

The focus of this CRAD is on evaluating processes for identifying emergency response capabilities and maintaining them in a state of readiness in case a severe natural phenomena event occurs that exceeds the design basis of site facilities. This CRAD is intended to ensure that planning, preparedness, and performance expectations identified in DOE Order 151.1C, *Comprehensive Emergency Management System* are met.

The Office of Safety and Emergency Management Evaluations will perform this review in accordance with DOE Order 226.1B, *Implementation of DOE Oversight Policy*, using objectives derived from the functional requirements of DOE Order 151.1C. The Office of Safety and Emergency Management Evaluations will use the criteria and lines of inquiry contained herein to determine whether the objectives are met. The lines of inquiry were developed using the requirements contained in DOE Order 151.1C and the associated DOE emergency management guides.

2.0 APPLICABILITY

The following Inspection Criteria document is approved for use by the Office of Safety and Emergency Management Evaluations.

3.0 FEEDBACK

Comments and suggestions for improvements on these Inspection Criteria, Approach, and Lines of Inquiry can be directed to the Acting Director of the Office of Safety and Emergency Management Evaluations on (301) 903-5392.

Emergency Management Program Inspection Criteria, Approach, and Lines of Inquiry

Review of Facility Preparedness for Severe Natural Phenomena Events Background

The March 2011 disaster at the Fukushima Daiichi nuclear power plant in Japan emphasized the need to adequately plan and prepare for a large-scale event that could degrade or overwhelm a site's emergency response capability. DOE Order 151.1C, *Comprehensive Emergency Management System*, identifies the functional emergency management requirements for a DOE/NNSA site/facility and the emergency management guides associated with DOE Order 151.1C provides guidance for implementing the requirements. Emergency planners at DOE/NNSA sites/facilities determine needed site emergency response capabilities, which are based on site-specific attributes, such as types and forms of hazardous materials, demographics, and geography using a variety of deterministic analyses. For a hazardous material program, the primary means for determining needed response capabilities is through an emergency planning hazards assessment (EPHA); however, other site response capability needs are determined in the fire department baseline needs assessment and security vulnerability assessment.

The consequence analyses contained in the EPHA should present a spectrum of events that represent plausible hazardous material release scenarios such as operator errors, mechanical failures, fires, and explosions from unintentional or intentional initiators. Many of these scenarios are also analyzed and used to reduce the probability of risk from a nuclear facility's operations to acceptable levels in the site documented safety analysis (DSA), known as design basis events. However, DSAs do not analyze severe events considered to be beyond the design basis of the facility. To address the small possibility of a beyond design basis event occurring, emergency response staff must prepare for its occurrence by planning a means to provide for the immediate protection of personnel and mitigation of the consequences from a potential hazardous material release. Beyond design basis events include severe natural phenomena events that represent the upper end of the consequence spectrum that DOE facilities are required to prepare for in accordance with DOE Order 151.1C. Preparations include: primary and alternate emergency response facilities, redundant and diverse communications systems for use when an event renders the primary facilities and equipment unavailable, and other site- and facility-specific planning and response capabilities needed for a comprehensive emergency management program.

This emergency management program review will evaluate the comprehensiveness of response capabilities identified in the beyond design basis event analysis and the level of preparedness in attaining and maintaining those response capabilities. Of particular interest is the facility's preparedness for responding to plausible severe natural phenomena events and the site's integration and coordination with offsite response assets. Important considerations include:

- The severity of events that serves as the basis of the emergency response capability;
- The timely recognition that an event exceeds the site's response capability;
- The preparedness of personnel to perform required emergency response functions; and
- The site's planning for obtaining and integrating offsite response assets for events beyond the site's response capability.

The following provides the objectives, inspection criteria, activities, and specific lines of inquiry that will be used to conduct this review.

Objective 1: The site/facility has an effective mechanism for quickly determining whether a natural phenomenon event (NPE) results in the loss of a significant quantity of hazardous material that is beyond the site's capability to respond.

Inspection Criteria:

- Hazards Surveys identify appropriate NPEs as hazardous material release initiators based on historical or scientific data.
- EPHAs determine the consequences at hazardous material facilities caused by NPEs identified in the hazards survey(s) and the results are reflected in emergency action levels (EALs).
- Facility EALs identify natural phenomena events that may cause a significant barrier failure at facilities that contain a dispersible form of hazardous material.
- Facility EALs include plausible severe events (such as a multiple dam breaks that would flood an entire site or multiple hazardous material releases may be occurring) where analysis concludes that such events would overwhelm or incapacitate the site's response capability.
- The facility EPHA and other emergency planning documents identify emergency response capabilities needed to mitigate analyzed events.
- The analyses contained in the facility EPHA determine the capabilities needed for the emergency response organization (ERO).

Inspection Activities:

- Review the hazards survey(s) to determine if NPEs are identified as event initiators.
- Review site and facility authorization basis documents to determine the facilities' design basis events.
- Review EPHA(s) to determine whether NPEs identified in the hazards survey(s) are analyzed and identify consequences that would overwhelm or incapacitate the onsite response capability.
- Review facility EALs to determine whether a method for early recognition of significant barrier failure is included.
- Review facility EALs to determine whether identified events known to result in overwhelming the site's response capability provide for the immediate declaration of a General Emergency and the transmittal of offsite notifications.
- Review facility EALs to determine whether associated protective actions are appropriately planned for NPE events.
- Interview personnel responsible for developing, reviewing, and maintaining facility EAL and EPHA documents.

Lines of Inquiry:

- Does the facility hazards survey:
 - Identify the NPEs (e.g., wildfires, flood, tornadoes, earthquakes, wind, and snowstorms that could result in hazardous material releases) that are based on historical or current scientific data that affect the facility?
 - Indicate the need for further analyses of hazardous material facilities in an EPHA when warranted by the type and quantity of hazardous material?
- Are natural phenomena events used as initiating events in the facility EPHA derived from historical data, scientific data, or consistent with events analyzed in the DSA?
- Do natural phenomena events analyzed in the facility EPHA go beyond the events analyzed in the DSA?
- Is the planned ERO capability based partly on the bounding events analyzed in the facility EPHAs?

- Do the facility EPHAs identify plausible events with consequences that would overwhelm or incapacitate the site's capability to respond?
- Do the facility EPHAs analyses consider consequences from multiple offsite and/or onsite hazards that could affect the facility?
- Are there facility EALs available with corresponding General Emergency classifications for events where the potential exists for hazardous material releases to exceed protective action criteria beyond the site boundary?
- Do EALs use appropriate/available indicators to identify the loss of a significant release barrier, such as the facility's infrastructure, for plausible events that exceed the design of the barrier?
- Do the EPHAs and other emergency planning documents identify emergency response capabilities needed to mitigate analyzed events?
- Does the analyses contained in the facility EPHA determine the capabilities needed for the emergency response organization (ERO).

Objective 2: The site has the means to perform required emergency response functions using designated facilities and reliable onsite equipment in case of severe natural phenomena events.

Inspection Criteria:

- A facility is available for use as a command center.
- The site adequately maintains designated response facilities, especially multi-use facilities.
- The site provides for the use of an alternate location if the primary command center is not available.
- Adequate personal protective equipment (PPE) and other equipment and supplies are available and operable to meet the needs determined by the results of the EPHAs.
- The site identifies, monitors, and acquires facilities and equipment sufficient to meet functional requirements.
- The site has adequate available, operable, and maintained response facilities and equipment to support functional requirements.
- The facility maintains inventories of all emergency equipment and supplies in identified locations at the facility.
- Periodic inspections, operational checks, calibration, preventive maintenance, and testing of equipment and supplies are performed to ensure response facilities and equipment are available and operable in case of an operational emergency.
- The site has adequate response facilities and equipment to support a facility emergency response, including the capability to notify employees of an emergency and to facilitate the safe evacuation of employees from the work place and immediate work area or safely shelter them, as appropriate.
- Control of the scene is consistent with the National Incident Management System/Incident Command System, which integrates local agencies and organizations that provide onsite response services.

Inspection Activities:

- Review the facility EPHA to determine if analyzed natural phenomena events could result in the loss of emergency response command facilities.
- Review procedures, checklists, and records used to perform testing and maintenance of facility equipment, as necessary.
- Interview personnel responsible for testing and maintenance of facility equipment, as necessary.
- Perform walkdowns of facility emergency response facilities and equipment to validate the state of readiness, as necessary.
- Review EPHAs and determine if it was used to establish the capability needs of the ERO.

- Review ERO duty rosters to determine if the ERO cadre has sufficient depth to staff ERO positions for analyzed events.

Lines of Inquiry:

- Are there designated facilities for use as emergency response command centers?
- Is a facility available for use as a viable command center by the emergency director, the emergency management team, and other members of the ERO during an emergency response?
- Are emergency response command facilities accessible and habitable during events postulated in the EPHAs?
- Are command facilities that are expected to provide long-term protection to its inhabitants properly equipped with habitability systems?
- Are habitability systems properly tested, including filter testing at an approved filter test facility, maintained and ready to be placed in service?
- Are the characteristics of the dedicated command center, and other auxiliary facilities, adequate to reliably support the designated functions and assignments?
- Are provisions made for use of an alternate location if the primary command center is not available?
- Do emergency response facilities use backup or alternate power supplies in the event of loss of normal power?
- Are onsite generators used as backup power for emergency response equipment tested and maintained in accordance with industry standards and vendor recommendations?
- Can all equipment critical to an emergency response at the facility be powered from a backup power source?
- Are there adequate plans for refueling backup generators operating to support extended operations?
- Are uninterruptible power supplies powering emergency response equipment tested and maintained in accordance with industry standards and vendor recommendations?
- Are designated response facilities, especially multi-use, backup facilities, or mobile facilities, adequately maintained to ensure timely activation and availability to support an emergency response?
- Does each command and control center have adequate communications to perform its notification and command functions with consideration of degraded conditions from severe events?
 - Secure and non-secure telephones.
 - Classified and unclassified information management systems/networks.
 - Secure and non-secure facsimile machines.
 - Are dedicated primary and backup voice communications links provided between key emergency response facilities?
 - Is there the capability to notify employees of an emergency from command centers to protective actions?
- Are communications systems effective to support management and tracking of evacuees and personnel accountability?
- Are buildings and area alarms or public address systems designed, installed, and maintained to alert facility personnel to emergency conditions?
- Are there mechanisms and procedures that address:
 - A method to safely close the outside air intake?
 - A method to safely shut down the heating, ventilation, and air conditioning systems following a hazmat release?
 - A method for sealing off the building/assembly area by closing doors and windows, sealing cracks, etc.?
 - Facilities that can serve as shelter from windborne missiles?
- Are facilities and installed equipment adequate to support facility functions and level of staffing?

- Do the actual function(s) and operating characteristics of specific facility equipment adequately support the intended function(s) during emergency response?
- Are adequate personnel protective equipment, and other emergency equipment and supplies, readily available and operable to meet the needs determined by the results of the EPHAs?
- Are periodic inspections, operational checks, calibration, preventive maintenance, and testing of equipment and supplies used during an operational emergency carried out as required in accordance with manufacturer's instructions or industry standards?
 - Radiation detectors
 - Hazardous chemical detectors
 - Seismic monitors.
 - Atmospheric pressure detectors
- Are inventories of all facility emergency equipment and supplies maintained with the equipment location identified?
- Are specialized facilities and equipment that are essential to emergency response appropriately identified for the facility?
- Has the site established and maintained an ERO with overall responsibility for initial and ongoing emergency response and consequence mitigation and determination?
- Does the site have effective control mechanisms at the scene of an event?
- Are an adequate number of experienced and trained personnel, including designated alternates, available on demand for timely and effective performance of ERO functions?
- Are special facility response functions and teams (e.g., fire, hazmat, emergency medical, rescue, etc.) addressed in the context of staffing and interactions within the ERO?
- Are the fire department, hazardous material response teams, security force, and field monitoring teams staffed and equipped consistent with identified capability needs?
- Has the contractor assigned an individual (e.g., building or facility manager or similar position) to manage and control all aspects of the facility response?

Objective 3: The site has prepared emergency response personnel for a severe NPE through a systematic and coordinated training and drills program.

Inspection Criteria:

- ERO members are trained to respond to multi-facility events, including events that impact command centers.
- ERO members complete position-training requirements before they are assigned to the duty roster.
- ERO members are provided annual refresher training.
- ERO members are periodically provided training on lessons-learned from global severe events.
- ERO members demonstrate their emergency response function annually, through drills, exercises, or actual events.
- ERO members participate in drills that respond to NPEs and multi-facility events.
- Personnel performing emergency response tasks are knowledgeable of their areas of responsibility.
- Site workers are provided appropriate training to respond to NPEs.
- The site provides offsite response organizations information for site access, site hazards, and response information for use in training offsite responders to enable them to have a safe, timely, effective, and integrated response with site personnel.

Inspection Activities:

- Review facility/site emergency plan(s).
- Review training plans and procedures.
- Review training schedules, status reports, and records.
- Review drill packages.
- Review training/drill program evaluation reports.
- Interview training personnel, ERO members, and facility personnel involved in the emergency management program.

Lines of Inquiry:

- Do the emergency plan(s), emergency plan implementing procedures, and training program plan comprehensively and systematically lay out a program for accomplishing emergency management training goals that include responses to severe NPEs?
- Does the training program plan include training objectives, target audience, an outline and schedule of training, resources and facilities, organizational responsibilities, and training program administration?
- Are training requirements clearly stated for key emergency management positions and response teams, including:
 - initial training;
 - annual refresher training;
 - training when hazards or plans and implementing procedures change; and
 - demonstration of proficiency through testing and drills?
- Is there a detailed list of courses and drills provided by the emergency management program?
- Have matrices been developed and maintained for identifying and implementing required training topics and courses for each ERO position?
- Do administrative program records provide the source for identifying qualified instructors, training material approval authority, and qualification signature authority?
- Are training records maintained for all personnel assigned ERO positions, primary and alternate, showing in-progress, final and upcoming re-qualification status?
- Are lesson plans, training materials and facilities, instructor and student materials, and training software maintained, formally documented, and included in an index or matrix?
- Does the program plan define minimum program standards for:
 - training required for each position (i.e., certain courses must be completed);
 - proficiency (e.g., minimum grades on tests, how prior experience is credited);
 - performance (i.e., acceptable performance during drills, exercises, or actual events); and
 - retraining and re-validation?
- Is the training program reviewed and updated periodically, or as required, based on changes in related emergency plans/procedures?
- Does the organization provide initial training and periodic drills to all workers who may be required to take protective actions (e.g., shelter-in-place; assembly, evacuation)?
- Does the site provide emergency-related information and training on site-specific conditions and hazards to offsite personnel who may be required to participate in response to an emergency at the site?
- Is refresher training provided annually to certified operators and supervisors, and those workers who are likely to witness a hazardous materials release or oil spill and who are required to notify proper authorities of the release?
- Does refresher training include details of program changes and lessons-learned from actual events, exercises, DOE and industry operating experience, and program evaluations?

- Is the emergency management training program effectively integrated and coordinated with related training programs provided by other organizations?
- Are employees designated and trained to assist in a safe and orderly evacuation of other employees?
- Is the emergency action plan reviewed with each employee covered by the plan: when the plan is developed; when the employee is initially assigned a job; when responsibilities change under the plan; and when the plan changes?
- Has the contractor at DOE/NNSA Operational Emergency Hazardous Material Program facilities also established 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?
- Is special team training conducted for functional groups, in particular those with technical and management team assignments?
- Does training emphasize the need for prompt, accurate, and practical judgments involving event categorization and classification, protective actions, and the urgency of notifications of operational emergencies(OEs)?
- Is EAL training conducted periodically to improve the proficiency of ERO decision-makers in timely and conservative classification of OEs, including decision-making when information is incomplete or uncertain and for events and conditions that are not covered explicitly by the EALs?
- Do ERO personnel authorized for initial classification and protective action decision-making validate their proficiency by participating in performance tests that employ hypothetical scenarios and available facility/site aids, such as EALs?
- Are offsite emergency response personnel and organizations, including state, local, tribal, or private hospitals, public health, medical, or ambulance services, that are expected to support onsite response efforts, offered training on facility- and site-specific emergency-related information, conditions, and hazards?
- Are offsite emergency response personnel and organizations offered the opportunity to participate in training and drills validating procedures for response activities expected to involve integration of onsite and offsite response resources?
- Have training program requirements been established in accordance with the National Response Plan (NRP) and National Incident Management System (NIMS)?
- Are training courses performance-based, customized to program-specific ERO positions, containing learning objectives, and having testing as a final validation of satisfactory completion?
- Do trainers for hazardous material emergency response have recognized training and credentials necessary to demonstrate instructional skills and good command of subject matter?
- Do drills provide supervised "hands-on" training for members of EROs?
- Does the drill program:
 - Incorporate the capabilities to respond to a natural phenomenon event?
 - Are drills an integral part of training and do they have the appropriate level of complexity, focus, and site-specific parameters to identify and correct needed performance improvements?
 - Are offsite responders, security, and fire department personnel routinely invited to participate in facility-level drills and exercises?
- Are drill plans, training materials and facilities, instructor and student materials, and training software maintained, formally documented, and included in an index or matrix?
- Are drill and exercise participation and performance documented for each member of the ERO?
- Do scheduled drills include scenario-driven events that provide interface practice between the emergency response organization and site medical and security organizations?
- Are drills developed or modified based upon feedback from actual events, exercise evaluations, and self-assessments, or to validate new or revised procedures and equipment modifications?
- Are drills related to responding to beyond design basis events, including natural phenomena events, periodically conducted?

Objective 4: The site's planning is adequate for obtaining and integrating offsite response assets for events beyond the site's response capability.

Inspection Criteria:

- The site establishes and maintains effective interfaces to ensure the integration and coordination of emergency response activities with Federal, tribal, state, and local agencies and organizations responsible for emergency response and protection of the workers, public, and environment.
- The site establishes, documents, and tests the interfaces with each agency and organization.
- The site uses hazards survey and EPHA results to develop a list of emergency services, which may be needed to respond to potential accident conditions such as required services from hospitals, fire departments, law enforcement, accident investigation, analytical laboratory services, ambulance services, and coroners.
- The site identifies offsite response agencies and organizations responsible for augmenting site response resources.
- Support agreements are in place that identify the resources, the onsite personnel authorized to request offsite resources, the offsite individuals authorized to implement the arrangement, the points-of-contact, and any information required for implementation, such as names and telephone numbers.

Inspection Activities:

- Review emergency plans, implementing procedures, memorandum of understanding, and mutual aid agreements.
- Interview DOE/NNSA Field Element and contractor personnel responsible for establishing and maintaining interfaces with offsite authorities.

Lines of Inquiry:

- Are agreements to provide mutual assistance or to receive assistance from offsite organizations documented in formal memorandum of agreement, memorandum of understanding, or similar mutual aid agreements?
- Does the site/facility, through formal agreements, support offsite agencies under the "good neighbor" policy in areas of emergency assistance including fire, medical, and hazmat releases (including field monitoring resources)?
- Are offsite authorities informed of the availability of assistance from DOE/NNSA national assets?
- Is the site emergency response plan compatible and integrated with the disaster, fire and/or emergency response plans of local, state, and Federal agencies?
- Have organizations that may be needed in a supporting role and/or needed for long-term support been identified?
- Are preplanned protocols used (e.g., use of deadly force, weapons employment, tactics, code words, radio frequencies, etc.) when local law enforcement provides backup to the onsite protective force?
- Have pre-designated offsite points of contact, including organization, names, and phone numbers been documented, maintained, and made available to the response organization?
- Is effective coordination with offsite response agencies and organizations accomplished and maintained through routinely scheduled meetings?
- Does routine coordination and interfaces through training, drills, and good neighbor support ensure that offsite services as indicated in documented agreements will be integrated with onsite resources?

- Are methods of communication and communication protocols with offsite agencies/ organizations in place, identified, and operable?
- Do communication capabilities allow effective communication with offsite officials, the cognizant DOE Field Element and Headquarters Emergency Management Team?
- Are offsite response organizations invited to participate in a site-level exercise at least every 3 years?
- Are assumptions for offsite emergency response support periodically tested?
- Do support agreements detail the following?
 - The specific service and/or resources to be provided.
 - The agency, organization, or jurisdiction to which it applies.
 - Onsite individuals authorized to request aid from the offsite agency, organization, or jurisdiction.
 - Offsite individuals authorized to implement the arrangement, points-of-contact, and information required for implementation, such as names and telephone numbers.
 - Financial arrangements, including commitments by the facility or site to provide training, equipment, and facilities to the entity providing the service and indemnification for injury to persons for loss and damage to property.

Objective 5: The site has planned an approach for event termination and recovery operations through established plans and procedures.

Inspection Criteria:

- Site plans and procedures require coordination of event termination with state, tribal, and local agencies and organizations responsible for offsite emergency response and notifications.
- Site plans, procedures, drills, and exercises prepare personnel for termination and recovery from NPEs.
- Site plans and procedures require criteria be established for resumption of normal operations.
- Recovery plans include provisions for investigation of the root cause(s) of the emergency and corrective action(s) to prevent recurrence.

Inspection Activities:

- Review the emergency plan, implementing procedures, continuity of operations plan, and mutual aid agreements.
- If available, observe individuals and teams in the performance of emergency management duties (e.g., annual facility/site exercises).
- Conduct interviews and/or limited-scope performance tests.

Lines of Inquiry:

- Prior to terminating the emergency response, does the site ERO establish the recovery organization and determine the resources needed to begin recovery operations?
- Do procedures require that predetermined criteria are met before an operational emergency is terminated?
- Do procedures require criteria for termination of an operational emergency include: communication and coordination with state, tribal, and local government and other federal agencies; and planning, management, and organization of the associated recovery activities?
- Are internal and external communications performed when terminating from an operational emergency?
- Is the risk of injury to those individuals involved in rescue and recovery operations minimized through appropriate planning, personnel protective equipment, hazardous material detectors, buddy systems, accountability systems, and backup teams?

- Are emergency exposure levels and turn-back levels appropriately established for responders based on lifesaving, property saving, and recovery missions?
- Are volunteers used when there is a potential to meet emergency exposure levels?
- Is there an established mechanism to determine the structural integrity of a building prior to reentry?
- Do facility personnel estimate exposure to hazardous materials to protect workers and the public during reentry and recovery activities?
- Is each individual authorized to perform emergency actions briefed beforehand on the known or anticipated hazards to which the individual will be subjected?
- Is the decision to terminate emergency response for an OE made by the site ERO and is it coordinated with all principle participating response organizations?
- Is the beginning of the recovery phase marked by the termination decision and subsequent notifications to participating offsite and onsite personnel?
- Is an adequate recovery plan established that considers crime scene and accident investigations?
- Do recovery procedures include provisions for investigation of the root cause(s) of the emergency and corrective action(s) to prevent recurrence in accordance with Departmental requirements?

Objective 6: The site has planned for sufficient medical support for contaminated or injured personnel that include documented arrangements with offsite medical facilities to transport, accept, and treat contaminated or injured personnel for mass casualty events.

Inspection Criteria:

- The site can provide medical treatment and has planned for mass casualty situations.
- The site coordinates in advance the sharing of patient information between onsite and offsite health care providers during emergencies, consistent with the requirements of Health Insurance Portability and Accountability Act of 1996.
- The site has arranged for medical treatment of workers contaminated by hazardous material.
- The site has documented agreements with onsite and offsite medical facilities to accept and treat contaminated or injured personnel.

Inspection Activities:

- Review the emergency plan, implementing procedures, hazards surveys, EPHAs, and mutual aid agreements.
- Conduct interviews of personnel responsible for the medical support program.

Lines of Inquiry:

- Are plans, procedures, and agreements established for timely treatment of contaminated or injured personnel?
- Are arrangements with offsite medical facilities to transport, accept, and treat contaminated, injured personnel documented?
- Do standing orders/protocols ensure that patients are transported to the receiving facility best equipped to provide appropriate level of care for patient's condition?
- Are there arrangements for the site to take responsibility for removal of contaminated material in offsite medical facilities or vehicles?
- Are provisions established in plans and procedures for response to emergency medical situations and medical treatment of injured personnel implemented?
- Is their assurance that security clearance issues do not impede medical treatment or transport of injured personnel?
- Is there coordination between onsite and offsite medical response units, including:

- Treatment protocols are coordinated?
 - Medical support services and capabilities are effectively integrated?
 - Medical communications systems are compatible and effective?
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- Is appropriate recognition and emphasis focused on medical treatment vs. radioactive or chemical contamination for personnel; proper and effective decisions are made?
 - Do ambulance crews initiate communications with receiving medical facilities while en route?
 - During an event involving the release of hazardous biological material, are there provisions for medical personnel to assist in release detection/confirmation, consequence assessment, and development of protective actions?
 - Are onsite and offsite medical facilities outfitted and staffed to utilize specialized equipment and supplies specific to onsite hazards?
 - Does the contractor provide medical treatment and planning for mass casualty situations?
 - Does the contractor coordinate in advance the sharing of patient information between onsite and offsite health care providers during emergencies, consistent with the requirements of Health Insurance Portability and Accountability Act of 1996?
 - Do onsite personnel who respond to a medical emergency show proficiency in first aid or emergency medical treatment, comparable with those of any offsite teams employed, and are they equally, adequately equipped?
 - Does the contractor provide medical support for workers contaminated by hazardous material?
 - Did the contractor document arrangements with onsite and offsite medical facilities to accept and treat contaminated, injured personnel?
 - Are provisions in place to access, as necessary, additional medical assistance and treatment procedures, and associated points of contacts, including: search and rescue resources, Radiological Emergency Assistance Center/Training Site (REAC/TS) assistance, Public Health Service coordination, long-term longitudinal health testing, chelation, handling contaminated remains, and other sophisticated medical procedures?
 - Are arrangements with offsite medical facilities to transport, accept, and treat contaminated, injured personnel established, documented, and periodically reviewed?
 - Are onsite and offsite medical personnel offered information and training on facility-specific hazardous materials and offered opportunities for participation in drills and exercises in advance of emergencies?
 - Are personnel, vehicles, facilities and equipment adequate for treating and transporting injured, contaminated or exposed individuals in a safe and effective manner?
 - Do onsite and offsite medical and emergency medical technician (EMT) personnel use required equipment for assessing patient conditions, including PPE and medical service protective clothing?
 - Are exposure and contamination information sent with victims, and expert technical support provided to the receiving hospital(s)?
 - Are onsite radiation protection and IH personnel and infectious disease specialists properly equipped to assist medical and EMT staff in performing patient survey, decontamination, contamination and exposure control, urine and fecal analysis, and in-vivo counting methods?
 - Are proper contamination control procedures implemented in handling injured and contaminated personnel; and were decontamination facilities available and adequately equipped?

Objective 7: The site/facility implements effective mechanisms for the managing corrective actions from evaluations, assessments, and appraisals and lessons learned from external and internal reviews, facility training, drills, actual responses, and findings.

Inspection Activities:

- Review documentation related to oversight and assessment (e.g., completed program assessments and exercise evaluations, causal analyses and corrective action plans, verification/validation records, and effectiveness determinations).
- Review trend analysis and performance indicator reports and evaluate the analyses, conclusions, and any related corrective actions at the site/facility.

Lines of Inquiry:

- Have issues (findings and OFIs) identified during previous reviews at the site/facility (e.g., CDNS Biennial Reviews, HSS reviews, self-assessments) been appropriately resolved, corrective actions have been completed and are adequate, or a clear path to completion is indicated?
- Are issues identified at the site/facility evaluated and appropriately entered into an issues tracking (when appropriate) and management system under the control of the site office?
- Are responsible DOE/NNSA line managers briefed periodically on the results of facility oversight activities and the status of corrective actions?
- Does the site office have a process or procedure in place to independently verify and validate corrective actions, both contractor and DOE/NNSA?
- Has the site office ensured and/or verified the following at the site/facility level:
 - Deficiencies in programs or performance identified during operational awareness activities are communicated to the contractor for resolution through a structured issues management process?
 - Findings are tracked and resolved through structured and formal processes, including provisions for review of corrective action plans?
 - Line management reviews completion of corrective actions, which includes a verification and validation process, independent of those who performed the corrective action, to verify that the corrective action has been put in place and validate that the corrective action has been effective in resolving the original finding?

Objective 8: The site has implemented a comprehensive exercise program that validates site-level and facility-level emergency management program elements through replication of an emergency response to a plausible event.

Inspection Criteria:

- The exercise program validates all emergency management program elements over a 5-year period.
- The site-level ERO is exercised annually.
- Offsite responders are invited to participate in site-level exercises at least once every 3 years.
- All facility-level ERO assigned to hazardous material program facilities are exercised annually.
- Exercises are conducted annually to ensure that employees are able to safely evacuate buildings.
- Exercises are conducted annually to ensure that employees are able to perform shelter-in-place protective actions.
- Exercises are effectively administered by trained controllers and evaluators.
- The results of exercises are effectively used to promote program improvements.
- Exercise scenarios periodically include severe NPEs that result in multi-facility damage that is consistent with the design basis of the site's infrastructure.

Inspection Activities:

- Review the site/facility emergency plan(s) and exercise program procedures.
- Review exercise packages.
- Review exercise after action reports.
- Review the process for making emergency management program improvements for weaknesses identified by the exercise program.
- Interview training personnel and facility emergency management personnel.
- For exercise evaluations, observe a scheduled exercise.

Lines of Inquiry:

- Has the contractor performed a self-assessment of the exercise program in the past year?
- Has the site office performed a review of the exercise program in the past 3 years?
- Has the site office/contractor identified exercise program weaknesses through the conduct of exercises or oversight activities/self-assessments and, if so, have weaknesses been adequately addressed?
- Does the exercise program validate all elements of the emergency management program over a 5-year period through written objectives?
- Are notifications and communications evaluated during every exercise?
- Are communications systems with DOE Headquarters, the Cognizant Field Element, and offsite agencies tested at least annually?
- Has there been a Departmental exercise evaluation of the facility in the past 3 years?
- Are offsite response organizations invited to participate in site-wide exercises at least once every 3 years?
- Have exercise scenarios tested response to events with:
 - Multiple hazardous material facility damage
 - Station blackout conditions
 - Loss of primary command centers
 - Security lockdown conditions
 - Mass casualties
 - Offsite assets integrated with the site's response
- Do site-level ERO elements and resources participate in a minimum of one exercise annually and test the site's integrated emergency response capability?
- Does each facility-level ERO elements and resources participate in a minimum of one exercise annually?
- Does the facility-level exercise program require a facility exercise evaluation with a critique?
- Are evacuation exercises conducted at each occupied building at least annually?
- Are shelter-in-place exercises conducted at each designated shelter at least annually?
- Does exercise planning and preparation use an effective, structured approach that includes documentation of specific objectives, scope, time lines, injects, controller instructions, and evaluation criteria for realistic scenarios?
- Are exercise evaluation criteria facility-specific, based on existing plans and procedures, and correlated with the exercise objectives?
- Do specific exercise objectives provide the basis for evaluating/validating the performance of response capabilities by each participating organization?
- Are scenarios consistent with the set of exercise objectives, explicitly supporting an evaluation/validation of each objective?

- Does the exercise program also include provisions for incorporating objectives in each exercise that are designed to validate revised plans/procedures, implemented corrective actions, and program improvements?
- Are provisions for safety, security, and public/media interface clearly identified and documented?
- Are simulations and limitations pertaining to participants and exercise activities clearly identified and documented?
- Do injects/messages contain accurate, unambiguous, and non-prompting information and technical data for the players/responders and provide proper direction for the exercise?
- Does coordination among participants include provisions for exercise initiation, interruption and termination?
- Is exercise planning effectively coordinated among onsite and offsite organizations or groups regarding their respective participation and exercise objectives? Are any limitations or simulations regarding their participation identified and documented?
- Does the site/facility complete the exercise package and provide to DOE or NNSA line management and the DOE Director of Emergency Operations in sufficient time before the conduct of the exercise to allow for review and comments by DOE or NNSA line management and the DOE Director of Emergency Operations?
- Are exercise packages approved by the Cognizant Field Element?
- Are controllers and evaluators provided generic and exercise-specific training?
- Are preparations, including participant briefings, safety provisions, staging of simulation props, positioning of controllers/evaluators, and establishing of initial conditions completed prior to exercise initiation?
- Is security of the exercise scenario properly managed, and is pre-staging of players and/or prior knowledge of scenario material by players effectively prevented?
- Are controller and evaluator organizations adequately staffed and positioned for effective exercise conduct/control and evaluation?
- Do controllers conduct the exercise in accordance with the exercise plan package?
- Do controllers permit free play when free play would not interfere with the scenario?
- Do controllers prevent interference and/or prompting by non-responders?
- Is simulation of activities sufficiently realistic to provide confidence that the activity could have been performed during a real emergency?
- Do players/responders perform their respective functions, initially and throughout the exercise in a professional manner as if the situation were an actual emergency?
- Do evaluators display familiarity with responder organizations, functions, procedures, and anticipated responder decisions and response activities?
- Are responders/players evaluated with respect to demonstrated proficiency of their respective responsibilities and functions, communication and coordination with other responders, familiarity and use of procedures and equipment, and overall professional response?
- Does the exercise program include provisions for evaluating all objectives and establish a critique process that includes gathering and documenting observations of all participants?
- Does the evaluation process include a hotwash immediately following play to gather feedback from players?
- Does the evaluation process include a critique process with controllers and evaluators to determine whether individual exercise objectives were accomplished?
- Are facilities and equipment evaluated with respect to adequacy of functions and operability?
- Are procedures evaluated with respect to their use by responders, including adequacy of content?
- Are lessons-learned developed, resulting in corrective actions and improvements?
- Does an After-Action Report document the results of the exercise critique and evaluation?

- Are corrective action plans developed for improvement items identified during exercises within 30 working days of issue of the After-Action Report?
- Does the correction actions process include independent verification and validation of the effectiveness of corrective actions?
- Are corrective actions for weaknesses identified during exercises tested in the following exercise?