

HSS Independent Activity Report - Rev. 0**Report Number:** HIAR-PTX-2011-10-05**Site:** Pantex Plant**Subject:** Office of Enforcement and Oversight's Office of Safety and Emergency Management Evaluations Activity Report for the Pantex Emergency Management Full Participation Exercise**Dates of Activity :** 10/03/2011 – 10/05/2011**Report Preparer:** Teri Lachman**Activity Description/Purpose:**

Personnel from the U.S. Department of Energy (DOE) Office of Health, Safety and Security (HSS), Office of Safety and Emergency Management Evaluations, served as controllers and evaluators for the Pantex Emergency Management Full Participation Exercise at the request of the National Nuclear Security Administration (NNSA) Pantex Site Office (PXO) and the NNSA Office of Emergency Management Implementation (NA-43). HSS provided an evaluator for emergency medical response at the event scene and controllers for two state of Texas field monitoring teams, the state of Texas consequence assessment team, and the city of Amarillo Reception Center. Pantex conducted the response portion of the exercise on October 4, 2011, and held a tabletop discussion on recovery actions on October 5, 2011.

The purpose of the full-scale, full-participation exercise was to test or validate emergency response capability effectiveness and interfaces with offsite response organizations, in accordance with the site's emergency plan and procedures, as well as compliance with DOE Order 151.1C.

A draft of this Site Activity Report and additional observations were provided to PXO on October 18 for their inclusion in the exercise report and/or consideration.

Result:**Emergency Medical Evaluation**

Pantex provided no evaluation criteria for the event scene emergency medical response, so the following observations are based on the evaluator's experience and industry best practices.

Observation: Several positive observations were noted regarding the emergency medical response at the event scene:

- Moulage applied to the explosion victims to simulate the extent of injuries provided a valuable visual indicator to the Pantex Fire Department personnel.
- The Pantex Fire Department personnel clearly delineated the triage area, and the Triage Officer assessed and prioritized the transport of victims with critical injuries.
- The Triage Officer gave priority to medical treatment over possible radiological contamination.

Observation: The Pantex Fire Department personnel removed victims from the event scene by dragging the personnel from the scene in accordance with their medical judgment that it was more important to remove the victim from a hazardous area than to protect against further neurological injury. While this is a valid medical judgment, there would have been debris littering the area from the explosion. Dragging the victims from the event scene would likely not be a viable option and would require a more complicated extraction of victims.

Recommendation: To provide a more realistic exercise experience for players, include exercise props or controller injects to simulate the explosion debris and allow the players to determine how best to extract the victims from the event scene.

Observation: With a few exceptions, the Pantex Fire Department personnel did not perform the actions necessary to "earn" the information about victim injuries (measuring pulse, blood pressure, or respiration), but instead read the victim card attached to each victim to learn the extent of injuries and pertinent vital signs.

Recommendation: To provide a more realistic exercise experience for players, require players to earn information, such as victim vital signs, by simulating the actions necessary to obtain that information (e.g., using a blood pressure cuff or measuring pulse or respiration rate).

Observation: The Pantex Fire Department personnel placed the critical patients on backboards and then transferred them to gurneys for transport from the triage area to the ambulance. As mentioned previously, medical treatment was given appropriate priority over possible radiological contamination; however, the Pantex Fire Department personnel did not wrap the patients to minimize the spread of contamination before loading them into the ambulance. Discussions with the Pantex Fire Department Controller/Evaluator at the event scene revealed that Pantex Fire Department personnel wrapped the critical patients once inside the ambulance; radiological contamination would have likely already spread to the interior of the ambulance by the time the patients were wrapped.

Recommendation: Revise the Pantex Fire Department procedures to specify wrapping the patients who may be radiologically contaminated before loading them into an ambulance. Perform the wrapping in a way that facilitates the transfer of the patient onto a gurney, into the ambulance, out of the ambulance, and onto a gurney when reaching the hospital.

Pantex provided evaluation criteria for the Emergency Radiation Treatment Facility (Thomas E. Creek Medical Center); however, most of the actions relevant to these criteria were not observed because they occurred while the evaluator was at the event scene or travelling from the event scene to the Emergency Radiation Treatment Facility. The relevant actions that were observed were deemed to successfully meet the criteria, with the caveat that the evaluator observed only the last hour or so of the exercise, and most of the relevant actions were completed earlier in the exercise. A copy of the completed evaluation form (Official Use Only) was provided to the Pantex Site Office and NA-43 on October 18, 2011.

State of Texas Field Monitoring Teams Controllers

The state of Texas field monitoring teams participated in the Pantex exercise as a training activity. Consequently, no evaluator was provided in the field for the three field monitoring teams deployed. The field monitoring teams practiced inventorying their radiation monitoring equipment, using personal protective equipment, monitoring activities, and communicating. The field monitoring team leader provided an initial briefing to the field teams to communicate the monitoring plan. Field monitoring teams were then deployed and remained in contact with the team leader via radios to report monitoring results and receive guidance. The field monitoring teams demonstrated their ability to perform air monitoring and ground deposition surveys to determine the boundary between contaminated and uncontaminated areas. The field monitoring teams performed these activities in accordance with team leader instructions and state of Texas field monitoring team procedures.

State of Texas Consequence Assessment Team Controller

The state of Texas Radiation Control Program Accident Assessment Team participated in the Pantex exercise as a training activity. Consequently, no evaluator was provided. The accident assessment team conducted their duties in the Amarillo Emergency Operations Center (EOC), which has only been used once for this purpose before this exercise. The accident assessment team leader provided numerous briefings to the team members on the status of events at the Pantex site. Consequence analyses were conducted using both HotSpot and National Atmospheric Release Advisory Center (NARAC) software, and the accident assessment team demonstrated their ability to perform the analyses with both of these software programs. The accident assessment team also demonstrated their ability to ensure the health and safety of the public and to recommend protective actions for the public downwind of the plume. The accident assessment team performed these activities in accordance with their team leader instructions and state of Texas Emergency Management Procedures.

City of Amarillo Reception Center Controller

Observation: One of the three objectives for the Reception Center was decontamination, but there was no objective for monitoring the vehicles or personnel for contamination. (Exercise plan, p. 18)

Recommendation: Add monitoring of vehicles and personnel as an exercise objective.

Observation: The Master Scenario Events List (MSEL), under Anticipated Off-Site Response, indicates that by 1100, the EOC Director notifies all associated parties that the Reception Center has been activated. However, the MSEL did not include an Anticipated Off-Site Response specifying that the EOC Director would order the activation of the Reception Center. (Exercise plan, p. 81)

Recommendation: Add an item to the MSEL specifying that soon after residents are notified of protective action recommendations involving evacuation, the EOC Director orders the activation of the Reception Center.

HSS Participants	References
1. Randy Griffin, team lead	1. Pantex Emergency Management Full Participation Exercise, FPE 11-1, October 2011.
2. Teri Lachman	
3. Deborah Johnson	
4. John Bolling	
5. Tom Rogers	

Were there any items for HSS follow up? ☐ Yes ☒ No

HSS Follow Up Items
<ul style="list-style-type: none">• None.