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# **EM9001-RW Emergency Response Organization Training Refresher (FY 2015)**

**EM9001-RW, Rev. 12.0.0**

## EM9001-RW

Emergency Response Organization – FY 2015 Annual Refresher

### Course Goal:

After completing this course, the student will demonstrate an understanding of (1) new processes or facility changes, in accordance with LLNL Emergency Plan and Emergency Plan Implementing Procedures; and (2) lessons learned from drills, exercises, and/or actual emergency responses.

### Course Objectives:

- I Identify the new processes, procedures, or facility changes that may affect your roles and responsibilities as a member of the LLNL Emergency Response Organization (ERO).
- II Describe your roles and responsibilities as part of the LLNL ERO in relation to the lessons learned from the FY 2014 drills, exercises, and actual emergency responses.

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## Part I: Program Improvements

As a result of Fukushima Daichi nuclear power plant disaster on March 11, 2011, DOE-HQ ordered all Program Offices to evaluate their ability to respond to severe accidents/events, including Beyond Design Basis Events (BDBEs), and make enhancements by the end of Calendar Year 2014. One of the required enhancements was to demonstrate the ability to respond to simultaneous accidents at multiple hazardous facilities.



To meet this requirement, during FY 2014, LLNL Emergency Programs Organization (EPO) implemented a number of significant changes/improvements and demonstrated during a series of exercises the ability to respond to multiple simultaneous events. EPO is proud of the accomplishments, and appreciative of everyone who helped implement them. These program improvements are described below:

- Implementation of the Fire Branch Disaster Dispatch Center (FBDDC)
  - This new center, which is implemented only during disaster situations, was created at the B323 Fire House to focus specifically on dispatching needs at LLNL following a major earthquake, allowing Alameda County Regional Communication Center (ACRECC) to focus on their complex regional problems. This center proved very effective during drills and exercises during FY 2014.
- Implementation of the Accountability Disaster Call Center (ADCC)
  - This center was created to improve communications with Zone Control Points during a disaster, and to provide prioritized damage assessment information to the Fire Branch Disaster Dispatch Center. As information about facility damage is received in

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the Emergency Operations Center (EOC), the ADCC makes a first cut at prioritizing the significance of the issues being reported, enters the information into a status board, and relays the information to the FBDDC. Communications with both Zone Control Points and the FBDDC were very effective. Assets were properly prioritized and dispatched, thanks to the efforts of these volunteers!

- Implementation of LLNL Community Emergency Response Teams (CERT)
  - As part of LLNL's disaster/self-help concept, the Laboratory established a CERT program to support its emergency response organizations and the LLNL population after a disaster. CERT is a group of people organized as a community-based team that receives special training to enhance its ability to recognize, respond to, and recover from a disaster. After a wide-area disaster strikes, CERT members organize teams and function as an extension of local first-responder services by offering immediate help to victims until professional services arrive. The program is designed to educate



people about disaster preparedness and potential hazards and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization and disaster medical operations. So far, 34 LLNL volunteers from every directorate have completed the program. These volunteers will participate in future LLNL disaster exercises.

- Multiple-event hazards analysis
  - Because there are hundreds of multiple-release scenario combinations that could occur at LLNL, a consolidated 360-degree plume map was developed in FY 2014 showing the worst-case plumes from all Site 200 EAL events if they were to occur simultaneously. This map was used in each of the 2014 disaster exercises to brief the Emergency Director in the early stages of disaster response. The map provided a useful visual presentation of which EAL events were of highest concern, as well as which areas onsite were most vulnerable due to the close proximity of multiple co-located hazardous facilities. Even without evidence of releases occurring, EOC staff considered proactively moving populations at Assembly Points away from the most vulnerable areas, especially with the high probability of an aftershock looming. In addition, the map also proved useful in helping plan safe Assembly Points and Disaster Self-Help Zone Control Point locations.
- EOC On-Scene Communicators
  - To help facilitate the flow of information from the incident scene to Fire Branch in the EOC, a new EOC On-scene Communicator position has been created. This position is appointed by the Emergency Director, briefed on safe route to the incident scene, provided a position checklist, and asked to serve as the eyes and ears of the

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EOC, reporting back information from the scene that the IC or his staff may be too busy to communicate. The new position was praised as very effective during FY 2014 exercises.

#### **Plan/Procedure Changes:**

A number of minor changes to the Emergency Plan, Emergency Preparedness Implementing Procedures (EPIPs), and individual position checklists were made during the annual review process. Please familiarize yourself with changes. For more details, please contact Jaime McLeod or another member of the EPO staff.

#### **Future Programmatic Changes:**

Be on the lookout for more Emergency Programs improvements in FY 2015, including:

- A reduction in Emergency Preparedness Hazards Assessments (EPHAs) due to a reduction in hazardous material inventories. This will translate to a reduction in the number of required evaluated exercises, which will in turn give EPO more time to focus on training and drills for the ERO, versus performance evaluations. Later in FY 2015, the EPHA for Building 321C will be eliminated. In addition, the separate radiological waste storage EPHAs for DWTF and Area 625 have already been combined, which will require only one evaluated exercise instead of two.
- A new drill program is currently being developed to increase the amount of hands-on training ERO members receive. EPO's Theresa McCollom, who is developing the program, will provide more information later in the Spring of 2015.
- Changes are being made to the ERO Training Program as EPO attempts to streamline and include additional hands-on training opportunities. EPO's new trainer, Jaime McLeod, will provide more information on these changes as the year progresses.

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## **Part II: Drill and Exercise Lessons Learned**

The Emergency Programs Organization conducted four emergency exercises during the previous fiscal year. All of the exercises included a disaster component with multiple facilities damaged and mass casualties, and where the disaster/self-help program was implemented.

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### **What Went Right!**

The ERO did many things well during the FY 2014 site exercises, including:

- **Protective Actions.** Of all the good practices demonstrated, the most noteworthy was the ability to implement protective actions effectively. During all four exercises, the EOC kept its focus on protecting the welfare of workers and the environment, quickly

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relocating Assembly Points on several occasions as situations changed. Protecting workers, the public, and the environment is always the ERO's most important objective.

- **Multiple-Event Mitigation.** The ERO successfully mitigated multiple simultaneous hazardous material events in each exercise, proving once again that LLNL is on the cutting edge of disaster response in the DOE Complex. Part of the reason for the successful response was the Alameda County Fire Department's successful use of Area Command. FY 2014 was the first time LLNL has implemented an Area Command structure, and it proved to be very effective. The Battalion Chief was able to establish command at a safe location while separate response teams responded at multiple incident scenes.
- **Multiple-Event Consequence Assessment.** The Consequence Assessment Team (CQT) in the EOC used a map showing the worst-case 360-degree plume rings for all EPHA facilities to brief the Emergency Director on the worst-case potential (all of which was bounded by the site's two-mile Emergency Planning Zone) for a disaster. Following the worst-case briefing, the CQT staff successfully modeled known events. This consequence assessment strategy for multiple facility events was cited as a best practice.
- **Hospital Drills.** The ERO conducted two successful drills with offsite hospitals, including Eden Medical Center and Sutter-Tracy Hospital. In both drills, the hospitals successfully responded to events involving contaminated injuries. After each exercise, the hospital staffs expressed their appreciation for the learning opportunities as well as the excellent support provided by the laboratory staff who responded.

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## What Needed Improvement

A number of improvement items were noted during the FY 2014 site exercises, including:

- **Laboratory Communications**

*Issue:*

There were difficulties using the laboratory's current emergency communications system during two exercises. Because only one system is now used for prompt emergency communications to laboratory personnel, it is reasonable to assume that during a disaster the emergency communication system will fail. As a result, a number of ways to improve communications with the laboratory are being considered, as described below.

*Lessons Learned / Improvements Underway:*

- Expanded use of TxtWire is being discussed with the Public Affairs Office, to include providing immediate protective action instructions for workers.
- Increasing the number of outdoor EVA speakers is under consideration.
- Use of a push-to-talk phone application is currently being tested.

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- Emergency Management Duty Officers (EMDOs) will begin carrying a satellite phone with them.

- **EOC Staffing**

*Issue:*

During several exercises, key ERO positions went unfilled. The staffing issues were magnified by the challenges of the scenarios, which involved multiple simultaneous releases.

*Lessons Learned / Improvements Underway:*

- EPO is working to ensure all positions are three deep.
- If you know of others who may be interested in volunteering to become part of the ERO, please encourage them to contact us! Your continued participation is also greatly appreciated.
- ERO members are encouraged to coordinate with other members in their position if they are going out of town. In situations where no one in your position is available to respond, please inform a member of EPO staff so that temporary ERO staffing adjustments can be made.
- Please support drills and exercises as often as you can. We are working to improve training, drills, and exercises to make them challenging for everyone. Please accept our sincere thanks for all you do to ensure the laboratory can keep people safe during an emergency!

- **Situational Awareness and Quality Control of Information**

*Issue:*

During several exercises, the EOC had problems (1) gaining situational awareness and (2) ensuring quality control of information. Several examples follow:

- Key offsite information was not collected
- Erroneous/conflicting information was issued
  - Misinformation appeared on Emergency Notification Forms, Situation Status Forms, WebEOC<sup>®</sup> postings, offsite news releases, and onsite employee announcements.
  - For all four exercises the Deputy P&I Chief position went unfilled. This position is critical to ensuring the EOC has situational awareness and that the information released from the EOC is accurate/consistent.

*Lessons Learned / Improvements Underway:*

- EPO will work to ensure the Deputy P&I Chief position is fully staffed and trained.

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- More training and drills are being developed for P&I staff to help practice gathering all the necessary information during challenging multiple release disaster scenarios. New tools are also being developed to help gather and track information. Your participation in these important drills will be appreciated as we learn new ways to handle such challenging disaster scenarios.
- As an ERO member, please remember to use repeat backs to validate information as it comes into the EOC, and bring conflicting information to the attention of your Section leader.

#### ● **Information Management**

##### *Issue:*

The EOC's information management system needs improving:

- Many important events are never captured/briefed by EOC staff
- Key data captured in WebEOC<sup>®</sup> by DOCs were never relayed to EOC staff
- Maps were not used effectively to visually capture key data, such as incident scenes, plumes, Command Post, and relocated Assembly Points
- EOC staff were unclear on what information belonged on status boards
- When the ADCC is activated, identical accountability information has to be maintained on separate boards in both the ADCC and in the EOC. This information should be mirrored to minimize the burden on staff.

##### *Lesson Learned / Improvements Underway:*

- EPO intends to improve the EOC's information management system in FY 2015, to include:
  - WebEOC<sup>®</sup> boards
  - status board displays
  - conducting more information management training
  - possibly adding a new mapping position
- Please attend training that showcases the proposed improvements, and offer feedback!

#### ● **Roles and Responsibilities**

##### *Issue:*

ERO staff in the EOC have requested more hands-on training to better understand their roles and responsibilities. Specific examples include:

- P&I responsibilities for situational awareness and quality control of information (discussed previously).

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- ALF responsibilities for emergency contact notifications.
- EMT responsibilities to review EALs and clarify protective action responsibilities with the IC prior to declaring the EOC operational.

#### *Lesson Learned / Improvements Underway:*

- EPO is instituting a new drill program to allow more hands-on practice for EOC personnel, and focus on both Sectional and individual responsibilities. Please participate!
- Please attend these drills, and offer feedback to help us improve our program.

- **ES&H Representation at Area Command**

#### *Issue:*

Because this was the first year that Area Command was used at LLNL, ES&H personnel were unaware that a representative was needed at the Area Command Post. While ES&H supported each of the building-level responses, there was no ES&H representative at the Area Command Post to provide advice to the IC during the Annual Site Exercise.



#### *Lesson Learned / Improvements Underway:*

- ES&H policies have been changed to ensure that a Team Leader or representative will report to Area Command during a disaster event to support the IC after they determine the location of Area Command and have received or established safe route information.

- **Facilities and Equipment**

#### *Issue:*

A number of facility and equipment issues were noted, including:

- The EOC layout hampers command and control as well as information management.
- It is often difficult to hear the Emergency Director during EOC briefings, and some rooms cannot hear the briefing information.

#### *Lesson Learned / Improvements Underway:*

- The LEDOs have agreed to a new EOC layout and revamped information management system that will be implemented during FY 2015. New orientation training and drills will be provided.
- A new microphone system with capability to broadcast ED briefings both upstairs and downstairs in the EOC is being purchased.

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**Thank you again for your continued participation on the LLNL  
Emergency Response Organization!**

### Auspices Statement

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