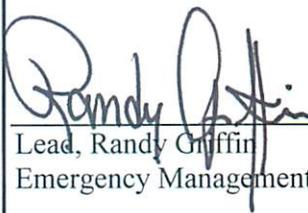


		Number: EA CRAD EA-33-05 Revision: 0 Effective Date: March 22, 2017
<b>Contractor Readiness Assurance and Exercise Program Criteria and Review Approach Document</b>		
Authorization and Approval	 Director, Office of Emergency Management Assessments	 Lead, Randy Griffin Emergency Management Specialist  Date: <b>22 MAR 17</b>

**1.0 PURPOSE**

The mission of the U.S. Department of Energy (DOE) Office of Environment, Safety and Health Assessments (EA-30) is to assess the effectiveness of safety and emergency management systems and practices used by line and contractor organizations and to provide clear, concise, rigorous, and independent evaluation reports of performance in protecting workers, the public, and the environment from the hazards associated with DOE activities.

In addition to the general independent oversight requirements and responsibilities specified in DOE Order 227.1A, *Independent Oversight Program*, this criteria and review approach document (CRAD), in part, fulfills the responsibility assigned to EA in DOE Order 151.1C, Comprehensive Emergency Management System to provide independent oversight of the department’s emergency management program.

The CRADs are available to DOE line and contractor assessment personnel to aid them in developing effective DOE oversight, contractor self-assessment, and corrective action processes. The current revision of EA’s CRADs are available at <http://www.energy.gov/ea/criteria-and-review-approach-documents>.

**2.0 APPLICABILITY**

The following CRAD is approved for use by the Office of Emergency Management Assessments (EA-33).

### 3.0 FEEDBACK

Comments and suggestions for improvements on this CRAD can be directed to the Director, Office of Environment, Safety and Health Assessments.

### 4.0 CRITERIA AND REVIEW APPROACH

The review of Contractor Readiness Assurance and Exercise Programs will evaluate the program elements for compliance with DOE Order 151.1C and the overall effectiveness in meeting the objectives stated below. The following functional areas are designed as stand-alone sections to be used in any combination based on the need of the specific appraisal.

#### *OBJECTIVES*

**RA.1: DOE/NNSA facilities must implement a readiness assurance program consisting of evaluation, improvements, and ERAPs. [DOE O 151.1C, Attachment 2 (CRD), 7.]**

#### **Criteria:**

- 1. An evaluation program assures that emergency plans, implementing procedures, and resources are adequate and sufficiently maintained, exercises, and evaluated (including evaluations and assessments). (DOE G 151.1-3, P5.2)**
  - DOE/NNSA facilities must conduct an annual self-assessment of their emergency management programs. 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. [DOE O 151.1C, Attachment 2 (CRD), 7.a.(1)]
    - Are comprehensive, thorough and effective self-assessments conducted annually?
    - Are self-assessments based on standards and criteria issued by the Director, Office of Emergency Operations?
    - Are findings (i.e., weaknesses or deficiencies) appropriately identified in all program and exercise evaluations? (DOE G 151.1-3, P5.4a.)
    - Do the self-assessments encompass the emergency plan, implementing procedures, and resources to ensure they are:
      - Reviewed and updated
      - Evaluated in exercises
    - Do self-assessments include all the program elements of the emergency management program?
    - Are records maintained of readiness assurance self-evaluations (e.g., program or exercise self-assessments) and any related findings? (DOE G 151.1-3, P5.4.c.)
    - Are the results of self-assessments accurately documented in the ERAP?
  - Various tools or processes are used for performing formal evaluations of the emergency management program components: (DOE G 151.1-3, pp 4-5)
    - Are plans, procedures, supporting analyses, and preparedness activities effectively evaluated using the following tools-
      - For program evaluations:

- Document reviews?
  - Operation/utilization of response tools?
  - Interviews with responders?
  - Observation of training and drills?
  - Analysis of preparedness data (e.g., training and participation records)
  - Performance indicators?
  - For response performance:
    - Limited Scope Performance Test (LSPT)?
    - Exercise Evaluations?
  - Does the evaluation program focus these evaluation tools on the specific issues/problems identified through previous evaluations, tracking performance indicators, or other preparedness activities such as training and drills?
  - Have measurable indicators for evaluating the effectiveness of corrective actions to address previously identified issues/problems been identified and included in the evaluation program?
2. An effective formal and structured Readiness Assurance Program is implemented consisting of evaluation and improvement programs, and documentation of the readiness of the emergency management program based on emergency planning and preparedness activities and the results of the readiness assurance program (e.g., in ERAPs). (DOE G 151.1-3, P5.1)
- Is the readiness assurance program formally documented, structured, and effective?
  - Does the readiness assurance program include a full spectrum of independent, program and exercise evaluations?
  - Does the readiness assurance program include improvement programs?
  - Does the readiness assurance program include documentation of the readiness of the program in ERAPs?
3. Management leadership, commitment, and active involvement are essential for emergency management program improvement. (DOE G 151.1-3, pp 4-13)
- Is management aware of requirements and performance expectations to integrate evaluations with the strategic plans of the organization?
  - Does management review the emergency management program at planned intervals based on selected criteria, such as performance effectiveness, to ensure its continuing suitability, adequacy, and effectiveness, to include assessing opportunities for improvement and the need for changes?
    - Are records from management reviews maintained?
  - Do personnel responsible for emergency management provide input to management reviews, to include information related to:
    - Exercise performance?
    - Results of internal and external evaluations?
    - Findings involving the emergency management program?
    - Complaints or significant communications with offsite agencies?
    - Status of corrective actions completed and planned?
    - Emergency management performance measures and progress in meeting targets?
    - Changes in regulatory and statutory requirements that may impact resource needs of the emergency management program?
    - Changes at the facility/site that may impact preparedness or response?

- Recommendations for improvement?
- An annual ERAP report?
- Does site and facility management ensure that necessary interface and cooperation is maintained between emergency management and the various departments at the facility/site?
- Is there effective ongoing coordination and cooperative interfaces with organizational groups such as medical, fire/Hazardous Materials (HAZMAT), training, environmental health and safety, health physics, engineering, information systems, security, public affairs/media relations, etc.?
- Does line management participation ensure that corrective actions are handled efficiently and effectively and that applicable lessons learned information is effectively distributed and implemented throughout the organization?
- Are expectations of upper management communicated to line management?
- Does management hold responsible organizations accountable for completing corrective actions that effectively resolve issues/problem?
- Are performance measures established for the emergency management program linked with performance expectations of senior management and their commitment to the program?
- Are the measures and processes well-defined for determining that sufficient resources are budgeted to maintain and improve the program?
- In considering resource needs to maintain emergency management and meet expectations for performance improvement, are the following factored into requests to management:
  - Current resources?
  - Changes at the facility/site that may impact preparedness or response. These may include physical, information systems, communication systems, organizational, and financial changes?
  - Changes in regulatory or statutory requirements?
  - Changes in response capabilities of external EROs?
  - Program effectiveness and achievement of performance goals over the past year?
  - Lessons learned (facility-specific, DOE/NNSA Complex and industry)?
  - New performance goals?
  - Corrective action commitments?
- 4. **An improvement program provides assurances that appropriate and timely improvements are made in the emergency management program in response to needs identified through coordinated emergency planning, resource allocation, program assistance activities, evaluations, training, drills, and exercises. (DOE G 151.1-3, P5.9)**
- Corrective action plans must be developed within 30-working days of receipt of the final evaluation report. 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. [DOE O 151.1C, Attachment 2 (CRD), 7.b.(1)(a)]
  - Are evaluated findings from program and exercise evaluations by organizations external to the facility/site or activity acknowledged and included in corrective action plan? (DOE G 151.1-3, P5.11)
  - Are corrective action plans developed for findings identified in evaluations, training, drills, and exercises?
  - Are corrective action plans developed within 30-working days of receipt of the final evaluation report? (DOE G 151.1-3, P5.12)
  - Are corrective actions completed as soon as possible? (DOE G 151.1-3, P5.13)

- For those corrective actions involving the revision of procedures, are the procedures revised before the next annual self-assessment? (DOE G 151.1-3, P5.13)
  - For those corrective actions involving revisions to training, is the training revised and training conducted before the next annual self-assessment? (DOE G 151.1-3, P5.13)
  - 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. [DOE O 151.1C, Attachment 2 (CRD), 7.b.(1)(b)]
    - Does someone independent of those who performed the corrective actions verify that the corrective action has been put in place?
      - How is “independence “defined?
    - Is the verification thoroughly and accurately documented?
    - Does someone independent of those who performed the corrective actions validate that the corrective action has been effective in resolving the original finding?
    - Is performance effectiveness used to validate the corrective action?
    - Is the validation thoroughly and accurately documented?
- 5. A strategic objective of an emergency management readiness assurance program is continuous improvement. A strong, reliable readiness assurance program will help an organization ensure that appropriate and timely improvements are made in response to needs identified and will provide the organization with a direction and a path forward to achieve an effective and efficient emergency management program. A robust self-assessment program will assist in ensuring that problems are self-identified and corrected, without requiring the influence of external evaluators. (DOE G 3-1 section 4.4 pp 4-8)**
- Each emergency management organization should maintain (at least) an internal system for ensuring that corrective actions are acknowledged and progress in implementing corrective actions is tracked. Does the tracking system enable:
    - Managers to identify corrective action status (open/closed), to assign responsible staff, to ensure that scheduled commitments for corrective action are met and that the effectiveness of corrective actions is validated?
    - Organizations to sort corrective actions and collect data by category and cause?
    - The data concerning corrective actions to be monitored in the organization’s site performance measurement program? (EMG 3-1 section 4.4 pp 4-10) and used to ensure corrective active actions are completed on schedule and effective?

## ***REVIEW APPROACH***

### Document/Record Review:

- Site/facility emergency plan(s)
- Procedures related to corrective actions
- Documentation of corrective actions and associated closure, validation, and verification.
- Site/facility emergency plan(s)
- Procedures addressing the review and revision of documents
- Procedures addressing self-assessments

- Self-assessment reports
- Site/facility emergency plan(s)
- Plans/procedures addressing the overall structure of the readiness assurance program
- Procedures addressing each criterion
- Individual with responsibility for the readiness assurance program

Interview:

- Individual with responsibility for readiness assurance
- Individual(s) involved in corrective action process
- Individuals who serve a role in the verification and validation process
- Individual with responsibility for the readiness assurance program
- Individual(s) who conduct self-assessments

Observation:

- Systems used to track and document corrective actions.

**RA.2: DOE/NNSA facilities 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. [DOE O 151.1C, Attachment 2 (CRD), 7.a.(3)]**

**Criteria:**

1. Performance indicators (including performance measures and metrics) accurately and appropriately capture and track objective data regarding the performance of emergency management programs in key functional areas; the results are shared with the Cognizant Field Element and Associate Administrator, Office of Emergency Operations. (DOE G 151.1-3, P5.7)
  - Do performance indicators (including performance measures and metrics) accurately capture and track the health of the emergency management program?
  - Do the performance indicators appropriately address the key functional areas of the emergency management program?
  - Are the results of performance indicators provided to the Cognizant Field Element Manager and Associate Administrator, Office of Emergency Operations?
  - Is evidence available to indicate that actions are taken based on performance measures?

***REVIEW APPROACH***

Document/Record Review

- Performance indicators (measures and metrics) used by the facility/site
- Procedures related to performance indicators
- Results of performance indicators provided to the Field Element

Interview

- Individual(s) with responsibility for documenting, tracking, and monitoring performance indicators
- Manager(s) responsible for monitoring results of performance indicators

Observation

- Not applicable.

**RA.3: DOE/NNSA facilities/sites must participate in a program of No-Notice Exercises, conducted at the direction of the Director, Office of Emergency Operations, to determine if the facility/site 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. [DOE O 151.1C, Attachment 2 (CRD), 7.a.(4)]**

**Criteria:**

1. DOE/NNSA facilities/sites must participate in a program of No-Notice Exercises, conducted at the direction of the Director, Office of Emergency Operations. (DOE G 151.1-3, P.8)
  - Has the Director, Office of Emergency Operations, contacted the site regarding a no-notice exercise to be conducted at the site?
  - Has the site participated in a No-Notice Exercise?
    - Dates?
  - Did management support the site's participation in the no-notice exercise?
  - If a no-notice exercise has not been conducted, what are the circumstances why one has not been conducted?
  - Are the results of the no-notice exercise appropriately (including findings) captured in an after action report?
2. Facility/site involvement is limited to providing trusted agents and responding when the exercise is conducted. (DOE G 151.1-3, P5.8)
  - Did the site provide trusted agents to support the planning, conduct, and evaluation of the no-notice exercise?
  - Did the trusted agents maintain confidentiality of the no-notice exercise?
  - When provided exercise injects, did the site ERO respond and participate in the exercise?

***REVIEW APPROACH***

Document/Record Review

- Documentation of no-notice exercises.
- Procedures related to no-notice exercises.

Interview:

- Persons who have served as trusted agents in a no-notice exercise
- Manager responsible for supporting and appointing trusted agents

Observation:

- Not applicable.

**RA.4: The readiness assurance program must include a system for incorporating and tracking lessons learned from training, drills, actual responses, and a site-wide lessons learned program. DOE/NNSA contractor-operated facilities must participate in the DOE/NNSA Corporate Lessons Learned Program. DOE-STD-7501-99, The DOE Corporate Lessons Learned Program, provides guidance on use of the system. [DOE O 151.1C, Attachment 2 (CRD), 7.b.(2)]**

1. The improvement program includes a system for incorporating and tracking lessons learned from training, drills, actual responses, and a site-wide lessons learned program. (DOE G 151.1-3, P5.17)
  - Is a lessons learned program effectively utilized by the emergency management program?
  - Does it include lessons learned from training, drills, and actual responses?
  - It is part of a site-wide lessons learned program?
  - Does the lessons learned program follow the guidance in DOE-STD-7501-99, The DOE Corporate Lessons Learned Program?
2. The improvement program ensures that relevant lessons learned (e.g., complex-wide; other non-DOE sources) are received at the facility/site or activity, are reviewed for applicability, and incorporated in the emergency management program as appropriate. (DOE G 151.1-3, P5.18)
  - Is an individual assigned to review relevant lessons learned from the site or other non-DOE sources for applicability at the facility/site?
  - Are those lessons learned that apply to the facility/site incorporated into the emergency management program?
  - Are lessons learned that are incorporated into the emergency management program documented?
3. Does the emergency management lessons learned program:
  - Include mechanisms to identify lessons learned?
  - Include a process for documenting lessons and “success stories”?
  - Validate the lessons learned to ensure each is meaningful and not repetitious?
  - Maintain a database for the capture, storage and disposition of lessons learned information?
  - Provide forums for sharing information between organizations, both within the site organization and within the broader DOE community, i.e., EMI SIG and the DOE Corporate Lessons Learned program?
  - Establish a formal method or process to evaluate the applicability of lessons learned to the site or its facilities?
  - Incorporate the actions to address applicable lessons learned into the site/facility corrective action tracking system and use lessons learned to improve the program?
  - Include follow-up to ensure actions are taken that implement lessons learned?

### ***REVIEW APPROACH***

#### Document/Record Review:

- Site/facility emergency plan(s)
- Procedures related to lessons learned
- Documentation for the incorporation of lessons learned

Interview:

- Individual with responsibility for the lessons learned program as it applies to the emergency management program
- Individual with responsibility for the site-wide lessons learned program

Observation:

- Not applicable.

**RA.5: Facilities and offsite transportation activities must submit an ERAP to the Cognizant Field Element by September 30 of each year. 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. This report must also identify the goals for the next fiscal year (e.g., which starts on October 1). [DOE O 151.1C, Attachment 2 (CRD), 7.c.]**

**Criteria:**

1. An ERAP is prepared and submitted to the Cognizant Field Element by September 30 each year?
  - Does the ERAP highlight program status, including significant changes in emergency management program (i.e., planning basis, organizations, exemptions) and comparison of previous ERAP goals, milestones, and objectives to achievements? (DOE G 151.1-3, P5.20)
  - Does the ERAP identify what the program goals were for the fiscal year that ended? (DOE G 151.1-3, P5.21) and if the goals were met?
  - Does the ERAP identify the goals for the next fiscal year? (DOE G 151.1-3, P5.21)
  - Does the ERAP document evaluation results and the status (i.e., open/unresolved or closed) of associated corrective actions to include the following? (DOE G 151.1-3, P5.22)
    - Self-assessments
    - Performance measures
  - Does the ERAP contain a sufficient level of accurate information and analysis to provide management at all levels with an adequate tool for gauging emergency management program readiness? (DOE G 151.1-3, P5.23) and actions needed to improve program effectiveness?
  - Is the ERAP submitted to the Cognizant Field Element by September 30 each year? (DOE G 151.1-3, P5.24)

***REVIEW APPROACH***

Document/Record Review:

- Site/facility emergency plan(s)
- ERAP
- Procedures related to ERAP
- Evidence (e.g., transmittal letter) of ERAP submittal to Field Element

Interview:

- Individual with overall responsibility (Program Administrator) for managing the emergency management program to verify documentation for each criterion
- Individual(s) responsible for developing input for the ERAP

- Individual responsible for approving the ERAP

Observation:

- Not applicable.

**EX.6: Establish a formal exercise program that validates all elements of the emergency management program.** DOE O 151.1C, Attachment 2 (CRD).6.

**Criteria:**

1. A structured exercise program is implemented that validates all elements of the emergency management program over a five-year period, and includes building evacuation exercises consistent with Federal regulations and regular communication system tests with DOE-HQ and offsite agencies. DOE O 151.1C, Attachment 2 (CRD).6.a.(1) and (2)
  - Does the exercise program ensure building evacuation exercises or drills are conducted annually, at a minimum, as required by Federal regulations [e.g., (41 CFR 102-74-360)], local ordinances, or NFPA standards], to ensure that employees are able to safely evacuate their work area? DOE O 151.1C, Chap. III.4.b.(1) & DOE G 151.1-3, P4.5
  - Does the exercise program ensure communications with DOE Headquarters (HQ), the Cognizant Field Element, and offsite agencies are tested at least annually or as often as needed to ensure that communications systems are operational? DOE O 151.1C, Chapter III.4.b.(2) & DOE G 151.1-3, P4.6.
    - Are criteria established and evaluated that define “operational”?
  - Have formal plans and procedures been developed to ensure all elements of the emergency management program are validated over a five-year period? DOE O 151.1C, Chap. I.10.b, Chap. IV.4.b, Chap X.1 & DOE G 151.1-3, D.3.3 and P4.1a
  - Does the exercise program require that both facility- and site-level emergency management program elements are validated by initiating response to simulated, realistic emergency events/conditions in a manner that, as nearly as possible, replicates an integrated emergency response to an actual event? DOE G 151.1-3, D.3.3
  - Does the exercise program include provisions for incorporating objectives in each exercise that are designed to validate revised plans/procedures, corrective actions, and program improvements? DOE O 151.1C, Chap IV.4.b & DOE G 151.1-3, P4.1b
  - Does the exercise program include provisions for evaluating all exercises and establish a critique process, which includes gathering and documenting findings and opportunities for improvement of participants? DOE O 151.1C, Chap IV.4.b & DOE G 151.1-3, P4.1c
  - Does the exercise program ensure Site Operations-Based Exercises are conducted at least annually to test the integrated emergency response capabilities of personnel in facility- and site-level ERO positions, and includes both facility- and site-level evaluation and critique? (Note: For multi-facility sites, the basis for the exercise is rotated among facilities or groups of facilities.) DOE O 151.1C, Chap.IV.4.b. (1)(b) & DOE G 151.1-3, P4.2
  - Does the exercise program ensure Facility Operations-Based Exercises are conducted annually for each EPHA facility or group of facilities with common facility-level ERO positions to test the proficiency of personnel in facility-level ERO positions in accomplishing facility-specific emergency response duties and responsibilities? DOE O 151.1C, Chap.IV.4.b(1)(a) & DOE G 151.1-3, P4.2

- Does the exercise program ensure Full Participation Exercises that include the participation of offsite organizations are conducted at least once every three years? (Note: The site is required to invite offsite organizations to participate every 3 years, but is not responsible for ensuring they participate.) DOE O 151.1C, Chap.IV.4.b. (1)(c) & DOE G 151.1-3, P4.2
- Does the exercise program ensure exercises of each of the Department’s radiological emergency response assets that could be used to support the site are conducted at least once every three years? These assets include the Accident Response Group (ARG), Nuclear Emergency Support Team (NEST), Federal Radiological Monitoring and Assessment Center (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 O 151.1C, Chap.IV.4.b.(2) & DOE G 151.1-3, P4.4
- Does the exercise program ensure exercises are conducted for personnel who will interact with the media, and that adherence to emergency public information policies and requirements is demonstrated during exercise evaluations to be effective? DOE O 151.1C, Chap.IX.2.d.(2) and IX.3
- Does the program ensure serious performance problems resulting in findings and/or failed goals/objectives, as determined by a DOE or NNSA organization responsible for evaluating the exercise, are reevaluated during a drill, exercise, or through a selected functional test within a fixed time period following the exercise? DOE G 151.1-3, P4.7
- Does the exercise program include No-Notice Exercises (NNXs) conducted to determine if the ERO can accomplish selected objectives based on applicable plans, procedures, and/or other established requirements, and is involvement limited to providing trusted agents and responding when the exercise is conducted? DOE O 151.1C, Chapter X.2.d & DOE G 151.1-3, P5.8
- Does the exercise program ensure a broad spectrum of potential operational and security events are tested over a five-year period, including a variety of event initiators?
- Does the exercise program ensure scenarios are challenging for Players (i.e., not simplistic scenarios used for the purpose of ensuring responders “Pass” and/or merely “check a box” to meet minimum requirements?
- Does the exercise program ensure severe event exercises (i.e., beyond-design-basis) are conducted periodically that require the site to plan for events beyond their normal response capabilities and include a timeframe for self-sufficiency?
- Are severe event exercises conducted periodically that include damage to multiple hazardous material facilities, command centers, and/or facilities used to implement protective actions, as well as require responders to perform activities such as:
  - confirm the habitability of the primary or alternate emergency operations center
  - establish alternate command centers as operational
  - power essential equipment from backup power sources
  - communicate using backup systems
  - analyze consequences using sophisticated modeling programs and under real-time meteorological conditions
  - implement severe planning with state and local governments

- validate offsite consequence models integrate with national radiological response assets?

**Criteria:**

1. Schedules are in place to manage long- and short-range planning for exercises. DOE G 151.1-3, P3.3/3.4
  - Have long-range schedules been developed for validating all the elements of each program (including both site and facility response organizations), including provisions to incorporate specific objectives in exercises over a 5-year period (e.g., matrix)? DOE G 151.1-3, P4.1a
  - Have short-range schedules been developed containing information about specific aspects of emergency response to be tested in the current year? DOE G 151.1-3, P4.1a
  - Do exercise schedules include periodic participation by appropriate DOE or NNSA radiological response assets, if the facility/site plans to use the assets in response to an emergency? DOE G 151.1-3, P4.3
  - Does the schedule of exercises include security scenario events to test the interfaces between the site security organization and the facility/site ERO? DOE G 151.1-3, P4.3
  - Does the exercise schedule include participation of the Headquarters Enterprise Emergency Management-Unified Coordination Group (formerly known as the Headquarters Emergency Management Team)?

***REVIEW APPROACH***

Document/Record Review

- Review the site ERAP and emergency plan
- Review the EPHAs and EIPs for facilities of interest.
- Review after-action reports for the last two calendar years.
- Review exercise plans/records for the last two calendar years.
- Review exercise program description/manual/procedures.
- Review exercise corrective action plans and closure files.
- Review 5-year exercise schedule.

Interview

- Interview contractor emergency management exercises lead.
- Interview exercise program lead.
- Interview emergency management program lead.
- Interview DOE field office emergency management program manager.

Observation

- None

**EX.7: Plan for exercises using an effective, structured approach designed to test the site's integrated emergency response capability.** DOE O 151.1C, Attachment 2 (CRD).6 and 6.b.(2) and DOE G 151.1-3, P3.3

## Criteria:

1. Exercises are coordinated by a planning team consisting of all participating organizations. DOE O 151.1C, Attachment 2 (CRD).6 and DOE G 151.1-3, 3.6.1, P3-12
  - Is exercise planning coordinated with representatives from participating onsite and offsite organizations? DOE G 151.1-3, CE4.1
  - Are limitations or simulations regarding the participation of onsite and offsite organizations or groups fully identified and documented during the planning process? DOE G 151.1-3, CE4.1
  - When planning for exercises, are trusted agents used and did they plan to ensure players had no knowledge of the exercise, to include date, time, and/or scenario, prior to initiation? DOE G 151.1-3, P5.8
  
2. Exercise Plans are developed using a structured approach that includes documentation of specific objectives, scope, time lines, injects, controller instructions, and evaluation criteria for realistic scenarios. DOE O 151.1C, Attachment 2 (CRD).6.
  - Are Exercise Plans developed according to planning schedules that include sufficient information for effective conduct, control, and evaluation? DOE G 151.1-3, CE4.2, 4.3, 4.4, 4.7 and D.3.3
  - Do Exercise Plans include clear, measurable objectives that provide the basis for evaluating/validating the performance of response capabilities of each participating organization? DOE G 151.1-3, CE4.5 and 4.6
  - Do Exercise Plans include sufficient information for effective conduct, control, and evaluation? This includes specific exercise objectives, scope, scenario, participants, simulations, time lines, injects/messages, technical data, safety and security provisions, controller instructions, and evaluation criteria. DOE O 151.1C, Chap IV.4.b & DOE G 151.1-3, CE4.2, 4.3, 4.4, 4.7 and D.3.3
  - Are Exercise Plans for the annual site Full-Scale evaluated exercise completed in sufficient time before the conduct of the exercise to allow for review and comments by DOE or NNSA line management and the DOE Associate Administrator of Emergency Operations? DOE O 151.1C, Chap 1.9.w & Chap.IV.4.b. (1)(d) & DOE G 151.1-3, CE4.3
  - Do Exercise Plans clearly identify the roles, responsibilities, and interfaces among exercise participants (i.e., players/responders, controllers, evaluators, and observers)? DOE G 151.1-3, CE4.4
  - Do Exercise Plans clearly identify the provisions for exercise conduct and control? DOE G 151.1-3, CE4.4
  - Do Exercise Plans clearly identify the provisions for exercise evaluation? DOE G 151.1-3, CE4.4
  - Is the scenario in the Exercise Plan consistent with the set of exercise objectives and does it explicitly support an evaluation/validation of each objective? DOE G 151.1-3, CE4.6
  - Are the exercise evaluation criteria used facility/site- or activity-specific, based on existing plans and procedures, and do they correlate with the exercise objectives? DOE G 151.1-3, CE4.7

- Was the scenario based on an actual or potential emergency or event (or multiple simultaneous events in a disaster) that could occur at the facility/area/site (i.e., was there a proper technical basis for the scenario per the EPHA)? DOE G 151.1-3, CE4.8
- Is the technical data that supports the scenario (e.g., operational, radiological, chemical, biological, medical, meteorological) accurate and clearly presented? DOE G 151.1-3, CE4.9
- Are all simulations/limitations clearly identified in the exercise plan, and did all postings (charts, injury/contamination tags, scenario input messages, etc.) state they were for exercise purposes? DOE G 151.1-3, CE4.10
- Are injects/messages accurate, unambiguous, non-prompting and sufficient to ensure all objectives were met, to include contingency messages as needed? DOE G 151.1-3, CE4.11
- Are provisions for safety, security, and public/media interface clearly identified in the exercise plan? DOE G 151.1-3, CE4.12
- Does the Exercise Plan include provisions for exercise initiation, realistic free-play (e.g., if players were expected to secure power, but it could be done from three different locations, were appropriate data [alarms/consequences] available to support each possibility), as well as exercise interruption and termination? DOE G 151.1-3, CE4.22
- If actual equipment manipulation was permitted during the exercise, was there a message to reposition the equipment to its original or proper position at exercise termination? DOE G 151.1-3, CE4.22

## ***REVIEW APPROACH***

### Document/Record Review

- Review comprehensive exercise files for the last two calendar years, including scenario materials, timelines, MSELs, controller data, hazardous material data, simulation plans, safety plans, security plans, logistics plans.
- Review exercise planning team participation records, including scenario confidentiality forms.

### Interview

- Interview contractor emergency management exercises lead.
- Interview exercise program lead.
- Interview emergency management program lead.
- Interview DOE field office emergency management program manager.

### Observation

- Observe exercise planning activities.

**EX.8: Prepare for exercises using an effective, structured approach designed to simulate realistic emergency events/conditions for facility-specific hazards in a manner that, as nearly as possible, replicates an integrated emergency response to actual event.** DOE O 151.1C, Attachment 2 (CRD).6 and 6.b.(2) and DOE G 151.1-3, P3.3, P3.4, and P3.34

## Criteria:

1. Controllers, evaluators, and observers are prepared for the exercise. DOE G 151.1-3, 3.9.1, P3-34/35
  - Are all controllers and evaluators provided generic and exercise-specific training? DOE G 151.1-3, CE4.14
  - Are controllers and evaluators provided with training on the scenario package (i.e., EXPLAN)? DOE G 151.1-3, CE4.12, 15, 16, and 17
  - Did controller/evaluator training include details on safety and security/safeguards measures, responsibilities, precautions and limitations in effect for the exercise, and messages/contingency messages? DOE G 151.1-3, CE4.12, 16
  - Are controllers and evaluators readily identifiable (e.g., through colored vests or hats) and separated from all players? DOE G 151.1-3, CE4.18
  - Did controller communication abilities meet controller needs? DOE G 151.1-3, CE4.18
  - Did evaluator communication abilities meet evaluator needs?
  - Were controllers/evaluators provided and did they use the appropriate safety equipment? DOE G 151.1-3, CE4.12 and 16
  - Did controllers/evaluators follow or adhere to safety postings and work permits? DOE G 151.1-3, CE4.12 and 16
  - Did controllers/evaluators identify and stop unsafe acts? DOE G 151.1-3, CE4.12 and 16
  - Did controllers/evaluators identify unsafe conditions or equipment? DOE G 151.1-3, CE4.12 and 16
  - Was an independent safety officer position identified and in place with authority to issue a "stop work" order due to unsafe actions compromising individual or equipment safety? DOE G 151.1-3, CE4.12 and 16
  - Were observers briefed on safety/security precautions and other rules of conduct? DOE G 151.1-3, 3.9.2, P3-35
2. Players are prepared for the exercise. DOE G 151.1-3, 3.9.2, P3-35
  - Is prior knowledge of scenario material by players effectively prevented through the implementation of exercise scenario security management/precautions? DOE G 151.1-3, CE4.17
  - Is pre-staging of players consistent with the exercise plan? DOE G 151.1-3, CE4.17
  - Are players briefed separately from controllers, evaluators and observers? DOE G 151.1-3, CE4.15 and 16
  - Are players properly prepared prior to exercise initiation through participant briefings that explain: rules of conduct, expected player performance, safety rules/instructions/precautions, activities approved to be simulated or walked through, initial conditions simulated to be in place prior to exercise commencement, methods for participants' identification, administrative details in effect during the drill/exercise, and other pertinent information? DOE G 151.1-3, CE4.12 and 16
3. Preparations are made to enhance realism for exercise participants. DOE G 151.1-3, 3.9.3, P3-36

- Were props/simulations (e.g., photos of actual damage, mock-ups of alarm panels, smoke machines, mannequins, moulage, flash bangs) developed and did they provide sufficient realism to provide confidence that players could have performed activities as expected during a real emergency? DOE G 151.1-3, CE4.16 and 22
- Were simulated facility conditions and mitigation response actions minimized where possible? DOE G 151.1-3, CE4.22
- Was the simulation of activities sufficiently realistic to provide confidence that the activity could have been performed during a real emergency? DOE G 151.1-3, CE4.22
- Did exercise planning include independent safety reviews of "prop-scene" simulations and planned safety measures? DOE G 151.1-3, CE4.12 and 16
- Were adequate shadow forces in place to respond to actual alarms? DOE G 151.1-3, CE4.12 and 16

## ***REVIEW APPROACH***

### Document/Record Review

- Review player briefing materials for last two exercises.
- Review controller briefing materials for last two exercises.
- Review controller/evaluator training materials.
- Review controller evaluator training/participation records.
- Review exercise controller plans/packages for the last two calendar years.

### Interview

- Interview contractor emergency management exercises lead.
- Interview exercise program lead.
- Interview emergency management program lead.
- Interview DOE field office emergency management program manager.
- Interview several trained controllers/evaluators chosen at random.

### Observation

- Observe controller briefing activities.
- Observe player briefing activities.
- Observe exercises.

**EX.9: Conduct and control exercises effectively and reliably.** [DOE O 151.1C, Attachment 2 (CRD).6. and DOE G 151.1-3, 3.10, P3-36]

### **Criteria:**

1. The controller organization is adequately staffed and properly assigned. DOE G 151.1-3, 3.10, P3-36
  - Were an adequate number of controllers assigned to control, monitor, and assess exercise performance? DOE G 151.1-3, CE4.18
  - If Controllers also served as Evaluators, was their effectiveness limited?

- Were controllers properly assigned for effective control based on their experience and knowledge of the process or event they were assigned to control (e.g., the individual assigned to control the first aid teams is qualified to perform first aid)? DOE G 151.1-3, CE4.14
2. The controller organization conducts/controls the exercise effectively. DOE G 151.1-3, 3.10, P3-36
- Did controllers conduct/control the exercise in accordance with the EXPLAN? DOE G 151.1-3, CE4.19
  - Did controllers avoid prompting and/or coaching players (e.g., ask leading questions like "Have you done this yet?")? DOE G 151.1-3, CE4.11
  - Did controllers permit free play when free play would not interfere with the scenario? DOE G 151.1-3, CE4.20
  - Did controllers prevent interference and/or prompting by non-responders? DOE G 151.1-3, CE4.21
  - Were contingency messages and/or hold messages issued per the scenario? DOE G 151.1-3, CE4.18, CE4.19, and CE4.20

## ***REVIEW APPROACH***

### Document/Record Review

- Review exercise controller/evaluator plans/records for the last two calendar years.
- Review current exercise program evaluation guides

### Interview

- Interview contractor emergency management exercises lead.
- Interview exercise program lead.
- Interview emergency management program lead.
- Interview DOE field office emergency management program manager.

### Observation

- Observe exercises.

**EX.10: Critique and evaluate exercises effectively and reliably.** [DOE O 151.1C, Attachment 2 (CRD).6 and DOE G 151.1-3, 3.11, P3-40]

1. Critique processes are rigorous, effective, and reliable. DOE O 151.1C, Attachment 2 (CRD).6 and DOE G 151.1-3, 3.11.3, P3-46
- Was an atmosphere of trust and open communications evident?
  - Are meaningful post-exercise critiques (“hot washes”) conducted by the Controller/Evaluator organization, providing all participants an open forum to discuss positive and/or negative aspects of the exercise? DOE G 151.1-3, CE4.30
  - Did key players and controllers attend the critiques? DOE G 151.1-3, CE4.30 and 31
  - Did players self-identify or self-critique major and minor player, equipment, procedures and performance deficiencies at the critique? DOE G 151.1-3, CE4.30

- Did controllers/evaluators identify controller, scenario, equipment, procedures and performance deficiencies at the critiques? DOE G 151.1-3, CE4.30 and CE4.31
  - Did controllers/evaluators identify unsafe conditions or equipment during the critique? DOE G 151.1-3, CE4.30 and CE4.31
  - Were critique comments properly documented? DOE G 151.1-3, CE4.30, 31, & 32
2. Evaluation processes are rigorous, effective, and reliable. DOE G 151.1-3, 3.11.2, P3-44
- Is the Evaluator organization staffed sufficiently to evaluate the performance and key decision-making of responders in satisfying the exercise objectives? DOE G 151.1-3, CE4.24
  - Was the evaluator organization sufficiently trained (i.e. familiar with responder procedures and expected decisions/responses) to evaluate performance of objectives? DOE G 151.1-3, CE4.25
  - Do Evaluators display familiarity with responder organizations, functions, procedures, and anticipated responder decisions and response activities? DOE G 151.1-3, CE4.25
  - 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 applicable procedures and equipment, and overall professional response? DOE G 151.1-3, CE4.26, 29, & 31
  - Are the evaluation processes used of sufficient rigor to help determine whether individual exercise objectives were accomplished, based on a synthesis of all the opportunities for improvement and information/data gathered during the conduct of the exercise? DOE G 151.1-3, CE4.31
  - Are facilities and equipment evaluated with respect to adequacy of functions/operability/habitability? DOE G 151.1-3, CE4.27 & 28
  - Are procedures evaluated with respect to their use by responders and, specifically, their adequacy of content for the tasks performed? DOE G 151.1-3, CE4.28
  - Are notifications and communications evaluated during every exercise? DOE O 151.1C, Chap.VIII.3 & DOE G 151.1-3, CE4.29
  - Was a formal out-brief held for all players and controllers? DOE G 151.1-3, CE4.30
  - Are evaluations of annual facility exercises by Departmental entities (e.g., Cognizant Field Element, Program Secretarial Officer or Headquarters Office of Security and Safety Performance Assurance) performed periodically so that each facility has an external Departmental evaluation at least every three years? DOE O 151.1C, Chap.IV.4.b (1)(a)

## ***REVIEW APPROACH***

### Document/Record Review

- Review after-action reports for the last two calendar years.
- Review hot-wash/critique notes for previous two exercises.

### Interview

- Interview contractor emergency management exercises lead.
- Interview exercise program lead.
- Interview emergency management program lead.
- Interview DOE field office emergency management program manager.

### Observation

- Observe exercise critiques and controller/evaluator debriefings.
- Observe exercise out-briefs for players.

**EX.11: Document exercise performance and maintain records, including corrective actions, improvements, and lessons learned.** [DOE O151.1C, Attachment 2, 6. and DOE G 151.1-3, 3.11.3, P3-46]

### **Criteria:**

1. After-Action Reports (AARs) are developed for each exercise. DOE O151.1C, Attachment 2, 6.b.(5) and DOE G 151.1-3, 3.11.2, P3-46/47
  - Are AARs developed in 30 working days to document the results of the exercise critique and evaluation? DOE O 151.1C, Chap.IV.4.b. (1)(e) & DOE G 151.1-3, CE4.32
  - Do AARs document program strengths, findings (weaknesses, and deficiencies) and opportunities for improvements? DOE G 151.1-3, CE4.32
2. Corrective Action Plans are developed for each exercise. DOE O151.1C, Attachment 2, 6.b.(6) and DOE G 151.1-3, 3.12.1, P3-47
  - Are Corrective Action Plans developed in 30 working days after AAR submittal for identified findings developed following exercises, documenting corrective actions and improvements? DOE O 151.1C, Chap.IV.4.b.(1)(f) & DOE G 151.1-3, D.3.3
  - Does completion of corrective actions for facility and site exercises include a verification and validation process, which verifies that the corrective action has been put in place and validates that the corrective action has been effective in resolving the original finding? DOE O 151.1C, Chap.IV.4.b.(1)(g) & DOE G 151.1-3, P4.8
  - Is the verification and validation process independent of those who performed the corrective action? DOE G 151.1-3, P4.8
  - Are corrective actions involving revision of procedures or training of personnel completed before the next exercise? DOE O 151.1C, Chap.IV.4.b.(1)(g) & DOE G 151.1-3, P4.8
3. Auditable long-term records are prepared and maintained for each exercise. DOE G 151.1-3, 3.12.2, P3-47/48
  - Are auditable long-term records prepared and maintained for each exercise, such as exercise objectives, controller manual/packages, schedules, After Action Report, training records, participant rosters, participant packages, critique minutes/summaries, completed evaluator modules or checklists, and/or accounting summaries? DOE G 151.1-3, 3.12.2, P3-47/48
4. Lessons learned are developed for each exercise. DOE O151.1C, Attachment 2, 6.
  - Are lessons-learned developed following exercises and shared with Players? DOE O151.1C, Attachment 2, 6.

### ***REVIEW APPROACH***

#### Document/Record Review

- Review After Action Reports for the last two years.
- Review Corrective Action Plans for the last two years.

- Review hot-wash/critique summaries for last two years.
- Review completed evaluator modules or checklists for last two years.
- Review formal lessons-learned documents and other lessons-learned information (e.g., lessons-learned training materials/bulletins) provided to ERO responders for last two years.

#### Interview

- Interview contractor emergency management exercises lead.
- Interview exercise program lead.
- Interview emergency management program lead.
- Interview DOE field office emergency management program manager.

#### Observation

- None