

## DOE O 151.1D vs DOE O 151.1C Crosswalk

### DOE ORDER 151.1D, COMPREHENSIVE EMERGENCY MANAGEMENT SYSTEM

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### DOE ORDER 151.1C, COMPREHENSIVE EMERGENCY MANAGEMENT SYSTEM

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### COLOR CODE KEY

- Blue text is General requirements for 151.1D,
- Green text is Core Program requirements.
- Purple text is Hazmat requirements
- Black text is 151.1C requirements.
- Red text shows removal of a requirement.

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Attachment 2 – Contractor Requirements Document

CORE PROGRAM ELEMENTS	HAZMAT PROGRAM ELEMENTS	DOE O 151.1C
<p><u>Contractor Requirements Document</u></p> <ol style="list-style-type: none"> <li>1. <u>Program Administration and Management</u></li> <li>2. <u>All Hazards Planning Basis</u></li> <li>3. <u>Emergency Response Organization</u></li> <li>4. <u>Emergency Operations System</u></li> <li>5. <u>Training and Drills</u></li> <li>6. <u>Emergency Medical Support</u></li> <li>7. <u>Off-Site Response Interfaces</u></li> <li>8. <u>Emergency Categorization</u></li> <li>9. <u>Protective Actions</u></li> <li>10. <u>Emergency Facilities and Equipment/Systems</u></li> <li>11. <u>Notifications and Communications</u></li> <li>12. <u>Emergency Public Information</u></li> <li>13. <u>Termination and Recovery</u></li> <li>14. <u>Readiness Assurance</u></li> </ol>	<ol style="list-style-type: none"> <li>1. <u>Program Administration and Management</u></li> <li>2. <u>Technical Planning Basis</u></li> <li>3. <u>Emergency Response Organization</u></li> <li>4. <u>Emergency Operations System</u></li> <li>5. <u>Training and Drills</u></li> <li>6. <u>Emergency Medical Support</u></li> <li>7. <u>Off-Site Response Interfaces</u></li> <li>8. <u>Emergency Classification</u></li> <li>9. <u>Protective Actions</u></li> <li>10. <u>Consequence Assessment</u></li> <li>11. <u>Emergency Facilities and Equipment/Systems</u></li> <li>12. <u>Notifications and Communications</u></li> <li>13. <u>Emergency Public Information</u></li> <li>14. <u>Termination and Recovery</u></li> <li>15. <u>Readiness Assurance</u></li> </ol>	<ol style="list-style-type: none"> <li>1. <u>General Requirements</u></li> <li>2. <u>Operational Emergency Base Program</u></li> <li>3. <u>Operational Emergency Hazardous Materials Program</u></li> <li>4. <u>Program Administration</u></li> <li>5. <u>Training and Drills</u></li> <li>6. <u>Exercises</u></li> <li>7. <u>Readiness Assurance</u></li> <li>8. <u>Emergency Response Organization</u></li> <li>9. <u>Off-Site Response Interfaces</u></li> <li>10. <u>Categorization and Classification</u></li> <li>11. <u>Emergency Facilities and Equipment</u></li> <li>12. <u>Notifications and Communications</u></li> <li>13. <u>Consequence Assessment</u></li> <li>14. <u>Protective Actions and Reentry</u></li> <li>15. <u>Emergency Medical Support</u></li> <li>16. <u>Emergency Public Information</u></li> <li>17. <u>Termination and Recovery</u></li> </ol>

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<p><u><b>CONTRACTOR REQUIREMENTS DOCUMENT</b></u>                      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.</p>	Attachment 1	<p><u><b>GENERAL REQUIREMENTS</b></u>                      Contractors must develop and implement a Comprehensive Emergency Management System designed to:—</p>	1.
<p>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.”</p>	Attachment 1	<p>Minimize the consequences of all emergencies involving or affecting Departmental facilities, and activities (including transportation operations/activities);</p>	1.a
<p>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.</p>	Attachment 1	<p>Protect the health and safety of all workers and the public from hazards associated with DOE/NNSA operations and those associated with decontamination, decommissioning, and environmental restoration;</p>	1.b
<p>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.</p>	Attachment 1	<p>Prevent damage to the environment; and</p>	1.c
<p>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</p>	Attachment 1	<p>Promote effective and efficient integration of all applicable policies, recommendations, and requirements including federal interagency emergency plans.</p>	1.d.

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<p>Requirements Document (Attachment 1 to DOE O 151.1D) is inserted.</p> <p>Each DOE site, facility, and activity must establish and maintain an emergency management program that complies with the Emergency Management Core Program requirements.</p>		<p>Contractors must implement and document an integrated Operational Emergency Base Program (see also DOE O 151.1C, Chapter III) for each facility and activity.</p>	2.
<p><b><u>PROGRAM ADMINISTRATION AND MANAGEMENT</u></b>            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—</p>	Attachment 3 1.	<p><b><u>PROGRAM ADMINISTRATION</u></b>            Effective organizational management and administrative control of the facility emergency management program must be provided by establishing and maintaining authorities and resource necessary to plan, develop, implement, and maintain a viable, integrated, and coordinated comprehensive emergency management program. [See DOE O 151.1C, Chapter XI, Program Administration.]</p>	4.
<p>Designate an individual to administer the emergency management program. This individual must –</p>	Attachment 3 1.a.	<p>The contractor at all DOE/NNSA facilities must designate an individual to administer emergency management. This individual must develop and maintain the emergency plan, develop the ERAP and annual updates, develop and conduct training and exercises programs, coordinate assessment activities, develop related documentation, and coordinate emergency resources.</p>	4.a.
<p>Be responsible for and have authority for day-to-day operation and maintenance of the emergency management program;</p>	1.a.(1)		
<p>Have access to management personnel who have authority for site/facility/activity-level resources and operations;</p>	1.a.(2)		
<p>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;</p>	1.a.(3)		
<p>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);</p>	1.a.(4)		

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Oversee implementation of the emergency management plan in accordance with the requirements of this order;	1.a.(5)		
Approve and/or concur on planning documents addressing the program elements listed below in paragraph 1a(7); and	1.a.(6)		
Ensure the emergency management program addresses the elements of the Emergency Management Core Program.	1.a.(7)		
<p>Program Management and Administration</p> <p>All-Hazards Planning Basis</p> <p>Emergency Response Organization</p> <p>Emergency Operations System</p> <p>Training and Drills</p> <p>Emergency Medical Support</p> <p>Offsite Response Interfaces</p> <p>Emergency Categorization</p> <p>Protective Actions</p> <p>Emergency Facilities and Equipment</p> <p>Notifications and Communications</p> <p>Emergency Public Information</p> <p>Termination and Recovery</p> <p>Readiness Assurance</p> <p>Consequence Assessment</p>	1.a.(7) (a)-(n)		
In addition to the requirements of the Emergency Management Core Program, implement the emergency management program requirements contained in Attachments 4, 5, 6, and 7 of this order for those sites/facilities/activities to which they apply.	Attachment 3 1.b.		
<p><u>Attachment 4, Emergency Management Hazardous Material Program</u></p> <p>This attachment contains additional requirements for sites/facilities/activities with hazards that are not screened out by the hazards screening process in Attachment 3.</p>	Attachment 3 1.b.(1)		
<p><u>Attachment 5, Secure Transportation</u></p> <p>This attachment contains specific emergency management program requirements for the activities performed by the Office of Secure Transportation.</p>	1.b.(2)		

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<u>Attachment 6, National Response Support</u> 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.	1.b.(3)		
Develop and maintain an all-hazards emergency management plan. The emergency management plan must be implemented and maintained –	Attachment 3 1.c.	The contractor at all DOE/NNSA facilities must document the Emergency Management Program in an emergency plan that also <b>describes the provisions for response to an Operational Emergency.</b>	4.c.
Reviewed and documented annually, and updated and approved no less than every three years.	1.c.(1)		
Updated if there are significant changes to the program plan (i.e., changes to organization structure, Emergency Planning Zones, etc.);	1.c.(2)		
Submitted to the Field Element Manager or appropriate Federal Manager for approval.	1.c.(3)		
Develop and maintain procedures that describe how the emergency management plan must be implemented and maintained.	1.d.	The contractor at all DOE/NNSA facilities must develop Emergency Plan Implementing Procedures to describe how emergency plans must be implemented.	4.d.
Use a controlled document system for the emergency management plan and related procedures and documentation.	1.e.	An emergency management document control system that meets industry standards for document review, approval, distribution, and change control is established or emergency management documents are controlled under an existing site-wide document control system. An auditable administrative program for ensuring the availability of vital records (i.e., essential to the continued functioning or reconstitution of an organization during or after an emergency), regardless of media, is established and reliably maintained (Cf. DOE O 243.2). If classified information or materials are being used or generated, effective security procedures and controls are implemented, and security reviews are conducted.	GUIDE
Identify a process for review, approval, and distribution of the emergency management plan and related procedures and documentation.	1.f.		
Develop and maintain agreements for the transport, acceptance, and treatment of potentially contaminated injured personnel, as applicable. See paragraph 6 of this Attachment.	1.g.	Arrangement with off-site medical facilities to transport, accept, and treat contaminated, injured personnel are established, documented, and periodically reviewed.	GUIDE

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Address interoperability, integration and interface with jurisdictional responders for severe incidents with regional impacts.	1.h.		
Review emergency management documents for classified information and Unclassified Controlled Nuclear Information.	Attachment 3 1.i.	The contractor at all DOE/NNSA facilities that are generating classified information or Unclassified Controlled Nuclear Information (UCNI), or are conducting classified or UCNI operations, must review all emergency preparedness documents, such as plans, procedures, scenarios, and assessments for classified information and UCNI. This review must be conducted by the appropriate official using current guidance. If the EPHAs do not contain classified information or UCNI, they must be reviewed by the emergency management program administrator to determine if they contain potentially exploitable information. EPHAs containing potentially exploitable information must be protected as Official Use Only under exemption 2 of the Freedom of Information Act.	4.b.
Identify and maintain emergency operating vital records in accordance with 36 CFR 1236, Electronic Records Management.	1.j.	The contractor at all DOE/NNSA facilities must 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 1236.	4.e.
<p><b><u>ALL HAZARDS PLANNING BASIS</u></b>  <u>All-Hazards Survey</u>                      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:</p>	Attachment 3 2.	<p><b><u>OPERATIONAL EMERGENCY BASE PROGRAM</u></b>                      The Operational Emergency Base Program must be based on a Hazards Survey. A Hazards Survey is an examination of the features and characteristics of the facility or activity to identify the generic emergency events and conditions (including natural phenomena such as earthquakes and tornadoes; wild land fires; and other serious events involving or affecting health and safety, the environment, safeguards, and security at the facility) and the potential impacts of such emergencies. [See also DOE O 151.1C, Chapter III, paragraph 3a.]</p>	2.a.
		Each Hazards Survey may cover multiple facilities. One Hazards Survey may be prepared to cover an entire site.	2.a.(2)

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Describe the applicable potential health, safety, or environmental impacts;	a.	Describe the potential health, safety, or environmental impacts;	2.a. (1)(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;	b.	Identify the planning and preparedness requirements that apply to each type of hazard.	2.a. (1)(d)
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.	c.	Hazards surveys must be updated every three years and prior to significant changes to the site/facility or to hazardous material inventories. For example, significant changes are those changes which would result in an unreviewed safety question for nuclear facilities, as defined in 10 CFR 830, or in an unreviewed safety issue for accelerator facilities, as defined in DOE O 420.2B. 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.	2.a.(3)
<p><u>Performing an All-Hazards Survey</u> The All-Hazard Survey must: Address the following.</p>	Attachment 3 2.d.(1)	The Operational Emergency Base Program must be based on a Hazards Survey. A Hazards Survey is an examination of the features and characteristics of the facility or activity to identify the generic emergency events and conditions (including natural phenomena such as earthquakes and tornadoes; wild land fires; and other serious events involving or affecting health and safety, the environment, safeguards, and security at the facility) and the potential impacts of such emergencies. [See also DOE O 151.1C, Chapter III, paragraph 3a.]	2.a.
<u>Natural hazards</u> , which result from acts of nature, such as hurricanes, earthquakes, tornadoes, animal disease outbreak, pandemics, or epidemics.	(a)	Each Hazards Survey must—identify (e.g., in matrix or tabular form) the emergency conditions (e.g., fires, work place accidents, natural phenomena, etc.);	2.a. (1)(a)
<u>Technological hazards</u> , which result from accidents or the failures of systems and structures, such as hazardous materials releases, or dam failures.	(b)		

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<p>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.</p>	(c)		
<p>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.</p>	2.d.(2)		
<p>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.</p>	2.d.(2)(a)		
<p>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.</p>	2.e.	<p>A 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.</p>	2.b.
		<p>In general, to meet the definition of an Operational Emergency [CRD paragraph 11], the release of a hazardous material must: immediately threaten or endanger personnel and emergency responders who are in close proximity of the event; have the potential for dispersal beyond the immediate vicinity of the release in quantities that threaten the health and</p>	2.b.(1)

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		safety of on-site personnel or the public in collocated facilities, activities, and/or off site; and have a potential rate of dispersal sufficient to require a time-urgent response to implement protective actions for workers and the public.	
All hazardous materials (i.e., radiological, biological agent/toxin, chemical, and explosive) at a DOE site must be considered in the screening.	(1)	The hazardous material screening process must identify all hazardous materials in a facility/activity that require further analysis in an EPHA.	2.b.(2)
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.	2.e.(1)(a)		
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.e.(1)(b)	Indicate the need for further analyses of hazardous materials in an Emergency Planning Hazards Assessment (EPHA), based on the results of the hazardous material screening process described in paragraph 2b below; and	2.a. (1)(c)
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:	2.e.(1)(b)		
Container is interconnected with other containers	2.e.(2)(a)		
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	2.e.(2)(b)		
Exclusions 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).	2.e.(3)(a)	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	Chapter III 3.b.(2)(b) <u>2</u>

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		<p>"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).</p> <p>Materials in solid form that cannot be reduced to small particles (less than about 10 microns in diameter) by some plausible mechanism can be excluded from quantitative analysis because they cannot be suspended and transported in air. Materials stored in DOT Type B shipping containers with overpack may be excluded, if the Certificates of Compliance are current and authorize the specific materials stored.</p>	GUIDE
<p>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 &gt; 10 microns and solid materials with no plausible release scenario to reduce the material to particles &lt; 10 microns; liquids with a vapor (partial) pressure of &lt;10 mmHg at 25oC; and aqueous solutions where the hazardous component(s) is a non-volatile solute.</p>	(b)		
<p>Materials with a Globally Harmonized System (GHS) Acute Toxicity Hazard Category of 3, 4, or 5, if approved for site use by the FEM.</p>	(c)		
<p>Solid or liquid materials with any GHS Corrosion/Irritation (skin or eye) Hazard Category, if approved for site use by the FEM.</p>	(d)		
<p>Gaseous materials with a GHS Corrosion/Irritation (skin or eye) Category 2 or 3, if approved for site use by the FEM.</p>	(e)		
<p>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.</p>	(f)		
<p>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</p>	(g)	<p>Radioactive materials that may be excluded from further analysis in a EPHA include: sealed radioactive sources that are engineered to pass the special form testing specified by the Department of Transportation</p>	2.b.(2) (a) <u>2</u>

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the Certificates of Compliance are current and the materials stored are authorized by the Certificate; and, materials used in exempt, commercially available products.		(DOT) or the American National Standards Institute (ANSI); materials in solid form for which there is no plausible dispersal mechanism; materials stored in DOT Type B shipping containers with overpack, if the Certificate of Compliance are current and the materials stored are authorized by the Certificate; and, materials used in exempt, commercially available products.	
Simple asphyxiants and cryogenic materials may be excluded as long as the material cannot impact collocated populations, but will be analyzed in the THIRA.	(h)		
Fuel oil and gases (e.g., petroleum, propane, etc.) are excluded in the definition of hazardous materials used in this Order.	(i)		
<u>Radiological Materials</u> 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, <i>Nuclear Safety Management</i> ; 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:	2.e.(4)(a)	All radioactive materials in a facility/activity must be subjected to a hazardous material screening process.	2.b.(2) (a) <u>1</u>
DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Security Analysis Reports;	<u>1</u>	Radioactive hazardous materials that require further analysis in an EPHA include the radioactive materials listed in DOE-STD-1027-92 in quantities greater than the Category 3 values given Attachment 1, Table A.1., of the Standard.	2.b.(2) (a) <u>3</u>
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.	<u>2</u>		
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.	<u>3</u>		
LA-12846-MS, Specific Activities and DOE-STD-1027-92 Hazard Category 2 Thresholds, LANL Fact Sheet, 1994.	<u>4</u>		

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<p><u>Hazardous Biological Agents and Toxins</u> 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].</p>	2.e.(5)(a)	At a minimum, specific hazardous biological agents and toxins must include federally regulated agents and toxins identified in lists published in Department of Health and Human Services (HHS) regulations [42 CFR 73] and Department of Agriculture (USDA) regulations [7 CFR 331 and 9 CFR 121], and require an EPHA and a Hazardous Material Program. Toxins listed in 42 CFR 73 and 9 CFR 121 must exceed the minimum quantities specified to be federally regulated.	2.b.(2)(c)
<p>Analyze further in an EPHA if these materials are present if exceeding the minimum quantities specified to be federally regulated.</p>	2.e.(5)(b)		
<p><u>Chemicals</u> All chemicals in a facility/activity with known or suspected toxic properties must be subjected to a hazardous material screening process.</p>	2.e.(6)(a)	All chemicals in a facility/activity with known or suspected toxic properties must be subjected in a hazardous material screening process.	2.b.(2)(b) <sub>1</sub>
<p>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.</p>	(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 National Fire Protection Association (NFPA) 704; or solid or liquid materials that because their physical form, or other factors (e.g., plausible dispersal mechanism), do not present an airborne exposure hazard.	2.b.(2)(b) <sub>2</sub>
<p>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).</p>	(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	2.b.(2)(b) <sub>3</sub>

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		one person” can be locally-determined in accordance with the provision of 29 CFR 1910.1450(b).	
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.	(d)		
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).	2.e.(7)		
		The possibility that excluded materials could initiate, through fires or explosions, the release of other hazardous materials must be considered.	2.b.(2)(d)
		If the screening process identifies at least one hazardous material requiring further analysis, the Hazards Survey must indicate that an EPHA is needed for that facility or activity.	2.b.(3)
		A description of the screening process and the results of its application to the hazardous materials in the facility must be included in the Hazards Survey or incorporated by reference into supporting documentation.	2.b.(4)
		For facilities/activities requiring an EPHA, this documentation must be referenced or included in the EPHA.	2.b.(4)(a)

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		If the quantitative analysis indicates that all events would be classified as less than an Alert, an EPHA is not required. The results of the hazardous material screening process and the quantitative analysis may be incorporated directly into the Hazards Survey or may be incorporated by references in the Hazards Survey.	2.b.(4)(b)
		The Operational Emergency Base Program must – provide the framework for response to serious events involving health and safety, the environment, safeguards, and security; and	2.c.(1)
		Ensure all requirements of DOE regulations and directives, regulations developed by other federal agencies, and, if applicable, state and local requirements addressing emergency issues are seamlessly integrated without duplication of emergency management effort.	2.c.(2)
<p><u>General Duty</u>                      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.</p>	2.f.		

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		<p><b><u>OPERATIONAL EMERGENCY HAZARDOUS MATERIAL PROGRAM</u></b>                      For each facility, operation, and activity involved in producing, processing, handling, storing, or transporting hazardous materials (radioactive, chemical, hazardous biological agents and toxins) that has the potential to pose a serious threat to workers, the public, or the environment;</p>	3.
		The contractor has a general duty to – identify the hazards that may result from an unplanned release of hazardous materials;	3.a.(1)
		Strive to prevent unplanned releases of hazardous materials from DOE/NNSA facilities;	3.a.(2)
		Take any steps necessary to prevent releases; and	3.a.(3)
		Use feasible means to eliminate or materially reduce the hazard to workers and the public.	3.a.(4)
		The contractor executes this general duty by developing and documenting an integrated Operational Emergency Hazardous Material Program, which does the following:	3.b.
<p><b><u>TECHNICAL PLANNING BASIS</u></b>                      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 and EPHA, however, quantitative analysis is not required. The EPHA must address the following items.</p>	Attachment 4 2.	Identifies hazards and potential consequences from unplanned releases or (or loss of control over) hazardous materials, using accepted assessment techniques. If this assessment, called an Emergency Planning Hazards Assessment (EPHA), is required, it is used as the technical planning basis for determining the extent and scope of the Operational Emergency Hazardous Material Program.	3.b.(1)
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.	Attachment 4 2.a.	The DOE definitions and conventions regarding what is and is not a hazardous material emergency need to be consistent with established Federal, State, local and industry programs and standards and with the historical roots of hazardous material emergency management, in general.	GUIDE

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Include identification of receptor locations of interest for each facility containing significant quantities of hazardous materials including:	Attachment 4 2.b.	These summarized results can then be used to estimate consequences at receptor locations relevant to each facility, including the facility boundary and nearest site boundary.	GUIDE
30 meters from the release location	(1)		
100 meters from the release location	(2)		
Site boundary	(3)		
Emergency response facilities	(4)		
Nearest assembly areas as identified in the Emergency Plan; and	(5)		
Nearest offsite at risk population such as emergency buildings, schools, and hospitals.	(6)		
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.	Attachment 4 2.c.		
Identify analyzed scenarios using short descriptive names with:	Attachment 4 2.d.		
Tabulated consequences for each scenario at key receptor locations above,	(1)		
Consequences versus distance under conservative and average dispersion conditions. Conservative is defined as 95% worst-case or F stability and 1/5 m/s. Average is defined as the site-specific average or D stability and 3 m/s, and	(2)		
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.	(3)		
For radioactive material - the Protective Action Guides (PAGs) promulgated by the Environmental Protection Agency (EPA) must be used.	(a)		

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<p>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 <a href="https://sp.eota.energy.gov/pac/">https://sp.eota.energy.gov/pac/</a>.</p>	(b)		
<p>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.</p>	(c)		
<p>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.</p>	2.e.		
<p>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).</p>	Attachment 4 2.f.	<p>If the EPHA indicates the potential for an Alert, Site Area Emergency, or General Emergency, as defined in Chapter V, the results of the analysis must be used to determine the necessary personnel, resources, and equipment for the Operational Emergency Hazardous Material Program.</p>	3.b.(1)(a)
<p>If the quantitative analysis indicates that all incidents 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</p>	Attachment 4 2.g.	<p>If the quantitative analysis indicates that all events 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 Hazards Survey, or may be incorporated by</p>	3.b.(1)(b)

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chemicals or below TQ for Hazard Category 3 for radiological materials is not required during EPHA and Emergency Action Level (EAL) development.		reference in the Hazards Survey. The minimum program requirements must encompass the requirements for Hazardous Waste Operations and Emergency Response found in 29 CFR 1910.120 and the requirements specified in paragraph 2 of the CRD.	
Include a determination of the size of the Emergency Planning Zone (EPZ).	Attachment 4 2.h..	The EPHA must include a determination of the size of the Emergency Planning Zone (EPZ). The EPZ is the geographic area surrounding the site/facility for which special planning and preparedness actions are taken or need to be taken to reduce or minimize the impact on on-site personnel and public health and safety in the event of an Operational Emergency involving hazardous materials. Assumptions, methodology, models, and evaluation techniques used in the EPHA must be documented.	3.b.(1) (e)
Prepare a consolidated/integrated EPZ for the site/facility/activity and submit for approval to the Field Element Manager or appropriate Federal Manager.	Attachment 4 2.i.		
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).	Attachment 4 2.j.		
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.	Attachment 4 2.k.	An accurate and timely method for tracking changes in operations, processes, or accident analyses that involve hazardous materials (e.g., introduction of new material environments) must be established and maintained for each facility/activity. The method must allow sufficient time for emergency management personnel to review the EPHA and modify plans and procedures, as necessary. For example, significant changes are those changes which would result in an unreviewed safety question for nuclear facilities, as defined in 10 CFR 830, or in an unreviewed safety issue for accelerator facilities, as defined in DOE O 420.2B.	3.b.(1) (c)
Integrate the analysis of severe events performed as part of the documented safety analysis into emergency planning. For Defense	Attachment 4 2.l.		

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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.			
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.	Attachment 4 2.m.		
Submit the EPHA for approval to the Field Element Manager or appropriate Federal Manager.	Attachment 4 2.n.	After gaining approval of the cognizant field element manager, the contractor must note those requirements placed on the site-/contractor-level organization in the emergency plan at both the facility and site/contractor levels, as well as in the program description of the Emergency Readiness Assurance Plan (ERAP).	3.c.(2)
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.	Attachment 4 2.o.	An accurate and timely method for tracking changes in operations, processes, or accident analyses that involve hazardous materials (e.g., introduction of new material environments) must be established and maintained for each facility/activity. The method must allow sufficient time for emergency management personnel to review the EPHA and modify plans and procedures, as necessary. For example, significant changes are those changes which would result in an unreviewed safety question for nuclear facilities, as defined in 10 CFR 830, or in an unreviewed safety issue for accelerator facilities, as defined in DOE O 420.2B.	3.b.(1) (c)
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.	Attachment 4 2.p.	The EPHA must be reviewed as least every three years and updated prior to significant changes to the site/facility or hazardous material inventories.	3.b(1)(d)
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.	Attachment 4 2.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.	

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<p>The Office of Secure Transportation (OST) must develop an EPHA for its shipments to provide an 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.</p>	<p>Attachment 4 2.r.</p>	<p>The Office of Secure Transportation (OST) must develop an EPHA for OST shipments to provide the technical planning basis for the OST Operational Emergency Hazardous Material Program.</p>	<p>3.b.(1)(f)</p>
<p>Develop an EPHA for shipments that do not satisfy governing DOT regulations and specifications for commercial hazardous materials transport; however, if a shipment satisfies DOT regulations and specifications, then an EPHA is not required.</p>	<p>Attachment 4 2.s.</p>	<p>An EPHA must be developed for shipments that do not satisfy governing DOT regulations and specifications for commercial hazardous materials transport. However, if a shipment satisfies DOT regulations and specifications, then an EPHA is not required.</p>	<p>3.b.(1) (g)</p>
<p>Develop site/facility/activity-specific Emergency Action Levels (EALs) for the spectrum of potential Operational Emergencies identified by the EPHA and include protective actions corresponding to each EAL.</p>	<p>Attachment 4 2.t.</p>	<p>Site/facility-specific Emergency Action Levels (EALs) must be developed for the spectrum of potential Operational Emergencies identified by the EPHA and must include protective actions corresponding to each EAL.</p>	<p>11.b.(2)</p>
<p>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.</p>	<p>Attachment 4 2.u.</p>	<p>Adjusts its Operational Emergency Hazardous Material Program to be commensurate with hazards that remain after a decontamination and decommission action is completed at each DOE closure site/facility.</p>	<p>3.b.(2)</p>
		<p>Develops, implements, documents, and maintains an effective, integrated emergency management program that is commensurate with the hazards and that addresses the following program elements: program administration, training and drills; exercises; readiness assurance; emergency response organization; off-site response interfaces; emergency facilities and equipment; emergency categorization and classification; notifications and communications; consequence assessment; protective actions and reentry; emergency medical support; emergency public information; and termination and recovery.</p>	<p>3.b.(3)</p>
		<p>The contractor at a site with multiple facilities may place facility-specific requirements in their emergency program on a site-/contractor-level organization (such as a single, site-wide public information program rather than separate programs at each facility.) The contractor must gain approval, in writing, from the cognizant field element before replacing the facility-</p>	<p>3.c.</p>

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		specific requirements with site-/contractor-level requirements. Replacing facility-specific requirements with site-or contractor-specific requirements does not require an exemption from the CRD.	
		The contractor placing requirements on a site-/contractor-level organization must meet the requirements of the Operational Emergency Hazardous Material Program if the site contains both Operational Emergency Base Program and Operational Emergency Hazardous Material Program facilities.	3.c.(1)
<b><u>EMERGENCY RESPONSE ORGANIZATION</u></b> An Emergency Response Organization (ERO) is a structured organization with overall responsibility for initial and ongoing emergency response. At a minimum, an ERO must:	Attachment 3 3.	<b><u>EMERGENCY RESPONSE ORGANIZATION</u></b> An Emergency Response Organization (ERO), a structured organization with overall responsibility for initial and ongoing emergency response and mitigation, must be established and maintained for each facility/site. The ERO must establish effective control at the scene of an event/incident and integrate ERO activities with those of local agencies and organizations that provide on-site response services.	8.
Be established and maintained for each DOE site/facility/activity;	3.a.		
Consist of personnel with capabilities and resources based on the all hazards planning basis;	3.b.		
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;	3.c.	The contractor at all DOE/NNSAS facilities must assign an individual (e.g., building or facility manager or similar position) to manage and control all aspects of the site/facility response.	8.a.
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;	3.d.	An adequate number of experienced and trained personnel, including designated alternates, must be available on demand for timely and effective performance of ERO functions. [See also DOE O 151.1C, Chapter III, paragraph 3d(1) and DOE O 151.1C, Chapter IV, paragraph 3b(1), Emergency Response Organization.]	8.
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	3.e.	The contractor at DOE/NNSA Operational Emergency Hazardous Material Program facilities must also establish and maintain an ERO for each site/facility with overall responsibility for the initial and ongoing response to and mitigation of an emergency.	8.b.

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events of Type 4 complexity as defined by the National Incident Management System (NIMS).			
Establishes mechanisms, consistent with NIMS, for expanding the initial response capability when local resources are no longer adequate to control the emergency incident;	3.f.		
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	3.g.	Control at the event/incident scene must be consistent with the National Incident Management System's Incident Command System, which integrates local agencies and organizations that provide on-site response services.	8.b.
Provide designated ERO members with a method of identification for emergency response consistent with NIMS/ICS.	3.h.		
<p><b><u>EMERGENCY OPERATIONS SYSTEM</u></b>            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.</p>	Attachment 3 4.		
Establish an Emergency Operations System to provide strategic management, operational support, planning/intelligence, logistics and finance/administration.	Attachment 3 4.a.		
<p>The Emergency Operations System must have the following capabilities:            Establish and maintain an overall responsibility for supporting and coordinating the response to an emergency.</p>	4.b.  (1)		

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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.	4.b.(2)		
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.b.(3)		
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.	4.b.(4)		
Provide support to the IC and ability to maintain support status under emergency conditions for an extended period based upon the All-Hazards Survey.	4.b.(5)		
Use standard operating procedures and checklists to: Activate the Emergency Operations System, identify and notify staff, make it operational, and deactivate it;	4.b.(6) (a)		
Establish communications and coordination with IC;	4.b.(6)(b)		
Obtain and maintain situational awareness and disseminate a common operating picture among response components and external partners, as applicable; and	4.b.(6)(c)		
Develop plans to support:	4.b.(6)(d)		
Operations by defining overall priorities,	<u>1</u>		
Establishing operational objectives,	<u>2</u>		
Establishing personnel accountability, and	<u>3</u>		
Establishing the Operational Period for the ERO staffing shift changes.	<u>4</u>		

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<p><b><u>TRAINING AND DRILLS</u></b>                      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:</p>	Attachment 3 5.	<p><b><u>TRAINING AND DRILLS</u></b>                      A comprehensive, coordinated, and documented program of training and drills must be an integral part of the emergency management program to ensure that preparedness activities for developing and maintaining program-specific emergency response capabilities are accomplished.</p>	5.
<p><b><u>Worker Training</u></b>                      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.</p>	Attachment 3 5.a. (1)	The contractor at all DOE/NNSA facilities must – Provide initial training and periodic drills to all workers who may be required to take protective actions (e.g., shelter-in-place; assembly, evacuation).	5.a.(1)
		Provide refresher training annually to certified operators and supervisors and those workers who are likely to witness a hazardous material release and who are required to notify proper authorities of the release.	5.a.(2)
<p>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. <b><u>If a protective action is performed successfully during a drill, exercise, or actual event, the annual training requirement is met for that protective action.</u></b></p>	(2)	This training is required when they are employed, when their expected actions change, or when the emergency plan changes.	5.a.(1)
<p>Provide information on protective actions to visitors who have unescorted access.</p>	(3)		
<p>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.</p>	(4)		
<p>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</p>	(5)		

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shutdown/walk-away provisions and/or facility-specific response steps to take when there are disruptions to critical infrastructure (e.g., power and communications).			
<p><u>ERO Training</u>            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. <i>Assess ERO member's proficiency at least annually.</i></p>	Attachment 3 5.b. (1)	A complete, documented operations-based exercise package [i.e., an Exercise Plan (EXPLAN), as described in DOE G 151.1-3, Chapter 3] should be produced for each annual site-level exercise. Facility-level exercises can be accomplished with an exercise package that contains only the essential elements that are required to actually conduct the exercise. Exercise participation records enable the emergency management administrator(s) to <b><i>ensure that individual members of the ERO are given the opportunity to demonstrate their proficiency annually.</i></b>	GUIDE
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.	5.b.(2)		
Include the following in ERO training. Initial Training for ERO members must include –	5.b.(3)(a)		
Include the following in ERO training: Initial training for ERO members must include: The applicable principles of ICS 100, Introduction to ICS, ICS 700, NIMS, An Introduction.	5.b. (3)(a) <u>1</u>		
Site/facility/activity-specific emergency response concept of operations (as documented in the emergency management plan), as applicable to each position; and	<u>2</u>		
Position-specific roles and responsibilities to include plans, procedures, job aids, and associated equipment and systems.	<u>3</u>		

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<p>Refresher training must include –                      Lessons learned,                      Best practices, and                      Identified gaps or deficiencies on individual training.</p>	<p>5.b.                      (3)(b)  <del>1-3</del></p>		
<p><u>Offsite Response Agency Orientation</u>                      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 emergency responders.</p>	<p>Attachment 3                      5.c.</p>	<p>Make available emergency-related information and training on site-specific conditions and hazards to off-site personnel who may be required to participate in response to an emergency at the DOE/NNSA site/facility.</p>	<p>5.a.(3)</p>
<p><u>Worker Drills</u>                      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.</p>	<p>Attachment 3                      5.d.(1)</p>	<p>The contractor at all DOE/NNSA facilities must – at a minimum, conduct building evacuation exercises consistent with federal regulations (e.g., (41 CFR 102-74-360], local ordinances, and National Fire Protection Association Standards. Exercises must be conducted at least annually to ensure that employees are able to evacuate their work area safely.</p>	<p>6.a.(1)</p>
		<p>No requirement to conduct annual building evacuation drills consistent with 29 CFR 1910.38.</p>	
<p>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.</p>	<p>5.d.(2)</p>	<p>General training for employee response, including training on protective actions in an emergency is required as part of the Operational Emergency Base Program. This may be included as part of an employer's General Employee Training (GET) Program. Emergency-related information in this training should include emergency awareness, overview of the organization's emergency response plan, warning systems and alarms, protective action (e.g., evacuation and sheltering), accountability for site workers in the event of an emergency, and first aid. Employees assigned to specific responsibilities for onsite emergency response should receive additional training to address those responsibilities. At a minimum, this includes emergency managers, building wardens who support personnel accountability and protective action procedures (e.g., personnel assigned to close doors and windows and shutdown of ventilation systems), personnel assigned to perform first aid/cardio pulmonary resuscitation</p>	<p>GUIDE</p>

DOE O 151.1D vs DOE O 151.1C Crosswalk

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
		(CPR) or use fire extinguishers, emergency spokespersons, and personnel responsible for interface with	
		The contractor at DOE/NNSA Operational Emergency Hazardous Material Program facilities must also establish a coordinated program of training and drills for developing and/or maintaining specific emergency response capabilities as an integral part of the emergency management program. The program must apply to emergency response personnel and organizations that the site/facility expects to respond to onsite emergencies. Emergency-related information must be available to offsite response organizations. The program must consist of self-study/homework, training, and drills.	5.b.
		Drills. Drills must provide supervised, “hands-on” training for members of emergency response organizations.	5.b.(2)
<p><b><u>TRAINING AND DRILLS.</u></b>            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.</p>	Attachment 4 5.		
<p><u>Emergency Response Organization</u>            The training and drills program must –            Consist of self-study, classroom training, and drills;</p>	Attachment 4 5.a.(1)		
<p>Include training on EPHAs and EALs to appropriate ERO members;            and</p>	(2)		

**DOE O 151.1D vs DOE O 151.1C Crosswalk**

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
Consist of emergency categorization and classification training to those personnel who perform this function.	(3)		
Develop and conduct drills determined to be needed to supplement exercises for ERO activities involving hazardous materials releases based upon the EPHAs.	Attachment 4 5.b.		
<u>First Response Agencies</u> The training and drills programs must make training available, as practical, to emergency responders, both primary and mutual aid, on any unique hazards. This may include equipment, hazardous materials identified in the EPHA, or facility configuration.	Attachment 4 5.c.		
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: Elements of the Emergency Operations Center (EOC) staff for Operational Emergencies;	Attachment 4 5.d.(1)		
Drill scenarios that are representative of the hazards/threats identified in the all-hazards planning basis;	(2)		
Annual drills integrating the ERO with conduct of operations drills; and	(3)		
Evaluations of drill design and content, to include participants, for continuous improvement regardless of the scope or mechanism; and	(4)		
Rotation of shifts involved in the drill, and include unannounced drills, as well as drills during low staffing levels.	(5)		
<u>ERO Drills</u> DOE sites/facilities/activities must accomplish the following: 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.	Attachment 3 5.e.(1)	The program plan defines minimum program standards for training required for each position (i.e., certain courses must be completed); and performance (i.e., acceptable performance during drills, exercises, or actual events.	GUIDE
Capture improvements and lessons learned to make program improvements to training and drills.	(2)	The improvement program includes a system for incorporating and tracking lessons learned from training, drills, actual responses, and site-wide lessons learned program.	GUIDE

DOE O 151.1D vs DOE O 151.1C Crosswalk

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
Use drill scenarios that are representative of the hazards/threats, identified in the all-hazards planning basis.	(3)	The scenario must be based on the specific hazards associated with the facility/site or activity that is the focus of the emergency.	GUIDE
<u>Drills Involving Offsite First Response Agencies</u> Formally invite applicable offsite first responders (e.g., primary first response agencies) to participate in a relevant drill or exercise at least annually.	Attachment 3 5.f.	In addition, emergency-related information and training and drills on site-specific conditions and hazards should be made available to offsite personnel who may be requested to respond to an emergency at the DOE site/facility or activity.	GUIDE
<b><u>EMERGENCY MEDICAL SUPPORT</u></b> DOE sites/facilities/activities must accomplish the following:	Attachment 3 6.	<b><u>EMERGENCY MEDICAL SUPPORT</u></b> Medical support for contaminated or injured personnel must be planned and promptly and effectively implemented.	15.
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).	a.	The contractor at all DOE/NNSA facilities must— provide medical treatment and planning for mass casualty situations. [See also DOE O 440.1A.]	15.a.(1)
		The contractor at DOE/NNSA Operational Emergency Hazardous Material Program facilities must also— Provide medical support for workers contaminated by hazardous material [See also DOE O 440.1A.].	15.b.(1)
		Document arrangements with on-site and off-site medical facilities to accept and treat contaminated, injured personnel.	15.b.(2)
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.	b.	Coordinate in advance the sharing of patient information between on-site and off-site health care providers during emergencies, consistent with the requirements of Health Insurance Portability and Accountability Act of 1996 [42 USC 300].	15.a.(2)
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.	c.	Arrangements with off-site medical facilities to transport, accept, and treat contaminated, injured personnel must be documented. [See also DOE O 151.1C, Chapter III, paragraph 3d(6) and Chapter IV, paragraph 3b(7), Medical Support; and DOE O 440.1A, <i>Worker Protection Management for DOE Federal and Contractor Employees</i> , dated 3-27-98.	15.

DOE O 151.1D vs DOE O 151.1C Crosswalk

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
<p><b>OFFSITE RESPONSE INTERFACES</b>                      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.</p>	<p>Attachment 3 7.</p>	<p><b>OFF-SITE RESPONSE INTERFACES</b>                      Effective interfaces must be established and maintained to ensure that emergency response activities are integrated and coordinated with the federal, tribal, state, and local agencies and organizations responsible for emergency response and protection of the workers, public, and environment. [See also DOE O 151.1C, Chapter III, paragraph 3.d(2) and Chapter IV, paragraph 3b(2), Off-Site Response Interfaces.] The contractor at all DOE/NNSA facilities must coordinate with state, tribal, and local agencies and organizations responsible for off-site emergency response (e.g., “911” emergencies) and for protection of the health and safety of the public.</p>	<p>9.</p>
<p>See paragraphs 5c and 5f of this Attachment for information to be provided to offsite first responders.</p>	<p>a.</p>		
<p>Determine access protocols for routine, abnormal, and emergency conditions.</p>	<p>b.</p>	<p>Due to the critical importance of response measures taken in the early stages of an emergency, such as implementing timely protective actions, the content of initial emergency notification messages should focus on information needed to facilitate these essential activities, including:                      Developing and providing PARs to offsite authorities for notification of the public.</p>	<p>GUIDE</p>
<p>Establish a process for communications for use during onsite response.</p>	<p>c.</p>		
<p>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.</p>	<p>d.</p>		
<p><b>OFFSITE RESPONSE INTERFACES.</b>                      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.</p>	<p>Attachment 4 7.</p>		
<p>Address protective actions recommended off site based upon the results of EPHAs.</p>	<p>a.</p>		

**DOE O 151.1D vs DOE O 151.1C Crosswalk**

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
Determine a notification process to use during emergencies when protective actions may be recommended off site.	b.		
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.	c.		
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.	d.		

DOE O 151.1D vs DOE O 151.1C Crosswalk

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
		<p><b>CATEGORIZATION AND CLASSIFICATION</b>                      Operational Emergencies are major unplanned or abnormal events or conditions that: involve or affect DOE/NNSA facilities and activities by causing or having the potential to cause serious health and safety or environmental impacts; require resources from outside the immediate/affected area or local event scene to supplement the initial response; and require time-urgent notifications to initiate response activities at locations beyond the event scene. In general, to be considered an Operational Emergency, an event or condition involving the uncontrolled release of a hazardous material must: immediately threaten or endanger personnel who are in close proximity of the event; have the potential for dispersal beyond the immediate vicinity of the release in quantities that threaten the health and safety of on-site personnel or the public in collocated facilities, activities, and/or off site; and have a potential rate of dispersal sufficient to require a time-urgent response to implement protective actions for workers and the public.</p>	11.
		<p>The contractor at all DOE/NNSA facilities must — Establish criteria for determining quickly if an event is an Operational Emergency.</p>	11.a.(1)
<p><b><u>EMERGENCY CATEGORIZATION</u></b>                      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.</p>	Attachment 3 8.a.	<p>Declare an Operational Emergency when events occur that represents a significant degradation in the level of safety at a site/facility and that require time-urgent response efforts from outside the site/facility. These events do not require further classification. Such events include the following.</p>	11.a.(2)
<p>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 <u>30 minutes from initial discovery</u>. Such incidents include the following:</p>	8.b.	<p>Categorize an event as an Operational Emergency as promptly as possible, but not later than <b><u>15 minutes</u></b> after event recognition/identification/discovery.</p>	11.a.(3)

DOE O 151.1D vs DOE O 151.1C Crosswalk

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
<p><u>Health and Safety</u> 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.</p>	Attachment 3 8.b.(1)	The following events or conditions represent, cause, or have the potential to cause serious health and safety impacts to workers or members of the public.	11.a.(2) (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).	(a)	The discovery of radioactive or other hazardous material contamination from past DOE/NNSA operations that may have caused, is causing, or may reasonably be expected to cause uncontrolled personnel exposures exceeding protective action criteria.	11.a.(2) (a) <u>1</u>
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.	(b)	An occurrence (e.g., earthquake, tornado, aircraft crash, fire, explosion) that causes or can reasonably be expected to cause significant structural damage to DOE/NNSA facilities, with confirmed or suspected personnel injury or death.	11.a.(2) (a) <u>3</u>
		Any facility evacuation in response to an actual occurrence that requires time-urgent response by specialist personnel, such as hazardous material responders or mutual aid groups not normally assigned to the affected facility.	11.a.(2) (a) <u>4</u>
Any mass casualty incident, as determined and documented by the site.	(c)	Any mass casualty event.	11.a.(2) (a) <u>6</u>
A criticality event.	(d)	An unplanned nuclear criticality.	11.a.(2) (a) <u>5</u>
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.	(e)	An off-site hazardous material event not associated with DOE/NNSA operations that is observed to have or is predicted to have an impact on a DOE/NNSA site, such that protective actions are required for on-site DOE/NNSA workers.	11.a.(2) (a) <u>2</u>
<p><u>Environment</u> 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.</p>	8.b.(2)	The following events or conditions represent, cause, or have the potential to cause serious detrimental effects on the environment.	11.a.(2) (b)
		Any actual or potential release of hazardous material or regulated pollutant to the environment, in a quantity greater than 5 times the Reportable Quantity (RQ) specified for such material in 40 CFR 302, that could result in significant off-site consequences, such as	11.a.(2)(b) <u>1</u>

DOE O 151.1D vs DOE O 151.1C Crosswalk

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
		major wildlife kills, wetland degradation, aquifer contamination, or the need to secure downstream water supply intakes.	
		Any release of greater than 1,000 gallons (24 barrels) of oil to inland waters; greater than 10,000 gallons (238 barrels) of oil to coastal waters; or a quantity of oil that could result in significant off-site consequences (e.g., need to relocate people, major wildlife kills, wet-land degradation, aquifer contamination, need to secure downstream water supply intakes, etc.) [Oil as defined by the Clean Water Act (33 U.S.C 1321) means any kind of oil and includes petroleum.]	11.a.(2)(b) <u>2</u>
<u>Offsite DOE Transportation Activities</u> The following incidents or conditions represent an actual or potential release of hazardous materials from a DOE/NNSA shipment: Any accident/incident involving an offsite DOE/NNSA shipment containing hazardous materials that causes the initial responders to initiate protective actions at locations beyond the immediate/affected area.	8.b.(3)	The following events or conditions represent an actual or potential release of hazardous materials from a DOE/NNSA shipment.	11.a.(2)(d)
		Any accident/incident involving an off-site DOE/NNSA shipment containing hazardous materials that cause initial responders to initiate protective actions at locations beyond the immediate/affected area.	11.a.(2)(d) <u>1</u>
		Failures in safety systems threaten the integrity of a nuclear weapon, component, or test device.	11.a.(2)(d) <u>2</u>
		A transportation accident results in damage to a nuclear explosive, nuclear explosive-like assembly, or Category I/II quantity of Special Nuclear Materials.	11.a.(2)(d) <u>3</u>
<u>Hazardous Biological Agent or Toxins</u> 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	8.b.(4)	The following events or conditions involving the release of hazardous biological agent or toxin [identified in 42 CFR 73, 7 CFR 331 and 9 CFR 121] 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.	11.a.(2)(e)

**DOE O 151.1D vs DOE O 151.1C Crosswalk**

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agent or toxin outside of the secondary barriers of the biocontainment area.			
<p><u>Safeguards and Security</u>                      Security incidents are also subject to reporting in accordance with DOE O 471.4, Incidents of Security Concern or other directives as applicable. Per this Order, foreign involvement in security incidents must be reported to the Office of 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 but are not limited to:</p>	8.b.(5)	(Security incidents are also subject to reporting in accordance with DOE O 471.4, Incidents of Security Concern. Per this Order, foreign involvement in security incidents must be reported to the Office of Counterintelligence.) The following events 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.	11.a.(2)(c)
Unplanned detonation of an explosive device or a credible threat of detonation resulting from the location of a confirmed or suspicious explosive device.	(a)	Actual unplanned detonation of an explosive device or a credible threat of detonation resulting from the location of a confirmed or suspicious explosive device.	11.a.(2)(c) <u>1</u>
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.	(b)	An actual terrorist attack or sabotage event involving a DOE/NNSA site/facility or operation.	11.a.(2)(c) <u>2</u>
Kidnapping or taking hostage(s) involving a DOE site/facility/activity.	(c)	Kidnapping or taking hostage(s) involving a DOE/NNSA site/facility or operation.	11.a.(2)(c) <u>3</u>
<p>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.</p>	Attachment 3 8.c	Not downgrade emergencies, once categorized, 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, 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.	17.b.(4)

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DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
<p><b>EMERGENCY CLASSIFICATION</b>                      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.</p>	Attachment 4 8.	The contractor at DOE/NNSA Operational Emergency Hazardous Material Program facilities must also establish procedures to classify emergency events (as an Alert, Site Area Emergency, General Emergency).	11.b.
		In addition to being categorized as Operational Emergencies, events involving the actual or potential airborne release of (or loss of control over) hazardous materials from an on-site facility or activity also require prompt and accurate classification as an Alert, Site Area Emergency, or General Emergency, based on health effects parameters measured or estimated at specific receptor locations (e.g., facility and site boundaries) and compared with protective action criteria.	11.
Establish procedures to classify Operational Emergencies (as an Alert, Site Area Emergency, and General Emergency) based upon the appropriate PAC listed below.	Attachment 4 8.a.		
For radioactive material, the Protective Action Guides (PAGs) promulgated by the Environmental Protection Agency (EPA) must be used.	(1)	The radiation dose from any releases to the environments of radioactive material or a concentration in air of other hazardous materials is expected to exceed either-	11.b.(1)(a) <u>1</u> <u>a</u>
		A site-specific criterion corresponding to 10 percent of the applicable protective action criterion [see Base Order, paragraph 4a(14)] at or beyond the facility boundary; or	11.b.(1)(a) <u>1</u> <u>ai</u>
		The applicable protective action criterion at or beyond 30 meters from the point of release to the environment.	11.b.(1)(a) <u>1</u> <u>aii</u>
		It is not expected that the applicable protective action criterion will be exceeded at or beyond the facility boundary.	11.b.(1)(a) <u>1</u> <u>b</u>
		An actual or potential substantial degradation in the level of safety or security of a facility or process that could, with further degradation, produce a Site Area Emergency or General Emergency.	11.b.(1)(a) <u>3</u>

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<p>For chemicals, the PAC, listed in order of preference, must be used: Acute Exposure Guideline Levels (AEGLs) (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 AEGLs, ERPGs, and TEELs), may be reference at <a href="https://sp.eota.energy.gov/pac/">https://sp.eota.energy.gov/pac/</a>.</p>	(2)		
<p>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.</p>	(3)		
<p>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:</p>	Attachment 4 8.b.	<p>Hazardous material emergencies involving DOE/NNSA facilities must be classified Operational Emergencies as either an Alert, Site Area Emergency, or General Emergency, in order of increasing severity, when events 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. Events, listed in paragraph 11a, above, that serve as initiating events for the release of hazardous materials must be classified under the provisions of this section.</p>	11.b.(1)
<p><u>Alert</u> 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.</p>	Attachment 4 8.b.(1)	<p>An alert must be declared when events are predicted, are in progress, or have occurred that result in one or more of the following.</p>	11.b.(1)(a)
<p>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 either 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.</p>	(a)		

DOE O 151.1D vs DOE O 151.1C Crosswalk

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		An actual or potential substantial degradation in the level of control over hazardous materials.	11.b.(1)(a) <u>1</u>
		An actual or potential major failure of functions necessary for the protection of workers or the public. 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 [see Base Order, paragraph 4a(14) ] at or beyond the facility boundary. The protective action criterion is not expected to be exceeded at or beyond the site boundary.	11.b.(1)(b) <u>1</u>
		Actual or potential major degradation in the level of safety or security of a facility or process that could, with further degradation, produce a General Emergency.	11.b.(1)(b) <u>3</u>
		Actual or imminent catastrophic reduction of facility safety or security systems with potential for the release of large quantities of hazardous materials to the environment. 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 [see Base Order, paragraph 4a(14)] at or beyond the site boundary.	11.b.(1)(c) <u>1</u>
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.	(b)	An actual or potential substantial degradation in the level of safety or security of a nuclear weapon, component, or test device that would not pose an immediate threat to workers or the public.	11.b.(1)(a) <u>2</u>
<u>Site Area Emergency</u> 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.	Attachment 4 8.b.(2)	A Site Area Emergency must be declared when events are predicted, in progress, or have occurred that result in one or more of the following situations.	11.b.(1)(b)
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 release to the environment but not at or beyond the site boundary.	(a)		

**DOE O 151.1D vs DOE O 151.1C Crosswalk**

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
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.	(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.	11.b.(1)(b) <u>2</u>
<u>General Emergency</u> 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.	Attachment 4 8.b.(3)	A General Emergency must be declared when event are predicted, in progress, or have occurred that result in one or more of the following situations.	11.b.(1)(c)
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.	(a)		
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.	(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.	11.b.(1)(c) <u>2</u>
Respond appropriately to each emergency classification level. Actions required for response to an Operational Emergency must be implemented. See Attachment 3, Section 4.	Attachment 4 8.c.		
<u>Alert</u> Declaration of an Alert does not necessarily require the activation of response centers.	(1)		
<u>Site Area Emergency</u> 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.	(2)		
<u>General Emergency</u> 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.	(3)		

DOE O 151.1D vs DOE O 151.1C Crosswalk

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<p><b><u>PROTECTIVE ACTIONS</u></b>                      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.</p>	Attachment 3 9.	<p><b><u>PROTECTIVE ACTIONS AND REENTRY</u></b>                      Protective actions must be promptly and effectively implemented or recommended for implementation, as needed, to minimize the consequences of emergencies and to protect the health and safety of workers and the public. <b>Protective actions must be implemented individually or in combination to reduce exposures to a wide range of hazardous materials. Protective actions must be reassessed throughout an emergency and modified as conditions change. Reentry activities must be planned, coordinated, and accomplished properly and safely.</b> [See also DOE O 151.1C, Chapter III, paragraph 3d(5) and Chapter IV, paragraph 3b(6), Protective Actions.]</p>	14.
Develop pre-determined protective actions for hazards/threats identified in the all hazards planning basis.	Attachment 3 9.a.	The contractor at all DOE/NNSA facilities must—develop procedures to implement the separate protective actions of evacuation and sheltering of employees;	14.a.(1)
Develop a process to issue protective actions.	Attachment 3 9.b.		
Develop a procedure to account for employees.	Attachment 3 9.c.	Develop a procedure to account for employees after emergency evacuation has been completed;	14.a.(2)
Consider whether additional protective actions are needed for severe events, 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.	Attachment 3 9.d.		
		<b>Ensure the protection of workers, covered by 29 CFR 1910.120, involved in response and clean-up.</b>	14.a.(3)
<p><b><u>PROTECTIVE ACTIONS.</u></b>                      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.</p>	Attachment 4 9.		
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.	a.		

**DOE O 151.1D vs DOE O 151.1C Crosswalk**

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Identify and evaluate incidents in which combinations of protective actions for varying facilities/activities may apply.	b.		
Identify authorities for the lifting or adjustment of protective actions, once protective actions have been taken.	c.		
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.	d.		
Establish methods for controlling, monitoring, and maintaining records of personnel exposures to hazardous materials.	e.	Methods for controlling, monitoring, and maintaining records of personnel exposures to hazardous materials;	14.b.(1)
Establish methods for controlling access to contaminated areas and for decontaminating personnel or equipment exiting the area.	f.	Methods for controlling access to contaminated areas and for decontaminating personnel or equipment exiting the area;	14.b.(3)
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.	g.		

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		Procedures to implement the separate protective actions of evacuation and sheltering of employees;	14.b.(2)
		Methods for providing timely recommendations to appropriate state, tribal, or local authorities of protective actions, such as sheltering, evacuation, relocation, and food control;	14.b.(5)
<p><b><u>EMERGENCY FACILITIES AND EQUIPMENT/SYSTEMS</u></b>            DOE sites/facilities/activities are responsible for the provision of adequate emergency facilities and equipment 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.</p>	<p>Attachment 3 10.</p>	<p><b><u>EMERGENCY FACILITIES AND EQUIPMENT</u></b>            Facilities and equipment adequate to support emergency response must be available, operable, and maintained. At a minimum, facilities must include an adequate and viable command center. Equipment must include, but not limited to, personnel protective equipment, detectors, and decontamination equipment. [See also DOE O 151.1C, Chapter III, paragraph 3d(8) and Chapter IV, paragraph 3b(9), Emergency Facilities and Equipment.]</p>	10.
		The contractor at DOE/NNSA Operational Emergency Hazardous Material Program facilities must also establish and maintain facilities and equipment adequate to support emergency response as follows.	10.b
<p><b><u>Personal Protective Equipment</u></b>            DOE sites/facilities/activities must provide appropriate personal protective equipment (PPE) to emergency responders commensurate to the hazards present in the working environment.</p>	<p>Attachment 3 10.a. (1)</p>	Adequate personal protective equipment and other equipment and supplies must be available and operable to meet the needs determined by the results of the EPHA.	10.b.(3)
<p>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.</p>	(2)		
<p><b><u>Communications Equipment</u></b>            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</p>	<p>Attachment 3 10.b.</p>	The contractor at all DOE/NNSA facilities must provide facilities and equipment adequate to support emergency response, including the capability to notify employees of an emergency to facilitate the safe evacuation of employees from the work place, immediate work area, or both.	10.a

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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.).		Test communications systems with DOE HQs, the Cognizant Field Element, and offsite agencies at least annually or as often as needed to ensure that communications systems are operational.	6.2.
		Emergency Notification A means to notify responders and building occupants of a fire must be provided (e.g., fire alarm signaling system and/or site-wide mass notification capabilities for major incidents affecting the site).	DOE O 420.1C Chapter II 3.c.(3)(f)
<u>Emergency Operations System</u> 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.	Attachment 3 10.c.	An emergency public information communications system must be established among DOE Headquarters, cognizant field element, and on-scene locations.	16.a.(8)
<u>CONSEQUENCE ASSESSMENT</u> 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.	Attachment 4 10.	<b>CONSEQUENCE ASSESSMENT</b> Estimates of on-site and off-site consequences of actual or potential releases of hazardous materials must be computed and assessed correctly and in a timely manner throughout an emergency. Consequence assessments must be: integrated with emergency classification and protective action decision-making; incorporated with facility and field indications and measurements; and coordinated with off-site agencies. [See DOE O 151.1C, Chapter IV, paragraph 3.b(5), Consequence Assessment.] The contractor at DOE/NNSA Operational Emergency Hazardous Material Program facilities must establish provisions to assess the potential or actual on-site and off-site consequence of an emergency.	13.
		Consequence assessments must –be timely throughout the emergency;	13.a.(1)
Establish provisions to conduct consequence assessment that is –	10.a.		
Integrated with emergency classification and protective action decision-making;	(1)	Be integrated with the emergency classification and protective action process;	13.a.(2)
Incorporated with facility and field indications and measurements, as required per the Emergency Management Plan; and	(2)	Incorporate monitoring of specific indicators and field measurements; and	13.a.(3)

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Coordinated with offsite agencies.	(3)	Be coordinated with federal, state, local and tribal organizations.	13.a.(4)
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.	10.b.	Consequence assessments must be: integrated with emergency classification and protective action decision-making; incorporated with facility and field indications and measurements; and coordinated with off-site agencies.	13.
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.	10.c.	If the facility has the potential for an Operational Emergency classified as a General Emergency, the facility/site must have connectivity to NARAC capabilities and procedures to use the NARAC capability effectively as part of near real-time consequence assessment activities for the mode (primary, backup, corroborating) selected by facility.	13.b.
		If the facility has the potential for an Operational Emergency classified as a Site Area Emergency, the facility/site must have procedures in place to activate or request NARAC capabilities and must be able to use those capabilities as part of near real-time consequence assessment activities.	13.c
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.	10.d.	All DOE/NNSA facilities/sites that have access to NARAC or have procedures in place to activate or request NARAC capabilities must ensure that facility/site meteorological data and information on source terms for actual or potential releases 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.	13.d.
Maintain consequence assessment and atmospheric dispersion modeling resources with the capability to –	10.e.		
Conduct timely initial assessment by producing a plume projection product for the worst-case and actual source term described in paragraph 10b above;	(1)		
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;	(2)		

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Conduct continuous ongoing assessment for the duration of the emergency as additional information (e.g. field data, source term, etc.) becomes available; and	(3)		
Maintain field monitoring capabilities to perform field monitoring activities to confirm the plume boundaries as required per the Emergency Management Plan.	(4)		
<p><b><u>NOTIFICATIONS AND COMMUNICATIONS</u></b>  Initial notifications must be made promptly, accurately, and effectively to all 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:</p>	Attachment 3 11.	<p><b><u>NOTIFICATIONS AND COMMUNICATIONS</u></b>  Initial emergency notifications must be made promptly, accurately and effectively to workers and emergency response personnel/organizations, appropriate DOE/NNSA elements, and other federal, tribal, state, and local organizations and authorities. Accurate and timely follow-up notifications must be made when conditions change, when the emergency classification level (as an Alert, Site Area Emergency, General Emergency) is upgraded, or when the emergency is terminated. <b>Continuous, effective, and accurate communication among response components and/or organizations must be reliably maintained throughout an Operational Emergency.</b>  [See also DOE O 151.C, Chapter III, paragraph 3d(4), Communications and Chapter VIII, Communications Requirements.]</p>	12.
<p>Notifications  See paragraph 9 and 10 of this Attachment for requirements regarding notifications to workers.</p>	11.a. (1)		
Provide prompt emergency notifications to emergency response personnel and response organizations.	(2)	The contractor at all DOE/NNSA facilities must – provide prompt initial notification of workers, emergency response personnel, and response organizations, including DOE/NNSA elements and state, tribal, and local organizations;	12.a.
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.	(3)		
Notify the Field Element or appropriate Federal Manager, Headquarters Watch Office, and state, local, and Tribal organizations	(4)	Notify the cognizant field element EOC and Headquarters Operations Center within 30 minutes of the declaration of an Operations Emergency not	12.c.

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within 30 minutes of declaration or termination of an Operational Emergency.		requiring classification [per CRD paragraph 11a(12)]; and	
		Notify local, state, and tribal organizations within 30 minutes or as established in mutual agreements for declaration of an Operational Emergency not requiring classification [per CRD [paragraph 11a(12)].	12.d.
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.	(5)		
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 –	(6)	At a minimum, emergency notification to the Headquarters Operations Center 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:	12.e
Ensure seamless operations, from daily operations to an abnormal event to an emergency.	11.a.(2)		
Description of the emergency	(a)	The description of the emergency;	12.e.(2)
Date and time emergency was discovered or terminated	(b)	The date and time the emergency was discovered;	12.e.(3)
Damage and casualties	(c)	The damage and casualties;	12.e.(4)
		Whether the emergency has stopped other facility/site operations or program activities;	12.e.(5)
Protective actions implemented	(d)	The protective actions taken and/or recommended;	12.e.(6)
		The notifications made;	12.e.(7)
		The weather conditions at the scene of the emergency;	12.e.(8)
Potential impacts	(e)		

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Agencies involved	(f)		
Level of public/media attention	(g)	The level of any media interest at the scene of the emergency or at the facility/site; and	12.e.(9)
Contact information	(h)	The contact information of the DOE or NNSA on-scene point of contact.	12.e.(10)
<p><u>Communications</u> Provide for continuing effective communications among response organizations throughout an emergency.</p>	Attachment 3 11.b.(1)	<p><b><u>NOTIFICATIONS AND COMMUNICATIONS</u></b> Initial emergency notifications must be made promptly, accurately and effectively to workers and emergency response personnel/organizations, appropriate DOE/NNSA elements, and other federal, tribal, state, and local organizations and authorities. Accurate and timely follow-up notifications must be made when conditions change, when the emergency classification level (as an Alert, Site Area Emergency, General Emergency) is upgraded, or when the emergency is terminated. Continuous, effective, and accurate communication among response components and/or organizations must be reliably maintained throughout an Operational Emergency. [See also DOE O 151.C, Chapter III, paragraph 3d(4), Communications and Chapter VIII, Communications Requirements.]</p>	12.
Provide for communication methods among on-scene responders, emergency managers, and response facilities.	11.b.(2)	Provide for continuing effective communication among response organizations throughout an emergency.	12.f.
		Establish effective communications methods between event scene responders, emergency managers, and response facilities.	12.g.
Provide updates to Headquarters based upon the emergency conditions and/or as directed by Headquarters.	11.b.(3)	Forward emergency status reports to the next-higher Emergency Management Team on a continuing basis until the emergency is terminated.	12.h.
		Review all reports and releases for classified or unclassified controlled information (e.g., Unclassified Controlled Nuclear Information) prior to being provided to personnel not authorized access to such information, entered into databases not authorized for such information, or transmitted using non-secure communications equipment.	12.j.

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Establish provisions to provide updates to workers during an emergency.	11.b.(4)		
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.)	11.b.(5)	Test communications systems with DOE Headquarters, the cognizant field element, and off-site agencies at least annually or as often as needed to ensure that communications systems are operational.	6.a.(2)
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.	11.b.(6)		
<u><b>NOTIFICATIONS AND COMMUNICATIONS.</b></u> Notify local, state, Tribal, and federal authorities of classified Operational Emergencies within 15 minutes of categorization.	Attachment 4 12.	Notify state and local officials and the cognizant field element Emergency Operations Center (EOC) and Headquarters Operations Center within 15 minutes and all other organizations within 30 minutes of the declaration of an Alert, Site Area Emergency, or General Emergency;	12.b.
<u><b>EMERGENCY FACILITIES AND EQUIPMENT/SYSTEMS.</b></u> 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.	Attachment 4 11.		
<u>Emergency Operations Center</u> Designate and maintain a facility for use as an Emergency Operations Center. The EOC must be –	Attachment 4 11.a.	A facility must be available for use as a command center.	10.b.(1)
Be accessible on a twenty-four hour basis to authorized onsite and offsite ERO members;	(1)		
Be equipped with systems and equipment to support EOC activities, such as information management, mapping, and secure and non-secure communications; and	(2)		
Be equipped with an information management system that provides a single access point for collection and dissemination of emergency	(3)		

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event information and provides status reports to the Headquarters Emergency Operations Center.			
Certify HEPA filters at an approved test facility, if occupants rely on HEPA filters for protection from airborne contaminants; and	(4)	Actions that may be taken to increase the effectiveness of protective actions [i.e., heating, ventilation, and air conditioning (HVAC) shutdown during sheltering];	14.b.(4)
Ensure that the system removes the types of plausible contaminants, if occupants rely on a filtration system for habitability.	(5)		
<u>Alternate Emergency Operations Center (AEOC)</u> 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).	Attachment 4 11.b.	Provisions must be established for use of an alternate location if the primary command center is not available.	10.b.(2)
<u>New Emergency Operations Center</u> Incorporate the following criteria into the design, construction, and maintenance of new EOCs at DOE sites with Defense Nuclear Facilities.	Attachment 4 11.c.		
If the EOC is located within the EPZ, it must be able to remain habitable during radiological and hazardous materials releases.	(1)		
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.	(2)		
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.	(3)		
Any new Emergency Operations Center (EOC) design and construction project that has received 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	(4)		

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date of issuance of this Order, is exempt from the requirements of paragraph 11.c.			
<p><u>Joint Information Center</u>            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.</p>	Attachment 4 11.d.(1)	The contractor at DOE/NNSA Operational Emergency Hazardous Material Program facilities must also have provisions in place to establish a Joint Information Center (JIC). A JIC is a working location, where multiple jurisdictions gather, process and disseminate public information during an emergency. The JIC must be adequately staffed with personnel trained to serve as spokesperson and news writer. Personnel must be assigned to the JIC to provide support in media services, public inquiry, media inquiry, JIC management and administrative activities, and media monitoring. Persons with technical expertise related to the emergency and with spokesperson training must also be assigned to the JIC. The JIC must be established, directed, and coordinated by the senior cognizant field element public affairs manager or a designee.	16.b.
Maintain equipment and systems to support JIC activities to include public inquiry, media inquiry, media monitoring, media support services, and management and administrative activities.	(2)	The contractor at DOE/NNSA Operational Emergency Hazardous Material Program facilities must also have provisions in place to establish a Joint Information Center (JIC). A JIC is a working location, where multiple jurisdictions gather, process and disseminate public information during an emergency. The JIC must provide support in media services, public inquiry, media inquiry, JIC management and administrative activities, and media monitoring.	16.b.
Identify a location for the JIC outside the EPZ.	(3)		
<p><u>Communications Equipment</u>            Maintain EOC primary and backup communications capabilities adequate to support incidents identified in the EPHAs.</p>	Attachment 4 11.e.(1)		
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.	(2)		
<u>Meteorological Monitoring Equipment</u>	Attachment 4 11.f.(1)		

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Maintain a meteorological capability to provide real-time onsite/local meteorological data and maintain access to meteorological expertise for site consequence assessments.			
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).	(2)		
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.	(3)		
Defense Nuclear Facilities must identify emergency response facilities (i.e., primary EOCs, control rooms, operation centers, medical facilities, fire departments). For these facilities, the DOE facility/site must –	Attachment 4 11.g.		
Develop compensatory measures for emergency response facilities that are not survivable and habitable, and	(1)		
Maintain and test safety functions and features to ensure they function as designed.	(2)		
Defense Nuclear Facilities must – Develop safe shutdown or walkaway strategies for equipment and facilities during emergencies, and	Attachment 4 11.h.(1)		
Ensure a transition of responsibilities and required actions between normal work activities, incident activities, and recovery operations.	(2)		

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<p><b><u>EMERGENCY PUBLIC INFORMATION</u></b>            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:</p> <p>Establish and maintain an emergency public information program consistent with the all-hazards planning basis.</p>	Attachment 3 12.  a.	<p><b>EMERGENCY PUBLIC INFORMATION</b>            Accurate, candid, and timely information must be provided to workers, the news media, and the public during an emergency to establish facts and avoid speculation. Emergency public information efforts must be coordinated with DOE and NNSA (if appropriate); state, local, and tribal governments; and federal emergency response organizations, as appropriate. Workers and the public must be informed of emergency plans and planned protective actions before emergencies.</p>	16.
<p>Document the emergency public information program in an emergency public information plan or in the emergency management plan. This plan must include -</p>	b.	The contractor at all DOE/NNSA facilities must prepare an Emergency Public Information Plan. The same plan can cover multiple facilities on a site.	16.a.
<p>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.</p>	(1)	The plans must provide— identification of personnel, resources, facilities, and coordination procedures necessary to provide emergency public information;	16.a. (1)(a)
		<b>A methodology for informing workers and the public of DOE/NNSA emergency plans and protective actions, before and during emergencies;</b>	16.a. (1)(c)
<p>Provisions for coordination of information to be released during an emergency.</p>	(2)		
<p>Identification and monitoring of public information media to be used, such as web sites, social media, news releases, and news briefings.</p>	(3)		
<p>Identification of a location(s) for the necessary briefings and news conferences regarding the emergency.</p>	(4)	The emergency public information program must have provisions in place to establish a media center. A media center is a designated location where cognizant field element and contractor personnel can conduct the necessary briefings and press conferences regarding an Operational Emergency at the facility.	16.a.(2)
<p>Identification of training and drills for personnel who will interact with the media.</p>	(5)	A program for training and exercises of personnel who will interact with the media;	16.a. (1)(b)

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Identification of provisions for coordination of public information activities with offsite first responders, state, local and tribal governments, and federal emergency response plans, as appropriate.	(6)	Coordination of public information efforts with state, local, and tribal governments, and federal emergency response plans, as appropriate.	16.a.(1)(d)
		In situations involving classified or unclassified controlled information, the contractor must provide sufficient publicly releasable information to explain the emergency response and protective actions required for the health and safety of workers and the public.	16.a.(3)
For situations involving classified or unclassified controlled information, provisions for information review by an appropriate official before release to ensure that no classified or unclassified controlled information is contained in the announcement.	(7)	Public announcements in areas involving classified or unclassified controlled information must be reviewed by the appropriate official before release to ensure that no classified or unclassified controlled information is contained in the announcement.	16.a.(4)
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	(8)	Initial news releases or public statements must be approved by the cognizant field element official responsible for emergency public information review and dissemination. Following initial news releases and public statements, updates must be coordinated with the DOE/NNSA (as appropriate) Director of Public Affairs and the Headquarters Emergency Manager.	16.a.(7)
		When directed by the cognizant field element, a contractor public information officer must be assigned to the emergency public information response team involved in a significant off-site response deployment.	16.a.(5)
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.	(9)	The DOE/NNSA (as appropriate) Director of Public Affairs and the Headquarters Emergency Manager must be informed of all DOE/NNSA emergency public information actions. These notifications must be made as soon as practicable.	16.a.(6)

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<b><u>EMERGENCY PUBLIC INFORMATION.</u></b> 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 –	Attachment 4 13.	The JIC must be adequately staffed with personnel trained to serve as spokesperson and news writer. Personnel must be assigned to the JIC to provide support in media services, public inquiry, media inquiry, JIC management and administrative activities, and media monitoring.	16.b.
Public and media inquiry activities;	(a)		
Availability of personnel with technical expertise related to the emergency; and	(b)	Persons with technical expertise related to the emergency <b>and with spokesperson training must also be assigned to the JIC.</b>	16.b.
Coordination and direction by the Field Element Manager or appropriate Federal Manager public affairs manager or designee.	(c)	The JIC must be established, directed, and coordinated by the senior Cognizant Field Element public affairs manager or a designee.	16.b.
		<b>The contractor providing personnel for the Department emergency response assets (AMS, ARG, NARAC, FRMAC, NEST, RAP, REAC/TS) must apply the Emergency Public Information Plan during deployment of the assets.</b>	16.c
<b><u>TERMINATION AND RECOVERY</u></b> DOE sites/facilities/activities must: Termination	Attachment 3 13. a.	<b><u>TERMINATION AND RECOVERY</u></b> An Operational Emergency can be terminated only after a predetermined set of criteria has been met and termination has been coordinated with off-site agencies. Recovery from a terminated Operational Emergency must include: communication and coordination with state, tribal, and local government and other federal agencies; planning, management, and organization of the associated recovery activities; and ensuring the health and safety of the workers and public. [See also DOE O 151.1C, Chapter III, paragraph 5b and Chapter IV, paragraph 5b, Termination and Recovery.]	17
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.	(1)		
Coordinate the decision to terminate the emergency with the responding organizations and the Field Element or appropriate Federal Manager, as applicable.	(2)	The contractor at all DOE/NNSA facilities must— coordinate termination with state, tribal, and local agencies and organizations responsible for off-site emergency response and notification.	17.a.(1)

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Notify the Headquarters Watch Office and other organizations previously notified when the emergency is terminated.	(3)		
<u>Recovery</u> 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.	Attachment 3 13.b.		
The recovery organization must include accident investigation, as needed, to ensure accident investigation is conducted in accordance with DOE O 225.1B, Accident Investigations.	(1)		
Recovery from a terminated Operational Emergency must include: communication and coordination with State, Tribal, and local government and other Federal agencies.	(2)		
<u>Post Incident Reporting</u> Conduct an after action review of the performance of the Emergency Operations System when activated for an actual incident, event, or condition to identify lessons learned and/or corrective actions. If the Emergency Operations System was activated for an Operational Emergency, document the after review in an after action report.	Attachment 3 13.c.  (1)		
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, Occurrence Reporting and Processing of Operations Information.	Attachment 3 13.c.(2)	Each activated Emergency Management Team must submit a Final Report on the emergency response to the Emergency Manager for submission to the Director, Office of Emergency Operations, following termination of emergency response, and in conjunction with the Final Report (see DOE M 231.1-2).	12.i.
<u>TERMINATION AND RECOVERY.</u> Predetermined criteria for termination of emergencies must be established.	14.a.	The contractor at DOE/NNSA Operational Emergency Hazardous Material Program facilities must also— establish predetermined criteria for termination of emergencies;	17.b.(1)
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.	b.	Have the means for estimating exposure to hazardous materials and for protecting workers and the general public from exposure during reentry and recovery activities;	17.b.(2)

DOE O 151.1D vs DOE O 151.1C Crosswalk

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
<p>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.</p>	<p>c.</p>	<p>Develop recovery procedures that 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;</p>	<p>17.b.(3)</p>
		<p>Establish criteria for resumption of normal operations (i.e., recovery). Recovery must also include provisions for investigation of the root cause(s) of the emergency and corrective action(s) to prevent recurrence in accordance with Departmental requirements (e.g., see DOE O 225.1A, <i>Accident Investigations</i>, dated 11-26-97, DOE O 231.1A, <i>Environment, Safety, and Health Reporting</i>, with <i>Change 1</i>, dated 6-3-04, and DOE 5480.19, <i>Conduct of Operations Requirements for DOE Facilities</i>, with <i>Change 2</i>, dated 10-23-01).</p>	<p>17.a.(2)</p>
<p>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.</p>	<p>d.</p>		

DOE O 151.1D vs DOE O 151.1C Crosswalk

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
<p><b><u>READINESS ASSURANCE</u></b>                      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.</p>	<p>Attachment 3 14.</p>	<p><b><u>READINESS ASSURANCE</u></b>                      The emergency management Readiness Assurance Program must establish a framework and associated mechanism for assuring that emergency plans, implementing procedures, and resources are adequate by ensuring that they are sufficiently maintained, exercised, and evaluated (including assessment and appraisal) and that appropriate and timely improvements are made in response to needs identified through coordinated and comprehensive emergency planning, resource allocation, training and drills, exercises, and evaluations [See also DOE O 151.1C, Chapter X, Readiness Assurance.] The contractor at all DOE/NNSA facilities must implement a readiness assurance program consisting of evaluations, improvements, and ERAP's.</p>	<p>7.</p>
<p>Evaluations consist of assessment, exercises, and performance indicators.</p>	<p>a.</p>		
<p><u>Assessments</u>                      DOE sites/facilities/activities must conduct assessments to ensure that emergency plans, procedures, emergency response activities, and resources are adequate and sufficiently maintained.</p>	<p>Attachment 3 14.a.(1)</p>	<p>Self-assessments. The contractor must conduct an annual self-assessment of their Emergency Management Program. <b>Program and exercise evaluations (including appraisals and assessments) must be based on specific standards and criteria, issued by the Director, Office of Emergency Operations. Self-assessment results must be documented in the ERAP submitted to the cognizant field element.</b></p>	<p>7.a.(1)</p>
<p>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 <b><u>all program elements are fully assessed and/or validated through exercises over a five-year period.</u></b></p>	<p>(a)</p>	<p><b><u>EXERCISES</u></b>  <b><u>A formal exercise program must validate all elements of an emergency management program over a 5-year period.</u></b> The exercise program must validate facility-and site-level emergency management program elements by initiating response to simulated, realistic emergency event/conditions in a manner that, as nearly as possible, replicates an integrated emergency response to an actual event. Planning and preparation must use an effective, structured, approach that includes documentation of specific objectives, scope, time lines, injects, controller instructions, and evaluation criteria for realistic</p>	<p>6.</p>

DOE O 151.1D vs DOE O 151.1C Crosswalk

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
		scenarios. Each exercise must be conducted, controlled, evaluated, and critiqued effectively and reliably. Lessons-learned must be developed, resulting in corrective actions and improvements. (See also DOE O 151.1C, Chapter IV, paragraph 4b, Exercises.]	
Support DOE during the conduct of an external assessment.	(b)		
<p><u>Exercises</u> DOE sites/facilities/activities must conduct an annual exercise to test and validate emergency plans and procedures.</p>	Attachment 3 14.a.(2)	<p><b>EXERCISES</b> A formal exercise program must validate all elements of an emergency management program over a 5-year period. The exercise program must validate facility- and site-level emergency management program elements by initiating response to simulated, realistic emergency event/conditions in a manner that, as nearly as possible, replicates an integrated emergency response to an actual event. Planning and preparation must use an effective, structured, approach that includes documentation of specific objectives, scope, time lines, injects, controller instructions, and evaluation criteria for realistic scenarios. Each exercise must be conducted, controlled, evaluated, and critiqued effectively and reliably. Lessons-learned must be developed, resulting in corrective actions and improvements. (See also DOE O 151.1C, Chapter IV, paragraph 4b, Exercises.]</p>	6.
The exercise program must be consistent with the U.S. Department of Homeland Security Exercise and Evaluation Program (HSEEP).	(a)	The Department of Homeland Security (DHS) Homeland Security Exercise and Evaluation Program (HSEEP) is a Federal-level exercise program developed by the DHS for State, county and local emergency management programs. The DHS approach addresses not only Homeland Security sponsored exercises, but also those exercises where Federal level agencies may interact with State, county and local emergency management programs. Therefore, to ensure consistency with the DHS approach to exercise development, conduct, and	GUIDE

DOE O 151.1D vs DOE O 151.1C Crosswalk

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
		evaluation, common exercise concepts and processes of the HSEEP are incorporated in the guidance presented in this chapter using DHS terminology where applicable.	
<p>Rotate the scenario for the annual exercise among the hazards and risks identified in the all hazards planning basis.</p>	(b)	<p>Drills should be as realistic as possible, using realistic scenarios based on hazards surveys and EPHAs as well as actual facility conditions. Development of exercises commensurate with, and based upon, the facility/site hazards and types of scenarios identified in the EPHAs.</p>	GUIDE
<p>Provide the annual exercise schedule to the Field Element Manager or appropriate Federal Manager.</p>	(c)		
<p>Prepare an exercise plan.</p>	(d)	<p>A complete, documented operations-based exercise package [i.e., an Exercise Plan (EXPLAN), as described in DOE G 151.1-3, Chapter 3] should be produced for each annual site-level exercise. Facility-level exercises can be accomplished with an exercise package that contains only the essential elements that are required to actually conduct the exercise. Exercise participation records enable the emergency management administrator(s) to ensure that individual members of the ERO are given the opportunity to demonstrate their proficiency annually.</p>	GUIDE
		<p>The contractor at DOE/NNSA Operational Emergency Hazardous Material Program facilities must also establish a formal exercise program to validate all elements of the emergency management program over a 5-year period. Each exercise must have specific objectives and must be fully documented (e.g., in scenario packages that include objectives, scope, timelines, injects, controller instructions, and evaluation criteria). Exercises must be evaluated. A critique process, which includes gathering and documenting observations of the participants, must be established. Corrective action items identified as a result of the critique process must be incorporated into the emergency management program.</p>	6.b.

DOE O 151.1D vs DOE O 151.1C Crosswalk

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
		Each DOE/NNSA facility subject to this CRD paragraph must exercise its emergency response capability annually and include at least facility-level evaluation and critique. Evaluations of annual facility exercises by Departmental entities (e.g., cognizant field element, Program Secretarial Officer of Headquarters Office of Security and Safety Performance Assurance) must be performed periodically to each facility has an external Departmental evaluation at least every three years.	6.b.(1)
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.	(e)	Submit scenario narrative, scope, MSEL (draft), objectives and participant list to Cognizant Field Element, Program Secretarial Office and Associate Administrator, Office of Emergency Operations (NA-40). (90-day) Complete planning group review/revision of draft Exercise Plan (EXPLAN). (60-day) Submit EXPLAN to DOE/NNSA Cognizant Field Element for approval. Plan must be approved at least 30 days prior to exercise. Submit approved EXPLAN to Program Secretarial Office and Associate Administrator, Office of Emergency Operations (NA-40).	GUIDE
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.	(f)	After Action Reports (AARs) for facility and site exercises must be completed within 30 working days and submitted to the cognizant field element, the Program Secretarial Officer(s), and the Director, Office of Emergency Operations.  An exercise report [i.e., After Action Report (AAR)] should be produced following the exercise that provides an account of exercise control, player performance, and self-assessment evaluation findings. Finalize AAR and submit a copy to Cognizant Field Element, Program Secretarial Office and Associate Administrator, Office of Emergency Operations (NA-40).	6.b.(5)  GUIDE

DOE O 151.1D vs DOE O 151.1C Crosswalk

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
<p><u>Performance Indicators</u> DOE sites/facilities/activities must participate in a program of performance indicators.</p>	(3)	<p>Performance Indicators. Contractor facilities/sites must participate in a program of performance indicators (including performance measures and metrics) to capture and track objective data regarding the performance of emergency management programs in key functional areas.</p>	7.a.(3)
		<p>No-Notice Exercises. Contractor facilities/sites must participate in a program of No-Notice Exercises, conducted at the discretion of the Director, Office of Emergency Operations, to determine if the facility/site Emergency Response Organization (ERO) accomplishes selected objectives based on applicable plans, procedures, and/or other established requirements. Facility/site involvement is limited to providing trusted agents and responding when the exercise is conducted.</p>	7.a.(4)
<p><u>Improvements</u> DOE sites/facilities/activities must identify improvements that consist of corrective actions and lessons learned.</p>	Attachment 3 14.b.	<p>Corrective Actions. These requirements supplement those in the CRD to DOE O 414.1A, Quality Assurance. Continuous improvement in the emergency management program, results from implementation of corrective actions.</p>	7.b.(1)
<p><u>Corrective Actions</u> Develop corrective actions for findings identified during evaluations, assessments, drills, exercises, and actual emergencies.</p>	(1)  (a)	<p>Continuous improvement in the emergency management program, results from implementation of corrective actions for findings (e.g., deficiencies, weaknesses) in all types of evaluations, including both internal and external evaluations.</p> <p>Completion of corrective actions for facility and site exercises must include a verification and validation process, independent of those who performed the corrective actions, that verifies that the corrective action has been put in place and that validates the corrective action has been effective in resolving the original finding. Corrective actions involving revision of procedures or training of personnel should be completed before the next exercise.</p>	7.b.(1)  6.b.(7)
<p>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.</p>	(b)	<p>A formal tracking system monitors the implementation, verification, and validation of improvements made through corrective actions developed for findings from all sources.</p>	GUIDE

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DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
Develop a corrective action plan documenting corrective actions, due dates, and assignees within 45 calendar days of the assessment report or AAR.	(c)	Corrective action plans must be completed within <b>30 working days</b> of receipt of a <b>final report for Operational Emergencies</b> and an AAR for exercises.	6.b.(6)
		Corrective action plans must be developed within 30-working days of receipt of AAR. Corrective actions must be completed as soon as possible. Corrective actions addressing revision of procedures or training of personnel should be completed before the next annual self-assessment of the program.	7.b.(1)(a)
Submit CAPs for findings from federally-directed or external assessments for approval to the Field Element Manager or appropriate Federal Manager.	(d)		
Submit CAPs for findings from self-assessments to Field Element Manager or appropriate Federal Manager.	(e)		
<u>Lessons Learned</u> Use a system for incorporating and tracking lessons learned from training, drills, actual responses, and a site/facility/activity-wide lessons learned program.	Attachment 3 14.b. (2)(a)	Lessons Learned. The readiness assurance program must include a system for incorporating and tracking lessons learned from training, drills, actual responses, and site-wide lessons learned program. DOE/NNSA contractor-operated facilities must participate in the DOE/NNSA Corporate Lessons Learned Program. DOE-STD-7507-99, The DOE Corporate Lessons Learned Program, provides guidance on use of the system.	7.b.(2)
Review lessons learned from emergency management program activities under DOE Order 210.2A, DOE Corporate Operating Experience Program.	(b)		
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)		
<u>Emergency Readiness Assurance Plan</u> 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 –	Attachment 3 14.c.  (1)	Facilities and off-site transportation activities must submit an ERAP to the cognizant field element by September 30 of each year.	7.c.
Highlight program status, including significant changes in the emergency management program (e.g., all hazards planning basis, organizations, and exemptions);	(a)		

**DOE O 151.1D vs DOE O 151.1C Crosswalk**

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Include a summary of the THIRA;	(b)		
Document evaluation results and the status (e.g., open/unresolved or closed) of associated corrective actions;	(c)		
Identify what the goals were for the fiscal year that ended and the degree to which those goals were accomplished;	(d)	In keeping with 31 U.S.C. 1115 and 1116, this report must identify what the goals were for the fiscal year that ended, coincident, with the due date for this report (e.g., September 30), and the degree to which these goals were accomplished.	7.c.
Identify the goals for the next fiscal year; and	(e)	This report must also identify the goals for the next fiscal year (e.g., which starts on October 1).	7.c.
Be submitted to the Field Element Manager or appropriate Federal Manager for approval.	(f)		
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 or appropriate Federal Manager by <b><i>October 15</i></b> of each year unless another date is established between the Field Element/appropriate Federal Manager and the site/facility/activity.	Attachment 3 14.c. (2)	Facilities and off-site transportation activities must submit an ERAP to the cognizant field element by <b><i>September 30</i></b> of each year.	7.c.
<b><u>READINESS ASSURANCE.</u></b> 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.	Attachment 4 15.		
Develop a formal exercise program that includes – A matrix that identifies planned exercises over the next five years and elements tested;	15.a.(1)		
Rotation among scenarios identified in the Technical Planning Basis;	(2)		

DOE O 151.1D vs DOE O 151.1C Crosswalk

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
Exercise scenarios involving radiological hazardous materials, if applicable;	(3)		
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 <u>responder proficiency</u> ;	(4)	Site-level emergency response organization elements and resources must participate in a minimum of one exercise annually. This site exercise must be designed to test and demonstrate the site's integrated emergency response capability. For multiple-facility sites, the basis for the exercise must be rotated among facilities.	6.b.(2)
		Training. Both initial training and annual refresher training must be provided for the instruction of and demonstration of proficiency by all personnel (i.e., primary and alternate) comprising the <b><u>emergency response organization</u></b> .	5.b.(1)
Invitation of offsite responding agencies and national assets, (e.g., Centers for Disease Control, Department of Agriculture, etc.) every three years;	(5)	Off-site response organizations must be invited to participate in site-wide exercises at least once every three years.	6.b.(3)
Severe event scenarios every five years;	(6)		
Test of design control and/or mitigation features in multiple facilities;	(7)		
Demonstration of ERO capability; and	(8)		
Integration with local, State and Federal agencies.	(9)		
Develop challenging exercises based on scenarios identified in the Technical Planning Basis that –	Attachment 4 15.b.		
Involve high-consequence scenarios;	(1)		
Involve multiple response elements; and	(2)		
Result in offsite effects.	(3)		

**DOE O 151.1D vs DOE O 151.1C Crosswalk**

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
<p>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 and invite some offsite response organizations to participate in a full-scale or full-participation exercise every 3 years. This exercise must –</p>	<p>Attachment 4 15.c.</p>	<p>Annual emergency response exercises must be supported by documentation that contains, but is not limited to, the exercise scope, its objectives and corresponding evaluation criteria, a narrative description of the scenario, timeline, and a list of participants. Documentation for site exercises must be approved by the cognizant field element.</p>	<p>6.b.(4)</p>
<p>Use a scenario from the spectrum of potential Operational Emergencies identified in EPHAs (rotated among facilities and type of incident and/or initiator), and</p>	<p>(1)</p>		
<p>Include demonstration of protective actions.</p>	<p>(2)</p>		
<p>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 –</p>	<p>Attachment 4 15.d.</p>		
<p>Release of hazardous materials at more than one facility/activity, and</p>	<p>(1)</p>		
<p>Disruption to site infrastructure, such as power, telecommunications, and roadways, and the unavailability of mutual aid.</p>	<p>(2)</p>		
<p>EPHA facilities with facility-level EROs must validate facility-level emergency response capability 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.</p>	<p>Attachment 4 15.e.</p>		
<p>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.</p>	<p>Attachment 4 15.f.</p>		
<p>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.</p>	<p>Attachment 4 15.g.</p>	<p>Exercises of each of the Department’s radiological emergency response assets must be conducted at least every three years. These assets include the Accident Response Group (ARG), Nuclear Emergency Support Team (NEST), Federal Radiological Monitoring and Assessment Center</p>	<p>6.b.(8)</p>

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		(FRMAC), Aerial Measuring System (AMS), National Atmospheric Release Advisory Center (NARAC), Radiation Emergency Assistance Center/Training Site (REAC/TS), and Radiological Assistance Program (RAP).	
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 –	Attachment 4 15.h.		
Elements of the EOC staff for Operational Emergencies;	(1)		
Regardless of the scope or mechanism, evaluate Operations staff, Emergency Management staff, Incident Command staff, and EOC staff for continuous improvement.	(2)		
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.	Attachment 4 15.i.		
Defense Nuclear Facilities will use a Criteria and Review Approach Document (CRAD), maintained by the Associate Administrator, Office of Emergency Operations, as an all-hazards focused source document that delineates what must be accomplished to satisfy the requirements of this Directive.	Attachment 4 15.j.	Self-assessments. The contractor must conduct an annual self-assessment of their emergency management programs. <b><u>Program and exercise evaluations (including appraisals and assessments) must be based on specific standards and criteria, issued by the Director, Office of Emergency Operations.</u></b> Self-assessment results must be documented in the ERAP submitted to the Cognizant Field Element.	7.a.(1)
Conduct causal analysis to determine corrective actions for findings identified as a result of noncompliance for life safety.	(1)		
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.	(2)		

DOE O 151.1D vs DOE O 151.1C Crosswalk

DOE ORDER 151.1D	ID	DOE ORDER 151.1C	ID
<p>Evaluate the effectiveness of corrective actions through verification and validations conducted by an independent reviewer.</p>	<p>(3)</p>	<p>Completion of corrective actions for facility and site exercises 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 that validates the corrective action has been effective in resolving the original finding. <b>Corrective actions involving revision of procedures or training of personnel should be completed before the next exercise.</b></p>	<p>6.b.(7)</p>
		<p>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.</p>	<p>7.b.(1)(b)</p>
<p>Identify compensatory measures for findings until causal analysis is performed and corrective actions are identified and implemented.</p>	<p>(4)</p>		