

**SUBJECT: COMPREHENSIVE EMERGENCY MANAGEMENT SYSTEM**

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1. **PURPOSE.** To provide the Department of Energy, 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 Homeland Security Presidential Directive (HSPD) 5, which mandates that the Department adopt the National Incident Management System, in support of the National Response Framework. It assigns responsibilities, authorities, and accountabilities to the appropriate levels of Department management, promotes collaboration through consensus based programmatic decision making, and provides policy direction for coordination of these activities within the Department, and with other government and non-government organizations, to ensure efficiency and effectiveness.
  
2. **CANCELLATION.** DOE O 151.1C, *Comprehensive Emergency Management System*, dated 11-02-05 and DOE Manual 151.1-1, *Power Marketing Administration Emergency Management Program*, dated 09-18-08, which was incorporated into this Order. 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contract unless and until the contract or regulatory commitment is modified to either eliminate requirements that are no longer applicable or substitute a new set of requirements.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.** Except for the equivalencies and exemptions in paragraph 3c, the provisions of this Order apply to all Departmental elements.

The Administrator of the National Nuclear Security Administration (NNSA) must assure 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 Secretary of the DOE (Secretary).
  
  - b. **DOE Contractors.**
    - (1) Except for the equivalencies and exemptions in paragraph 3c, the CRD, Attachment 1, sets forth requirements of this Order that will apply to contracts that include the CRD.

- (2) The CRD or its requirements must be inserted in site, facility, and activity management contracts.
- c. Equivalencies and Exemptions. Equivalencies and exemptions to this Order must be processed in accordance with DOE O 251.1C, *Departmental Directives Program*, dated 01-15-09.
- (1) Equivalencies and exemptions to this Order must be documented in memorandum form and posted on the DOE directives website. In cases where an equivalency or exemption is granted, copies of the memorandum must be provided to the Associate Administrator, Office of Emergency Operations for informational purposes and to the Office of Management for posting on the DOE directives website. The memorandum must:
    - (a) briefly and adequately justify the reasons for the equivalency or exemption;
    - (b) reference the office(s), or locality, and requirement(s) for which the equivalency or exemption is sought;
    - (c) have the concurrence of the Field Element Manager and the Program Secretarial Officer;
    - (d) contain the opinion of the Associate Administrator, Office of Emergency Operations regarding the proposed equivalency or exemption; and
    - (e) have the final disposition of the proposed equivalency or exemption made by the Program Secretarial Officer or their designee.
  - (2) Equivalency. In accordance with the responsibilities and authorities assigned by Executive Order 12344, *Naval Nuclear Propulsion Program*, codified at 50 USC Section 2406, *Deputy Administrator for Naval Reactors* and 50 USC Section 2511, *Naval Nuclear Propulsion Program* and to ensure consistency throughout the joint Navy/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.
  - (3) 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 the *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.

- (4) Exemption. This Order does not apply to transportation activities that are regulated by the U.S. Department of Transportation.
- (5) Exemption. Power Marketing Agencies (PMAs) are to comply with Appendix B, “Power Marketing Administration Emergency Management Program,” and are exempt from all other sections of this order.

#### 4. REQUIREMENTS.

##### a. General.

- (1) Each DOE location, including secure transportation activities, administrative offices in the field, and headquarters offices, must develop and participate in an integrated and comprehensive Emergency Management System to ensure that –
  - (a) the Department can respond effectively and efficiently to all Operational Emergencies and Energy Emergencies and can provide Emergency Assistance so that appropriate response measures are taken to protect the worker, 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, and notifications are made in a timely manner; and; and
  - (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 site, facility, and activity must establish and maintain a documented emergency management program that implements the requirements of applicable Federal, State, and local laws, regulations, and ordinances for fundamental worker safety programs (e.g., fire, safety, and security). See Attachment 3, “Emergency Management Core Program.
- (3) The Headquarters Emergency Operations Center must serve as the point of contact for all incidents, events, emergencies, emergency notifications and reports. Accordingly, the Headquarters Emergency Operations Center will receive, coordinate, validate, and disseminate emergency information to headquarters elements, Program Offices, and Program Office emergency points of contact, Field Elements, the White House Situation Room, other

Federal, State, local and Tribal agencies, and, as appropriate, nongovernment organizations.

- b. Attachment 3, Emergency Management Core Program. Each DOE site, facility, and activity must establish and maintain an emergency management program that complies with the Emergency Management Core Program requirements.
  - c. Attachment 4, Emergency Management Hazardous Materials Program. Each DOE site, facility, and activity containing hazardous materials, which were not screened out by the hazardous materials screening process in Attachment 3, will establish and maintain an Emergency Management Hazardous Materials Program.
  - d. Attachment 5, Secure Transportation Program. Each element of the NNSA Office of Secure Transportation will establish and maintain an emergency management program that complies with this attachment.
  - e. Attachment 6, Energy Emergency Response Support. This attachment details planning, preparedness, and response actions the Department will take to fulfill its responsibilities to provide analysis and recommendations for mitigating potential energy supply crises, economic impacts, widespread energy distribution interruptions, fossil fuel distribution, and energy infrastructure recovery advice. The Department also recognizes that assistance may be required in support of a Presidentially-declared emergency invoking the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), as amended, and implemented through the National Response Framework, whereby Departmental resources are deployed in support of Federal interagency plans; international agreements; Presidential direction; and State, local, and Tribal agreements of mutual aid.
5. RESPONSIBILITIES. See Appendix A.
  6. IMPLEMENTATION.
    - a. Full compliance with this Order, including the appendices and attachments, must be accomplished within one (1) year of the issuance date.
    - b. Full compliance with subsequent changes and revisions, including the appendices and attachments, must be accomplished within one (1) year of the issuance date of the change or revision.
    - c. If compliance cannot be accomplished within one (1) year, an implementation schedule must be submitted to the Associate Administrator, Office of Emergency Operations, through the appropriate Program Secretarial Officer, prior to the deadlines stated in 6.a and 6.b.
  7. REFERENCES.
    - a. Title 31 USC 1115, Federal Government Agency Performance Plans.

- b. Title 31 USC 1116, Agency Performance Reporting.
- c. Title 42 USC 300, Health Insurance Portability and Accountability Act.
- d. Title 42 USC 552a, Privacy Act.
- e. Title 50 USC 2406, Deputy Administrator for Naval Reactors.
- f. Title 50 USC 2511, Naval Nuclear Propulsion Program.
- g. Title 7 CFR Part 331, "Possession, Use and Transfer of Select Agents and Toxins."
- h. Title 9 CFR Part 121, "Possession, Use and Transfer of Select Agents and Toxins."
- i. Title 10 CFR Parts 205.350-353, "Report of Major Electric Utility Systems Emergencies."
- j. Title 10 CFR Part 830, "Nuclear Safety Management."
- k. Title 10 CFR Part 835, "Occupational Radiation Protection."
- l. Title 10 CFR Part 851, "Worker Safety and Health Program."
- m. Title 29 Part 1910.38, "Emergency Action Plans"
- n. Title 29 CFR Part 1910.120, "Hazardous Waste Operations and Emergency Response."
- o. Title 29 CFR Part 1910.151, "Medical Services and First Aid."
- p. Title 29 CFR Part 1910.1200, "Hazard Communication."
- q. Title 36 CFR Part 1236, "Electronic Records Management."
- r. Title 40 CFR Part 300, "National Oil and Hazardous Substances Pollution Contingency Plan."
- s. Title 40 CFR Part 302, "Designation, Reportable Quantities, and Notification."
- 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. CPG-201, Threat and Hazard Identification and Risk Assessment Guide, Comprehensive Preparedness Guide, dated August 2013.
- x. DOE Energy Facilities Contractor Group (EFCOG), Electrical Severity Measurement Tool, Revision 3, October 2012.
- y. DOE G 151.1-1A, *Emergency Management Fundamentals and the Operations Emergency Base Program*, dated 07-11-07.
- z. DOE G 420.1-1A, *Nonreactor Nuclear Safety Design Guide for Use with DOE O 420.1C, Facility Safety*, dated 12-04-2012.
- aa. DOE-HDBK-1216-2015, *Environmental Radiological Effluent Monitoring and Environmental Surveillance*, [no dated listed on document].
- bb. DOE O 153.1, *Departmental Radiological Emergency Response Assets*, dated 06-27-07.
- cc. DOE O 210.2A, *DOE Corporate Operating Experience Program*, dated 04-08-11.
- dd. DOE O 225.1B, *Accident Investigations*, dated 03-04-11.
- ee. DOE O 226.1B, *Implementation of Department of Energy Oversight Policy*, dated 04-25-11.
- ff. DOE O 227.1A, *Independent Oversight Program*, dated 12-21-15.
- gg. DOE O 232.2, Administrative Change 1, *Occurrence Reporting and Processing of Operations Information*, dated 083-12-14.
- hh. DOE O 243.1B, Administrative Change 1, *Records Management Program*, dated 7-8-2013.
- ii. DOE O 251.1C, *Department Directives Program*, dated 01-15-09.
- jj. DOE O 413.3B, Administrative Change 1, *Program and Project Management for the Acquisition of Capital Assets*, dated 11-29-10.
- kk. DOE O 414.1D, Change 1, *Quality Assurance*, dated 05-08-13.
- ll. DOE O 420.1C, Administrative Change 1, *Facility Safety*, dated 02-27-15.
- mm. DOE O 420.2C, *Safety of Accelerator Facilities*, dated 07-21-11.
- nn. DOE Guide 421.1-2A, *Implementation Guide for Use in Developing Documented Safety Analysis to meet Subpart B of 10 CFR 830*, dated 12-19-11.
- oo. DOE O 422.1, Administrative Change 2, *Conduct of Operations*, dated 12-03-14.

- pp. DOE O 440.1B, *Administrative Change 2, Worker Protection Program for DOE (including the National Nuclear Security Administration) Federal Employees*, dated 04-17-07.
- qq. DOE O 458.1, *Administrative Change 3, Radiation Protection of the Public and the Environment*, dated 01-15-13.
- rr. DOE O 460.1C, *Packaging and Transportation Safety*, dated 05-14-10.
- ss. DOE O 461.1B, *Packaging and Transportation for Offsite Shipment of Materials of National Security Interest*, dated 12-20-10.
- tt. DOE O 470.4B, *Administrative Change 1, Safeguards and Security Program*, dated 07-21-11.
- uu. DOE-STD-1027-92, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Security Analysis Reports*, dated 12-12-97
- vv. DOE-STD-1066-2012, *Fire Protection*, dated 12-05-12.
- ww. DOE-STD-1098-2008, *Change Notice 1, Radiological Control*, dated October 2008, *Change Notice 1*, dated May 2009.
- xx. DOE-STD-1189-2008, *Integration of Safety into the Design Process*, 06-7-07.
- yy. DOE-STD-1197-2011, *Occurrence Reporting Causal Analysis*, dated September 2011.
- zz. DOE-STD-1212-2012, *Explosives Safety*, dated 06-25-12.
- aaa. DOE-STD-3009-2014, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis*, dated 11-12-14.
- bbb. DOE-STD-7501-99, *The DOE Corporate Lessons Learned Program*, dated December 1999.
- ccc. Executive Order 12148, *Federal Emergency Management*, dated 07-20-79, as amended.
- ddd. Executive Order 12333, *United States Intelligence Activities*, dated 12-04-81.
- eee. Executive Order 12344, *Naval Nuclear Propulsion Program*, dated 02-01-82.
- fff. Executive Order 12472, *Assignment of National Security and Emergency Preparedness Telecommunications Functions*, dated 04-03-84, as amended.

- ggg. Executive Order 12656, Assignment of Emergency Preparedness Responsibilities, dated 11-18-88, as amended.
- hhh. Executive Order 13286, Amendment of Executive Orders, and Other Actions, in Connection With the Transfer of Certain Functions to the Secretary of Homeland Security, dated 02-28-03.
- iii. Homeland Security Presidential Directive (HSPD) 5, Management of Domestic Incidents, dated 02-28-03.
- jjj. LA-12846-MS, Specific Activities and DOE-STD-1027-92 Hazard Category 2 Thresholds, LANL Fact Sheet, dated November 1994.
- kkk. LA-12981-MS, Table of DOE-STD-1017-92 Hazard Category 3 Threshold Quantities for the ICRP-30 List of 757 Radionuclides, Los Alamos National Laboratory (LANL) Fact Sheet, dated October 2002.
- lll. NA-1 SD G 1027, Change Notice 1, on Using Release Fraction and Modern Dosimetry Information Consistently with DOE STD 1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports, dated 11-28-11.
- mmm. National Fire Protection Association (NFPA) Fire Protection Handbook, Twentieth Edition, 2008.
- nnn. National Fire Protections Association, 101, Life Safety Code, dated 2015
- ooo. NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, dated 2013
- ppp. National Nuclear Security Administration Supplemental Directive 470.4-1, Defense Nuclear Security Federal Oversight Process, dated 09-03-14.
- qqq. National Response Framework, Department of Homeland Security, dated 03-19-15.
- rrr. National Infrastructure Protection Plan, Department of Homeland Security, 2013.
- sss. Presidential Policy Directive 8, National Preparedness, dated 03-30-11.
- ttt. Presidential Policy Directive 21, Critical Infrastructure Security and Resilience, dated 02-12-13.
- uuu. P.L. 93-288, Robert T. Stafford Disaster Relief and Emergency Assistance Act
- vvv. P.L. 80-253, The National Security Act of 1947, dated 07-26-47, as amended.



www. P.L. 104-191, Health Insurance Portability and Accountability Act of 1996, dated 08-21-96.

xxx. P.L. 106-65, National Defense Authorization Act for Fiscal Year 2000, dated 10-05-99.

yyy. P.L. 107-296, The Homeland Security Act of 2002, dated 11-25-02.

zzz. 50 U.S.C. 2782a

8. DEFINITIONS. See Attachment 2.

9. CONTACT. For assistance regarding this Order, contact the Associate Administrator, Office of Emergency Operations, at 202-586-9892.

BY ORDER OF THE SECRETARY OF ENERGY:



ELIZABETH SHERWOOD-RANDALL  
Deputy Secretary



## **RESPONSIBILITIES**

1. DEPUTY SECRETARY, DEPARTMENT OF ENERGY. Serves as the senior Departmental emergency management official; issues, in consultation with the Secretary, emergency management policy and requirements directives; and delegates responsibility and authority as appropriate; establishes, charters, administers, convenes, and chairs the Emergency and Incident Management Council.
2. UNDER SECRETARY FOR MANAGEMENT AND PERFORMANCE. Responsible for the line management and implementation of emergency management programs in accordance with the requirements of this order, including development of procedures and guidance on how to apply the requirements of this order, its appendices and attachments at respective facilities and sites.
3. DIRECTOR, HEADQUARTERS OFFICE OF MANAGEMENT. Develops and maintains the Headquarters Emergency Program and necessary plans and implementing procedures.
4. UNDER SECRETARY FOR SCIENCE AND ENERGY. Responsible for the line management and implementation of emergency management programs in accordance with the requirements of this order, including development of procedures and guidance on how to apply the requirements of this order, its appendices and attachments at respective facilities and sites.
5. ADMINISTRATOR, NATIONAL NUCLEAR SECURITY ADMINISTRATION. Serves as the National Nuclear Security Administration (NNSA) senior emergency management program official, and delegates programmatic responsibility and authority as appropriate. Responsible for the line management and implementation of emergency management programs in accordance with the requirements of this order, including development of procedures and guidance on how to apply the requirements of this order, its appendices and attachments at respective facilities and sites.
6. ASSOCIATE ADMINISTRATOR, OFFICE OF EMERGENCY OPERATIONS, NNSA. Serves as the Department's Office of Primary Interest for emergency management program activities, excluding Energy Emergencies as specified in Attachment 6.
  - a. Manages, directs, coordinates, and approves the activities, including administrative functions, of the various organization units in the Office of Emergency Operations, NNSA.
  - b. Recommends to the Secretary, through the Administrator, NNSA, directives and communications, and develop policy options for the Secretary's consideration on matters within delegated authority.
  - c. Maintains operational awareness of the Department's emergency management program 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 for consideration and action as appropriate. For Defense Nuclear Facilities, verify program performance measures at each organizational level include specific emergency management oversight objectives, areas of attention, and defined assessment frequencies.

- d. In coordination with the Under Secretaries and Program Secretarial Officers, provides, through the Administrator, NNSA, an annual status report on Departmental readiness assurance to the Secretary.
- e. Oversees coordination, including communication systems and protocols, of all DOE emergency management related activities, including intra- and inter- Departmental and international activities.
- f. Prepares, manages, and approves interpretations, instructions, and guidance on matters within delegated authority for use by Department elements and contractors.
- g. 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.
- h. Disseminates information, as appropriate, to the Secretary, the Administrator, NNSA, Under Secretaries, DOE elements, other government agencies, contractors, and the public.
- i. Ensures the Secretary, the Administrator, NNSA, Under Secretaries, Program Secretarial Officers, and the field and site managers are kept fully and currently informed about emergency management matters that affect their responsibilities.
- j. Subject to appropriate coordination with relevant offices, enters into, extends, modifies and terminates agreements to which the Office of Emergency Operations, NNSA is a signatory with Federal, State, Tribal and local agencies.
- k. Subject to appropriate coordination with relevant offices, ensures adequate resources are available in the Office of Emergency Operations, NNSA to effectively execute the Department's emergency management program.
- l. Promotes the Department's emergency management safety culture efforts.
- m. Performs functions as required, and in accordance with, applicable law, statute, or regulation.
- n. Establishes, charters, administers, convenes, and chairs the Emergency Management Advisory Committee.

- o. Administers and manages the Emergency Management Enterprise, Headquarters Emergency Operations Center, and Headquarters Emergency Management Team, and serves as the emergency manager for initial activations of the team.
- p. In coordination with the relevant offices, develops and maintains the DOE Enterprise Threat and Hazard Risk Profile.

7. ASSOCIATE ADMINISTRATOR, OFFICE OF COUNTERTERRORISM AND COUNTERPROLIFERATION, NNSA.

- a. Manages, directs, coordinates, and approves the activities, including administrative functions, of the various organization units in the Office of Counterterrorism and Counterproliferation, NNSA.
- b. Administers and manages the Department's Radiological Emergency Response (RER) assets, in accordance with DOE O. 153.1, *Departmental Radiological Emergency Response Assets*, for the both the Crisis Response (e.g., nuclear threat device assessment) and Consequence Management phases of a nuclear/radiological incident or accident.
- c. Provides a liaison officer to the Secretary of the Department of Homeland Security, or designee, to assist with incident management during a Department of Homeland Security deployment of the nuclear/radiological response assets.
- d. The deployed Senior Energy Official must coordinate RER asset activities with the responsible Field Element Manager (FEM). The FEM retains responsibility for management of the incident/accident in accordance with section 10 of Appendix A.
- e. Coordinates, emergency response asset planning and support provided to Field Elements, other Federal agencies, or to State, local, or tribal governments, to ensure a cohesive Departmental response in the event of a nuclear/radiological emergency.
- f. Provides Headquarters level programmatic management, direction, and operational integration of the emergency response assets, and serves as the Headquarters point-of-contact for external inquiries regarding the nuclear/radiological emergency response assets.
- g. Ensures the interoperability and integrated field response of the emergency response assets, through the development and maintenance of a Concept of Operations and Operations Plans.
- h. Designates the Senior Energy Official for nuclear weapon accidents that occur while the nuclear weapon is in DOE or Department of Defense custody.

- i. Keeps the Associate Administrator, Office of Emergency Operations, apprised of deployments and on-scene situations where NNSA nuclear incident response assets are deployed.
  - j. Ensures the Secretary, the Administrator, NNSA, Under Secretaries, Program Secretarial Officers, and Associate Administrator for Emergency Operations and the field and site managers are kept fully and currently informed about counterterrorism and counterproliferation matters that affect their responsibilities.
8. ASSISTANT DEPUTY ADMINISTRATOR, OFFICE OF SECURE TRANSPORTATION, NNSA. Acts for the Deputy Administrator to coordinate and manage the Transportation Safeguards System for the safe and secure movement of nuclear weapons and government-owned Special Nuclear Material
9. PROGRAM SECRETARIAL OFFICERS.
  - a. Ensure implementation of emergency management policy and requirements and maintain programs and systems consistent with policy and requirements.
  - b. Ensure that resources for sites, facilities and activities, including transportation activities, are adequate for the effective implementation and maintenance of emergency management programs, emergency response assets and capabilities.
  - c. Coordinate with the responsible Under Secretary and the Associate Administrator, Office of Emergency Operations, for applicable emergency management activities.
  - d. Designate a round-the-clock single point of contact to receive notifications from the Headquarters Watch Office and make further internal notifications within their Office. Provide specialized technical representatives and subject matter experts when a Headquarters Emergency Management Team is convened.
  - e. Coordinate with the Director of Public Affairs and the Associate Administrator, Office of Emergency Operations, to provide for the handling and control of information for emergency situations.
  - f. Assign a senior office representative for the Emergency and Incident Management Council and the Emergency Management Advisory Committee.
  - g. Ensures the Secretary, the Administrator, NNSA, Associate Administrator for Emergency Operations and the field and site managers are kept fully and currently informed about matters that affect their responsibilities.
10. FIELD ELEMENT MANAGERS.
  - a. Implement emergency management policy and requirements and maintain programs and systems consistent with policy and requirements. Field Element Managers may delegate individual approval in accordance with Contractor

Assurance Systems with appropriate oversight. Any delegations must be formally documented with notification to the Associate Administrator, Office of Emergency Operations.

- b. Review and approve site, facility, and activity emergency management plans, including updates.
- c. Review and approve site, facility, and activity All-Hazards Surveys.
- d. Review and approve site, facility, and activity Emergency Planning Hazards Assessments (EPHAs).
- e. Review and approve site, facility, and activity-level consolidated and integrated Emergency Planning Zones.
- f. Ensure appropriate performance measures of the effectiveness of contractor site, facility, and activity emergency management programs are incorporated into contractual arrangements.
  - (1) Assess the Field Element emergency management program annually and document the results of the self-assessment in the Field Element portion of the Emergency Readiness Assurance Plan (ERAP).
  - (2) Assess the site, facility, and activity emergency management program(s).
  - (3) Review site, facility, and activity self-assessment reports.
  - (4) Review and approve the annual site, facility, and activity exercise plan.
  - (5) Review and approve site, facility, and activity Corrective Action Plans for external findings identified during evaluations, assessments, drills, exercises, and actual emergencies. Based on site, facility, and activity performance, periodically review Corrective Action Programs for internal findings to ensure programmatic effectiveness.
  - (6) Review and approve the annual site, facility, and activity ERAPs; prepare the Field Element annual ERAP; and submit the ERAP by November 30 each year to the Associate Administrator, Office of Emergency Operations, for inclusion into the annual report on the status of the Emergency Management System and the DOE Enterprise Threat and Hazard Risk Profile.
- g. Coordinate with the Program Secretarial Officer(s) to ensure resources are available to implement this Order for cognizant sites, facilities, and activities.
- h. Ensure development and implementation of appropriate emergency management procedures.

- i. Ensure emergency public information planning is integrated with the development and maintenance of emergency management plans.
- j. Ensure effective communication systems and protocols are coordinated and maintained with the Headquarters Emergency Operations Center regarding emergencies involving and/or affecting sites, facilities, and activities or materials under DOE jurisdiction or requiring DOE assistance.
- k. Where applicable, pre-designate a DOE employee as the On Scene Coordinator when DOE is the lead agency for Federal responses under the 40 Code of Federal Regulations (CFR) Part 300, *National Oil and Hazardous Substances Pollution Contingency Plan* or its replacement.
- l. Where applicable, pre-designate a DOE employee to respond to and exercise federal decision making authority for each site, facility, and activity in the event of an Operational Emergency.
- m. Participate in the development and implementation of mutual assistance agreements with State, Tribal, and local authorities.
- n. Ensure Field Element personnel and site, facility, and activity personnel participate in a continuing emergency preparedness program of training, drills, and exercises.
- o. During an emergency, conduct appropriate and necessary emergency actions in accordance with approved plans and implementing procedures.
- p. Implement corrective actions and lessons learned from actual emergency responses and based on findings from evaluations, assessments, and appraisals.
- q. For Emergency Management Hazardous Materials Programs, establish and maintain a field office Emergency Operations Center to support emergencies if the field office is not collocated with the site, facility, or activity. To maintain continuous operations, an alternate Emergency Operations Center (EOC) must be identified.
- r. Assign senior Field Element representatives to the Emergency Management Advisory Committee.
- s. Identify a senior official who serves as an emergency manager with decision-making authority and responsibilities. This individual must be supported by personnel with communications, technical liaison, and public affairs expertise.
- t. Effectively integrate the activities of leased facilities and Nuclear Regulatory Commission licensed facilities into the DOE site-wide emergency management program. These DOE-owned leased facilities within a DOE Site must comply with applicable requirements of 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 or when inventories change.

- u. Ensures that the responsible Program Secretarial Officer, and the Associate Administrator for Emergency Operations are kept informed about matters that affect their responsibilities. Make available, upon request, emergency management documentation to the Associate Administrator, Office of Emergency Operations.
11. DIRECTOR, HEADQUARTERS OFFICE OF PUBLIC AFFAIRS. In coordination with the NNSA Associate Administrator for Public Affairs, 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, Office of Emergency Operations
  12. INITIATORS OF PROCUREMENT REQUESTS. Specify in procurement requests whether the requirements in the Contractor Requirements Document for this Order are to be applied to the award or sub-award resulting from the procurement request.
  13. CONTRACTING OFFICER. Will ensure that the Contractor Requirements Document (CRD) is incorporated into site, facility, and activity management contracts in accordance with the laws, regulations and DOE directives clause, through negotiation or modification, as appropriate



## **POWER MARKETING ADMINISTRATION EMERGENCY MANAGEMENT PROGRAM**

1. PURPOSE. This Appendix establishes emergency management policy and requirements for emergency planning, preparedness, readiness assurance, and response for the Department of Energy (DOE) Power Marketing Administrations (PMAs). This Appendix 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 Office of Emergency Operations within the National Nuclear Security Administration (NNSA) and the 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 paragraph 3a, all other DOE elements are excluded.
3. REQUIREMENTS.
  - a. Background.
    - (1) PMAs operate and maintain electric power transmission systems and market electric power in 37 states. The Bonneville, Southwestern, and Western Area Power Administrations operate and maintain electrical transmission facilities. The Southeastern Power Administration has only power marketing responsibilities.
    - (2) PMAs provide wholesale electrical power in coordination with the North American Electric Reliability Council (NERC) and the appropriate regional councils within NERC.
    - (3) PMAs have unique requirements because their primary energy infrastructure mission is different from other DOE facilities.
    - (4) PMAs respond to Operational Emergencies and Energy Emergencies and provide Emergency Assistance. Operational Emergencies include natural phenomena (e.g., earthquakes, tornadoes), wild land fires, and other serious events involving or affecting the facility or having potential to have serious impacts on health and safety, electric reliability, the

environment, safeguards, and security. Energy Emergencies include all actions taken to ensure the balance generation and load to ensure reliability of the electric interconnection. This impacts continuity of PMA business objectives and operations. Emergency Assistance includes PMA offers of resources to support other electric utilities, a State or local authority or other government agencies in emergency response.

b. All-Hazards Survey/Hazards Assessment.

- (1) All-Hazards Survey. See Attachment 3, Emergency Management Core Program.
- (2) Emergency Planning Hazards Assessment. See Attachment 4, Emergency Management Hazardous Materials Program.

c. Program Administration.

- (1) An individual must be designated to ensure the development and maintenance of the emergency plan and procedures, development of the emergency readiness assurance plan (ERAP), development and conduct of training and exercise programs, coordination of self-assessment activities, development of related facility documentation, and coordination of facility emergency resources.
- (2) The emergency plan must document the emergency management program, including provisions for response to an Operational Emergency.
- (3) Emergency plan implementing procedures must describe how emergency plans will be implemented.
- (4) 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; and
  - (c) integrated with DOE and site security conditions (SECON) response plans and procedures.
- (5) An Emergency Operating Records Protection Program must be established to ensure that vital records, regardless of media, essential to the continued functioning or reconstitution of an organization during and after an emergency, are available, per 36 CFR Part 1236, *Electronic Records Management*.

d. Training and Drills.

- (1) Training must be provided to all onsite workers who may be required to take protective actions (e.g., assembly, evacuation). This training is required upon initial employment. Refresher training must be provided when plans, procedures, systems/equipment, or their expected protective actions change. Refresher training must also be provided annually to those workers who are likely to witness a hazardous material release and who are required to notify proper authorities of the release.
- (2) Emergency-related information and training on facility-, activity-, and site-specific conditions and hazards must be offered to offsite emergency response personnel and organizations, including hospitals, that are expected to support onsite response efforts.

e. Exercises.

- (1) At a minimum, each site/facility must conduct building evacuation exercises consistent with Federal regulations (e.g., 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) For each facility or activity, the organization responsible for communications with DOE Headquarters and/or offsite agencies must test communications systems annually or as often as needed to ensure that communications systems are operational.

f. Readiness Assurance.

- (1) Self-Assessment. Each PMA must assess its emergency management program annually and record the results of the self-assessment in the ERAP.
- (2) Corrective Actions. Continuous improvement in the emergency management program results from implementation of corrective actions for findings (e.g., deficiencies) in all types of evaluations, including both internal and external evaluations.
  - (a) Corrective action plans for external evaluations must be developed within 30 working days of receipt of the final evaluation report.
  - (b) Corrective actions must be completed as soon as possible.

- (c) Corrective actions addressing revision of procedures or training of personnel should be completed before the next annual self-assessment of the program.
    - (d) 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 finding.
  - (3) Lessons Learned. 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.
  - (4) Emergency Readiness Assurance Plan. Each PMA must prepare and submit an ERAP, summarizing its programs, to the Associate Administrator, Office of Emergency Operations, by November 30 of each year. This report must identify what the goals were for the fiscal year that ended and the degree to which these goals were accomplished. This report must also identify the goals for the next fiscal year.
- g. Emergency Response Organization. An individual (e.g., building or facility manager or similar position) must be assigned and trained to manage and control all aspects of the facility/activity response.
- h. Offsite Response Interfaces. If applicable, prior to and during emergencies, coordination must be maintained with State, Tribal, and local agencies and organizations responsible for offsite emergency response (e.g., “911” emergencies) and for protection of public health and safety.
- i. Emergency Categorization and Classification.
  - (1) Facility-specific criteria/means/indicators to recognize abnormal events or conditions as Operational Emergencies must be developed. The definition of an Operational Emergency is found in Attachment 3. Specific criteria must be developed for the spectrum of emergency conditions identified in the All-Hazards Survey or the Emergency Planning Hazards Assessment, if necessary.
  - (2) An event must be categorized as an Operational Emergency as promptly as possible, but no later than 15 minutes after event recognition.
  - (3) In addition to Operational Emergencies, PMAs must categorize electrical emergencies as described in 10 CFR Parts 205.350-353, *Report of Major Electric Utility Emergencies*.

j. Notifications and Communications.

- (1) Notifications for electrical emergencies must be conducted in accordance with 10 CFR Parts 205.350-353, *Report of Major Electric Utility Emergencies* and applicable DOE Orders and Manuals.
- (2) Each facility and activity must establish procedures for prompt initial notification of other Operational Emergencies to workers, emergency response personnel, and response organizations, including, as appropriate, other DOE elements and other Federal, tribal, State, and local organizations. Provisions must also be established for continuing effective communication among response organizations throughout an emergency.
  - (a) The PMA must notify DOE Headquarters Watch Office as promptly as possible but no more than 30 minutes after an event has been categorized as an operational emergency.
  - (b) As appropriate, other applicable Federal, Tribal, State, and local organizations must be notified as promptly as possible, but no more than 30 minutes after an event has been categorized as an Operational Emergency or within an interval established in mutual agreements.
  - (c) At a minimum, notification of other Operational Emergencies to the Headquarters Watch Office must consist of a phone call providing as much information as is known at the time. The same information must be provided by e-mail or a fax either immediately prior to or following the phone call. Information for initial notification includes as much as possible of the following:
    - 1 description of the emergency;
    - 2 date and time the emergency was discovered;
    - 3 damage and casualties;
    - 4 whether the emergency has stopped other facility/site operations or program activities;
    - 5 protective actions taken and/or recommended;
    - 6 potential impacts;
    - 7 agencies involved;
    - 8 level of public/media attention; and
    - 9 contact information of the DOE on-scene point of contact.

- (3) Emergency status updates/situation reports must be forwarded to the DOE Headquarters Watch Office on a continuing basis until the emergency is terminated.
  - (4) Following termination of emergency response, and in conjunction with the Final Occurrence Report (see DOE O 232.2, Administrative Change 1, *Occurrence Reporting and Processing of Operations Information*), each activated Emergency Management Team must submit a final report on the emergency response to the Emergency Manager for submission to the Associate Administrator, Office of Emergency Operations.
  - (5) Reporting requirements must be specified during recovery planning.
  - (6) All reports and releases must be reviewed for proprietary information and marked appropriately.
- k. Consequence Assessment. Provisions must be in place to determine the impact of other operational emergencies on workers at PMA facilities.
- l. Protective Actions and Reentry.
- (1) Plans must be developed for the timely evacuation and/or sheltering of onsite personnel, along with provisions to account for employees after emergency evacuation has been completed.
  - (2) In the event of a facility emergency evacuation, accountability actions must be continued to support ongoing search and rescue activities.
  - (3) Provisions must be in place to protect workers involved in response and cleanup covered by 29 CFR Part 1910.120, *Hazardous Waste Operations and Emergency Response*.
  - (4) Reentry planning must include contingency planning to ensure the safety of reentry personnel, such as planning for the rescue of reentry teams. All individuals involved in reentry must receive a hazards/safety briefing before emergency response activities consistent with Federal, Tribal, State, and local laws and regulations.
- m. Emergency Medical Support. Provisions for response to emergency medical situations and medical treatment of injured personnel must be implemented, as required by 29 CFR Part 1910.151, *Medical Services and First Aid*. In addition, planning for mass casualty situations must be conducted in accordance with DOE O 440.1B, Administrative Change 2, *Worker Protection Program for DOE (including the National Nuclear Security Administration) Federal Employees* and 10 CFR Part 851, *Worker Safety and Health Program*. Sharing patient information between onsite and offsite health care providers during emergencies must be coordinated in advance and consistent with the requirements of P.L.



104-191 *Health Insurance Portability and Accountability Act of 1996*, and the Privacy Act, 42 U.S.C. Sec. 552a.

n. 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 emergencies and 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 Headquarters Emergency Operations Center Public Affairs Watch Officer or the DOE Director of Public Affairs, unless approval is delegated by Headquarters to the PMA.

o. Emergency Facilities and Equipment/Systems. Facilities and equipment must be adequate to support emergency response, including the capability to notify employees of an emergency and to facilitate their safe evacuation from work areas.

p. Termination and Recovery.

- (1) Predetermined criteria for terminating emergencies must be established/developed, and the termination must be coordinated with offsite agencies.
- (2) Recovery must include notifications about the termination and establishment of criteria for resumption of normal operations.
- (3) The facility and the accident investigation team must coordinate or integrate their activities to facilitate an orderly transition of responsibilities for the emergency scene. [DOE O 225.1B, *Accident Investigations*].

q. Implementation.

- (1) Full compliance with the requirements of this Appendix must be accomplished within 1 year of its issuance.
- (2) If compliance is not or cannot be completed within 1 year from issuance of this Manual, an implementation schedule must be developed by the PMA and submitted to the Associate Administrator, Office of Emergency Operations.

- (3) Non-mandatory implementation guidance for DOE O 151.1D and this Appendix is published separately in the multi-volume DOE G 151.1-1 series of Emergency Management Guides (or replacements). The DOE G 151.1-1 series provides non-mandatory, supplemental information about preferred methods for implementing requirements, including lessons learned, suggested practices, instructions, and suggested performance measures.

r. Exemptions.

- (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 may be requested.
- (2) Requests for exemptions from the requirements of this Appendix, including specific program element requirements, must include the basis for the request and describe and justify alternatives equivalent to or exceeding this Appendix.
- (3) Requests for exemptions are jointly approved by the PMA Administrator and the Associate Administrator, Office of Emergency Operations, with conflicts resolved by the Deputy Secretary or designated Departmental Chief Operating Officer.
- (4) Each PMA Administrator defines “facility” for the purpose of implementing this Appendix. PMAs may group activities and operations for certain requirements as suits their organizational needs without requesting an exemption.

4. RESPONSIBILITIES.

a. Deputy Secretary or Designated Chief Operating Officer.

- (1) Resolves conflicts when requests for exemptions from the requirements of this Appendix are not agreed to between the PMA and the Associate Administrator, Office of Emergency Operations.
- (2) Other responsibilities are listed in Appendix A.

b. Associate Administrator, Office of Emergency Operations.

- (1) Serves as the primary point of contact for the overall emergency planning and operations activities and termination of emergency responses.
- (2) In coordination with each PMA Administrator, approves requests for exemptions from the requirements of this Manual.

(3) Other responsibilities are listed in Appendix A.

c. PMA Administrators.

- (1) Due to each PMA's unique enabling legislation and scope of their regional responsibilities, the PMA Administrators are responsible for the development, approval, implementation and management of their individual emergency management programs.
- (2) Designate by name, title, or position a person to manage the PMA emergency management program, receive PMA emergency notifications, participate in any Headquarters response, and attend Headquarters Comprehensive Emergency Management System meetings or planning activities that involve, or may involve, PMAs.
- (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, within resource constraints, to Energy Emergencies and Emergency Assistance;
  - (c) are coordinated with the appropriate Departmental elements and, where applicable, with other Federal agencies; Tribal, State, and local governments; and other utilities;
  - (d) provide for a continuing program of emergency management training, drills, and exercises, including participation of employees as required;
  - (e) provide opportunities for participation by appropriate utilities and local, State, and Tribal organizations in such drills and exercises; and
  - (f) are reviewed and updated at least annually.
- (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) Establish a program to ensure that vital records, regardless of media, essential to the continued functioning or reconstitution of an organization during and after an emergency, are available, per 36 CFR Part 1236, *Electronic Records Management*.

- (6) Ensure that supporting mutual assistance agreements are developed with Tribal, State, and local governments and other utilities, where appropriate, and maintained on record.
- (7) Ensure that immediate emergency response is initiated and followed up 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 ERAP.
- (10) Ensure that potential hazards are reviewed and documented for emergency planning purposes.
- (11) In coordination with the Associate Administrator, Office of Emergency Operations, approve requests for exemptions from the requirements of this Appendix.
- (12) DOE Director of Public Affairs and Headquarters Emergency Manager. In accordance with this Appendix as well as the responsibilities in Appendix A, coordinate updates of initial news releases and public statements with the PMAs.

5. REFERENCES.

- a. Title 31 USC 1116, Federal Government Agency Performance Plans.
- b. Title 31 USC 1116, Agency Performance Reporting.
- c. Title 42 USC 300, Health Insurance Portability and Accountability Act.
- d. Title 42 USC 552a, Privacy Act.
- e. Title 10 CFR Part 205.350-353, "Report of Major Electric Utility Emergencies."
- f. Title 10 CFR Part 851, "Worker Safety and Health Program."
- g. Title 29 CFR Part 1910.120, "Hazardous Waste Operations and Emergency Response."
- h. Title 29 CFR Part 1910.151, "Medical Services and First Aid."
- i. Title 36 CFR Part 1236, "Electronic Records Management."
- j. Title 41 CFR Part 102-74.360, "What are the Specific Accident and Fire Prevention Responsibilities of Occupant Agencies?"

- k. DOE O 225.1B, *Accident Investigations*, dated 03-04-11.
- l. DOE O 232.2, Administrative Change 1, *Occurrence Reporting and Processing of Operations Information*, dated 08-30-11.
- m. DOE O 440.1B, Administrative Change 2, *Worker Protection Management for DOE (Including the National Nuclear Security Administration) Federal and Contractor Employees*, dated 04-17-07.



**CONTRACTOR REQUIREMENTS DOCUMENT**  
**DOE O 151.1D *COMPREHENSIVE EMERGENCY MANAGEMENT SYSTEM***

Regardless of the performer of the work, the contractor is responsible for complying with the requirements of this Contractor Requirements Document (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, and local laws, regulations, and ordinances for fundamental worker safety programs (e.g., fire, safety, and security). See Attachment 3, "Emergency Management Core Program."

In addition to the requirements set forth in this CRD, contractors are responsible for complying with applicable Attachments 2, 3, 4, 5, and 6 to DOE O 151.1D referenced in and made part of this CRD and which provide program requirements and/or information 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 the requirements of this order by implementing nationally recognized standards or host institutions applicable standards, with prior approval through the formal equivalency and exemption process; see section 3.c.(1) of this order.





## DEFINITIONS

This Attachment provides information and/or requirements associated with DOE O 151.1D as well as information and/or requirements applicable to contracts in which the associated Contractor Requirements Document (Attachment 1 to DOE O 151.1D) is inserted.

**Active Threat:** An active threat incident is a dynamic, quickly evolving situation involving an individual (or individuals) using deadly physical force, such as firearms, bladed weapons, or a vehicle. An active threat incident typically involves an individual (or individuals) presenting an immediate threat or imminent danger to people by displaying a weapon, having made threats, and/or shown intent to cause harm or perform violence.

**Activity:** A defined assembly of non-stationary equipment, structures, systems, or processes that fulfills a specific purpose (e.g., secure transportation).

**After Action Report:** A report prepared following an exercise or actual event or incident, to document the results of the evaluation to include findings, deficiencies, and opportunities for improvement.

**Alert:** A condition in which an actual or potential substantial degradation in the level of control over hazardous materials exists.

**Annual (such as “annual exercise”):** At the discretion of the site/facility/activity emergency management program manager, and as specified in the emergency management plan, the term “annual” may be defined in terms of one of the following:

- Occurring or recurring once in each calendar year, i.e., between January 1 and December 31 of each year.
- Occurring or recurring once in each fiscal year, i.e., between October 1 of the first year, and September 30 of the following year.
- Occurring or recurring once within a specified, one year time period.

**Assessment:** A review, evaluation, inspection, test, check, surveillance, or audit to determine and document whether items, processes, systems, or services meet specified requirements and perform effectively.

**Compliance:** Conforming to the requirements of DOE O 151.1D, Comprehensive *Emergency Management System* (and, referenced, federal laws and regulations).

**Common Operating Picture (COP):** An overview of an incident that provides consistent incident information, to be used by the Incident Commander/Unified Command and any supporting agencies and organizations.

**Continuity of Operations (COOP):** An effort within individual organizations to ensure that Essential Functions continue to be performed during continuity events, regardless of size of impact.

**Defense Nuclear Facility:**

Defense Nuclear Facility means any of the following:

- (1) A production facility or utilization facility that is under the control or jurisdiction of the Secretary of Energy and that is operated for national security purposes, but the term does not include—
  - (a) 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;
  - (b) any facility or activity involved with the transportation of nuclear explosives or nuclear material;
  - (c) any facility that does not conduct atomic energy defense activities;  
or
  - (d) any facility owned by the United States Enrichment Corporation.
- (2) A nuclear waste storage facility under the control or jurisdiction of the Secretary of Energy, but the term 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.

**Deficiency:** An inadequacy in the implementation of an applicable requirement or performance standard that is found during an appraisal. Deficiencies may serve as the basis for one or more findings.

**Drill:** A coordinated, supervised activity usually employed to train personnel on a specific operation or function. Drills are commonly used to provide training on new equipment, develop or validate new policies or procedures, or practice and maintain current skills.

**Effective:** Successful in producing a desired or intended result as defined by this Order.

**Emergency:** Any incident, whether natural or manmade, that could endanger or adversely affect people, property, or the environment, and that requires responsive action beyond normal operations. An “Operational Emergency” is a term used to categorize a specific type of emergency.

**Emergency Action Level:** A predetermined, site-specific, observable threshold for an initiating condition that, when met or exceeded, places the site in a given emergency categorization with the potential for further classification.

**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.

**Emergency Assistance Plan:** A plan for providing assistance for all activities whereby Departmental resources, emergency response assets, personnel, and/or facilities may be deployed in support of Federal interagency plans; international agreements; Presidential direction; and State, local, or Tribal agreements of mutual aid.

**Emergency Communication System (ECS):** A system for the protection of life by indicating the existence of an emergency situation and communicating information necessary to facilitate an appropriate response and action. Emergency Communication Systems are classified as either one-way or two-way systems.

**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 site/facility/activity. Examples of an ENS include intelligible voice communications, a distributed recipient mass notification system such as text messaging, email, or Reverse 911, and/or common siren systems that are used to alert for tornadoes, tsunamis, and air-raids.

**Emergency Operations Center (EOC):** The physical or identified location at which the coordination of information and resources to support incident management activities normally takes place. An EOC may be a temporary facility, may be located in a more central or permanently established facility, or may be virtual.

**Emergency Operating Records:** Records essential to the continued functioning or reconstitution of an organization during and after an emergency or continuity event.

**Emergency Operations System:** A means of providing centralized collection, validation, analysis and coordination of information related to an emergency. The Emergency Operations System supports on-scene response during an escalating incident.

**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.

**Emergency Planning Zone (EPZ):** A zone identified to facilitate a pre-planned strategy for protective actions during a defined emergency.

**Emergency Readiness Assurance Plan (ERAP):** A documented annual assessment of the development, implementation, and maintenance of an Emergency Management Program. The ERAP is also a planning tool to identify and develop needed resources and improvements. An ERAP highlights significant changes in emergency management programs (i.e., planning basis, organizations, and exemptions) and compares actual achievements to goals, milestones and objectives.

**Emergency Response Organization (ERO):** A structured organization with overall identified responsibilities for initial and ongoing emergency response and mitigation.

**Energy Emergency:** An emergency resulting from an energy supply crises, economic impacts, widespread energy distribution interruptions, and/or energy infrastructure damage.

**Evacuation:** The directed relocation of a population out of a high risk area prior to or during an emergency. The evacuation of a site may be necessary when a hazard, be it natural or manmade, threatens the safety of those within the site.

**Event:** A scheduled nonemergency activity (e.g., weather event, demonstration, change in normal operations, etc.). The Incident Command System can be used as the management system for a wide range of events, e.g., parades, concerts, or sporting events.

**Exercise:** An exercise is a scripted, scenario-based instrument to assess, evaluate and improve performance in prevention, protection, mitigation, response, and recovery capabilities in a risk-free environment. Exercises can be used for testing and validating policies, plans, procedures, training, equipment, and interagency agreements; clarifying and training personnel in roles and responsibilities; improving interagency coordination and communications; improving individual performance; identifying gaps in resources; and identifying opportunities for improvement. An exercise can be discussion-based (examples include seminars, workshops, tabletop exercise, and games), or operations-based.

**Findings:** Findings are deficiencies that warrant a high level of attention on the part of management. If left uncorrected, findings could adversely affect the DOE mission, the environment, worker safety or health, the public or national security. Findings define the specific nature of the deficiency, whether it is localized or indicative of a systemic problem, and identify which organization is responsible for corrective actions.

**Full Participation Exercise (FPE):** Exercises similar to a Full-Scale Exercise except that offsite elements have agreed to participate in the full-scale exercise. Participation may include local and state response agencies or operations centers, Headquarters, local hospitals, Department of Defense partners, and other designated offsite partners. The FPE is designed to test the interface with offsite mutual-aid partners and other organizations that supplement or support response efforts.

**Full-scale Exercise (FSE):** The most complex and resource-intensive type of exercise. These exercises involve multiple agencies, organizations, and jurisdictions and validate many facets of preparedness. FSEs often include many players operating under cooperative systems such as the Incident Command System (ICS) or Unified Command.

**Functional Exercise (FE):** A single or multi-agency activity designed to evaluate capabilities, multiple functions, sub-functions or independent groups of functions that are focused on exercising plans, policies, procedures and staff members involved in management, direction, and command and control functions. An FE is conducted in a realistic, real-time environment; however, movement of personnel and equipment is usually simulated.

**General Emergency:** A condition in which 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 Protective Action Criterion at or beyond the site boundary.

**Graded Approach:** The processes and procedures that incorporates a risk-based approach to assess and protect against the consequences of hazards (man-made and natural) that may have an adverse impact on national security or the environment or that may pose significant danger to the health and safety of DOE Federal and contractor employees or the public.

**Hazard Control:** Measures to eliminate, limit, or mitigate hazards to workers, the public, or the environment, including (1) physical, design, structural, and engineering features; (2) safety structures, systems, and components; (3) safety management programs; (4) technical safety requirements; and (5) other controls necessary to provide adequate protection from hazards.

**Hazardous Material:** Any hazardous biological agents and toxins; any radioactive or radiological material that emits ionizing radiation or solid, liquid, or gaseous material that is toxic, explosive, flammable, corrosive, , that emits ionizing radiation; or otherwise could adversely affect the health and safety of the public or the workers or harm the environment.

**Improvement Item:** An identified situation in which the performance of an evaluated organization could be improved or made more efficient if it were to adopt standard DOE/National Nuclear Security Administration (NNSA) or industry best practices. The specific criteria relating to the improvement item are being met and the performance objective for the particular program element associated with the improvement item is being achieved.

**Incident:** An unexpected occurrence, natural or manmade, that requires a response to protect life or property. Incidents can, for example, include major disasters, emergencies, terrorist attacks, terrorist threats, civil unrest, wildland and urban fires, floods, hazardous materials spills, nuclear accidents, aircraft accidents, earthquakes, hurricanes/tropical storms, tornadoes, tsunamis, war-related disasters, public health and medical emergencies, and other occurrences requiring an emergency response. In contrast to an “event” as defined in the National Incident Management System, an “incident” is an unplanned occurrence.

**Incident Command System (ICS):** Standardized on-scene emergency management construct specifically designed to provide for the adoption of an integrated organizational structure that reflects the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. It is used for all kinds of emergencies and is applicable to small as well as large and complex incidents. ICS is to organize field-level incident management operations.

**Incident Commander (IC):** The individual responsible for all incident activities, including the development of strategies and tactics and the ordering and the release of resources. The IC has overall authority and responsibility for conducting incident operations and is responsible for the management of all incident operations at the incident scene.

**Host Site:** Any DoD or DOE site that receives or ships material through the Office of Secure Transportation (OST) that requires OST access to the Site/Facility as part of this operation.

**Joint Information Center (JIC):** A working location, where multiple jurisdictions gather, process, and disseminate public information during an emergency.

**Jurisdictional Agency:** The agency having statutory responsibility for a specific geographical area, or a mandated function, during an incident. Jurisdictional authority at an incident can be political/geographical (e.g., city, county, Tribal, state, or Federal boundary lines) or functional (e.g., law enforcement, public health).

**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 site/facility/activity. The incident produces more patients than the responding jurisdiction is *routinely* capable of handling, and necessitates an uncommon level of mobilization of resources.

**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. Mitigation activities take place both before emergency incidents (e.g., clearing brush to mitigate wildland fires), during, and after emergency incidents (e.g., containing a hazardous material spill, isolating a process).

**National Incident Management System (NIMS):** System mandated by Homeland Security Presidential Directive (HSPD)-5 that provides a consistent nationwide approach for Federal, State, local, and Tribal governments; the private sector; and nongovernmental organizations to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents, regardless of cause, size, or complexity. To provide for interoperability and compatibility among Federal, State, local, and Tribal capabilities, the NIMS includes a core set of concepts, principles, and terminology. HSPD-5 identifies these as the Incident Command System; multiagency coordination systems; training; identification and management of resources (including systems for classifying types of resources); qualification and certification; and the collection, tracking, and reporting of incident information and incident resources.

**National Security Area (NSA):** A DOE-controlled area established by DOE for radiological incidents involving a nuclear weapon, special nuclear material, and/or classified components that are in DOE custody, for example during a Secure Transportation activity. DOE will coordinate with State and local officials to ensure appropriate public health and safety actions are taken outside the NSA. DOE will lead the overall response to safeguard National Security Information and/or Restricted Data, or equipment and material. DOE may also include lands normally not under DOE control as part of the established NSA for the duration of the incident.

**Operational Emergency:** For all activities, except Office of Secure Transportation (OST) activities, the following definition applies:

- 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 and safety or environmental impacts and requires additional resources to supplement the planned initial response offsite; and

For non-OST DOE offsite shipments:

- Any accident/incident involving an offsite DOE shipment containing hazardous materials that causes the initial responders to initiate protective actions at locations beyond the immediate/affected area.

For Secure Transportation activities: See Attachment 5.

**Opportunity for Improvement:** Suggestions offered in Independent Oversight appraisal reports that may assist cognizant managers in improving programs and operations. While they may identify potential solutions to findings and deficiencies identified in appraisal reports, they may also address other conditions observed during the appraisal process. Opportunities for improvement are provided only as recommendations for line management consideration; they do not require formal resolution by management through a corrective action process.

**Proficiency:** Demonstrated skill and competency acquired from training and experience.

**Protective Actions:** Actions taken to minimize the consequences of emergencies and to protect the health and safety of workers and the public.

**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, e.g. building collapse zone, bomb threat.

**Protective Action Recommendation:** Predetermined actions designed to protect the health and safety of the public that are consequence-based decisions (known as protective actions for the site). DOE sites recommend protective actions to the public and community for Operational Emergencies that have the potential to cause off-site consequences. Protective action recommendations are made promptly to off-site agencies in order to minimize emergency-related consequences.

**Public Information Officer (PIO):** The PIO is the individual responsible for communicating with the public, media, and/or coordinating with other agencies, as necessary, with incident related information requirements. The PIO is responsible for developing and releasing information about the incident to the news media, incident personnel, and other appropriate agencies and organizations. Depending on the size or complexity of the incident, a lead PIO should be assigned for each incident and may have assistants, as necessary, including supporting PIOs representing other responding agencies or jurisdictions.

**Radiological emergency response assets:** 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 at an emergency at any DOE site, or anywhere domestically or internationally. The assets deploy to the field and are supported by Home Teams for radiological search, stabilization, render safe, forensics, and consequence management technical operations. Asset expertise includes radiation measurements, modeling, and technical analysis and assessments related to nuclear and radiological operations.

**Recommendation:** Suggestions for senior line management's consideration for improving program or management effectiveness. Recommendations transcend the specifics associated with findings, deficiencies, or opportunities for improvement and are derived from the aggregate consideration of the results of the appraisal.

**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.

**Reentry:** The prioritized actions required to return processes and support functions to operational stability following an interruption or emergency.

**Senior Energy Official:** Federal employee who provides leadership at the event scene for DOE radiological response assets.

**Senior Federal Official:** A senior management federal personnel, designated by the Field Element Manager, assigned to the EOC in his/her capacity with decision-making authority and responsibilities.

**Senior Official:** An individual (senior management level fed or non-fed), designated by the Field Element Emergency Management Team, who serves as an emergency manager with decision-making authority and responsibilities.

**Severe Incident:** An incident expected to cause major disruptions/damage to site-wide and offsite infrastructure, as well as, increased risk to onsite personnel, possibly resulting in injuries and fatalities. These incidents could potentially isolate a facility or site from onsite/offsite response assistance and infrastructure support.

**Shutdown:** Placing a facility in those conditions specified in facility technical specifications as standbys or shutdown, as appropriate.

**Site Area Emergency:** A condition in which 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 Protective Action Criterion at or beyond the facility boundary. The Protective Action Criterion is not expected to be exceeded at or beyond the site boundary.

**Strategic Partnership Project (formerly Work for Others):** Work for non-DOE entities by DOE and/or their contractors or use of DOE facilities for work that is not directly funded by DOE appropriations

**Threat and Hazard Identification Risk Assessment (THIRA):** A process which incorporates the whole community throughout the threat assessment process and includes the reference PPD-8, Presidential Policy Directive 8, *National Preparedness* directed core-capabilities focus. State and local agencies are most familiar with the THIRA model. This more holistic perspective can identify unknown constraints and risks that may have significant impact to a response. The



full THIRA process is described in reference CPG-201, *Threat and Hazard Identification and Risk Assessment Guide, Comprehensive Preparedness Guide*.

**Termination:** The declared conclusion of an Operational Emergency.

Threat and Hazard Identification and Risk Assessment (THIRA). --- take from CPG

**Visitor:** An onsite individual who is not an employee, or contractor, or subcontractor of the site/facility/activity.

**Walk-Away:** A strategy employed during an emergency as an alternative to 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.

**Worker:** Employees (Federal, contractor, or subcontractor) who are onsite.



## **EMERGENCY MANAGEMENT CORE PROGRAM**

This Attachment provides information and/or requirements associated with DOE O 151.1D as well as information and/or requirements applicable to contracts in which the associated Contractors Requirements Document (Attachment 1 to DOE O 151.1D) is inserted.

Each DOE site, facility, and activity must establish and maintain an emergency management program that complies with the Emergency Management Core Program requirements.

1. **PROGRAM ADMINISTRATION AND MANAGEMENT.** Program administration and management must be established to provide effective organizational management and administrative control of the site/facility/activity 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 sites/facilities/activities 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 site/facility/activity-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) ensure emergency management planning is integrated with other applicable programs and associated documents (e.g., Baseline Needs Assessment, Site Security Plan, Cybersecurity Plan, and Continuity of Operations Plan, Documented Safety Analysis, Threat and Hazard Identification and Risk Assessment Guide);
    - (5) oversee implementation of the emergency management plan in accordance with the requirements of this Order;
    - (6) approve and/or concur on planning documents addressing the program elements listed below in paragraph 1.a.(7); and
    - (7) ensure the emergency management program addresses the following elements of the Emergency Management Core Program.
      - (a) Program Management and Administration

- (b) All-Hazards Planning Basis
  - (c) Emergency Response Organization
  - (d) Emergency Operations System
  - (e) Training and Drills
  - (f) Emergency Medical Support
  - (g) Offsite Response Interfaces
  - (h) Emergency Categorization
  - (i) Protective Actions
  - (j) Emergency Facilities and Equipment/Systems
  - (k) Notifications and Communications
  - (l) Emergency Public Information
  - (m) Termination and Recovery
  - (n) Readiness Assurance
  - (o) Consequence Assessment
- b. In addition to the requirements of the Emergency Management Core Program, implement the emergency management program requirements contained in Attachments 4, 5, and 6 of this Order for those sites/facilities/activities to which they apply.
- (1) Attachment 4, Emergency Management Hazardous Material Program. This attachment contains additional requirements for sites/facilities/activities with hazards that are not screened out by the Hazardous Materials Screening process [Attachment 3, 2.b.(5)].
  - (2) Attachment 5, Secure Transportation. This attachment contains specific emergency management program requirements for the activities performed by the Office of Secure Transportation.
  - (3) Attachment 6, Energy Emergency Response Support. This attachment contains requirements for the Departmental elements supporting national energy emergency response and all-hazards incident national level response as reflected in the Energy Emergency and Emergency Assistance Programs, respectively.

- c. Develop and maintain an all-hazards emergency management plan. The emergency management plan must be –
  - (1) reviewed and documented annually, and updated, if appropriate, and approved no less than every three years;
  - (2) updated if there are significant changes to the program plan (i.e., changes to organization structure, Emergency Planning Zones, etc.); and
  - (3) submitted to the Field Element Manager or appropriate Federal Manager for approval.
- d. Develop and maintain procedures that describe how the emergency management plan must be implemented and maintained.
- e. Use a controlled document system for the emergency management plan and related procedures and documentation.
- f. Identify a process for review, approval, and distribution of the emergency management plan and related procedures and documentation.
- g. Develop and maintain agreements for the transport, acceptance, and treatment of potentially contaminated injured personnel, as applicable (see paragraph 6 of this Attachment).
- h. Address interoperability, integration, and interface with jurisdictional responders for severe incidents with regional impacts.
- i. Review emergency management documents for classified information and Controlled Unclassified Information.
- j. Identify and maintain emergency operating vital records in accordance with 36 CFR Part 1236, *Electronic Records Management*.

2. ALL HAZARDS PLANNING BASIS.

All-Hazards Survey. An All-Hazards Survey must be performed by DOE federal and contractor staff responsible for DOE sites/facilities/activities. Its purpose is to identify all hazards that are applicable to the operation of that entity and establishes the planning basis for the emergency management program. Each All-Hazards Survey may cover single or multiple facilities or activities, or one All-Hazards Survey may cover an entire site. Each All-Hazards Survey must:

- a. Describe the applicable potential health, safety, or environmental impacts;
- b. Identify the need for development of further planning and preparedness beyond the Emergency Management Core Program requirements that will apply to each type of hazard;

- c. Be submitted for approval to the Field Element Manager or appropriate Federal Manager; and be updated every 3 years from date of issuance, and when there are significant changes to site/facility/activity operations or to hazardous material inventories. For example, significant changes may 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 CFR Part 830, Nuclear Facility Safety Management or in a positive Unreviewed Safety Issue for accelerator facilities, as defined in DOE O 420.2C, Safety of Accelerator Facilities. 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 scheduled review and update.
- d. Performing an All-Hazards Survey. The All-Hazard Survey must:
  - (1) Address the following.
    - (a) Natural hazards, which result from acts of nature, such as hurricanes, earthquakes, tornadoes, animal disease outbreak, pandemics, or epidemics.
    - (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 incidents, which result from an intentional or unintentional action, taken by person(s) or an adversary, such as a safety mishap or a threatened or actual chemical attack, biological attack, or cyber incident.
  - (2) Include conducting a Threat and Hazard Identification and Risk Assessment (THIRA) in accordance with the Department of Homeland Security, Comprehensive Preparedness Guide (CPG) 201, *Threat and Hazard Identification and Risk Assessment Guide*. Conduct this analysis using the CPG to identify potential hazards, threats, capability targets, and resources. The THIRA template (Appendix A of the CPG) shall be used to document and maintain the assessment.
    - (a) This analysis and planning should include consequences with respect to hazardous material (e.g., petroleum, propane, etc.) overpressure (e.g., 1 psi) or radiant heat dose (e.g., second-degree burn) exposures from explosions or fires involving flammable inventories, including fuel oil and gases. Additionally, when “oil” is a part of a process containing or collocated with another hazardous material, it must be considered in the EPHA as a possible initiator or contributor for the release of that hazardous material.

- (b) Large scale storage inventories of fuel oil and gases (e.g., petroleum, propane, etc.) must be analyzed in the THIRA and addressed in emergency management planning using appropriate guidance.
  - (c) Facility/activity emergency planning, preparedness, and response must take into account the hazards associated with explosives and be consistent with DOE-STD-1212-2012, *Explosives Safety*. A graded approach must be applied based on the explosive's Hazard/Division class.
  - (d) A summary of the THIRA must be included in the annual Emergency Readiness Assurance Plans (ERAP) for submission to its Program Secretarial Officer and the Associate Administrator, Office of Emergency Operations.
- (3) Associate Administrator, Office of Emergency Operations must prepare a DOE Enterprise Threat and Hazard Risk Profile that incorporates the sites and facilities submitted THIRAs.
- (4) For severe events, consider the reliance on local/regional offsite responders and how the site/facility/activity will handle severe incidents if these response resources are not available.
- e. Hazardous material screening process. Must identify specific hazardous materials and quantities that, if released, could produce impacts consistent with the definition of an Operational Emergency. The potential release of these materials to the environment requires further analysis in an EPHA. The release of hazardous materials less than the quantities listed below does not require quantitative analysis in an EPHA. Categories to be considered under the All-Hazards Survey (as described in 2.d.(1)) include sites/facilities/activities with radiological materials, hazardous biological agents and toxins, and hazardous chemicals.
- (1) All hazardous materials (i.e., radiological, biological agent/toxin, chemical, and explosive) at a DOE site must be considered in the screening.
    - (a) If the hazardous material at a site/facility/activity screens out by quantity or by exclusion from the screening – as described in paragraphs 2.e.(3) through 2.e.(7) – response plans must still be developed in accordance with paragraph 2.e.(2) below to address smaller scale incidents and emergencies.
    - (b) If the hazardous material at a site/facility/activity does not screen out, and is not covered by the exclusions below, an Emergency Planning Hazards Assessment (EPHA) must be conducted. See Attachment 4, Emergency Management Hazardous Materials Program.

- (2) Each hazardous material container and its associated 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 when determining if it exceeds the applicable screening threshold:
  - (a) Container is interconnected with other containers
  - (b) Multiple containers are located within a facility such that a credible common event (excluding extreme malevolent acts and catastrophic release scenarios such as major fires, airplane crashes, and building collapse) could result in release of the contents of multiple containers
- (3) Exclusions
  - (a) Materials used in the same form, quantity, and concentration as a product packaged for distribution and use by the general public (e.g., consumer products for household use).
  - (b) Materials that because their physical form, or other factors (e.g., plausible dispersal mechanisms), do not present an airborne exposure hazard. This includes solid materials in a form with particle size > 10 microns and solid materials with no plausible 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(s) is a non-volatile solute.
  - (c) Materials with a Globally Harmonized System (GHS) Acute Toxicity Hazard Category of 3, 4, or 5, if approved for site use by the FEM.
  - (d) Solid or liquid materials with any GHS Corrosion/Irritation (skin or eye) Hazard Category, if approved for site use by the FEM.
  - (e) Gaseous materials with a GHS Corrosion/Irritation (skin or eye) Category 2 or 3, if approved for site use by the FEM.
  - (f) Explosives are excluded from further analysis in an EPHA, regardless of the facility designation (e.g., nuclear facility), provided the explosives are also screened through the Chemical screening criteria.
  - (g) Radioactive materials that may be excluded include: sealed radioactive sources that are engineered to pass the special form testing specified by DOT or the American National Standards Institute; materials stored in DOT Type B shipping containers with



overpack if the Certificates of Compliance are current and the materials stored are authorized by the Certificate; and, materials used in exempt, commercially available products.

- (h) Simple asphyxiants and cryogenic materials may be excluded as long as the material cannot impact collocated populations, but will be analyzed in the THIRA.
  - (i) Fuel oil and gases (e.g., petroleum, propane, etc.) are excluded in the definition of hazardous materials used in this Order.
- (4) Radiological Materials:
- (a) Radioactive materials that require further analysis in an EPHA are those associated with a defined Hazard Category 1, 2, or 3 nuclear facility per 10 CFR Part 830, *Nuclear Safety Management*; 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 any of the following:
    - 1 DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Security Analysis Reports;
    - 2 NA-1 SD G 1027, Change Notice 1, on Using Release Fraction and Modern Dosimetry Information Consistently with DOE STD 1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports, dated 11-28-11.
    - 3 LA-12981-MS, Table of DOE-STD-1017-92 Hazard Category 3 Threshold Quantities for the ICRP-30 List of 757 Radionuclides, Los Alamos National Laboratory (LANL) Fact Sheet, 2002.
    - 4 LA-12846-MS, Specific Activities and DOE-STD-1027-92 Hazard Category 2 Thresholds, LANL Fact Sheet, 1994.
  - (b) Those materials associated with a facility/activity being defined as an accelerator per DOE O 420.2C, *Safety of Accelerator Facilities* may be screened out if analysis indicates that all incidents would be classified as less than an Alert.
- (5) Hazardous Biological Agents and Toxins:
- (a) Identify hazardous biological agents and toxins including Federally regulated agents and toxins 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*].

- (b) Analyze further in an EPHA if these materials are present if exceeding the minimum quantities specified to be federally regulated.
- (6) Chemicals:
- (a) All chemicals in a facility/activity with known or suspected toxic properties must be subjected to a hazardous material screening process.
  - (b) Chemicals that may be excluded from further analysis in an EPHA include: materials used in the same form, quantity, and concentration as a product packaged for distribution and use by the general public; materials that have a Health Hazard rating of 0, 1 or 2 based on NFPA 704; or solid or liquid materials that, because of their physical form or other factors (e.g., plausible dispersal mechanisms), do not present an airborne exposure hazard.
  - (c) Chemical hazardous materials that require further analysis in an EPHA include chemicals with an assigned Health Hazard rating of 3 or 4 based on National Fire Protection Association (NFPA) 704 in quantities greater than a quantity that can be “easily and safely manipulated by one person” [see 29 CFR 1910.1450(b)]. Chemicals without an assigned Health Hazard rating require further analysis in an EPHA if the quantity is greater than a quantity that can be “easily and safely manipulated by one person.” Quantities of chemical hazardous materials considered to be "easily and safely manipulated by one person" can be locally-determined in accordance with the provisions of 29 CFR 1910.1450(b).
  - (d) Ordinary products of combustion (e.g., carbon monoxide, hydrogen cyanide, etc. that are released in fires involving hydrocarbons, building components, wood, plastic, etc.), are exempt from analysis when associated with a scenario involving a combustion event.
- (7) Chemical wastes require further analysis if the storage quantities exceed those above and the concentration is comparable to that which would require such a similar classification (i.e., very dilute and chemically neutralized chemical waste does not require a further analysis).

- f. General Duty. If, based on the THIRA and the professional judgment of the person(s) performing or approving the All-Hazards Survey, it is determined that additional analysis and planning is warranted, the FEM will determine and document if an additional EPHA will be performed
3. EMERGENCY RESPONSE ORGANIZATION. An Emergency Response Organization (ERO) is a structured organization with overall responsibility for initial and ongoing emergency response. At a minimum, an ERO must –
  - a. be established and maintained for each DOE site/facility/activity;
  - b. consist of personnel with capabilities and resources based on the all hazards planning basis;
  - c. assign an individual ERO position with the authority to implement the site/facility/activity emergency management plan to include management and control of all aspects of the site/facility/activity response;
  - d. designate and train a primary and at least one alternate for each ERO position, excluding first responders in the field, to be available to implement the emergency management plan for initial and ongoing emergency response;
  - e. establish an effective first responder capability to mitigate all hazard emergencies including emergency medical, fire, hazard material, and applicable rescue emergencies as derived through the Baseline Needs Assessment, Hazard Survey, and THIRA. The site/facility/activity shall be capable of managing the first operating period of emergency events of Type 4 complexity as defined by the National Incident Management System (NIMS).
  - f. establishes mechanisms, consistent with NIMS, for expanding the initial response capability when local resources are no longer adequate to control the emergency incident;
  - g. establish control at the event/incident scene in accordance with the Incident Command System (ICS) portion of the National Incident Management System (NIMS) or integrate ERO activities with those of local and federal agencies and organizations that provide onsite emergency response services in accordance with ICS/NIMS; and
  - h. provide designated ERO members with a method of identification for access to assigned emergency response consistent with NIMS/ICS.
4. EMERGENCY OPERATIONS SYSTEM. DOE sites/facilities/activities must have an Emergency Operations System to provide centralized collection, validation, analysis and coordination of information related to an emergency. The Emergency Operations System supports on-scene response during an escalating incident by relieving the burden of site-level and external communication and securing additional resources needed for the

response. It does not provide tactical direction to the Incident Commander in the field. This can be satisfied through an established EOC. DOE sites/facilities/activities must accomplish the following.

- a. Establish an Emergency Operations System to provide strategic management, operational support, planning/intelligence, logistics and finance/administration.
- b. The Emergency Operations System must be able to perform the following capabilities.
  - (1) Establish and maintain an overall responsibility for supporting and coordinating the response to an emergency.
  - (2) Use the basic NIMS/ICS concepts of common terminology, management unity and delegation of authority, managing by objectives, manageable span of control, and action planning.
  - (3) Activate for any declared Operational Emergency impacting the DOE site/facility/activity, or may activate for other significant incidents and planned events when emergency management and leadership decides support operations would be advantageous to the successful management of the incident/event.
  - (4) Be scaled to the level of activation based on the severity of the incident. Staffing and functions must be performed as identified in the emergency management plan.
  - (5) Provide support to the Incident Commander and have the ability to maintain support status under emergency conditions for an extended period based upon the All-Hazards Survey.
  - (6) Use standard operating procedures and checklists to –
    - (a) activate the Emergency Operations System, identify and notify staff, make it operational, and deactivate it;
    - (b) establish communications and coordination with incident command;
    - (c) obtain and maintain situational awareness and disseminate a Common Operating Picture among response components and external partners, as applicable; and
    - (d) develop plans to support –
      - 1 operations by defining overall priorities;
      - 2 establishing operational objectives;

- 3 establishing personnel accountability; and
- 4 establishing the Operational Period for the ERO staffing shift changes.

5. TRAINING AND DRILLS. A comprehensive, coordinated, and documented program of training and drills must be an integral part of the emergency program to ensure that preparedness activities for establishing and maintaining program-specific emergency response capabilities are accomplished. DOE sites/facilities/activities must:

a. Worker Training.

- (1) Document and provide training to workers on hazards and protective actions they 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 notification of the release to proper authorities.
- (2) This training must be provided and documented initially and when there are changes affecting worker actions or responsibilities, and refresher training must be provided biennially. If a protective action is performed successfully during a drill, exercise, or actual event, the annual training requirement is met for that protective action.
- (3) Provide information on protective actions to visitors who have unescorted access.
- (4) Determine based upon the all hazards planning basis if additional training must be provided to workers to address response actions that may be necessary for severe events with regional impacts when the site/facility/activity may be isolated from offsite response assistance and infrastructure support. This training may consist of self-help strategies, such as first-aid, and the location of onsite medical and life sustaining supplies and procedures for all identified protective actions.
- (5) Determine based upon the results of the all hazards planning basis if additional training must be provided to workers at specific facilities. This training may consist of facility-specific procedures for safe shutdown/walk-away provisions and/or facility-specific response steps to take when there are disruptions to critical infrastructure (e.g., power and communications).

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. Document the training requirements to include the courses,

method of instructions, frequency, and intended audience. Assess ERO member's proficiency at least annually.

- (2) ERO training must be provided initially and when there are significant changes to expected emergency response capabilities. Refresher training must be provided no less than annually.
- (3) Include the following in ERO training.
  - (a) Initial Training for ERO members must include –
    - 1 the applicable principles of ICS 100, Introduction to ICS, and ICS 700, NIMS, An Introduction;
    - 2 site/facility/activity-specific emergency response concept of operations (as documented in the emergency management plan), as applicable to each position; and
    - 3 position-specific roles and responsibilities to include plans, procedures, job aids, and associated equipment and systems.
  - (b) Refresher training must include –
    - 1 lessons learned;
    - 2 best practices; and
    - 3 identified gaps or deficiencies on individual training.
- c. Offsite Response Agency Orientation. Offer orientation on the site/facility/activity-specific conditions and hazards based on the results of the all hazards planning basis, including familiarization, on an annual basis for any emergency responders.
- d. Worker Drills.
  - (1) Conduct building evacuation drills at least annually, or consistent with frequency in applicable NFPA standards, and state or local regulations. Evacuation drills must also be conducted after substantial changes are made to a building that change evacuation procedures/pathways.
  - (2) Based upon the results of the all hazards planning basis, determine if additional drills and the frequency of such drills should be conducted for other protective actions that workers may be expected to take. These drills may include facility-specific procedures for safe shutdown/walk-away provisions and facility-specific response steps to take when there are disruptions to critical infrastructure.

- e. ERO Drills. DOE sites/facilities/activities must accomplish the following.
    - (1) Conduct and document drills so that each ERO member participates at least annually. This may be accomplished by participation in a drill, exercise, or actual incident. Additionally, emergency response personnel (e.g., fire, HAZMAT, emergency medical services) that perform essentially the same functions on an ERO as they do on a day-to-day basis, demonstrate proficiency doing their everyday jobs.
    - (2) Capture improvements and lessons learned to make program improvements to training and drills.
    - (3) Use drill scenarios that are representative of the hazards/threats identified in the all-hazards planning basis. Such drills should be conducted for demonstration of capabilities.
  - f. Drills Involving Offsite First Response Agencies. Formally invite applicable offsite first responders (e.g., primary first response agencies) to participate in a relevant drill or exercise at least annually.
6. EMERGENCY MEDICAL SUPPORT. DOE sites/facilities/activities must accomplish the following.
- a. Conduct planning for medical treatment associated with incidents identified in the all hazards planning basis (e.g., mass casualty situations, treatment of onsite responders). Pre-planning with off-site responder resources must address how they integrate emergency medical support in accordance with applicable NFPA standards (e.g. NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*).
  - b. Establish provisions for sharing of patient information between onsite and offsite health care providers during emergencies, consistent with the requirements of P.L. 104-191 *Health Insurance Portability and Accountability Act of 1996*, and the Privacy Act, 42 U.S.C. Sec. 552a.
  - c. For sites/facilities/activities containing hazardous materials, document the process to transport, accept and treat contaminated, and injured personnel. Ensure implementing agreements, as may be appropriate, for example: emergency medical first responder organizations, medical receiving facilities, emergency medical transport services, including all reasonable modes of transportation.
7. OFFSITE RESPONSE INTERFACES. DOE sites/facilities/activities must establish and maintain interfaces with local, state, tribal, and federal organizations responsible for emergency response or who may be used to supplement response capabilities based on threats/hazards identified in the all hazards planning basis to include planning for severe events. DOE sites/facilities/activities must accomplish the following activities with offsite response organizations.

- a. See paragraphs 5c and 5f of this Attachment for information to be provided to offsite first responders.
- b. Determine access protocols for routine, abnormal, and emergency conditions.
- c. Establish a process for communications for use during onsite response.
- d. Establish a process to coordinate emergency public information during an incident involving response by the offsite responder(s) for incidents that may affect or be of interest to the media and public. See paragraph 12.

8. EMERGENCY CATEGORIZATION.

- a. DOE sites/facilities must declare an Operational Emergency when incidents occur that represent a significant degradation in the level of safety at a site/facility resulting in potential health and safety hazards to workers or the public.
- b. Operational Emergencies must be categorized as promptly as possible, but no later than 15 minutes after identification by the predetermined decision maker for the categorization, in accordance with the emergency management plan, but no more than 30 minutes from initial discovery. Such incidents include the following:
  - (1) Health and Safety. The following incidents or conditions represent, cause, or have the potential to cause serious health and safety impacts to workers or members of the public.
    - (a) 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 protective action criteria (PAC).
    - (b) An occurrence (e.g. earthquake, tornado, aircraft crash, fire, explosion, or incidents in table 3-1) that causes significant structural damage to DOE facilities, with confirmed or suspected personnel injury or death.
    - (c) Any mass casualty incident, as determined and documented by the site.
    - (d) A criticality event.
    - (e) An offsite hazardous material incident not associated with DOE operations that is observed to have, or is predicted to have, an impact onsite such that protective actions are required for DOE workers.
  - (2) Environment. The following incidents or conditions represent, cause, or have the potential to cause serious detrimental effects on the environment:



Any actual or potential release of hazardous material or regulated pollutant to the environment that could result in significant offsite consequences, such as major wildlife kills, wetland degradation, aquifer contamination, or the need to secure downstream water supply intakes.

- (3) Offsite DOE Transportation Activities. The following incidents or conditions represent an actual or potential release of hazardous materials from a DOE shipment: Any accident/incident involving an offsite DOE shipment containing hazardous materials that causes the initial responders to initiate protective actions at locations beyond the immediate/affected area.
  - (4) Hazardous Biological Agent or Toxins. The following incidents or conditions involving the release of a hazardous biological agent or toxin [identified in 42 CFR Part 73, Select Agents and Toxins, 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] represent major failure of safety systems, protocols, and/or practices with the potential to have a serious impact on health and safety of workers, collocated workers, emergency responders, members of the public, or the environment: Any actual or potential release of a hazardous biological agent or toxin outside of the secondary barriers of the biocontainment area.
  - (5) Safeguards and Security. Security incidents are also subject to reporting in accordance with DOE O 470.4B, Administrative Change 1, Safeguards and Security Program 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. The following incidents or conditions represent, cause, or have the potential to cause degradation of security or safeguards conditions with actual or potential direct harm to people or the environment. Security and Safeguard Operational Emergencies include:
    - (a) Unplanned detonation of an explosive device or a credible threat of detonation resulting from the location of a confirmed or suspected explosive device.
    - (b) An actual terrorist attack, active threat (e.g., armed assault), cyber security incident that impacts critical infrastructure, or sabotage incident involving a DOE site/facility/activity.
    - (c) Kidnapping or taking hostage(s) involving a DOE site/facility/activity.
- c. Emergencies, once categorized, must not be downgraded to a lower significance category unless the original categorization was incorrect. An event determined to be an emergency will remain so until the emergency response is terminated. In

general, the emergency classification (i.e., Alert, Site Area Emergency, or General Emergency) should not be downgraded until termination of the event. However, emergency classification must be reviewed periodically to ensure the classification is commensurate with response activities.

9. PROTECTIVE ACTIONS. DOE sites/facilities/activities must identify protective actions commensurate for the potential hazards of the site/facility/activity and maintain procedures for prompt issuance of protective actions to workers. Protective actions must be predetermined and serve to minimize emergency-related consequences and maximize life safety and health. DOE sites/facilities/activities must accomplish the following.

- a. Develop pre-determined protective actions for hazards/threats identified in the all hazards planning basis.
- b. Develop a process to issue protective actions.
- c. Develop a procedure to account for employees.
- d. Consider whether additional protective actions are needed for severe incidents, such as self-help instructions when the site/facility/activity is isolated from outside response assistance and evacuation of the site/facility/activity when conditions are deteriorating.

10. EMERGENCY FACILITIES AND EQUIPMENT/SYSTEMS. DOE sites/facilities/activities are responsible for the provision of adequate emergency facilities and equipment/systems commensurate with the associated hazards/threats 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.
  - (1) DOE sites/facilities/activities must provide appropriate personal protective equipment (PPE) to emergency responders commensurate to the hazards present in the working environment.
  - (2) DOE sites/facilities/activities must identify in the emergency management plan, or other documentation, caches of specialty equipment, (e.g., PPE, stretchers, evacuation chairs, and self-rescuers for underground facilities) that may be required if an emergency occurs.
- b. Communications Equipment. DOE site/facility/activity must have an emergency notification system capable of providing immediate notification and protective actions to affected employees but no later than 10 minutes after the protective actions have been identified in accordance with the emergency management plan and related procedures. Communications equipment must be tested annually, or

more frequently as necessary for the notification system (e.g. post-maintenance testing, communication equipment upgrades, etc.).

- c. Emergency Operations System. DOE sites/facilities/activities must maintain systems and/or facilities to support emergency response operations. These must include communications capabilities and systems adequate to support ERO activities and communications with Headquarters Watch Office.

- 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 Operational Emergency is terminated. DOE sites/facilities/activities must accomplish the following.

- a. Notifications.

- (1) See paragraph 9 and 10 of this Attachment for requirements regarding notifications to workers.
- (2) Provide prompt emergency notifications to emergency response personnel and response organizations.
- (3) DOE site/facility/activity will 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.
- (4) Notify the Field Element or appropriate Federal Manager, Headquarters Watch Office, and state, local, and Tribal organizations within 30 minutes of declaration or termination of an Operational Emergency.
- (5) If the Emergency Operations System is activated for an incident not categorized as an Operational Emergency, the site/facility/activity must notify the Field Element and Headquarters Watch Office within 30 minutes of the Emergency Operations System becoming operational in accordance with the emergency management plan.
- (6) Emergency notification to the Headquarters Watch Office must consist of a phone call providing as much information as is known at the time and be provided electronically with receipt confirmation. If information is unknown at the time of the report, specify so in reporting. The initial notification must include the –
  - (a) description of the emergency;
  - (b) date and time emergency was discovered or terminated;
  - (c) damage and casualties;

- (d) protective actions implemented;
- (e) potential and actual impacts;
- (f) agencies involved;
- (g) level of public/media attention; and
- (h) contact information.

b. Communications.

- (1) Provide for continuing effective communications among response organizations throughout an emergency.
- (2) Provide for communication methods among on-scene responders, emergency managers, and response facilities.
- (3) Provide updates to Headquarters based upon the emergency conditions and/or as directed by Headquarters.
- (4) Establish provisions to provide updates to workers during an emergency.
- (5) Initiate communications checks on classified and unclassified communications systems used for initial notification of the Headquarters Watch Office annually or more frequently as necessary for the communications system (e.g., post-maintenance testing, communication system upgrades, etc.)
- (6) Ensure communications among response facilities, field response elements, and offsite command centers by providing a common operating picture 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 events data, and field monitoring data.

12. EMERGENCY PUBLIC INFORMATION. DOE sites/facilities/activities must provide accurate, candid, and timely information to workers, the media, and the public during an emergency. DOE sites/facilities/activities must accomplish the following.

- a. Establish and maintain an emergency public information program consistent with the all hazards planning basis.
- b. Document the emergency public information program in an emergency public information plan or in the emergency management plan. This plan must include—
  - (1) identification of personnel, resources, and facilities necessary to support emergency public information activities to include identification of a

Public Information Officer(s) who will interact with the media during emergencies;

- (2) provisions for coordination of information to be released during an emergency;
- (3) identification of public information media to be used and monitored, such as web sites, social media, news releases, and news briefings;
- (4) identification of a location(s) for the necessary briefings and news conferences regarding the emergency;
- (5) identification of training and drills for personnel who will interact with the media;
- (6) identification of provisions for coordination of public information activities with offsite response agencies, state, local and tribal governments, and federal emergency response plans, as appropriate;
- (7) for situations involving classified or controlled unclassified information, provisions for information review by an appropriate official before release to ensure that no classified or controlled unclassified information is contained in the announcement;
- (8) provisions for initial news releases or public statements to be approved by the Field Element official responsible for emergency public information review and dissemination; and
- (9) provisions to coordinate with the Headquarters Emergency Operations Center Public Affairs Watch Officer and/or Office of Public Affairs on information released after the initial release. This includes information released through news releases and social media. The Headquarters Public Affairs Duty Officer or Office of Public Affairs may delegate this to local level dependent on the incident.

13. TERMINATION AND RECOVERY. DOE sites/facilities/activities must accomplish the following.

a. Termination.

- (1) Establish a predetermined set of criteria for terminating an Operational Emergency. Emergency termination occurs when emergency response activities are terminated, the situation has been stabilized, potential threats to workers, the public, the environment, and national security have been characterized, conditions no longer meet established emergency categorization criteria, and it appears unlikely that conditions will deteriorate.

- (2) Coordinate the decision to terminate the emergency with the responding organizations and the Field Element or appropriate Federal Manager, as applicable.
      - (3) Notify the Headquarters Watch Office and other organizations previously notified when the emergency is terminated.
    - b. Recovery. Prior to termination identify and document in a draft recovery plan the organization (e.g., recovery organization) that will activate and address the actions necessary to restore the site/facility/activity to normal operations.
      - (1) The recovery organization must include accident investigation, as needed, to ensure accident investigation is conducted in accordance with DOE O 225.1B, *Accident Investigations*.
      - (2) Recovery from a terminated Operational Emergency must include: communication and coordination with State, Tribal, and local government and other Federal agencies.
    - c. Post Incident Reporting.
      - (1) Conduct an After Action Review of the Emergency Operations System when it is activated for an actual incident or condition to identify lessons learned and/or corrective actions. If the Emergency Operations System was activated for an Operational Emergency, document the performance review in an After Action Report.
      - (2) For an Operational Emergency, submit the after action report to the Field Element Manager or appropriate Federal Manager for further dissemination to the Associate Administrator, Office of Emergency Operations, and Program Secretarial Officer(s). This report may be done in conjunction with the Final Occurrence Report in accordance with DOE O 232.2, Administrative Change 1, *Occurrence Reporting and Processing of Operations Information*.
14. READINESS ASSURANCE. DOE sites/facilities/activities must participate in a formal Readiness Assurance Program that establishes a framework and associated mechanisms for assuring that emergency plans and procedures and resources are adequate by ensuring that they are sufficiently maintained, exercised, and evaluated, and that appropriate and timely improvements are made when identified. The Readiness Assurance Program serves to ensure the readiness and effectiveness of an emergency management program on a programmatic and performance level while promoting a culture of continuous improvement. The Readiness Assurance Program consists of evaluations, improvements, and the Emergency Readiness Assurance Plan.
  - a. Evaluations consist of assessments, exercises, and performance indicators.

- (1) Assessments. DOE sites/facilities/activities must conduct assessments to ensure that emergency plans, procedures, emergency response activities, and resources are adequate and sufficiently maintained.
    - (a) Conduct self-assessments annually. The self-assessment must address all program elements; however, the scope of each program element assessment does not have to include all aspects of the associated programmatic or response tasks each year. This determination must be based upon the complexity of the program and ensure that all program elements are fully assessed and/or validated through exercises over a five-year period.
    - (b) Support DOE during the conduct of an external assessment.
  - (2) Exercises. DOE sites/facilities/activities must conduct an annual site-level exercise to test and validate emergency plans and procedures.
    - (a) The exercise program must be consistent with the Department of Homeland Security Exercise and Evaluation Program.
    - (b) Rotate the scenario for the annual exercise among the hazards and risks identified in the all hazards planning basis.
    - (c) Provide the annual exercise schedule to the Field Element Manager or appropriate Federal Manager.
    - (d) Prepare an exercise plan.
    - (e) Submit the exercise plan for the annual evaluated site-level exercise to the Field Element Manager or appropriate Federal Manager for approval no less than 30 calendar days prior to the exercise.
    - (f) After action reports must include the results of the evaluation to include findings, issues, and improvement items, and be prepared and submitted within 45 calendar days of the exercise. After action reports for the annual exercise must be submitted to the Field Element Manager or appropriate Federal Manager.
  - (3) Performance Indicators. DOE sites/facilities/activities must participate in a program of performance indicators.
- b. Improvements. DOE sites/facilities/activities must identify improvements that consist of corrective actions and lessons learned.

(1) Corrective Actions.

- (a) Develop corrective actions for findings identified during evaluations, assessments, drills, exercises, and actual emergencies.
- (b) Use a formal tracking system to track completion of corrective actions. This tracking system may be part of a site/facility/activity action tracking system.
- (c) Develop a corrective action plan for findings documenting corrective actions, due dates, and assignees within 45 calendar days of the assessment report or After Action Report.
- (d) Submit corrective action plans for findings from Federally-directed or external assessments for approval to the Field Element Manager or appropriate Federal Manager.
- (e) Submit corrective action plans, upon request, for findings from contractor-initiated assessments to Field Element Manager or appropriate Federal Manager.

(2) Lessons Learned.

- (a) Use a system for incorporating and tracking lessons learned from training, drills, actual responses, and the site/facility/activity-wide lessons learned program.
- (b) Review lessons learned from emergency management program activities under DOE Order 210.2A, *DOE Corporate Operating Experience Program*.
- (c) Review lessons learned and best practices from the Office of Enterprise Assessments annual lessons learned report, which provides opportunities for improving DOE emergency management programs.

c. Emergency Readiness Assurance Plan.

- (1) DOE sites/facilities/activities must develop an Emergency Readiness Assurance Plan (ERAP) using the format and content guidelines provided by the Program Secretarial Officer that was developed in coordination with the Associate Administrator, Office of Emergency Operations. The ERAP must –
  - (a) highlight program status, including significant changes in the emergency management program (e.g., all hazards planning basis, organizations, and exemptions);



- (b) include a summary of the THIRA;
  - (c) document evaluation results and the status (e.g., open/unresolved or closed) of associated corrective actions;
  - (d) identify what the goals were for the fiscal year that ended and the degree to which those goals were accomplished;
  - (e) identify the goals for the next fiscal year; and
  - (f) be submitted to the Field Element Manager or appropriate Federal Manager for approval.
- (2) The Field Element Manager or appropriate Federal Manager must prepare and submit a consolidated ERAP covering the sites/facilities/activities under its supervision to the Program Secretarial Officer and Associate Administrator, Office of Emergency Operations by November 30 each year. In order to meet this date, DOE sites/facilities/activities must submit for approval the ERAP to the Field Element Manager or appropriate Federal Manager by October 15 of each year unless another date is established between the Field Element Manager/appropriate Federal Manager and the site/facility/activity.



## **EMERGENCY MANAGEMENT HAZARDOUS MATERIALS PROGRAM**

This Attachment provides information and/or requirements associated with DOE O 151.1D as well as information and/or requirements applicable to contracts in which the associated Contractor Requirements Document (Attachment 1 to DOE O 151.1D) is inserted.

In addition to the Emergency Management Core Program requirements (Attachment 3), DOE sites, facilities, and activities must establish and maintain an Emergency Management Hazardous Materials Program if the site, facility, or activity contains hazardous materials that were not screened out by the hazardous material screening process in Attachment 3.

1. PROGRAM ADMINISTRATION. See Attachment 3.
2. ALL-HAZARDS PLANNING BASIS/TECHNICAL PLANNING BASIS. An Emergency Planning Hazards Assessment (EPHA) must be prepared and used to define the provisions of the Emergency Management Hazardous Materials Program, ensuring that the program is commensurate with the hazards identified. The EPHA provides the basis for establishing a graded approach that will meet the program requirements outlined in this Attachment. DOE sites/facilities/activities with federally regulated biological agents and toxins require an EPHA, however, quantitative analysis is not required. The EPHA must address the following items.
  - a. Identify hazards and the potential consequences from unplanned releases of (or loss of control over) hazardous materials identified in the Hazards Surveys, using accepted industry assessment techniques.
  - b. Include identification of receptor locations of interest for each facility containing significant quantities of hazardous materials including:
    - (1) 30 meters from the release location;
    - (2) 100 meters from the release location;
    - (3) site boundary;
    - (4) emergency response facilities;
    - (5) nearest assembly areas as identified in the Emergency Plan; and
    - (6) nearest offsite at risk population such as emergency buildings, schools, and hospitals.
  - c. 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.

- d. Identify analyzed scenarios using short descriptive names with:
- (1) tabulated consequences for each scenario at identified receptor locations above,
  - (2) consequences versus distance under conservative and average dispersion conditions. Conservative is defined as a DOE site's 95% worst case or F stability and a wind speed of 1.5 m/s. Average is defined as a DOE site specific average or D stability and a wind speed of 3 m/s, and
  - (3) distances at which the PAC and thresholds of early lethality would be exceeded at receptors identified above. The PAC for releases of hazardous materials are listed below.
    - (a) For radioactive material - the Protective Action Guides (PAGs) promulgated by the Environmental Protection Agency (EPA) must be used.
    - (b) For chemicals, the protective action criteria, listed in order of preference, must be used: Acute Exposure Guideline Levels (AEGLs) promulgated by the EPA; Emergency Response Planning Guidelines (ERPGs) published by the American Industrial Hygiene Association; and Temporary Emergency Exposure Limits (TEELs) developed by DOE. For these criteria, the exposure level to be used represents PAC-2 level, i.e. no irreversible health effects. A DOE specific PAC data set (including AEGLs, ERPGs, and TEELs), may be referenced at <https://sp.eota.energy.gov/pac/>.
    - (c) 3. For hazardous biological agents and toxins identified in Attachment 3, protective action criteria are considered exceeded and immediate protective actions are required for any actual or potential release of agents or toxins outside of secondary containment barriers. Long-term protective action criteria are specified by State or local public health officials.
- e. Depending upon the dispersion model used and other factors, the accuracy of most available models may be inaccurate beyond 25 miles. If results go beyond the 25 miles, report the distance as 25 miles; if applicable, farther distances may be reported for information.
- f. Analyze scenarios where the same severe event triggers hazardous materials releases from multiple facilities and contain information about the impact of simultaneous or sequential hazardous materials releases from identified receptors above. This can be documented in the EPHA or a site level supplemental planning document. If the EPHA indicates the potential for an Alert, Site Area Emergency, or General Emergency, use the results of the analysis to determine the necessary personnel, resources, and equipment for the Emergency Management Hazardous

Materials Program (taking into account approved baseline needs determined through implementation of DOE O 420.1C, Administrative Change 1, *Facility Safety*).

- g. If the quantitative analysis indicates that all incidents evaluated, based on the results of screening performed in Attachment 3, would be classified as less than an Alert, an EPHA is not required to be maintained. The results of the hazardous material screening process and the quantitative analysis may be incorporated directly into the All-Hazards Survey, or may be incorporated by reference in the All-Hazards Survey. Analysis below Threshold Quantity (TQ) levels for chemicals or below TQ for Hazard Category 3 for radiological materials is not required during EPHA and Emergency Action Level (EAL) development.
- h. Include a determination of the size of the Emergency Planning Zone (EPZ).
- i. Prepare a consolidated/integrated EPZ for the site/facility/activity and submit for approval to the Field Element Manager or appropriate Federal Manager.
- j. Document and discuss assumptions, methodology, models, and evaluation techniques used in the EPHA. The EPHA must document functioning and non-functioning control measures and engineered safety systems (e.g. containment systems, fire suppression systems, filters, administrative controls, safeguards and security systems).
- k. Establish and maintain an accurate and timely method for tracking changes in operations, processes, or accident analyses that involve hazardous materials (e.g., introduction of new materials, new uses, significant changes in inventories, modification of material environments). The method must allow sufficient time for emergency management personnel to review the EPHA and modify plans and procedures, as necessary.
- l. integrate the analysis of severe events performed as part of the documented safety analysis into emergency planning. For Defense Nuclear Facilities, include potential events, ranging from low-consequence, high-probability events to high-consequence, low-probability events, to ensure a comprehensive picture of the types of events and the range of associated consequences that could occur at a facility, is captured.
- m. integrate severe event guidance consistent with DOE Guide 421.1-2, Implementation Guide for Use in Developing Documented Safety Analysis to meet Subpart B of 10 CFR 830, DOE-STD-3009-2014, Preparation of Nonreactor Nuclear Facility Documented Safety Analysis, and DOE-STD-1189-2008, Integration of Safety into the Design Process, or their updates.
- n. Submit the EPHA for approval to the Field Element Manager or appropriate Federal Manager.

- o. Review no less than every three years, and update if appropriate, or prior to significant changes to the site/facility/activity or hazardous material inventories. For example, significant changes are those changes which would result in a positive Unreviewed Safety Question for nuclear facilities, as defined in 10 CFR Part 830, *Nuclear Safety Management*, or in a positive Unreviewed Safety Issue for accelerator facilities, as defined in DOE O 420.2C, *Safety of Accelerator Facilities*.
  - p. If the triennial review of the EPHA determines that there are no updates required, a letter to the Field Element Manager or appropriate Federal Manager must be submitted to document the review and provide notification that an update is unnecessary.
  - q. Changes that result in a reduction of hazards with no adverse effect on safety or emergency preparedness and response may be included in the next scheduled review and update.
  - r. The Office of Secure Transportation (OST) must develop an EPHA for its shipments to provide the all-hazards planning basis for the OST Emergency Program. See Attachment 5. Host sites must incorporate the OST EPHA into the site-level emergency management program.
  - s. Develop an EPHA for shipments that do not satisfy governing Department of Transportation (DOT) regulations and specifications for commercial hazardous materials transport; however, if a shipment satisfies DOT regulations and specifications, then an EPHA is not required.
  - t. Develop site/facility/activity-specific EALs for the spectrum of potential Operational Emergencies identified by the EPHA and include protective actions corresponding to each EAL.
  - u. Adjust the emergency management program to be commensurate with hazards that remain after a decontamination and decommission action is completed at each DOE closure site/facility.
3. EMERGENCY RESPONSE ORGANIZATION. See Attachment 3.
4. EMERGENCY OPERATIONS SYSTEM. See Attachment 3.
5. TRAINING AND DRILLS. In addition to the training and drill requirements contained in Attachment 3, DOE sites/facilities/activities with an Emergency Management Hazardous Materials Program must also maintain a training and drill program that includes additional capability based upon the results of the EPHAs. These DOE sites/facilities/activities must accomplish the following.
- a. Emergency Response Organization. The training and drills program must –
    - (1) consist of self-study, classroom training, or drills;

- (2) include training on EPHAs and EALs to appropriate ERO members; and
    - (3) consist of emergency categorization and classification training to those personnel who perform this function.
  - b. Develop and conduct drills determined to be needed to supplement exercises for ERO activities involving hazardous materials releases based upon the EPHAs.
  - c. First Response Agencies. The training and drills programs must make training available on unique hazards, as appropriate, to emergency responders, both primary and mutual aid. This may include equipment, hazardous materials identified in the EPHA, or facility configuration.
  - d. Each Defense Nuclear Facility must conduct drills, using a graded approach, involving the Operations staff, Emergency Management staff, onsite Incident Command staff, and EOC staff. In developing the Drills and Training program each Defense Nuclear Facility must consider:
    - (1) elements of the EOC staff for Operational Emergencies;
    - (2) drill scenarios that are representative of the hazards/threats identified in the all-hazards planning basis;
    - (3) annual drills integrating the ERO with conduct of operations drills as initiating events;
    - (4) evaluations of drill design and content, to include participants, for continuous improvement regardless of the scope or mechanism; and
    - (5) rotation of shifts involved in the drill, and include unannounced drills, as well as drills during low staffing levels.
6. EMERGENCY MEDICAL SUPPORT. See Attachment 3.
7. OFFSITE RESPONSE INTERFACES. In addition to the offsite interface requirements contained in Attachment 3, DOE sites/facilities/activities with an Emergency Management Hazardous Materials Program must also coordinate with local, state, tribal, and federal organizations.
  - a. Address protective actions recommended offsite based upon the results of EPHAs.
  - b. Determine a notification process to use during emergencies when protective actions may be recommended offsite.
  - c. Provide information from EPHA analyses to appropriate state and county agencies on bounding event scenario distance at which PAC would be exceeded

and plume arrival times at specific offsite receptors, so that offsite organizations can make decisions regarding the appropriate level of preparedness and response.

- d. For Emergency Management Hazardous Materials Program facilities with General Emergencies involving radiological material releases, ensure adequate planning for offsite radiological monitoring support to local and state governments.
8. **EMERGENCY CLASSIFICATION.** In addition to the emergency categorization requirements contained in Attachment 3, DOE sites/facilities/activities with an Emergency Management Hazardous Material Program must also have provisions to classify incidents involving the actual or potential airborne release of (or loss of control over) hazardous materials from an onsite facility/activity as an Alert, Site Area Emergency, or General Emergency based on health effects parameters measured or estimated at 30 meters, 100 meters, and the site boundary and compared with the appropriate protective action criterion. DOE sites/facilities/activities with a Hazardous Material Program must accomplish the following.
- a. Establish procedures to classify Operational Emergencies (as an Alert, Site Area Emergency, and General Emergency) based upon the appropriate PAC listed below.
    - (1) For radioactive material, the Protective Action Guides (PAGs) promulgated by the Environmental Protection Agency (EPA) must be used.
    - (2) For chemicals, the PAC, listed in order of preference, must be used: Acute Exposure Guideline Levels (AEGs) (60-minute values/level 2) promulgated by the EPA; Emergency Response Planning Guidelines (ERPGs) (level 2 values) published by the American Industrial Hygiene Association; and Temporary Emergency Exposure Limits (TEELs) (level 2 values) developed by DOE. A DOE specific PAC data set (including AEGs, ERPGs, and TEELs), may be reference at <https://sp.eota.energy.gov/pac/>.
    - (3) For hazardous biological materials and toxins identified in Attachment 3, PAC are considered exceeded and immediate protective actions are required for any actual or potential release of agents or toxins outside of secondary containment barriers. Long-term PAC are specified by State or local public health officials.
  - b. Classify as either an Alert, Site Area Emergency, or General Emergency, in order of increasing severity, when incidents occur that represent a specific threat to workers and the public due to the release or potential release of significant quantities of hazardous materials. Classification aids in the rapid communication of critical information and the initiation of appropriate time-urgent emergency response actions. The classification levels are:



- (1) Alert. An Alert must be declared 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 under one or more of the following situations.
  - (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 protective action criterion at or beyond 30 meters but not beyond 100 meters from the point of release or beyond the site boundary.
  - (b) An actual or potential substantial degradation in the level of safety or security of a nuclear weapon, component, or test device at a fixed site/facility that would not pose an immediate threat to workers or the public.
  
- (2) Site Area Emergency. A Site Area Emergency must be declared when incidents are predicted, in progress, or have occurred that result in an actual or credible threat of substantial degradation in the level of control over hazardous materials under one or more of the following situations.
  - (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 protective action criterion at or beyond 100 meters from the point of release but not at or beyond the 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) General Emergency. A General Emergency must be declared when incidents are predicted, in progress, or have occurred that result in an actual or credible threat of substantial degradation in the level of control over hazardous materials under one or more of the following situations.
  - (a) The radiation dose from any release of radioactive material or a concentration in air from any release of other hazardous chemical is expected to exceed the applicable protective action criterion at or beyond the site boundary.
  - (b) Actual or likely catastrophic failures in safety or security systems threatening the integrity of a nuclear weapon, component, or test device that may adversely impact the health and safety of workers and the public.

- c. Respond appropriately to each emergency classification level. Actions required for response to an Operational Emergency must be implemented. See Attachment 3, Section 4.
  - (1) Alert. Declaration of an Alert does not necessarily require the activation of response centers.
  - (2) Site Area Emergency. Declaration of a Site Area Emergency requires the same response as for an Alert plus notification and assembly of emergency response personnel and equipment to activate response centers and to establish communications, consultation, and liaison with offsite authorities.
  - (3) General Emergency. Declaration of General Emergency requires the same response as for a Site Area Emergency, plus the notification, mobilization, and dispatch of all appropriate emergency response personnel and equipment, including appropriate DOE emergency response assets, and liaison with offsite authorities for the recommendation of predetermined public protective actions.
9. PROTECTIVE ACTIONS. In addition to the protective action requirements contained in Attachment 3, DOE sites/facilities/activities with an Emergency Management Hazardous Material Program must also accomplish the following.
  - a. Identify predetermined onsite protective actions and offsite protective action recommendations consistent with the hazard (internal vs. external exposure) and duration of the release (short vs. long) based upon the results of EPHAs.
  - b. Identify and evaluate incidents in which combinations of protective actions for varying facilities/activities may apply.
  - c. Identify authorities for the lifting or adjustment of protective actions, once protective actions have been taken.
  - d. Establish methods for controlling, monitoring, and maintaining records of personnel exposures to hazardous materials.
  - e. Establish methods for controlling access to contaminated areas and for decontaminating personnel or equipment exiting the area.
  - f. Identify actions that may be taken to increase the effectiveness of protective actions, such as shutdown of heating, ventilation, and air conditioning during sheltering-in-place.
  - g. An Incident Commander qualified at the 29 CFR 1910.120(q)(6)(v) level may use standard industry practices (e.g., DOT/ERG, MSDSs, etc.) in accordance with OSHA 1910.120 for initial immediate protective actions. For EPHA facilities, verification that the initial immediate protective actions are consistent with the

technical planning basis (i.e., EPHA/EALs) for the facility is required within 15 minutes of protective action issuance and implementation.

10. CONSEQUENCE ASSESSMENT. DOE sites/facilities/activities with an Emergency Management Hazardous Material Program must compute and correctly assess in a timely manner throughout the emergency the estimates of onsite and offsite consequences of actual or potential releases of hazardous materials that consider site specific characteristics (i.e., topography, meteorology). These DOE sites/facilities/activities must accomplish the following.
  - a. Establish provisions to conduct consequence assessment that is –
    - (1) integrated with emergency classification and protective action decision-making;
    - (2) incorporated with facility and field indications and measurements, as required per the Emergency Management Plan; and
    - (3) coordinated with offsite agencies.
  - b. 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 onsite and offsite consequences.
  - c. Maintain the capability to use the National Atmospheric Release Advisory Center as part of near real-time consequence assessment activities for the mode (primary, backup, corroborating) selected by the site/facility/activity.
  - d. Ensure that facility/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 in a timely manner to facilitate near real-time computations.
  - e. Maintain consequence assessment and atmospheric dispersion modeling resources with the capability to –
    - (1) conduct timely initial assessment by producing a plume projection product for the worst-case and actual source term described in paragraph 10b above;
    - (2) indicate the distance to 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 (e.g. field data, source term, etc.) becomes available; and
- (4) maintain field monitoring capabilities to perform field monitoring activities to confirm the plume boundaries as required per the Emergency Management Plan.

11. EMERGENCY FACILITIES AND EQUIPMENT/SYSTEMS. In addition to the emergency facilities and equipment requirements contained in Attachment 3, DOE sites/facilities/activities with an Emergency Management Hazardous Materials Program must also establish and maintain the following facilities and equipment.

- a. Emergency Operations Center. Designate and maintain a facility for use as an Emergency Operations Center. The EOC must;
  - (1) be accessible on a twenty-four hour basis to authorized onsite and offsite ERO members;
  - (2) be equipped with systems and equipment to support EOC activities, e.g., information management, mapping, and secure and non-secure communications;
  - (3) be equipped with an information management system that provides a single access point for collection and dissemination of emergency event information and provides status reports to the Headquarters Emergency Operations Center;
  - (4) certify HEPA filters at an approved test facility, if occupants rely on HEPA filters for protection from airborne contaminants; and
  - (5) ensure that the system removes the types of plausible contaminants, if occupants rely on a filtration system for habitability.
- b. Alternate Emergency Operations Center (AEOC). Maintain an AEOC capability (e.g., physical, virtual, or mobile) that can perform the key functions of the primary EOC if the primary EOC is not available. 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. AEOC must be located outside the EPZ or located so both it and the primary are not impacted by the same incident (i.e., upwind from the prevailing wind direction).
- c. New Emergency Operations Center. Incorporate the following criteria into the design, construction, and maintenance of new EOCs at DOE sites with Defense Nuclear Facilities.
  - (1) If the EOC is located within the EPZ, it must be able to remain habitable during radiological and hazardous materials releases.

- (2) In order to withstand natural phenomena incidents, the EOC must be designated as an Essential Facility in accordance with the International Building Code or state/regional/local equivalent building code (if approved by the Field Element Manager or appropriate Federal Manager per DOE Order 420.1C, Administrative Change 1, *Facility Safety*) and meet the design requirements of the applicable building code.
- (3) The EOC must be capable of sustaining emergency operations for a minimum of 72 hours during severe events when site or commercial infrastructure may be disrupted.
- (4) 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 this Order, is exempt from the requirements of paragraph 11.c.

d. Joint Information Center.

- (1) Have provisions in place to establish a Joint Information Center (JIC) to serve as a working location, where multiple jurisdictions gather, process and disseminate public information during an emergency.
- (2) Maintain equipment and systems to support JIC activities to include public inquiry, media inquiry, media monitoring, media support services, and management and administrative activities.
- (3) Identify a location for the JIC outside the EPZ.

e. Communications Equipment.

- (1) Maintain EOC primary and backup communications capabilities adequate to support incidents identified in the EPHAs.
- (2) Maintain equipment capable of transmitting information in a secured fashion if classified or controlled unclassified information is generated, handled, or stored by the site/facility/activity.

f. Meteorological Monitoring Equipment.

- (1) Maintain a meteorological capability to provide real-time onsite/local meteorological data and maintain access to meteorological expertise for site consequence assessments.
- (2) The onsite data collection, processing, and availability must meet current guidance and standards and must be appropriate for the level of incident possible per current guidance and standards (DOE O 458.1, Administrative Change 3, *Radiation Protection of the Public and the*

*Environment and DOE-HDBK-1216-2015, Environmental Radiological Effluent Monitoring and Environmental Surveillance).*

- (3) Maintain or access a meteorological modeling capability or access to reliable real-time offsite meteorological data to conduct proper offsite consequence assessment activities if the site/facility/activity has EPHA results that indicate the potential for a General Emergency.
  - g. Defense Nuclear Facilities must identify onsite emergency response facilities (i.e., primary EOCs, control rooms, operation centers, medical facilities, fire departments). For these facilities, the DOE facility/site must—
    - (1) develop compensatory measures for onsite emergency response facilities that are not survivable and habitable, and
    - (2) maintain and test safety functions and features to ensure they function as designed.
  - h. Defense Nuclear Facilities must –
    - (1) develop safe shutdown or walkaway strategies for equipment and facilities during emergencies, and
    - (2) ensure a transition of responsibilities and required actions between normal work activities, incident activities, and recovery operations.
12. NOTIFICATIONS AND COMMUNICATIONS. Notify local, state, Tribal, and federal authorities of classified Operational Emergencies within 15 minutes of categorization.
13. EMERGENCY PUBLIC INFORMATION. In addition to the emergency public information requirements contained in Attachment 3, DOE sites/facilities/activities with an Emergency Management Hazardous Materials Program must also maintain staff and expertise to perform emergency public information activities that include –
  - a. public and media inquiry activities;
  - b. availability of personnel with technical expertise related to the emergency; and
  - c. coordination and direction by the Field Element Manager or appropriate Federal Manager public affairs manager or designee.
14. TERMINATION AND RECOVERY.
  - a. Predetermined criteria for termination of emergencies must be established.
  - b. The means must exist for estimating exposure to hazardous materials and for protecting workers and the general public from exposure during reentry and recovery activities.

- c. Recovery procedures must include: dissemination of information to Federal, State, Tribal, and local organizations regarding the emergency and possible relaxation of public protective actions; planning for decontamination actions; establishment of a recovery organization; development of reporting requirements; and establishment of criteria for resumption of normal operations.
  - d. The decision to terminate an Operational Emergency classified as an Alert, Site Area Emergency, or General Emergency must be based on the perceived need for the ERO to remain fully active to monitor and manage the situation. The decision to terminate an Operational Emergency not requiring classification must be a formal announcement or formal acknowledgement that the situation is stabilized and that the response activity is ending or has been substantially scaled back.
15. READINESS ASSURANCE. In addition to the readiness assurance requirements contained in Attachment 3, DOE sites/facilities/activities with an Emergency Management Hazardous Material Program must also establish and maintain a site-level exercise program that validates its emergency response capability to the hazards identified in EPHAs. These DOE sites/facilities/activities must accomplish the following.
- a. Develop a formal exercise program that includes –
    - (1) a matrix that identifies planned exercises over the next five years and elements tested;
    - (2) rotation among scenarios identified in the Technical Planning Basis;
    - (3) exercise scenarios involving radiological hazardous materials, if applicable;
    - (4) a method for determining the appropriate number of exercises, and rotation of exercise scenarios among hazardous material facilities over a five year period, to ensure demonstration of responder proficiency;
    - (5) invitation of offsite responding agencies and national assets, (e.g., Centers for Disease Control, Department of Agriculture, etc.) every three years;
    - (6) severe event scenarios every five years;
    - (7) test of design control and/or mitigation features in multiple facilities;
    - (8) demonstration of ERO capability; and
    - (9) integration with local, State and Federal agencies.
  - b. Develop challenging exercises based on scenarios identified in the Technical Planning Basis that –
    - (1) involve high-consequence scenarios;

- (2) involve multiple response elements; and
  - (3) result in offsite effects.
- c. In order to test and demonstrate the site/facility/activity integrated emergency response capability, conduct the annual site-level exercise as a full-scale exercise involving site-level emergency response organization elements and resources. Invite some offsite response organizations to participate to participate in a full-scale or full participation exercise every 3 years. This exercise must –
  - (1) use a scenario from the spectrum of potential Operational Emergencies identified in EPHAs (rotated among facilities and type of incident and/or initiator), and
  - (2) include demonstration of protective actions.
- d. Conduct a site-level exercise for a severe incident as postulated by the all-hazards planning basis no less than once every 5 years. This exercise must involve the –
  - (1) release of hazardous materials at more than one facility/activity, and
  - (2) disruption to site infrastructure, such as power, telecommunications, or roadways, or the significant delay of mutual aid.
- e. EPHA facilities with facility-level EROs must evaluate facility-level emergency response capability and proficiency annually by initiating response to simulated, realistic emergency situations/conditions in a manner that, as nearly as possible, replicates an integrated emergency response to an actual event.
- f. DOE OST Host Sites must conduct an exercise no less than once every 5 years that assesses and validates emergency response training related to the Host Site's ability to respond effectively to an OST emergency at the Host Site.
- g. DOE sites that do not have any Defense Nuclear Facilities may request participation of the Department's Radiological Emergency Response Assets. Requests for their participation must be made to the Director, Office of Nuclear Incident Response, no less than 6 months prior to the exercise.
- h. DOE sites with a Defense Nuclear Facility or Facilities must conduct an exercise annually involving the Operations staff, Emergency Management staff, and Incident Command staff that includes –
  - (1) elements of the EOC staff for Operational Emergencies;
  - (2) regardless of the scope or mechanism, evaluate Operations staff, Emergency Management staff, Incident Command staff, and EOC staff for continuous improvement.



- i. DOE sites with a Defense Nuclear Facility or Facilities must conduct an exercise involving one or more of the Department's Radiological Emergency Response Assets no less than once every 3 years. Requests for participation of the Department's Radiological Emergency Response Assets must be made to the Director, Office of Nuclear Incident Response, no less than 6 months prior to the exercise.
  
- j. Defense Nuclear Facilities must perform the following.
  - (1) Conduct causal analysis to determine corrective actions for findings identified as a result of noncompliance for life safety.
  - (2) Develop formal corrective action plans for identified findings. The corrective action plan must be approved by the Field Element Manager. The Field Element Manager must ensure effective corrective actions are tracked, identified, and implemented.
  - (3) Evaluate the effectiveness of corrective actions through verification and validations conducted by an independent reviewer.
  - (4) Identify compensatory measures for findings until causal analysis is performed and corrective actions are identified and implemented.



## SECURE TRANSPORTATION

This Attachment provides information and/or requirements associated with DOE O 151.1D as well as information and/or requirements applicable to contracts in which the associated Contractor Requirements Document (Attachment 1 to DOE O 151.1D) is inserted.

This Attachment provides information and requirements associated with DOE O 151.1D applicable to the NNSA, Secure Transportation Operations.

The Office of Secure Transportation (OST) is responsible for providing safe and secure transportation of nuclear weapons, nuclear weapon components, and special nuclear materials (SNMs) in support of the national security of the United States of America. In addition to the applicable Emergency Management Core Program requirements contained in Attachment 3 and the applicable Emergency Management Hazardous Materials Program requirements contained in Attachment 4, OST must establish and maintain an emergency management program consistent with the requirements of this Attachment. The requirements of this Attachment apply to all elements of secure transportation and will take precedence in cases of conflict with other provisions of this Order.

1. OST ROLE DURING AN EMERGENCY. OST emergencies can occur on a DOE site, U.S. Department of Defense (DoD) installation, or at an offsite civilian location during transport. The OST response requirements for each location include:
  - a. DOE Host Site/Facility. If an emergency occurs at a DOE host site or facility, officials at that site have the responsibility for managing the emergency. OST must aid and assist the host site in accordance with *Concept of Operations between NNSA Host Sites and the Office of Secure Transportation*. OST must also accomplish the following.
    - (1) Provide host-site responders with all necessary documentation about the specific hazardous materials being transported.
    - (2) Integrate, coordinate, and communicate through the host site's Incident Command System (ICS) and Emergency Response Organization (ERO), and subsequent Unified Command as conditions allow.
    - (3) Maintain 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.
    - (4) Declare an Operational Emergency and, in turn, the OST Emergency Response Organization Cadre (EROC) will respond.
  - b. Department of Defense Installation. If an emergency occurs on a DoD installation, officials at that site have the responsibility of managing the response in accordance with DoD regulations. The DoD installation will provide the

Incident Commander. To aid in the response, OST must also accomplish the following.

- (1) Provide DoD responders with all necessary documentation about the specific hazardous materials being transported.
- (2) Declare an Operational Emergency, and, in turn, the OST EROC will be recalled.
- (3) Maintain 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.
- (4) Participate in security activities as they pertain to OST equipment and transportation of hazardous materials.
- (5) Assist DoD response elements as requested.

c. Civilian Location. If an emergency occurs at a civilian location, OST must accomplish the following:

- (1) Retain custody of the cargo.
- (2) Provide security for the shipment.
- (3) Assume responsibilities as the initial Incident Commander and participate in the Unified Command with responding agencies.
- (4) Declare an Operational Emergency, and, in turn, the OST EROC will be recalled.

## 2. SECURE TRANSPORTATION EMERGENCY MANAGEMENT CORE PROGRAM.

a. Program Administration and Management. OST must provide oversight of the following OST facilities.

- (1) Agent Operations Eastern Command located adjacent to the Y-12 National Security Complex in Oak Ridge, Tennessee.
- (2) Agent Operations Central Command located on the NNSA Pantex Plant in Amarillo, Texas.
- (3) OST Training Command located on Fort Chaffee Maneuver Training Center in Barling, Arkansas.
- (4) Agent Operations Western Command located on Kirtland Air Force Base, Albuquerque, New Mexico.

- b. Emergency Medical Support. Emergency medical response for OST personnel must be addressed by the host site and covered by its documented arrangements with medical facilities to accept and treat contaminated, injured personnel.
- c. Emergency Public Information. Procedures must be developed to ensure coordination of emergency public information activities between the host-site and the OST Headquarters General Counsel.
- d. Emergency Termination and Recovery. OST must develop procedures in coordination with host sites that address emergency termination and identification and documentation of recovery actions prior to OST personnel returning to their workplace.

3. GROUND TRANSPORTATION HAZARDOUS MATERIALS PROGRAM.

- a. Program Administration and Management. OST must accomplish the following:
  - (1) Review no less than annually emergency response procedures for each DOE site/facility and each DoD facility to or from which OST transports cargo.
  - (2) Develop and maintain procedures to establish a National Security Area (NSA) if applicable during an Operational Emergency.
  - (3) Develop and maintain procedures that ensure reports prepared by the OST EOC are reviewed by a derivative classifier and the Emergency Manager for classified information and Controlled Unclassified Information prior to release.
- b. Emergency Categorization. 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 classified as an Operational Emergency. OST must not further classify an Operational Emergency.
  - (1) A terrorist 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, or potential damage, to a nuclear explosive, nuclear explosive-like assembly, or Category I/II quantity of SNM.
- c. Consequence Assessment and Protective Actions. Consequence assessment activities must be integrated with protective action decision-making and coordinated with on-scene agencies.
- d. Emergency Public Information. A procedure must be established and maintained to provide timely and accurate emergency information to NNSA Headquarters Public Affairs Office for its coordination among DOE, state, local, and other Federal agencies prior to release.
- e. Termination and Recovery. Vehicle recovery actions for OST equipment must only occur after a predetermined set of criteria has been met and termination has been coordinated between Unified Command at the scene (including the Senior Energy Official), OST Headquarters, DOE Headquarters, and other participating Federal agencies.
- f. ERO Training and Drills. OST must accomplish the following.
  - (1) Provide ICS training to Federal Agents to ensure their ability to integrate into a state and local Unified Command organization in response to an OST transportation emergency; and
  - (2) Conduct a minimum of one drill per quarter.
- g. Exercises. To validate the OST emergency management program, OST must accomplish the following.
  - (1) Coordinate with the Office of Program Integration, Office of Training and Resources, Office of Mission Operations, and Office of Technical Services.
  - (2) Develop and implement an exercise program.
  - (3) Conduct no less than one exercise annually.
  - (4) Develop a five-year schedule that ensures at least one ERO exercise is conducted annually with a DOE site/facility, DoD installation, or civilian response agency.
- h. Notifications and Communications.
  - (1) Notifications. In addition to the Emergency Management Core Program requirements contained Attachment 3, OST Operational Emergency notification to the Headquarters Watch Office must also include –

- (a) location of the emergency, including coordinates,
- (b) security and condition of the cargo,
- (c) whether or not an NSA has been declared,
- (d) effect on other ongoing OST missions,
- (e) notifications made, and
- (f) weather conditions at the scene of the emergency.

- (2) Communications. OST EOC must coordinate the establishment of classified video teleconferencing with Headquarters Watch Office via the Emergency Communications Network as soon as possible after the OST EOC is declared operational.

#### 4. AVIATION OPERATIONS HAZARDOUS MATERIALS PROGRAM.

- a. General Requirements. By law, the Federal Aviation Administration (FAA), the National Transportation Safety Board (NTSB), and civil and military authorities at the airfields used by Aviation Operations Division aircraft have aviation incident responsibilities that supersede NNSA OST authority during an aviation emergency.
- b. Program Administration and Management. To provide effective organizational management and administrative control of the OST Aviation Emergency Program, OST must establish and implement procedures for responding to an aviation emergency. OST aviation operations must accomplish the following.
  - (1) Develop and implement appropriate plans and procedures, consistent with FAA, DOE, and NTSB guidance to ensure an effective aviation emergency operations program.
  - (2) Implement aviation-specific criteria that reflects aviation operational emergency requirements.
  - (3) Develop and implement appropriate and valid security procedures for use during aviation operational emergencies in the civilian community, Federal facilities, and military installations.
  - (4) Develop and implement procedures for establishing and maintaining a National Security Area during an aviation operational emergency, as authorized by the Atomic Energy Act of 1954 and the Nuclear/Radiological Incident Annex to the National Response Framework.

- (5) Develop and maintain procedures that ensure reports prepared by the OST EOC are reviewed by a derivative classifier and the Emergency Manager for classified information and Controlled Unclassified Information prior to release.
- c. Emergency Response Organization. OST must assign a Duty Officer as a liaison for all aviation emergency actions.
- d. Exercises. OST must plan, develop, and conduct no less than one aviation operational emergency exercise every two years. This exercise must include participation of the entire OST ERO.
- e. Communications. OST Aviation Convoy Commander must implement communication procedures with the appropriate aviation authorities (FAA, DoD, NTSB, and other State and/or Federal Agencies).



## **ENERGY EMERGENCY RESPONSE SUPPORT**

The Department must be able to monitor, respond, and, when appropriate, bring to bear the full capabilities necessary to address a broad range of threats and hazards that could impact the nation's energy infrastructure. This Attachment provides requirements related to energy sector and emergency incidents on a regional or national level and not defined elsewhere in this order.

The Office of Electricity Delivery and Energy Reliability (OE) is responsible for development and implementation of the DOE Energy Emergency Response Program. The Deputy Secretary is responsible for providing the strategic objectives for this Program, and for using the Emergency and Incident Management Council to appoint a lead DOE office for emergency assistance requests not already assigned to OE.

### 1. ENERGY EMERGENCY RESPONSE PROGRAM.

- a. Requirements. In support of the Federal Emergency Management Agency (FEMA) for declared disasters under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), DOE's Office of Electricity Delivery and Energy Reliability (OE) shall provide Emergency Support Function #12 (ESF #12) capabilities to (1) collect, evaluate, and share information on disaster impacts to energy infrastructure; and (2) facilitate the restoration of damaged energy infrastructure and systems. To meet these requirements, OE will ensure the following:
  - (1) Plans and Procedures. Development and maintenance of the Energy Emergency Response Plan that must:
    - (a) Include clear roles, responsibilities, and requirements associated with individual positions, operations, and interfaces,
    - (b) be reviewed annually and updated as necessary, and
    - (c) be integrated with DOE enterprise response plans and procedures, as appropriate, including the Emergency and Incident Management Council and line programs if their resources are addressed under the plan.
  - (2) Training.
    - (a) Training must be provided to all ESF #12 responders.
    - (b) Refresher training must be provided when plans, procedures, or systems/equipment change. Refresher training must also be provided annually to those responders who are likely to be deployed.

- (3) Exercises.
  - (c) At a minimum, one DOE exercise must be conducted annually to ensure that responders are able to perform core capabilities.
  - (d) OE staff will participate, as practical, in additional exercises sponsored by industry or other government entities.
- (4) Corrective Actions. Continuous improvement results from implementation of corrective actions in all types of findings.
  - (a) Corrective action plans must be developed within 30 working days of the finding.
  - (b) Corrective actions must be completed as soon as possible.
  - (c) Corrective actions addressing revision of procedures or training of personnel should be completed before the next annual training, when possible.
  - (d) Completion of corrective actions must include a verification and validation process that ensures implementation and validates effective resolution of the original finding.
- (5) Lessons Learned. The Program must include a system for incorporating and tracking lessons learned from training, drills, and actual responses.

b. Responsibilities.

- (1) Assistant Secretary, Office of Electricity Delivery and Energy Reliability. Is responsible for the Department's Energy Emergency Response Program and will:
  - (a) Provide strategic direction for the Infrastructure Security and Energy Restoration division.
  - (a) Recommend to the Secretary, Deputy Secretary, and Under Secretary directives and develops policy options for consideration on matters within delegated authority.
  - (b) Maintain operational awareness of the Department's Energy Emergency Response Program to ensure OE activities are conducted in accordance with this Order. Ensures the program provides a comprehensive and integrated approach to emergency management, including planning, preparedness, prevention, protection, mitigation, response, and recovery, and reports the results to DOE leadership through regular interactions.

- (c) Engage other Departmental elements as necessary and appropriate to coordinate assets and capabilities under their charge.
- (2) Deputy Assistant Secretary, Infrastructure Security and Energy Restoration. Is responsible for executing the strategic direction of the Deputy Secretary, Under-Secretary for Science and Energy and Assistant Secretary, and implementation of the Department's Energy Infrastructure Emergency Response Program, and will:
  - (a) Manage, direct, coordinate, and approve the activities, including administrative functions, of the Infrastructure Security and Energy Restoration division.
  - (b) Coordinate, including communication systems and protocols, DOE energy emergency response related activities, including intra and inter Departmental and international activities, working as appropriate with other Departmental entities.
  - (c) Prepare, manage, and approve interpretations, instructions, and guidance on matters within delegated authority for use by Department elements.
  - (d) Implement, manage, and coordinate a preparedness program, working 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.
  - (e) Disseminate information, as appropriate, to the Secretary, the Deputy Secretary, other DOE officials – including the Administrator of NNSA – other government agencies, and the public.
  - (f) Promote the Department's emergency management safety culture efforts.
- (3) Under Secretary for Science and Energy. Participates in the EIMC.
- (4) Other Departmental Elements. Participate in the EIMC as appropriate.

## 2. EMERGENCY ASSISTANCE REQUESTS.

- a. Requirements. The complex threat environment for physical and cyber-attacks on critical infrastructure highlight the importance of DOE providing timely and accurate information pertaining to affected infrastructure. The Department has responsibility as the Sector Specific Agency for energy under Presidential Policy Directive 21 to advance unity of effort to strengthen and maintain secure, functioning, and resilient critical infrastructure. Federal, state, local, tribal, and

territorial government partners, private sector stakeholders, and foreign governments increasingly rely on DOE to: (1) provide situational awareness of disaster impacts to energy infrastructure, (2) offer subject matter expertise to assess potential impacts and prescribe mitigation measures, and (3) facilitate the restoration of damaged infrastructure. As a result, the Department often receives requests for assistance related to energy-related incidents or emergencies. The Deputy Secretary will be responsible for appointing a lead DOE office for these requests for assistance. Unless otherwise directed by the Deputy Secretary through the Emergency and Incident Management Council (EIMC), OE will be the lead DOE office for all requests for assistance related to energy infrastructure.

- (1) Plans and Procedures. To ensure a clear and consistent process for appointing a lead DOE office for emergency assistance requests, the Deputy Secretary will use the EIMC. As such, the Deputy Secretary will direct the development and maintenance of a concept of operations document for the EIMC that will:
  - (a) List the Members of the Council by position title.
  - (b) Provide clear roles, responsibilities, and requirements associated with membership on the Council.
  - (c) Include a schedule for regular Council meetings, and a process for requesting and scheduling additional meetings based on requests for DOE assistance.
  - (d) Include requirements for regular preparedness exercises for the Council.
  - (e) Define operational parameters for responding to such requests outlining programmatic and appropriation limitations, regulatory basis, appropriate funding source, etc.
  - (f) Be reviewed annually and updated as necessary.
  - (g) Be integrated with DOE response plans and procedures.
- (2) Corrective Actions. Continuous improvement results from implementation of corrective actions in all types of findings.
  - (a) Corrective action plans must be developed within 30 working days of the finding.
  - (b) Corrective actions must be completed as soon as possible.
  - (c) Corrective actions addressing revision of procedures or training of personnel should be completed before the next annual training, when possible.

- (d) Completion of corrective actions must include a verification and validation process that ensures implementation and validates effective resolution of the original finding.
- (3) Lessons Learned. The Program must include a system for incorporating and tracking lessons learned from actual responses.
- b. Responsibilities.
  - (1) Deputy Secretary.
    - (a) Provides strategic direction by appointing a lead office for the Department's response efforts,
    - (b) Appoints a lead DOE office for emergency assistance requests.
    - (c) Enhances cooperation and coordination across DOE to prepare for, mitigate, respond to, and recover from major disruptions to energy systems across all-hazards requests for assistance.
  - (2) Appointed Lead Office
    - (a) As directed by the Deputy Secretary, and within the bounds of Departmental authority, the appointed lead office must coordinate a DOE response to national security threats or other events or conditions benefited by DOE assistance, expertise, resources, or assets.
    - (b) Accordingly, Departmental resources, emergency response assets, personnel, and/or facilities can be used by the appointed lead office, when appropriate, in coordination with the cognizant Departmental elements to support Federal Plans, Presidential directions, and State, local, or Tribal agreements of mutual aid. The lead program office will provide/coordinate funding to support work performed, including to DOE contractors.