery
 - (14) Readiness Assurance
- c. Analyze capabilities and resource gaps that would stress the laboratory, plant, or site's capabilities to plan for, respond to, and recover from the hazards identified in the All-Hazards Planning Basis; and use the analysis in the development of the emergency management plan.
- d. Develop and maintain an all-hazards emergency management plan that is based on the All-Hazards Planning Basis. The emergency management plan must:
- (1) Be reviewed annually and revised, if appropriate.
 - (2) Be submitted to the FEM/FOM for initial approval.
 - (3) Be submitted to the FEM/FOM for approval of subsequent revisions.
- e. Include developed and maintained procedures that describe how the emergency management plan must be implemented and maintained.

- f. Use a controlled document system for the emergency management plan and related procedures and documentation.
 - g. Identify a process for review, approval, and distribution of the emergency management plan and related procedures and documentation.
 - h. Address interoperability, integration, and interface with off-site response agencies for severe incidents with regional impacts.
 - i. Include developed and maintained procedures that ensure emergency management documents are reviewed in accordance with DOE O 471.1, *Identification and Protection of Unclassified Controlled Nuclear Information*, current version and DOE O 475.2, *Identifying Classified Information*, current version, and reviewed by an appropriate classification official, Unclassified Controlled Nuclear Information Reviewing Official, or an appropriate person for Controlled Unclassified Information (CUI) and the Emergency Manager for classified information, UNCI, and CUI prior to release.
 - j. Identify and maintain emergency operations records as outlined in DOE O 243.1, *Records Management Program*, current version.
2. ALL-HAZARDS PLANNING BASIS. The All-Hazards Planning Basis includes an All-Hazards Survey, an Emergency Planning Hazards Assessment (EPHA), (when applicable), and the development of Emergency Action Levels (EALs), protective actions, and Emergency Planning Zones (EPZs). The All-Hazards Survey includes the assessment of all hazards that are applicable to the operations of the laboratory, plant, or site and the hazardous material screening process. Based on the All-Hazards Survey results, further technical analysis of hazardous materials is conducted, if appropriate, through an EPHA. The results of the EPHA determine if a laboratory, plant, or site is included as a Hazardous Materials Program and are used to develop the EALs, protective actions, and EPZ. The All-Hazards Planning Basis must be shared with the laboratory, plant, or site security program.
- a. All-Hazards Survey. An All-Hazards Survey must be performed by DOE federal and contractor staff responsible for DOE laboratories, plants, and sites. Its purpose is to identify all threats and hazards that may impact workers or public health and safety, the environment, or the operation of that laboratory, plant, or site; and establish the planning basis for the emergency management program. An All-Hazards Survey may cover a single or multiple facilities at a laboratory, plant, or site, or an entire laboratory, plant, or site. Other DOE requirements, assessments, or documentation may be used or referenced, to meet the requirements, in part or in whole, of the All-Hazards Survey. Each All-Hazards Survey must:
 - (1) Address the following three types of hazards:
 - (a) Natural hazards, which result from acts of nature, such as tornadoes,

hurricanes, earthquakes, wildland fires, droughts, floods or excessive precipitation, animal disease outbreak, epidemics, or pandemics.

- (b) Technological hazards, which result from accidents or the failures of systems and structures, such as hazardous materials releases or dam failures.
 - (c) Human-caused hazards, which result from an intentional or unintentional action taken by persons or an adversary.
- (2) Describe the applicable health, safety, and environmental impacts of the potential hazards.
 - (3) Be approved by the FEM/FOM before implementation.
 - (4) Be reviewed, at a minimum, every three years from the date of last approval, and, if appropriate, updated. If the review determines there are no changes from the last approved All-Hazards Survey, a letter or memorandum to the FEM/FOM must be submitted to document the review and provide notification that an update is unnecessary. The date of this letter or memorandum serves as the revised date of last approval.
 - (5) Be updated before there are significant changes to laboratory, plant, or site operations or hazardous materials. At a minimum, significant changes include new hazardous materials operations, recognition of hazards not previously identified, and changes that would result in a positive Unreviewed Safety Question for nuclear facilities, as defined in 10 Code of Federal Regulations (CFR) Part 830, *Nuclear Safety Management*. Changes that result in a reduction of hazards with no adverse effect on safety or emergency preparedness or response may be included in the next update.
 - (6) Hazardous Materials Screening Process. All hazardous materials at a DOE laboratory, plant, or site must be considered in the screening to identify specific hazardous materials and quantities that, if released, could produce impacts consistent with the definition of an Operational Emergency (OE). Hazardous materials must be screened as follows:
 - (a) Laboratories, plants, and sites may use either the Globally Harmonized System (GHS), the National Fire Protection Association (NFPA) 704, *Standard System for the Identification of the Hazards of Materials for Emergency Response*, or an alternative method developed by the National Nuclear Security Administration's (NNSA's) Office of Emergency Management to screen hazardous material. Only one method can be used and must be identified in the laboratory, plant, or site's All-Hazards Survey or emergency management plan. Laboratories, plants, and sites must clearly state the routes of exposure and the health effect categories in any documentation for the FEM/FOM to approve the use of GHS.

- (b) Each hazardous material container and associated hazardous process must be evaluated separately, unless one of the following conditions exists, in which case the total quantity of the hazardous material must be used.
 - 1 Container is interconnected with other containers, or
 - 2 Multiple containers are located within a facility such that a credible incident could result in release of the contents of multiple containers.
- (c) The capacity of the container must be used when the quantity of the hazardous material in the container is unknown.
- (d) Materials can be excluded from the screening process if they meet one of the following criteria:
 - 1 Materials used in the same form, quantity, and concentration as a product packaged for distribution and use by the public (for example, consumer products for household use).
 - 2 Materials that, because their physical form or other factors, do not present an airborne exposure hazard. This includes solid materials in a form with particle size >10 microns and solid materials with no credible release scenario to reduce the material to particles <10 microns; liquids with a vapor (partial) pressure of <10 mmHg at 25°C; and aqueous solutions where the hazardous component is a non-volatile solute.
 - 3 Ordinary product of combustion when associated with a scenario involving a combustion incident.
 - 4 Explosives, regardless of the facility designation, provided the explosives are also screened through 2.a.(6)(e)4, of this Attachment.
 - 5 Simple asphyxiants and cryogenic materials if the material cannot impact workers, visitors, or the public.
 - 6 Chemical waste in concentrations below one percent by weight of the mixture, as defined in 40 CFR 68, *Chemical Accident Prevention*, and chemically neutralized chemical waste.
 - 7 Sealed radioactive sources that are engineered to pass the special form testing specified by Department of Transportation (DOT) or the American National Standards Institute and radiological materials stored in DOT Type B shipping containers with overpack if the Certificates of Compliance are current, the materials stored are authorized by the Certificate, and the conditions are covered under 10

CFR Part 71, *Packaging and Transportation of Radioactive Material*.

- 8 Materials that have a Health Hazard rating of 0, 1, or 2 based on NFPA 704. This only applies if NFPA 704 is the screening method approved for the laboratory, plant, or site.
 - 9 Materials with a GHS Acute Toxicity Hazard Category of 3, 4, or 5. If multiple GHS Acute Toxicity routes of exposure (inhalation, oral, or dermal) are available for a material, the Temporary Emergency Exposure Limits (TEEL) HBK-1046-2016 hierarchy for routes of exposure (inhalation, oral, dermal, intraperitoneal, intravenous) must be followed. This only applies if GHS is the approved screening method for the laboratory, plant, or site.
 - 10 Materials with a GHS Corrosion/Irritation (skin or eye) Category 2 or 3. If a GHS Acute Toxicity Hazard Category 1 or 2 is available, this exclusion does not apply. This only applies if GHS is the approved screening method for the laboratory, plant, or site.
- (e) Hazardous materials that do not screen out by exclusions in Section 2.a.(6)(d), of this Attachment, require further consideration, including:
- 1 The release of hazardous materials, other than ordinary products of combustion, that could result from ignition (fire or explosion) of excluded materials.
 - 2 Radiological Materials.
 - a. Radioactive materials associated with a defined Hazard Category 1, 2, or 3 nuclear facility per 10 CFR Part 830, specifically those materials contributing to the categorization of such a facility when in quantities greater than the largest Category 3 value (or if the sum of the ratios) exceeds values in accordance with DOE-STD-1027-2018, *Hazard Categorization of DOE Nuclear Facilities*, or revision used in approved hazard categorization, will require further analysis in the EPHA.
 - b. Materials associated with a facility or activity defined as an accelerator per DOE O 420.2, *Safety of Accelerator Facilities*, current version, may be screened out if analysis indicates that all incidents would be classified as less than an Alert.
 - 3 Hazardous Biological Agents and Toxins. Hazardous biological agents and toxins exceeding the minimum quantities specified to be federally regulated identified in lists published in Department of Health and Human Services regulations (42 CFR Part 73, *Select*

Agents and Toxins) and Department of Agriculture regulations (7 CFR Part 331, *Possession, Use, and Transfer of Select Agents and Toxins* and 9 CFR Part 121, *Possession, Use, and Transfer of Select Agents and Toxins*) will require further analysis in the EPHA.

4 Chemicals.

- a. Chemicals not meeting the exclusion criteria in Section 2.a.(6)(d), of this Attachment, will require further analysis in the EPHA if the quantity is greater than a quantity that can be “easily and safely manipulated by one person” in accordance with the provisions of 29 CFR Part 1910.1450, *Occupational Exposure to Hazardous Chemicals in Laboratories*. Containers with capacities of no more than 5 gallons (19 L) for liquids, 40 pounds (18 kg) for solids, or 10 pounds (4.5 kg) for compressed gases are defined as being “easily and safely manipulated by one person.”
 - b. Chemical waste, except for satellite accumulation points, in storage quantities exceeding individual containers with capacities of 5 gallons (19 L) for liquids, 40 pounds (18 kg) for solids, or 10 pounds (4.5 kg) for compressed gases, and concentration comparable to that which would require such a similar classification will not screen out and will require further analysis in the EPHA.
 - c. Substances that may represent an extraordinary toxic hazard beyond the local incident scene due to high acute toxicity (Acute Exposure Guideline Level (AEGL)-3, Emergency Response Guideline (ERPG)-3, or TEEL-3 < 3 ppm) and dispersibility (for example, chemical warfare nerve agents) exceeding 1-pound (0.45 kg) threshold value will not screen out and will require further analysis in the EPHA.
- (f) Based on the professional judgment of the person performing or approving the hazardous materials screening, it is determined that additional analysis and planning is warranted, even if the material screened out in the All-Hazards Survey, an EPHA can still be required.
- b. Emergency Planning Hazards Assessment. An EPHA must be developed for hazardous materials that do not screen out based on the criteria in 2.a.(6) of this Attachment. The EPHA determines, through quantitative analysis, if a laboratory, plant, or site is included as a Hazardous Materials Program and provides the basis for establishing a graded approach that will meet the Hazardous Materials Program requirements outlined in this Attachment.
- (1) If the quantitative analysis indicates that all scenarios would not rise to at least the level of an OE classified as an Alert, an EPHA is not required to be maintained. The result of quantitative analysis is directly incorporated or referenced in the All-

Hazards Survey to indicate the laboratory, plant, or site is not considered part of the Hazardous Materials Program.

- (2) Office of Secure Transportation (OST) recipient sites will receive an unclassified EPHA for their OST shipments and must incorporate the results from the EPHA into their emergency management program.
- (3) An EPHA must be developed for shipments that do not satisfy governing DOT regulations and specifications for commercial hazardous materials transport based on DOE O 460.1, *Hazardous Materials Packaging and Transportation Safety*, current version. However, if a shipment satisfies DOT regulations and specifications, then an EPHA is not required.
- (4) Hazardous Materials Program laboratories, plants, and sites EPHAs must:
 - (a) Define and describe the laboratory, plant, or site and its operations providing sufficient detail to support the identification, location, and characterization of all hazards and their potential consequences.
 - (b) Characterize the hazardous materials and relevant safety control systems in the laboratory, plant, or site, including:
 - 1 Maximum quantity of material and its storage or process locations.
 - 2 Conditions under which the material is stored or used.
 - 3 Properties of the material that are needed for determination of source term and consequence analysis.
 - 4 A description of relevant administrative and engineered controls that would prevent or mitigate the initiation of a hazardous material release.
 - (c) Select potential release scenarios associated with the hazardous materials and relevant safety control systems characterized, to include:
 - 1 Credible natural, technological, and human-caused hazards.
 - 2 Severe incidents, including beyond design-basis scenarios.
 - 3 Consideration of malevolent acts. If information in a security risk assessment developed in accordance with DOE O 470.3, *Design Basis Threat*, current version, or consequence information is sufficient to determine that malevolent acts are bounded by the scenarios already evaluated, additional consequence modeling or calculations are not required, unless an EPHA analyst determines otherwise.

- 4 Laboratories, plants, and sites with Defense Nuclear Facilities must include potential scenarios, ranging from low-consequence, high-probability scenarios to high-consequence, low-probability scenarios, to capture a comprehensive picture of the types of incidents and the range of associated consequences that could occur at an individual laboratory, plant, or site.
- (d) Select the representative cases from the full range of possible release scenarios identified, analyze each selected scenario, calculate potential consequences, and identify recognition factors, if available. The following must be included:
 - 1 Selection of analyzed scenarios using short, descriptive names.
 - 2 Justification for the selection of dispersion and consequence models and input parameters.
 - 3 Use of at least two sets of dispersion conditions in computing consequence versus distance for each source term. At minimum, the two dispersion conditions are:
 - a. Conservative – DOE site’s 95th percentile worst case, based on the last five-years of the laboratory, plant, or site’s meteorological data; or F stability and a wind speed of 1.5 m/s.
 - b. Average – DOE site specific average, based on the last five-years of the laboratory, plant, or site’s meteorological data; or D stability and a wind speed of 3 m/s.
 - 4 Use of 25 miles for accuracy if dispersion model results go beyond 25 miles. Farther distances may be reported for information.
 - 5 Tabulated consequences of the release at key receptor locations identified for each laboratory, plant, or site containing significant amounts of hazardous materials must be calculated to include:
 - a. The region greater than or equal to 30 meters, but less than 100 meters from the point of release.
 - b. The region greater than or equal to 100 meters, but less than the nearest site boundary from the point of release.
 - c. The region at or beyond the nearest site boundary from the point of release.
 - d. Nearest emergency response facilities and worker assembly areas.

- e. Nearest off-site at-risk populations or applicable fire-zones, or equivalent, relevant to off-site jurisdiction.
 - 6 Consequence of each radiological, biological, and chemical release must be calculated, summarized, and documented in the form of a graph or table. The graph or table must give the dose or concentration versus distance, extending out to a distance beyond where Thresholds of Early-Lethality (TELs) are exceeded and out to a distance beyond where Protective Action Criteria (PACs) are exceeded for the receptors identified in 2.b.(4)(d)5.
 - a. For radioactive materials, the current Early-Phase Protective Action Guides (PAGs) of whole-body dose promulgated by the Environmental Protection Agency (EPA) must be used [1 rem (10 mSv) adult Total Effective Dose (TED) consistent with the recommended dose limit for the public]. Use 100 rem for the TEL criteria.
 - b. For hazardous biological agents and toxins, PACs are considered exceeded and protective actions are required for any actual or potential release of agents or toxins outside of secondary containment barriers. Long-term PACs are specified by state or local public health officials.
 - c. For chemicals, the PAC-2, listed in order of preference, must be used (use PAC-3 values for the TEL criteria):
 - i. AEGLs promulgated by the EPA.
 - ii. ERPGs published by the American Industrial Hygiene Association.
 - iii. TEELs maintained by the DOE/NNSA's Office of Emergency Management.
 - 7 Some facilities, such as underground facilities, require additional consideration of how airborne contaminants may be released since an atmospheric dispersion model would not provide a valid result.
 - 8 Document functioning and non-functioning control measures and engineered safety systems, to include containment systems, fire suppression systems, filters, administrative controls, safeguards, and security systems, if appropriate.
- (e) Be documented and submitted to the FEM/FOM for approval. The documentation must be prepared and documented in a manner that permits critical review of the analyses and the results and, if necessary,

reconstruction by independent analysts. Detailed description of assumptions, methodology, models, and evaluation techniques must be included unless they are documented elsewhere and referenced.

- (f) Be reviewed, at a minimum, every three years from the date of last approval, and, if appropriate, updated. If the review determines there are no changes from the last approved EPHA, a letter or memorandum to the FEM/FOM must be submitted to document the review and provide notification that an update is unnecessary. The date of this letter or memorandum serves as the revised date of last approval.
 - (g) Be updated and submitted for approval before there are significant changes to laboratory, plant, or site operations or hazardous materials. At a minimum, significant changes are those that require a new EPHA or new or changed EALs. Changes that result in a reduction of hazards with no adverse effect on safety or emergency preparedness or response may be included in the next EPHA update.
- (5) Hazards Materials Program laboratories, plants, and sites must also:
- (a) Adjust the emergency management program to be commensurate with hazards that remain after a decontamination and decommission action is completed at each laboratory, plant, and site closure.
 - (b) Establish and maintain an accurate and timely method for tracking changes in operations, processes, or accident analyses that involve hazardous materials. The method must allow sufficient time for emergency management personnel to review the EPHA and modify plans and procedures, before introducing new hazardous materials into the laboratory, plant, or site.
 - (c) Provide a temporary supplemental analysis report for hazardous materials if the hazardous materials are coming on site prior to full EPHA approval. The analysis must include:
 - 1 The possible effects on the adequacy of the facility and site emergency plans.
 - 2 Temporary compensatory measures that are being considered or implemented.
 - 3 A schedule for updating the analysis, reporting the results, and proposing any needed changes to the site's emergency planning or response program, if the hazardous material will remain on site for more than six months.
 - 4 Submission for approval to the FEM/FOM.

- (d) Use the EPHA results to determine the necessary planning, personnel, resources, and equipment for the Hazardous Materials Program, if the release or loss of control of the hazardous material analyzed in the EPHA indicates the potential for an Alert, Site Area Emergency (SAE), or General Emergency (GE).

1 An Alert occurs when one or more of the following conditions are met:

- a. The radiation dose from any release to the environment of radioactive material or a concentration in air of hazardous chemical material is expected to exceed the applicable PAG or PAC at or beyond 30 meters but not beyond 100 meters from the point of release or beyond the laboratory, plant, or site boundary.
- b. An actual or potential substantial degradation in the level of safety or security of nuclear weapon, component, or test device at a fixed location that would not pose an immediate threat to workers or the public.

2 An SAE occurs when one or more of the following conditions are met:

- a. The radiation dose from any release of radioactive material or concentration in air from any release of other hazardous material is expected to exceed the applicable PAG or PAC at or beyond 100 meters from the point of release but not at or beyond the laboratory, plant, or site boundary.
- b. An actual or potential threat to the integrity of a nuclear weapon, component, or test device that may adversely impact the health and safety of workers in the immediate area, but not the public.

3 A GE occurs when one or more of the following conditions are met:

- a. The radiation dose from any release of radioactive material or a concentration in air from any release of other hazardous material is expected to exceed the applicable PAG or PAC at or beyond the laboratory, plant, or site boundary.
- b. Actual or likely catastrophic failures in safety or security systems threatening the integrity of a nuclear weapon, component, or test device at a fixed location that may adversely impact the health and safety of workers and the public.

- c. Response Planning Elements. The EPHA provides a quantitative estimate of the consequences of each release at specific locations. Once the EPHA is complete, laboratories, plants, and sites recognized as a Hazardous Materials Program must use the results to develop their EALs, EPZ, and protective actions.

- (1) Develop specific EALs for all potential OEs identified in the EPHA and include protective actions corresponding to each EAL.
 - (a) EALs are required for malevolent acts and severe incidents, including beyond design basis accidents, not bounded by scenarios already evaluated.
 - (b) EALs development must include specific indications to distinguish between different potential classifications for an analyzed scenario or set of scenarios.
 - (c) For EALs development, use the conservative dispersion vs. distance calculations and worst-case source term results from the EPHA analysis.
 - (d) EALs must be documented according to the incident type or recognition categories used in the laboratory, plant, or site classification procedures. For each incident type, it must:
 - 1 Briefly describe the incident, condition, or recognition indicators.
 - 2 Provide recommended classification (Alert, SAE, or GE) of the OE based on the EPHA analysis.
 - 3 Provide protective actions to be taken by workers and off-site protective action recommendations (PARs) for the public based on distance to PAG or PAC calculations from the EPHA.
- (2) Determine and document the size of the EPZ.
 - (a) The EPHA must define an EPZ for the analyzed laboratory, plant, or site as the area requiring detailed planning. For laboratories, plants, or sites with multiple EPHAs, a laboratory, plant, or site-level consolidated and integrated EPZ must be defined incorporating the EPZ from the individual EPHAs.
 - (b) The integrated EPZ for the laboratory, plant, or site must be of sufficient size that:
 - 1 Analyzed scenarios do not require predetermined protective actions beyond the EPZ.
 - 2 The maximum EPZ for any laboratory, plant, or site must not exceed a nominal radius of 10 miles (16 km) according to report NUREG-0396/EPA 520/1-78-016, regardless of the DOE or NNSA property boundary.
 - 3 If the nearest distances to off-site key receptor locations are beyond the 10-mile EPZ, the key receptor locations must still be included in the laboratory, plant, or site-level emergency management plan to identify PAR distances to state and local decision makers to protect members of the public.

- (c) Boundaries may be defined by geopolitical lines or distance and in coordination with local, State, tribal, and territorial authorities.
 - (d) The planning process must recognize and provide for the need to refine the predetermined protective actions and carry out protective actions in limited portions of the EPZ for specific incidents or conditions.
- 3. EMERGENCY RESPONSE ORGANIZATION (ERO). An ERO is a structured organization with overall responsibility for initial and ongoing emergency response. It includes personnel supporting the incident, to include those in the EOC, and personnel at the scene managing the incident. It may consist of internal and external organizations. Each DOE, laboratory, plant, and site must establish and maintain an ERO. A single ERO may cover one or more location/building at a laboratory, plant, or site. At a minimum, the ERO must:
 - a. Have the capability to manage the first operating period of a Type 4 incident as defined by the National Incident Management System (NIMS).
 - b. Establish mechanisms, consistent with NIMS, for scaling the activation based on incident severity and expanding the initial response capability when local resources are overwhelmed.
 - c. Consist of personnel with capabilities and resources to respond to incidents based on the All-Hazards Planning Basis.
 - d. Activate for any declared OE and other severe incidents. Scale the activation based on the severity of the incident and in accordance with emergency management plans.
 - e. Include a position with decision-making authority (the Senior Official) to implement the laboratory, plant, or site emergency management plan, to include management and control of all aspects of the response. This person is not the Incident Commander managing the incident.
 - f. Designate a primary and at least one alternate for each laboratory, plant, or site ERO position (this does not include first responders or off-site personnel) to manage, support, and control the initial and ongoing emergency response and plan for termination and recovery.
 - g. Establish an effective first responder capability to mitigate all-hazard emergencies including emergency medical, fire, hazardous material, and applicable rescue emergencies as derived through the All-Hazards Planning Basis and, if applicable, the Baseline Needs Assessment.
 - h. Establish control at the incident scene in accordance with the Incident Command System (ICS) and integrate activities with federal, state, local and tribal agencies that provide on-site emergency response at the incident scene

using the principles of Unified Command.

- i. Establish and maintain communications and coordination between the EOC and the incident scene.
 - j. Maintain and use a capability for developing, updating, and disseminating a common operating picture (COP).
 - k. Maintain two-way information exchange with the Headquarters Emergency Operations Center (EOC) for the duration of the incident.
 - l. Develop incident action plans, consistent with ICS, to support:
 - (1) Establishment of the operational period.
 - (2) Establishment of overall priorities.
 - (3) Establishment of operational objectives.
 - (4) Establishment of personnel accountability.
 - m. Provide ERO members with a method of identification for access to the assigned emergency response location.
4. TRAINING. A comprehensive, coordinated, and documented training program must be an integral part of the emergency management program to ensure that preparedness activities for establishing and maintaining program-specific emergency response capabilities are accomplished. Training programs must include the following:
- a. Worker Training.
 - (1) Training must be conducted and documented upon initial assignment and when there are changes affecting worker actions or responsibilities.
 - (2) Refresher training on protective actions must be provided annually. If a protective action is performed successfully during an exercise or actual incident, the annual training requirement is met for that protective action.
 - (3) Training must cover hazards and protective actions workers may be expected to take in accordance with the All-Hazards Planning Basis. For those workers who are likely to witness a hazardous material release, the training must include the procedures for notification of the release to proper authorities.
 - (4) Determine if additional training must be provided to workers to address response actions that may be necessary for severe incidents with regional impacts when the laboratories, plants, and sites may be isolated from off-site response assistance and infrastructure support.

- (5) Determine if additional training must be provided to workers at specific facilities. This training may consist of facility-specific procedures for safe walk-away provisions and/or facility-specific response steps to take when there are disruptions to critical infrastructure.
- (6) Worker participation in a building evacuation at least annually, and consistent with frequency defined in 41 CFR Part 102-74.360, *What are the Specific Accident and Fire Prevention Responsibilities of Occupant Agencies* and other applicable CFRs, standards and federal, state, local, or tribal regulations. Worker participation in building evacuations must also be conducted after substantial changes are made to a building, which result in a change to evacuation procedures or pathways.

b. ERO Training.

- (1) Develop a training and qualification program to establish and maintain specific emergency response capabilities as determined by the All-Hazards Planning Basis. This training is in addition to other training and certification requirements required to perform general job functions. Documentation of the training requirements must include the courses, method of instruction, frequency, and intended audience.
- (2) Assess laboratory, plant, and site ERO member proficiency at least annually. This may be accomplished by participation in training, exercises, or real-world incidents. Emergency response personnel (for example, fire, hazardous material, police, emergency medical services) who perform essentially the same functions in an ERO as they do on a day-to-day basis demonstrate proficiency doing their everyday jobs. This annual assessment does not apply to off-site response agencies. The training for off-site response agencies is addressed in Attachment 3, Section 4.c. of this Order.
- (3) ERO training must be provided upon initial assignment and when there are significant changes to expected emergency response capabilities. Initial training requirements must include:
 - (a) Applicable principles of ICS 100, *Introduction to ICS*, and ICS 700, *NIMS, An Introduction*.
 - (b) Laboratory, plant, and site-specific emergency response concept of operations, as documented in the emergency management plan, applicable to each position.
 - (c) Position-specific roles and responsibilities to include plans, procedures, job aids, and associated equipment and systems.
- (4) Refresher training must be provided no less than annually and include:

- (a) Lessons learned.
 - (b) Best practices.
 - (c) Identified gaps or deficiencies in individual training.
- (5) Hazardous Materials Program laboratories, plants, and sites must incorporate additional self-study or classroom training on EPHAs, EALs, emergency categorization, and emergency classification to those ERO members performing those functions.
- c. Off-Site Response Agencies Training.
 - (1) Annually offer orientation to emergency responders based on the laboratory, plant, and site-specific conditions and hazards identified in the All-Hazards Planning Basis.
 - (2) Training must be available on unique hazards, as appropriate, to emergency responders, both primary and pre-defined mutual aid. This may include equipment, hazardous materials identified in the EPHA, or facility configuration.
- d. Visitor Training. The laboratory, plant, or site must provide information on laboratory, plant, or site protective actions to visitors who have unescorted access.
- 5. EMERGENCY MEDICAL SUPPORT. DOE laboratories, plants, and sites must accomplish the following:
 - a. Conduct planning for medical treatment associated with incidents identified in the All-Hazards Planning Basis. Pre-planning with off-site responder resources must address how they integrate emergency medical support in accordance with applicable laws, regulations, and standards.
 - b. Establish provisions, where applicable, for sharing patient information between on-site and off-site health care providers during emergencies. Provisions must be consistent with the requirements of the 45 CFR Part 160, *General Administrative Requirements*, 45 CFR Part 164, *Security and Privacy*, Subparts A and E, and Privacy Act of 1974, as amended, 5 United States Code (U.S.C.) Section 552a, *Records Maintained on Individuals*.
 - c. Hazardous Materials Program laboratories, plants, and sites must document the process to transport, accept and treat contaminated, and injured personnel. Ensure implementing agreements, as appropriate, are in place with emergency medical first responder organizations, medical receiving facilities, and emergency medical transport services (including all reasonable modes of transportation).

6. OFF-SITE RESPONSE AGENCIES. DOE laboratories, plants, and sites must establish and maintain interfaces with federal, state, local, or tribal agencies responsible for emergency response or those who may be used to supplement response capabilities based on threats and hazards identified in the All-Hazards Planning Basis, to include planning for severe incidents. DOE laboratories, plants, and sites must accomplish the following activities with off-site response agencies:
 - a. Conduct training and orientation per Attachment 3, Section 4.c., of this Order.
 - b. Determine access protocols for emergency conditions.
 - c. Establish a process for communications to use during on-site response.
 - d. Establish a process to coordinate emergency public information during an incident involving off-site response agencies that may affect or be of interest to the media and public as required in Attachment 3, Section 12 of this Order.
 - e. Hazardous Materials Program laboratories, plants, and sites must coordinate with federal, state, local, and tribal agencies on the following:
 - (1) Address off-site protective action recommendations based on the laboratory, plant, or site's EPHAs.
 - (2) Determine a notification process to use during emergencies when protective actions may be recommended off-site.
 - (3) Provide information from EPHA analyses to appropriate state, tribal, county, and local agencies on estimated bounding scenario distance where PAC would be exceeded at specific off-site receptors for off-site organizations' incident response planning. In addition, laboratories, plants, and sites must provide information as defined in 40 CFR 355, *Emergency Planning and Notification*.
 - (4) Provide near real-time information to appropriate state, tribal, county, and local agencies during a release of hazardous materials when PAC may be exceeded at specific off-site receptors, including at-risk populations such as emergency buildings, schools, and hospitals, to facilitate off-site organization decision-making regarding the appropriate level of response.
 - (5) Conduct planning for off-site radiological monitoring support with state, tribal, county, and local governments for GE involving radiological material releases.
7. EMERGENCY CATEGORIZATION AND CLASSIFICATION. Categorization is the DOE process for determining whether an incident or condition is an OE. Categorization applies to all laboratories, plants, and sites. The classification of an OE is the analysis of hazardous materials involved in an OE to determine if they fall into one of the three emergency classes (Alert, SAE, GE). Classification only applies to Hazardous Materials

Program laboratories, plants, and sites.

a. Categorization.

- (1) DOE laboratories, plants, and sites must declare an OE when incidents occur that represent a significant degradation in the level of safety at a laboratory, plant, or site resulting in potential health and safety hazards to workers or the public. Indicators for identifying the conditions of an OE must be developed for the spectrum of emergency conditions identified in the All-Hazards Planning Basis. For hazardous materials sites, these indicators are defined in the EALs.
- (2) Predetermined decision-makers must categorize an incident as an OE within 15 minutes after the availability of laboratory, plant, or site's defined indicators that an OE has occurred. Categorization must occur no more than 30 minutes after discovery. Such incidents include, but are not limited to:
 - (a) Incidents or conditions that represent, cause, or have the potential to cause serious health and safety impacts to workers or members of the public.
 - 1 The discovery of radioactive or other hazardous material contamination from past DOE operations that may have caused, is causing, or may reasonably be expected to cause uncontrolled personnel exposures exceeding the PAG at 1 rem TED or PAC-2 at 30 meters.
 - 2 An occurrence that causes significant structural damage to DOE facilities, with confirmed or suspected personnel injury or death.
 - 3 Any mass casualty incident, as determined and documented by the laboratory, plant, or site.
 - 4 A criticality incident.
 - 5 An off-site hazardous material incident not associated with DOE operations that is observed to have, or is predicted to have, an impact on-site such that protective actions are required for DOE workers.
 - (b) Any actual or potential release of a hazardous biological agent or toxin outside of the secondary barriers of the biocontainment area.
 - (c) Any actual or potential release of hazardous material or regulated pollutant to the environment that could result in significant off-site consequences, such as major wildlife kills, wetland degradation, aquifer contamination, or the need to secure downstream water supply intakes.
 - (d) Security incidents subject to reporting in accordance with DOE O 470.4, *Safeguards and Security Program*, current version, or other directives as

applicable. Per this Order, foreign involvement in security incidents must be reported to the Counterintelligence Directorate within the Office of Intelligence and Counterintelligence. Safeguards and Security OEs include:

- 1 Unplanned detonation of an explosive device or a credible threat of detonation resulting from the location of a confirmed or suspected explosive device.
 - 2 A terrorist attack, active threat (e.g., armed assault), cyber security incident with the potential to endanger human life, health, or the environment, or sabotage incident involving a DOE laboratory, plant, or site.
 - 3 Kidnapping or taking hostages involving a DOE laboratory, plant, or site worker or visitor.
- (3) The following incidents or conditions represent an actual or potential release of hazardous materials from an OST shipment, or a major security incident without a hazardous materials release, and must be categorized as an OST OE.
- (a) A terrorist attack or other criminal act involving an OST transportation mission that requires the deployment of OST security assets at the emergency scene.
 - (b) Any incident involving an OST transportation mission containing hazardous materials that causes the initial responders to initiate protective actions at locations beyond the immediate area.
 - (c) Failures in safety or security systems that threaten the integrity of a nuclear weapon, component, or test device.
 - (d) A transportation emergency resulting in damage, or potential damage, to a nuclear explosive, nuclear explosive-like assembly, or Category I/II quantity of special nuclear material.
- (4) An OE, once categorized, will remain an OE until the emergency response is terminated, unless the original categorization was incorrect.

b. Classification.

- (1) Hazardous Materials Program laboratories, plants, and sites must:
 - (a) Use developed EALs from the All-Hazards Planning Basis to classify OEs involving the actual or potential airborne release of (or loss of control over) hazardous materials from on-site as an Alert, SAE, or GE.

- (b) Classify an OE as either an Alert, SAE, or GE, in order of increasing severity. Classification aids in the rapid communication of critical information and the initiation of appropriate time-urgent emergency response actions.
- (c) Declare a classification when incidents are predicted, are in progress, or have occurred that result in an actual or credible threat of substantial degradation in the level of control over hazardous materials. The declaration of:
 - 1 An Alert requires the notification and assembly of the ERO. It may not require activation of the EOC.
 - 2 An SAE requires activation of the ERO. It may not require activation of the EOC.
 - 3 A GE requires the activation of the ERO, the EOC, and the recommendation of public protective actions.
- (2) OEs, once classified, must not be downgraded to a lower classification, unless the original classification was incorrect.
- (3) OEs involving federally regulated hazardous biological agents/toxins are not classified. Protective actions are required for any actual or potential release of biological agents/toxins outside of secondary containment barriers.
- (4) OST OEs are not classified.

8. PROTECTIVE ACTIONS.

- a. DOE laboratories, plants, and sites must identify protective actions commensurate with the All-Hazards Planning Basis and potential hazards at the laboratories, plants, and sites; and maintain procedures for prompt issuance of protective actions to workers.
- b. Protective actions must be predetermined and serve to minimize emergency related consequences and maximize life safety and health. DOE laboratories, plants, and sites must accomplish the following:
 - (1) Develop a process to issue protective actions.
 - (2) Develop a procedure to account for workers and visitors and to assist in identifying workers and visitors who may need rescue or assistance.
 - (3) Consider whether additional protective actions are needed for severe incidents, such as self-help instructions when the laboratory, plant, or site is isolated from outside response assistance and evacuation of the laboratory, plant, or site when

conditions are deteriorating.

- c. Hazardous Materials Program laboratories, plants, and sites, must incorporate the following additional requirements:
 - (1) Identify predetermined on-site protective actions and off-site PARs consistent with the hazard and duration of the release based upon the results of EPHAs and EALs.
 - (2) Identify and evaluate incidents in which combinations of protective actions for varying buildings and locations may apply.
 - (3) Identify authorities for the lifting or adjustment of protective actions once protective actions have been taken.
 - (4) Establish methods for controlling, monitoring, and maintaining records of personnel exposure to hazardous materials.
 - (5) Establish methods for controlling access to contaminated areas and for decontaminating personnel or equipment exiting the area.
 - (6) Identify actions that may be taken to increase the effectiveness of protective actions, such as shutdown of heating, ventilation, and air conditioning while sheltering-in-place.
- 9. CONSEQUENCE ASSESSMENT. Hazardous Materials Program laboratories, plants, and sites must compute and correctly assess the estimates of on-site and off-site consequences of actual and potential releases of hazardous materials throughout the emergency response. The laboratory, plant, or site must accomplish the following:
 - a. Consider site specific characteristics, which must include topography and meteorology.
 - b. Integrate consequence assessment with emergency classification and protective action decision-making.
 - c. Integrate facility and field indications and measurements per the emergency management plan.
 - d. Coordinate with off-site response agencies.
 - e. Maintain the capability to use the National Atmospheric Release Advisory Center (NARAC) as part of near real-time consequence assessment activities for primary, backup, and/or corroborating consequence assessments.
 - f. Ensure that laboratory, plant, or site meteorological data and information on source terms for actual or potential release of hazardous materials to the atmosphere are

available or can be made available to NARAC to facilitate near real-time computations.

- g. Maintain consequence assessment and atmospheric dispersion modeling resources with the capability to:
 - (1) Establish provisions to conduct a timely initial assessment with the worst-case source term from the EAL using current meteorological conditions or, if information is available, the actual source term, based on known incident conditions from observations and indicators using current meteorological conditions for on-site and off-site consequences.
 - (2) Indicate the distance at which PAC is exceeded to aid in protective action decision-making for workers and first responders and to establish the basis for initial field monitoring activities.
 - (3) Conduct continuous ongoing assessment for the duration of the emergency as additional information becomes available.
 - (4) Maintain field monitoring capabilities to perform field monitoring activities to confirm the plume boundaries. Ensure implementing agreements, as appropriate, are in place with state, local, and tribal organizations expected to perform off-site field monitoring in support of the consequence assessment.
- 10. EMERGENCY FACILITIES, EQUIPMENT, AND SYSTEMS. DOE laboratories, plants, and sites are responsible for the provision of adequate emergency facilities, equipment, and systems to support emergency response operations and the ERO commensurate with the associated threats and hazards identified in the All-Hazards Planning Basis. Equipment must be maintained and tested, as applicable, to ensure equipment functions as designed for emergency response and implementation of protective actions based upon the All-Hazards Planning Basis.
 - a. Personal Protective Equipment (PPE).
 - (1) DOE laboratories, plants, and sites must provide appropriate PPE to assigned emergency responders commensurate to the hazards.
 - (2) DOE laboratories, plants, and sites must identify, in the emergency management plan, or other documentation, caches of specialty equipment that may be required if an incident occurs. These caches must be inventoried, at a minimum, annually.
 - b. Communications Equipment.
 - (1) DOE laboratories, plants, and sites must have an emergency notification system capable of providing immediate notification of protective actions to affected employees, as required in Attachment 3, Section 11.a.(2) of this Order.

- (2) Communications equipment and the notifications capability must be tested at least annually.

c. Hazardous Materials Program laboratories, plants, and sites must incorporate the following additional requirements.

- (1) Designate and maintain an EOC capability, which can be physical, virtual, or hybrid model. The EOC must:
 - (a) Be accessible on a 24-hour basis to on-site and off-site ERO members.
 - (b) Be equipped with systems and equipment to support ERO activities. This includes information management, mapping, and secure and non-secure communications.
 - (c) Ensure that the air filtration system removes the types of plausible contaminants if occupants rely on a filtration system for habitability. High Efficiency Particulate Air (HEPA) filters used for protection from airborne contaminants must be certified at an approved HEPA filter test facility.
- (2) Maintain an Alternate EOC (AEOC) capability that can perform the required functions of the primary EOC if the primary EOC is not available.
 - (a) Any physical AEOC must be located so both it and the primary EOC are not impacted by the same incident as determined by the results of the EPHAs.
 - (b) Ensure that the air filtration system removes the types of plausible contaminants if occupants rely on a filtration system for habitability. HEPA filters used for protection from airborne contaminants must be certified at an approved HEPA filter test facility.
- (3) Joint Information Center (JIC).
 - (a) Have provisions in place to establish a JIC to serve as a working location, where multiple jurisdictions gather, process, and disseminate public information during an emergency. The JIC can be a physical, virtual, or hybrid model.
 - (b) Maintain equipment and systems to support JIC activities to include public inquiry, media inquiry, media monitoring, media support services, and management and administrative activities.
 - (c) Identify a location for the JIC outside the EPZ.
- (4) Communications Equipment.

- (a) Maintain EOC primary and backup communications capabilities adequate to support incidents identified in the EPHAs.
 - (b) Maintain equipment capable of transmitting information in a secured fashion if classified information or CUI is generated, handled, or stored by the laboratories, plants, and sites.
- (5) Meteorological Monitoring Equipment.
 - (a) Maintain a meteorological capability to provide real-time on-site/local meteorological data and maintain access to meteorological expertise for site consequence assessments.
 - (b) The on-site data collection, processing, and availability must meet current guidance and standards and be appropriate for the level of incident possible per current directives and standards (DOE O 458.1, *Radiation Protection of the Public and the Environment* and DOE-HDBK-1216-2015, *Environmental Radiological Effluent Monitoring and Environmental Surveillance*, current versions).
 - (c) Maintain or have access to a meteorological modeling capability or access to reliable real-time off-site meteorological data to conduct proper off-site consequence assessment activities if the lab, plant, or site has EPHA results that indicate the potential for a GE.
- d. Laboratories, plants, and sites with Defense Nuclear Facilities must incorporate the additional following requirements:
 - (1) Identify on-site emergency response actions at affected facilities with the following requirements:
 - (a) Develop compensatory measures for on-site emergency response facilities that are not survivable and habitable.
 - (b) Maintain and test safety functions and features to ensure they function as designed.
 - (c) Develop walkaway strategies for equipment and facilities during emergencies.
 - (d) Ensure a transition of responsibilities and required actions between normal work activities, incident activities, and recovery operations.
 - (2) The following criteria must be in the design, construction, and maintenance of new EOCs established after the publication date of DOE O 151.1D, *Comprehensive Emergency Management System*, dated 8-11-2016:
 - (a) If the EOC is located within the EPZ, it must be able to remain habitable

during radiological and hazardous materials releases.

- (b) Designate the EOC as an essential facility in accordance with the International Building Code or state/regional/local equivalent building code (if approved by the FEM/FOM per DOE O 420.1 *Facility Safety*, current version) and meet the design requirements of the applicable building code.
- (c) The EOC must be capable of sustaining emergency operations for a minimum of 72 hours during severe incidents when site or commercial infrastructure may be disrupted.
- (d) Any new EOC design and construction project that has received Critical Decision 2 (CD-2) (Performance Baseline) approval per DOE O 413.3B Administrative Change 1, *Program and Project Management for the Acquisition of Capital Assets*, as of the date of issuance of DOE Order 151.1D, *Comprehensive Emergency Management System*, dated 8-11-2016, is exempt from the requirements of Attachment 3, 11.d.(2), of this Order.

11. NOTIFICATIONS AND COMMUNICATIONS. Initial notifications must be made promptly, accurately, and effectively to all appropriate stakeholders. Follow-up notifications must be made when conditions change and when the OE is terminated. DOE laboratories, plants, and sites must accomplish the following:

a. Notifications.

- (1) Provide prompt emergency notifications to emergency response personnel and response organizations.
- (2) Provide immediate notification and protective actions to affected employees no later than 10 minutes after the protective actions have been identified in accordance with the emergency management plan and related procedures.
- (3) Notify the FEM/FOM, Headquarters EOC, and state, local, and tribal organizations within 30 minutes of categorization of an OE or the activation of the ERO for an incident not categorized as an OE, to include incidents defined in the Headquarters EOC issued CIRs.
- (4) Hazardous Materials Programs must notify the FEM/FOM, Headquarters EOC, and state, local, and tribal organizations of the OE classification within 15 minutes of categorization.
- (5) Emergency notification to the Headquarters EOC must consist of a human phone call providing as much information as is known at the time. The same information must be provided by e-mail either immediately prior to or following the phone call. Information for initial notification includes, as available, the following:

- (a) Description of the emergency.
 - (b) Date and time emergency was discovered or terminated.
 - (c) Current weather conditions (wind speed, direction, precipitation) at the incident location.
 - (d) Other notifications made.
 - (e) Status of EOC activation (full, partial, standing up, not activated).
 - (f) Assessment of current incident conditions (improving, stable, degrading, undetermined).
 - (g) Damage and casualties.
 - (h) Protective actions implemented.
 - (i) Potential and actual impacts.
 - (j) Agencies involved.
 - (k) Level of public/media attention.
 - (l) Contact information for the DOE on-scene point of contact.
- (6) Incidents involving an OST OE or OST transportation incident onsite or offsite must incorporate the following additional notification requirements:
- (a) Location of the incident, including coordinates.
 - (b) Security and condition of the cargo.
 - (c) Whether or not a national security area has been declared.
 - (d) Effect on other ongoing OST missions.
- b. Communications.
- (1) Provide communication methods among on-scene responders, emergency managers, and response facilities.
 - (2) Provide updates to the Headquarters EOC based upon the emergency conditions and/or as directed by Headquarters.
 - (3) Establish provisions to provide updates to workers during an emergency.

- (4) Initiate, at least annually, communications checks on classified and unclassified communication systems used for initial notification of the Headquarters EOC.
 - (5) Ensure communication among response facilities, field response elements, and off-site command centers by providing a COP of the emergency response and shared situational awareness among all teams. This must be accomplished by enabling access to unclassified emergency response information, such as notification forms, emergency status updates, plume projections, significant activities data, and field monitoring data.
12. EMERGENCY PUBLIC INFORMATION. DOE laboratories, plants, and sites must provide accurate, candid, and timely information to workers, the media, and the public during an emergency. DOE laboratories, plants, and sites must:
- a. Establish and maintain an emergency public information capability consistent with the All-Hazards Planning Basis.
 - b. Document the emergency public information capability in an emergency public information plan, emergency management plan, or comparable plan. This plan must include:
 - (1) Identification of personnel, resources, and facilities necessary to support emergency public information activities.
 - (2) Identification of a public information officer who will interact with the media during emergencies.
 - (3) Provisions for coordination of information to be released during an emergency.
 - (4) Identification of public information media to be used and monitored, such as web sites, social media, news releases, and news briefings.
 - (5) Identification of a location for the necessary briefings and news conferences regarding the emergency.
 - (6) Identification of training and exercises for personnel who will interact with the media.
 - (7) Identification of provisions for coordination of public information activities with off-site response agencies, state, local and tribal governments, and federal emergency response plans, as appropriate.
 - (8) Information must be reviewed in accordance with DOE O 471.7, *Controlled Unclassified Information*, current version, DOE O 471.1, *Identification and Protection of Unclassified Controlled Nuclear Information*, current version and DOE O 475.2, *Identifying Classified Information*, current version and reviewed

by an appropriate classification official, Unclassified Controlled Nuclear Information (UCNI) Reviewing Official, or an appropriate person for Controlled Unclassified Information (CUI) and the Emergency Manager for classified information, UCNI, and CUI prior to release.

- (9) Provisions for initial news releases or public statements to be approved by the Field Element official responsible for emergency public information review and dissemination.
 - (10) Provisions to coordinate with the Headquarters EOC and DOE's Office of Public Affairs or NNSA's Office of Communications on information released after the initial release. This includes information released through news releases and social media. DOE Office of Public Affairs or NNSA's Office of Communications may delegate this to the local level.
 - c. Hazardous Materials Program laboratories, plants, and sites must also maintain staff with technical expertise related to the emergency to support the public information activities.
13. TERMINATION AND RECOVERY. DOE laboratories, plants, and sites must accomplish the following for termination and recovery:
- a. Termination.
 - (1) Establish a predetermined set of criteria for terminating an OE. Emergency termination criteria must consider:
 - (a) Emergency response activities have stopped.
 - (b) The situation has been stabilized.
 - (c) Potential threats to workers, the public, the environment, and national security have been characterized.
 - (d) Conditions no longer meet established emergency categorization criteria.
 - (e) It appears unlikely that conditions will deteriorate.
 - (2) The decision to terminate an OE classified as an Alert, SAE, or GE can only be made when capabilities and resources of the ERO are no longer needed to manage the incident.
 - (3) The decision to terminate an OE must be a formal announcement or acknowledgement that the situation is stabilized, and that the response activity is ending or has been substantially scaled back.

- (4) Coordinate the decision to terminate the emergency with the responding organizations and the Field Element or appropriate Federal Manager, as applicable.
- (5) Prior to termination, identify and document in a draft recovery plan the recovery organization that will activate and address the actions necessary to restore the laboratory, plant, or site to normal operations.
- (6) Notify the Headquarters EOC and other organizations previously notified when the emergency is terminated.

b. Recovery.

- (1) The recovery organization must include an accident investigation, as needed, and ensure the accident investigation is conducted in accordance with DOE O 225.1, *Accident Investigations*, current version.
- (2) Hazardous Materials Program laboratories, plants, and sites have the following additional requirements:
 - (a) Establish a means for estimating exposure to hazardous materials and for protecting workers and the public from exposure during reentry and recovery activities.
 - (b) Recovery from a terminated OE must include communication and coordination with federal, state, local, and tribal agencies.
 - (c) Recovery procedures must include the following:
 - 1 Dissemination of information to federal, state, local, and tribal agencies regarding the emergency and possible relaxation of public protective actions.
 - 2 Planning for decontamination actions.
 - 3 Development of reporting requirements.
 - 4 Establishment of criteria for resumption of normal operations.

c. Post Incident Reporting.

- (1) Complete an After-Action Report (AAR) evaluating the ERO when activated for a real-world incident categorized as an OE, to identify lessons learned and corrective actions.
- (2) For an OE, submit the AAR to the FEM/FOM for further dissemination to the

Associate Administrator for Emergency Management and assigned Program Secretarial Officer. This report may be done in conjunction with the Final Occurrence Report in accordance with DOE O 232.2, *Occurrence Reporting and Processing of Operations Information*, current version.

14. READINESS ASSURANCE. DOE laboratories, plants, and sites must participate in a formal Readiness Assurance Program that establishes a framework and associated mechanisms to validate their emergency plans, procedures, and resources adequately address the threats and hazards identified in the All-Hazards Planning Basis and ensures timely improvements are made when identified. The Readiness Assurance Program consists of evaluations, issues management, and the Emergency Readiness Assurance Plan (ERAP).

- a. Evaluations. Evaluations include assessments, exercises, and performance indicators. All program elements must be evaluated and validated annually through assessments, exercises, or reviews of real-world incidents. The scope of each program element evaluated does not have to include all program element requirements each year. The determination must be based on the complexity of the program and ensure all program element requirements are fully evaluated and validated over a five-year period.

- (1) Assessments. DOE laboratories, plants, and sites must:

- (a) Conduct annual self-assessments to ensure that emergency plans, procedures, emergency response activities, and resources are adequate and sufficiently maintained for use in a real-world incident.
- (b) Support DOE during the conduct of an external assessment.

- (2) Exercises. Laboratories, plants, and sites must have an exercise program that is consistent with the fundamental principles of the Department of Homeland Security Exercise and Evaluation Program (HSEEP). The exercise program must include:

- (a) Conduct of an annual exercise (discussion-based or operation-based) to test and validate emergency plans and procedures. At a minimum, for non-hazardous material laboratories, plants, and sites, every three years the annual exercise must be an operations-based exercise. For Hazardous Materials Program laboratories, plants, and sites, every year the annual exercise must be an operation-based exercise.
- (b) Rotation of the annual exercise scenarios among the threats and hazards identified in the All-Hazards Planning Basis.
- (c) Submission of the exercise schedule annually to the FEM/FOM in accordance with laboratory, plant, or site procedures.

- (d) Formal invitation to primary off-site response agencies to participate in the annual exercise.
- (e) Formal invitation of laboratory, plant, or site subject matter experts as it relates to the scenario, and security program personnel to actively participate in the annual exercise.
- (f) Exercise plan preparation in accordance with laboratory, plant, or site procedures. At a minimum, an exercise plan must be prepared for the annual exercise.
- (g) Submission of the annual exercise plan to the FEM/FOM, no later than 30 calendar days before the annual exercises, for approval in accordance with laboratory, plant, or site procedures.
- (h) Development of AARs that include issues, lessons learned, and overall evaluation results. Complete AARs within 45 calendar days of the exercise. AARs for the annual exercise must be submitted to the FEM/FOM in accordance with laboratory, plant, or site procedures.
- (i) Conduct of any exercise with a security-based nexus must be done in accordance with DOE O 470.3, *Design Basis Threat*, current version.
- (j) Allowance for a real-world incident to replace the annual exercise with the approval of the FEM/FOM, if an AAR is developed, issued, and documents the equivalent exercise objectives that were completed during the real-world incident.
- (k) Hazardous Materials Program laboratories, plants, and sites must include the following additional requirements in their exercise program:
 - 1 Establish and maintain a laboratory, plant, or site-level exercise program that validates its emergency response capability to the hazards identified in an EPHA.
 - 2 Develop a rolling five-year exercise schedule. The schedule must include:
 - a. A method for determining the appropriate number and types of exercises and rotation of exercise scenarios among all hazardous material facilities.
 - b. Development and conduct a full-scale exercise (FSE), as defined in HSEEP, for ERO activities involving hazardous materials releases. The frequency is based on the number of EPHAs as follows:

- i. DOE laboratories, plants, and sites with one or two EPHAs must conduct an FSE every three years.
 - ii. DOE laboratories, plants, and sites with three or more EPHAs must conduct an FSE annually.
- c. Development and conduct, for ERO activities involving hazardous material releases based on the EPHAs, operation and discussion-based exercises that supplement the annual exercise.
- d. Demonstration of protective actions during the annual exercise.
- e. One severe incident scenario every five years that involves the release of hazardous materials at more than one facility at a laboratory, plant, or site and disrupts site infrastructure, such as power, telecommunications, roadways, or the significant delay of mutual aid.
- f. OST Recipient Sites must conduct an exercise (discussion or operations-based) with OST once every five years. The exercise must assess and validate procedures related to the laboratory, plant, or site's ability to effectively respond to on-site OST OE or OST transportation emergency. The exercise scenario will be developed, in coordination with OST, for a typical shipment to the laboratory, plant, or site.
- g. Facilities with radiological materials must invite one or more of the Department's Radiological/Nuclear Assets to participate in an exercise every three years.
- h. Off-site response agencies must be invited to participate in an FSE at least once every three years.
- i. Scenario development that is progressively challenging and based on identified threats and hazards in the All-Hazards Planning Basis that involve high consequences, multiple response elements, and as applicable, off-site impacts.
- j. Test of design control and/or mitigation features in multiple facilities
- k. Demonstration of ERO capability.
- l. Laboratories, plants, or sites with an ERO that covers a single location/building must annually evaluate emergency response capability and proficiency at their location/building by initiating a

response to simulated, realistic emergency situations/conditions in a manner that, as nearly as possible, replicates an integrated emergency response to a real-world incident.

m. Integration with federal, state, local, and tribal agencies.

(l) Laboratories, plants, and sites with Defense Nuclear Facilities must incorporate the following additional requirements in their five-year exercise plan:

- 1 Conduct and evaluate an annual FSE, regardless of the number of EPHAs.
- 2 Conduct drills, using a graded approach, involving the Operations staff and ERO. Consider the following in development of drills:

- a. Elements of the ERO staff for OE.
- b. Drill scenarios that are representative of the hazards/threats identified in the All-Hazards Planning Basis.
- c. Integration of the ERO with conduct of operations drills as the initiating activity.
- d. Evaluations of drill design and content, to include participants, for continuous improvement regardless of the scope or mechanism.
- e. Rotation of shifts involved in the drill, unannounced drills, and drills conducted during low staffing levels.

(3) Performance Indicators. DOE laboratories, plants, and sites must participate in a program of performance indicators.

b. Issues Management. An issues management system is required by laboratories, plants, and sites per DOE O 226.1, *Implementation of Energy Oversight Policy*, current version, and the Contractor Assurance System. Issues identified from emergency management assessments (to include self-assessments and independent oversight assessments), exercises, real-world incidents and equipment maintenance and testing must be included in the issues management system. The system must include a capability to categorize the significance of issues based on risk and priority. In addition, the following is required for corrective actions and lessons learned:

(1) Corrective Actions.

(a) Corrective action plans must be developed for issues identified from

independent oversight assessments and must be submitted to the FEM/FOM or Program Secretarial Officer for approval.

- (b) Corrective action plans must be developed, within 45 calendar days of reports, evaluations, and AARs, for issues identified during a self-assessment, exercise, or real-world incident and must be submitted to the FEM/FOM upon request.
- (c) Corrective action plans must be developed for issues of higher significance identified during maintenance and testing and submitted to the FEM/FOM upon request.
- (d) Use a formal tracking system to track completion of corrective actions. This tracking system may be part of a laboratory, plant, or site action tracking system.
- (e) Hazardous Materials Program laboratories, plants, and sites must incorporate the following additional requirements:
 - 1 Identify compensatory measures for issues of higher significance to reduce risk until causal analysis is performed and corrective actions are identified and implemented.
 - 2 Conduct a causal analysis to determine root cause and corrective actions for issues identified as resulting from noncompliance for life safety.
 - 3 Evaluate, by an independent reviewer, the effectiveness of corrective actions for issues of higher significance, through verification that the corrective action has been put in place and validation that the corrective action has been effective in resolving the original issue.
 - 4 Submit corrective action plans, for issues of higher significance, to the FEM/FOM for approval.

(2) Lessons Learned

- (a) Use a system for incorporating and tracking lessons learned from training, exercises, actual responses, and the laboratory, plant, or site lessons learned program.
- (b) Review DOE Corporate Lessons Learned Database, under DOE O 210.2, *DOE Corporate Operating Experience Program*, current version, and for emergency management lessons learned, review the Office of Enterprise Assessments lessons learned report.

c. Emergency Readiness Assurance Plan (ERAP).

- (1) DOE laboratories, plants, and sites must complete and submit an ERAP to the FEM/FOM for approval by October 15 each year, using the format and content guidelines provided by the Associate Administrator for Emergency Management, in coordination with the Program Secretarial Officers. The ERAP must:
 - (a) Highlight program status, including significant changes in the emergency management program.
 - (b) Summarize the hazards/threats and potential impacts identified in the All-Hazards Planning Basis.
 - (c) Document assessment, exercise, and real-world incidents and the status of corrective actions developed to address issues of higher significance.
 - (d) Identify the goals for the fiscal year that ended and the degree to which those goals were accomplished.
 - (e) Identify the goals for the next fiscal year.
 - (f) Identify emergency management program gaps and needs.
- (2) The FEM/FOM must submit an ERAP covering the laboratories, plants, and sites under the FEM's/FOM's supervision to the Program Secretarial Officers and Associate Administrator for Emergency Management, by November 30 each year.

ATTACHMENT 4
REFERENCES

- a. Public Law (P.L.) 73-703, *Atomic Energy Act of 1954*, as amended.
- b. P.L. 93-288, *Robert T. Stafford Disaster Relief and Emergency Assistance Act*, as amended through P.L. 118-44, Enacted March 18, 2024.
- c. P.L. 106-65, *National Defense Authorization Act for Fiscal Year 2000*, dated 10-05-1999.
- d. P.L. 114-94, *Fixing America's Surface Transport Act*, dated 12-04-2015.
- e. P.L. 115-325, *Federal Power Act*, enacted 12-18-2018.
- f. Title 5 United States Code (U.S.C.) § 552a, *Records Maintained on Individuals*.
- g. Title 5 U.S.C. § 552, *Freedom of Information Act*.
- h. Title 42 U.S.C. § 7158, *Naval Reactor and Military Application Programs*.
- i. Title 50 U.S.C. § 2406, *Deputy Administrator for Naval Reactors*.
- j. Title 50 U.S.C. § 2511, *Naval Nuclear Propulsion Program*.
- k. Title 50 U.S.C. § 4501 et seq., *Defense Production Act of 1950*.
- l. Title 7 Code of Federal Regulations (CFR) Part 331, *Possession, Use, and Transfer of Select Agents and Toxins*.
- m. Title 9 CFR Part 121, *Possession, Use, and Transfer of Select Agents and Toxins*.
- n. Title 10 CFR Part 71, *Packing and Transport of Radioactive Materials*.
- o. Title 10 CFR Part 205.350-353, *Report of Major Electric Utility System Emergencies*.
- p. Title 10 CFR Part 830, *Nuclear Safety Management*.
- q. Title 29 CFR Part 1910.1450, *Occupational Exposure to Hazardous Chemicals in Laboratories*.
- r. Title 40 CFR Part 68, *Chemical Accident Prevention*.
- s. Title 40 CFR Part 300, *National Oil and Hazardous Substances Pollution*

Contingency Plan.

- t. Title 40 CFR Part 355, *Emergency Planning and Notification*.
- u. Title 41 CFR Part 102-74.360, *What are the Specific Accident and Fire Prevention Responsibilities of Occupant Agencies?*
- v. Title 42 CFR Part 73, *Select Agents and Toxins*.
- w. Title 45 CFR Part 160, *General Administrative Requirements*.
- x. Title 45 CFR Part 164, Subparts A and E, *Security and Privacy*.
- y. Executive Order 12344, *Naval Nuclear Propulsion Program*.
- z. Executive Order 13636, *Improving Critical Infrastructure Cybersecurity*.
- aa. Presidential Policy Directive (PPD) 8, *National Preparedness*, dated 03-30-2011.
- bb. PPD 21, *Critical Infrastructure Security and Resilience*, dated 02-12-2013.
- cc. PPD 41, *United States Cyber Incident Coordination*, dated 07-26-2016.
- dd. PPD 44, *Enhancing Domestic Incident Response*, dated 11-07-2016.
- ee. Homeland Security Presidential Directive (HSPD) 5, *Management of Domestic Incidents*, dated 02-28-2003.
- ff. *Homeland Security Exercise and Evaluation Program (HSEEP)*, Department of Homeland Security, dated 10-2020.
- gg. *National Cyber Incident Response Plan*, Department of Homeland Security, dated 12-16-2016.
- hh. *National Incident Management System*, Third Edition, Department of Homeland Security, dated 11-17-2017.
- ii. *National Response Framework*, Fourth Edition, Department of Homeland Security, dated 10-28-2019.
- jj. DOE O 153.1, *Departmental Nuclear Emergency Support Team Capabilities*, current version.
- kk. DOE O 210.2, *DOE Corporate Operating Experience Program*, current

version.

- ll. DOE O 225.1, *Accident Investigations*, current version.
- mm. DOE O 226.1, *Implementation of Department of Energy Oversight Policy*, current version.
- nn. DOE O 232.2, *Occurrence Reporting and Processing of Operations Information*, current version.
- oo. DOE O 243.1, *Records Management Program*, current version.
- pp. DOE O 251.1, *Department Directives Program*, current version.
- qq. DOE O 413.3B *Program and Project Management for the Acquisition of Capital Assets*, current version.
- rr. DOE O 420.1, *Facility Safety*, current version.
- ss. DOE O 420.2, *Safety of Accelerator Facilities*, current version.
- tt. DOE O 458.1, *Radiation Protection of the Public and the Environment*, current version.
- uu. DOE O 460.1, *Hazardous Materials Packaging and Transportation Safety*, current version.
- vv. DOE O 470.3, *Design Basis Threat (DBT)*, current version.
- ww. DOE O 470.4, *Safeguards and Security Program*, current version.
- xx. DOE O 471.1, *Identification and Protection of Unclassified Controlled Nuclear Information*, current version.
- yy. DOE O 471.7, *Controlled Unclassified Information*, current version.
- zz. DOE O 475.2, *Identifying Classified Information*, current version.
- aaa. DOE-HDBK-1216-2015, *Environmental Radiological Effluent Monitoring and Environmental Surveillance*, current version.
- bbb. DOE-STD-1027-2018, *Hazard Categorization of DOE Nuclear Facilities*, current version.

ccc. NUREG-0396/EPA 520/1-78-016, *Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants*, dated December-1978.

ATTACHMENT 5 DEFINITIONS

This Attachment provides definitions for terms used in DOE O 151.1E, *Comprehensive Emergency Management System*, and is associated where Contractor Requirements Document (Attachment 1 to DOE O 151.1E) is inserted.

1. **Accountability.** For the purposes of this document, the process for communicating, assessing, and confirming the status of life and safety of all on-site personnel affected by an incident.
2. **Active Threat.** A dynamic, quickly evolving situation involving an individual (or individuals) using deadly physical force.
3. **After-Action Report (AAR).** A document intended to capture observations, issues, and lessons learned from an exercise or real-world incident.
4. **Alternate Emergency Operations Center (AEOC).** A physical, virtual, or hybrid location for use when the primary EOC is unable to support a response effort.
5. **Annual (such as “annual exercise”).** Occurring or recurring once within a specified, one year period, as defined by the laboratory, plant, or site.
6. **Assessment.** An evaluation, performed to determine and document whether items, processes, systems, or services meet specified requirements and perform effectively.
7. **Categorization.** The DOE process for determining whether an incident or condition is an OE.
8. **Classification.** The process of assessing potential release of hazardous materials in an Operational Emergencies to determine if they fall into one of the three emergency classes (Alert, Site Area Emergency (SAE), or General Emergency (GE)).
9. **Compliance.** Conforming to the requirements of DOE O 151.1E, *Comprehensive Emergency Management System* (and referenced federal laws and regulations).
10. **Common Operating Picture (COP).** A standard overview of an incident, thereby providing incident information that enables the Incident Commander/Unified Command and any supporting agencies and organizations to make effective, consistent, and timely decisions. Compiling data from multiple sources and disseminating the collaborative information ensures that all responding entities have the same understanding and awareness of incident status and information when conducting operations.
11. **Critical Information Requirements (CIR).** A comprehensive list of elements of information that DOE and NNSA leaders have identified as requiring immediate notification to facilitate timely decision making.

12. **Defense Nuclear Facilities.**

- a A production facility or utilization facility (as defined in 42 United States Code (U.S.C.) §2014 [§ 11 of the *Atomic Energy Act*]) that is under the control or jurisdiction of the Secretary of Energy and that is operated for national security purposes, but does not include:
 - (1) any facility or activity covered by Executive Order No. 12344, dated February 1, 1982 [42 U.S.C. § 7158 note], pertaining to the Naval nuclear propulsion program;
 - (2) any facility or activity involved with the transportation of nuclear explosives or nuclear material;
 - (3) any facility that does not conduct atomic energy defense activities; or
 - (4) any facility owned by the United States Enrichment Corporation.
 - b A nuclear waste storage facility under the control or jurisdiction of the Secretary of Energy, but does not include a facility developed pursuant to the Nuclear Waste Policy Act of 1982 (42 U.S.C. 10101 et seq.) and licensed by the Nuclear Regulatory Commission
 - c A production facility or utilization facility (as defined in section 318 of the Atomic Energy Act) that is under the control or jurisdiction of the Secretary of Energy and that is operated for national security purposes; or a nuclear waste storage facility under the control or jurisdiction of the Secretary of Energy, but does not include a facility developed pursuant to the Nuclear Waste Policy Act of 1982 (42 U.S.C. 10101 et seq.) and licensed by the NRC.
13. **Discovery.** The point at which laboratory, plant, or site workers or visitors identify or become aware of an incident or condition.
14. **Discussion-based Exercise.** These types of exercises typically highlight existing plans, policies, mutual aid agreements, and procedures, and can be used as tools to familiarize agencies and personnel with current or expected capabilities. Discussion-based exercises include *seminars*, *workshops*, *tabletops*, and *games*.
15. **Drill.** An operations-based exercise often employed to validate a single operation or function.
16. **Emergency.** Any incident, whether natural, technological, or human-caused, that necessitates responsive action to protect life, property, critical infrastructure, or environment.
17. **Emergency Action Level (EAL).** A predetermined, laboratory, plant, or site-specific,

observable threshold for an initiating condition that, when met or exceeded, places the laboratory, plant, or site in a given emergency categorization with the potential for further classification.

18. **Emergency and Incident Management Council (EIMC).** The primary DOE strategic-level leadership coordination, synchronization, and oversight mechanism for senior Department leadership during an emergency of such significance to warrant Council activation, to include those incidents that might require the coordinated efforts of several sites or programs.
19. **Emergency Management Advisory Committee.** Provides the Department of Energy (DOE) and National Nuclear Security Administration (NNSA) a forum for federal headquarters, field, and site office emergency managers to align and prioritize emergency management program administration and implementation, and to resolve emergency management issues effectively and timely.
20. **Emergency Notification System (ENS).** A type of Emergency Communication System that facilitates the real-time, one-way dissemination or broadcast of messages to one or many groups of people at a laboratory, plant, or site.
21. **Emergency Operations Center (EOC).** A designated location where the coordination of information and resources and advanced planning, to support the incident (on-scene operations) activities, normally takes place. The EOC may be a physical, virtual, or hybrid model.
22. **Emergency Operating Records.** Records essential to the continued functioning or reconstitution of an organization during and after an incident.
23. **Emergency Planning Hazards Assessment (EPHA).** A quantitative analysis identifying hazards and the potential consequences from unplanned releases of (or loss of control over) hazardous materials, using accepted assessment techniques.
24. **Emergency Planning Zone (EPZ).** A zone identified to facilitate a predetermined strategy for protective actions during a defined emergency.
25. **Emergency Readiness Assurance Plan (ERAP).** A documented annual report detailing the development, implementation, and maintenance status of an Emergency Management Program. The ERAP is also a planning tool to identify and develop needed resources and improvements.
26. **Emergency Response Organization (ERO).** A structured organization with overall identified responsibilities for initial and ongoing emergency response and mitigation.
27. **Emergency Response Officer Cadre (EROC).** The Office of Secure Transportation personnel with specialized skillsets activated to serve in response capacities during OST

- emergencies.
28. **Energy Emergency.** An emergency resulting from an energy supply crisis, economic impacts, widespread energy distribution interruption, or energy infrastructure damage. It includes all actions taken to ensure the balance generation and load to ensure reliability of the electric interconnection.
 29. **Evacuation.** The directed relocation of a population out of a high-risk area prior to or during an emergency. The evacuation of a laboratory, plant, or site may be necessary when a hazard, be it natural, technological, or human-caused, threatens the safety of those within the laboratory, plant, or site.
 30. **Exercise.** An activity delivered through discussion or action to develop, assess, or validate capabilities to achieve planned objectives. Exercises, under the Homeland Security Exercise and Evaluation Program (HSEEP) can be discussion-based (examples include seminars, workshops, tabletop exercise, and games), or operations-based (drills, functional exercises, or full-scale exercises).
 31. **Full-scale Exercise (FSE).** An operations-based exercise that is typically those most complex and resource-intensive of the exercise types and often involves multiple agencies, on-site and off-site jurisdictions/organizations, and real-time movement of resources.
 32. **Functional Exercise.** An operations-based exercise designed to test and evaluate capabilities and functions in a realistic, real-time environment; however, movement of resources is usually simulated.
 33. **Globally Harmonized System (GHS).** A framework that standardizes the classification and labeling of chemicals worldwide. It is one of two hazardous material screening methods available to laboratories, plants, and sites.
 34. **Graded Approach.** The processes and procedures that incorporates a risk-based approach to assess and protect against the consequences of hazards (natural, technological, and man-made) that may have an adverse impact on national security, the environment, or that may pose significant danger to the health and safety of DOE Federal and contractor employees or the public.
 35. **Hazardous Material.** Any hazardous biological agents and toxins; any radioactive or radiological material that emits ionizing radiation; any solid, liquid, or gaseous chemical that is toxic, explosive, flammable, or corrosive, or could otherwise adversely affect the health and safety of the public or the workers or harm the environment. Fuel oil and gases are excluded in the definition of hazardous materials used in this Order.
 36. **Hazardous Materials Program.** An emergency management program with additional requirements in training, emergency management services, off-site response agencies, emergency classification, protective actions, emergency facilities and equipment/systems, emergency public information, termination and recovery and

exercises.

37. **Homeland Security Exercise and Evaluation Program (HSEEP).** A set of guiding principles for exercise and evaluation programs as well as a common approach to exercise program management, design and development, conduct, evaluation, and improvement planning.
38. **Incident.** An unplanned occurrence (natural, technological, or human-made) that necessitates a response to protect life, property, critical infrastructure, or environment.
39. **Incident Command System (ICS).** A management system designed to enable effective and efficient domestic incident management by integrating a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure.
40. **Incident Commander.** The individual responsible for all incident activities, including the development of strategies and tactics and the ordering and the release of resources. The Incident Commander has overall authority and responsibility for conducting incident operations and is responsible for the management of all incident operations at the incident site.
41. **Issue.** Factual statement of identified findings and deficiencies (failure to meet a documented legal, regulatory, performance, compliance, or other applicable requirements) in the Emergency Management Program at a laboratory, plant, or site resulting from an exercise, self-assessment, independent assessment, testing and maintenance, or real-world event.
42. **Joint Information Center (JIC).** A facility established to coordinate critical emergency information, crisis communications, and public affairs functions. It is the central point of contact for all news media.
43. **Key Receptor Location.** Public entities that require protective action recommendations based on at-risk populations. The minimum key receptor locations for planning purposes include, but not limited to, hospitals, emergency response agencies, schools, and correctional facilities.
44. **Laboratories, Plants, Sites.** These include DOE federal owned, leased, and contractor-operated laboratories, plants, sites, buildings/locations, secure transportation activities, administrative offices in the field, and headquarters offices.
45. **Mass Casualty Incident.** An incident in which the number of patients and the severity of their injuries exceed the capacity of area medical systems and facilities, as identified by the lab, plant, or site. The incident produces more patients than the responding jurisdiction is *routinely* capable of handling and necessitates an uncommon level of resource mobilization.
46. **Materials of National Security Interest.** A class of strategic materials used in the

development, testing, production, and maintenance of nuclear weapons and other materials that have been designated as critical to national security.

47. **Mitigation.** The effort to reduce loss of life and property by lessening the impact of incidents. Mitigation includes any activities that prevent an emergency, reduce the chance of an emergency incident occurring, or reduce the damaging effects of unavoidable incidents.
48. **National Incident Management System (NIMS).** A set of principles that provides a systematic, proactive approach guiding government agencies at all levels, nongovernmental organizations, and the private sector to work seamlessly to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, to reduce the loss of life or property and harm to the environment.
49. **National Security Area (NSA).** A DOE-controlled area established for radiological incidents involving a nuclear weapon, special nuclear material, and/or classified components that are in DOE custody.
50. **Operational Emergency (non-OST).** A major unplanned or abnormal incident or condition that involves or affects DOE facilities and activities by causing or having the potential to cause serious health, safety, or environmental impacts.
51. **Operational Emergency (OST).** Incidents or conditions that represent an actual or potential release of hazardous materials from an OST shipment, or major security incident without a hazardous materials release. Final confirmation/determination of an OST OE will be made by the OST Operations Duty Officer in conjunction with the OST Emergency Response Duty Officer. The declaration of an OST OE by OST has a significant impact on DOE emergency response and coordination.
 - (1) An attack or other criminal act involving an OST transportation mission that requires the deployment of OST security assets at the emergency scene.
 - (2) Any incident involving an OST transportation shipment containing hazardous materials that causes the initial responders to initiate protective actions at locations beyond the immediate area.
 - (3) Failures in safety or security systems that threaten the integrity of a nuclear weapon, component, or test device.
 - (4) A transportation accident resulting in damage to a nuclear explosive, nuclear explosive-like assembly, or Category I/II quantity of Special Nuclear Material (SNM).
52. **Operations-based Exercises.** Operations-based exercises are characterized by actual response, mobilization of apparatus and resources, and commitment of personnel, usually held over an extended period. Operations-based exercises can be used to validate plans, policies, agreements, and procedures and include *drills, functional*

exercises, and *full-scale exercises*. They can clarify roles and responsibilities, identify gaps in resources needed to implement plans and procedures, and improve individual and team performance.

53. **Proficiency.** Demonstrated skill and competency acquired from training and experience.
54. **Protective Actions.** Actions taken to minimize the consequences of emergencies and to protect the health and safety of workers and the public.
55. **Protective Action Criteria (PAC).** The level of hazardous material impact that, if observed or predicted, indicates action is needed to prevent or limit exposure of people to the hazard. PAC are used for both radiological and non-radiological consequence criteria in DOE facility emergency planning and response.
56. **Protective Action Guides (PAG).** Radiation dose guidelines that trigger protective actions such as evacuation or staying indoors. This Order follows the Environmental Protection Agency-developed Manual of Protective Action Guides (PAG Manual) to help federal, state, and local authorities decide how to protect the public during radiological emergencies.
57. **Protective Action Recommendation (PAR).** Predetermined actions designed to protect the health and safety of the public that are consequence-based decisions (known as protective actions for the lab, plant, or site). DOE laboratories, plants, or sites recommend protective actions to the public and community for Operational Emergencies that have the potential to cause off-site consequences.
58. **Public Information Officer.** A member who serves as the conduit for information to internal and external stakeholders, including the media or other organizations seeking information directly from the incident.
59. **Radiological/Nuclear Assets (RN).** The collective group of capabilities available to provide technical and operational assistance for any type of nuclear or radiological accident or incident. These DOE assets can be deployed to assist in an emergency at any DOE lab, plant, or site, or anywhere domestically or internationally.
60. **Readiness Assurance.** Activities that ensure emergency plans, procedures, and resources are sufficiently maintained, exercised, and evaluated, and appropriate and timely improvements are made when identified. It serves to ensure the readiness and effectiveness of lab, plant, site, or enterprise Emergency Management on a programmatic and performance level while promoting a culture of continuous improvement. It consists of evaluation (self-assessments, exercises, and performance indicators), issues management (corrective action plan and lessons learned), and the ERAP.
61. **Recipient Site.** Any DOE lab, plant, or site, Nuclear Enterprise, Department of Defense, or Materials of National Security Interest transload location that receives or

ships material through the Office of Secure Transportation (OST).

62. **Recovery.** The phase of activity that follows termination of an emergency. The recovery period begins when emergency response is declared terminated, but recovery planning can proceed before the response is declared terminated. The recovery phase continues until the objectives of the recovery effort have been met.
63. **Reentry.** The prioritized actions required to return processes and support functions to operational stability following an incident.
64. **Response.** Activities that address the short-term, direct effects of an incident and include immediate actions to save lives, protect property, critical infrastructure, the environment, achieve incident stabilization, and meet basic human needs.
65. **Senior Response Official.** Federal employee who provides leadership at the incident scene for DOE radiological response assets.
66. **Senior Federal Official (SFO).** A senior management federal personnel, designated by the Field Element Manager/Field Operations Manager, assigned to the EOC in his/her capacity with decision-making authority and responsibilities.
67. **Senior Official.** An individual (senior management level fed or non-fed), designated by the Field Element Emergency Management Team, who serves on the ERO as an emergency manager with decision-making authority and responsibilities.
68. **Severe Incident.** As defined in OE-1:2013-1, *Improving Department of Energy Capabilities for Mitigating Beyond Design Basis Incidents*, any incident considered a Beyond Design Basis expected to cause major disruptions/damage to site-wide and off-site infrastructure, as well as increased risk to on-site personnel, possibly resulting in injuries and fatalities. These incidents could potentially isolate a facility or site from on-site/off-site response assistance and infrastructure support.
69. **Special Nuclear Material (SNM).** As defined in 10 CFR Part 810, *Assistance to Foreign Atomic Energy Activities*, Plutonium, Uranium-233, or Uranium enriched above 0.711 percent by weight in the isotope Uranium-235.
70. **Termination.** The declared conclusion of emergency response activities signaling the onset of the Recovery phase.
71. **Total Effective Dose.** Sum of the effective dose (for external exposures) and the committed effective dose.
72. **Transportation Emergency (OST).** Any accident involving an OST transportation shipment or convoy, in mission status, that cannot be categorized as an OST OE as outlined in DOE O 151.1E but may require response beyond normal operations and local response asset capabilities. No protective action recommendations for nuclear cargo are issued, but due to the duration, location and support needed, implementation

of NIMS/ICS procedures or other response actions may be required to mitigate or resolve the emergency.

73. **Visitor.** An on-site individual who is not an employee, contractor, or subcontractor of the lab, plant, or site.
74. **Walk-Away.** A strategy employed during an emergency as an alternative to a shutdown, whereby a facility is placed in a safe condition requiring no further on-scene operator action, allowing operations personnel to safely leave the facility until a planned reentry can be made.
75. **Worker.** Federal, contractor, or subcontractor employee or visitor performing activities at a DOE laboratory, plant, or site.