4. Exercise Evaluation and Results

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities which participated in the August 29, 2007, exercise to test the offsite emergency response capabilities of state and local governments in the 10-mile Emergency Planning Zone (EPZ) surrounding the Comanche Peak Nuclear Power Plant (CPNPP).

Each jurisdiction and functional entity was evaluated on its demonstration of criteria contained in exercise evaluation areas delineated in the Federal Register, Vol. 67, No. 80, "FEMA - Radiological Emergency Preparedness: Exercise Evaluation Methodology" (April 25, 2002). Detailed information on the exercise criteria and the extent of play agreements for this exercise are in Appendix 3 of this report.

4.1. Summary Results of Exercise Evaluation

The matrix presented in Table 2 on the following page presents the status of all exercise criteria which were scheduled for demonstration during this exercise at all participating jurisdictions and functional entities. Exercise criterion are listed by number and the demonstration status of those criterion are indicated by the use of the following letters:

M - Met (No Deficiency or ARCAs assessed and no unresolved ARCAs from prior exercise)

D - Deficiency assessed

A - ARCAs assessed or unresolved ARCAs from previous exercises

N - Not Demonstrated (Reason explained in subsection B)

Table 2 - Summary of Exercise Evaluation

DATE: 2007-08-29 SITE: Comanche Peak Nuclear Power Plant, TX A: ARCA, D: Deficiency, M: Met		DD 6A-EOC	DSHS-HQ	DSHS-EOF	DSHS-RCP FMT 1	DSHS-RCP FMT 2	DSHS Lab	JIC	Hood County EOC & T/ACP	Somervell County EOC & T/ACP	Glen Rose ISD	EAS-WBAP
Emergency Operations Management												
Mobilization	1a1	M	M	M				M	M	M		
Facilities	1b1											
Direction and Control	1c1	M	M	M					M	M		
Communications Equipment	1d1	M	M	M	M	M		M	M	M		
Equip & Supplies to support operations	1e1	M	M	M	M	M	M	M	M	M		
Protective Action Decision Making												
Emergency Worker Exposure Control	2a1			M					M	M		
Radiological Assessment and PARs	2b1		M	M								
Decisions for the Plume Phase -PADs	2b2								M	M		
PADs for protection of special populations	2c1								D	M		
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1											
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1											
Protective Action Implementation												
Implementation of emergency worker exposure control	3a1			M	M	M	M		M	M	M	
Implementation of KI decision	3b1											
Implementation of protective actions for special populations - EOCs	3c1											
Implementation of protective actions for Schools	3c2										M	
Implementation of traffic and access control	3d1								M	M		
Impediments to evacuation are identified and resolved	3d2								M	M		
Implementation of ingestion pathway decisions - availability/use of info	3e1											
Materials for Ingestion Pathway PADs are available	3e2											
Implementation of relocation, re-entry, and return decisions.	3f1											
Field Measurement and Analysis												
Adequate Equipment for Plume Phase Field Measurements	4a1				M	M						
Field Teams obtain sufficient information	4a2			M								
Field Teams Manage Sample Collection Appropriately	4a3				M	M						
Post plume phase field measurements and sampling	4b1											
Laboratory operations	4c1						M					
Emergency Notification and Public Info												
Activation of the prompt alert and notification system	5a1								M	M		M
Activation of the prompt alert and notification system - Fast Breaker	5a2											
Activation of the prompt alert and notification system - Exception areas	5a3											
Emergency information and instructions for the public and the media	5b1							M	A	A		
Mon / decon of evacuees and emergency workers, and registration of evacuees	6a1											
Mon / decon of emergency worker equipment	6b1											
Temporary care of evacuees	6c1											
Transportation and treatment of contaminated injured individuals	6d1											

4.2. Status of Jurisdictions Evaluated

This subsection provides information on the evaluation of each participating jurisdiction and functional entity, in a jurisdiction-based format, issues only format. Presented below is a definition of the terms used in this subsection relative to demonstration status.

• Met - Listing of the demonstrated exercise evaluation area criteria under which no Deficiencies or Areas Requiring Corrective Action (ARCAs) were assessed during this exercise and under which no ARCAs assessed during prior exercises remain unresolved.

• Deficiency - Listing of the demonstrated exercise evaluation area criteria under which one or more Deficiencies were assessed during this exercise. Included is a description of each Deficiency and recommended corrective actions.

• Areas Requiring Corrective Action - Listing of the demonstrated exercise evaluation area criteria under which one or more ARCAs were assessed during the current exercise or ARCAs assessed during prior exercises remain unresolved. Included is a description of the ARCAs assessed during this exercise and the recommended corrective action to be demonstrated before or during the next biennial exercise.

• Not Demonstrated - Listing of the exercise evaluation area criteria which were not demonstrated as scheduled during this exercise and the reason they were not demonstrated.

• Prior Issues - Resolved - Description of ARCAs assessed during previous exercises that were resolved in this exercise and the corrective actions demonstrated.

• Prior Issues - Unresolved - Description of ARCAs assessed during prior exercises that were not resolved during this exercise. Included is the reason the ARCAs remain unresolved and recommended corrective actions to be demonstrated before or during the next biennial exercise.

The following are definitions of two types of exercise issues that are discussed in this report.

• A Deficiency is defined in the Interim REP Program Manual as "an observed or

identified inadequacy of organizational performance in an exercise that could cause a finding that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant."

• An ARCA is defined in the Interim REP Program Manual as "an observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety."

FEMA has developed a standardized system for numbering exercise issues (Deficiencies and ARCAs). This system is used to achieve consistency in numbering exercise issues among FEMA Regions and site-specific exercise reports within each Region. It is also used to expedite tracking of exercise issues on a nationwide basis.

The identifying number for Deficiencies and ARCAs includes the following elements, with each element separated by a hyphen (-).

• Plant Site Identifier – A two-digit number corresponding to the Utility Billable Plant Site Codes.

• Exercise Year – The last two digits of the year the exercise was conducted.

• Evaluation Area Criterion – A letter and number corresponding to the Evaluation Area criterion.

• Issue Classification Identifier – (D = Deficiency, A = ARCA). Deficiencies and ARCAs are included in exercise reports.

• Exercise Issue Identification Number – A separate two (or three) digit indexing number assigned to each issue identified in the exercise.

4.2.1. State Jurisdictions

4.2.1.1. Department of Public Safety, Disaster District 6A Waco

Criterion 1.a.1: The Texas Disaster District 6A received a notification at 0747, via land line, that there was a fire in a protected area at the Comanche Peak Nuclear Power Plant (CPNPP). The call was confirmed by callback. The Regional Liaison Officer, (RLO) made the notification to the gathered representatives that had pre-staged for the exercise. Due to the distance that many of the agency representatives had to travel, the staff of the Disaster District had arrived early and was in place when the notification call was received. A calldown of the staff was simulated. The Disaster District was declared operational at 0750 which was also the time of the first briefing. At this briefing were all the repersentatives that were requested by the Disaster District Chair.

The ALERT notification was received at 0821, a Site Area Emergency at 0958 and the General Emergency at 1048. Information regarding the Emergency Classification Levels (ECL) was received by hotline and FAX with verification by way of call back. After receiving an ECL, the RLO gave an update to the room. The briefing included any questions the staff might have. Every member of the Disaster District response team was given a packet when they arrived that covered their responsibility and a copy of the response plan. Several newer members did refer to these materials. The leadership and membership did follow the plans as written and a scribe was present that noted the times of each brief, change in ECL, and operational start of the Disaster District response. Each agency responded that they had the ability and plan that would allow for 24-hour coverage of the disaster response.

Criterion 1.c.1: Texas Disaster District 6A was headed by the Disaster District Chair who is the ranking Captain of the Department of Public Safety Area Command. This Disaster District Chair made the determination to open, staff, and direct the Emergency Operations Center (EOC) of the Disaster District and maintain command and availability for any decisions needed. He was assisted by the Regional Liaison for District 6, Waco and District 8, Austin. Requests were received for additional State Troopers to assist with the rerouting of traffic for both the site emergency and a major accident that disrupted a normal evacuation route. This request was handled at the district level with notification sent to the State for their understanding of what was being requested and deployed. The staff included 13 agency representatives who were in touch with their agencies. These agencies sent information to the district as well as received updates from the district. Under the Chair's command, there were routine briefings, at least one

per half hour that allowed each agency representative to update and advise of any changes from their perspective. These briefs were entered into the time log that was maintained by one member of the staff. A Situation Report was also created and updated at the Chair's direction. WebEOC was used and every update, notification or decision was entered into this software and was projected onto the wall for the entire EOC to see.

Criterion 1.d.1: The Emergency Operations Center (EOC) at the Disaster District was well-equipped to perform the required tasks. The room was a multipurpose room that was also used as a training room. When an activation occurs, the phone lines are pulled down from the ceiling, tables brought in, and the EOC becomes fully operational with two projectors, ten hard line phones, and access to fax, State radio, and the hotline direct to Comanche Peak Operations. Communications were also supported by the Texas Law Enforcement Teletype System (TLETS) which connects the State with all the Sheriffs Departments and most of the Police Departments in the State. This allows for very secure communication that does not rely on radio towers. The two projectors were used to create displays of WebEOC and selectable maps. There was also an erase board on which was kept a running record of the major events and times that was located at the front of the room. Two of the walls of the EOC had posters of the phone and fax numbers of the State. There was no failure of communication and all the different systems were exercised.

Criterion 1.e.1: The Disaster District was located at a distance of approximately 120 miles from Comanche Peak and in the Texas Department of Public Safety facility, 1617 E. Crest Drive, Waco, Texas. The Emergency Operations Center was located in a room referred to as the vault in the middle of the facility. The EOC is a well lit room with sufficient space for the needs of the staff. The room holds two large screen TVs and has the space for the projection of both WebEOC and site specific maps. WebEOC was being run on the internet which allowed the State to monitor what was being input. Ten hard line phones were in place along with access to the internet. Due to the location of the District Communications in the same facility, the fax, hotline, State radio, and Texas Law Enforcement Teletype System (TLETS) console were not duplicated in the EOC, and the staff relied on runners that went from the Communication Center to the EOC in a matter of seconds. TLETS connects this and all Disaster Districts with the Texas State Operations Center and all the counties (Sheriffs Departments and most Police Departments) in the State. The Communication Center has auxiliary power furnished by a natural gas-powered emergency generator. Video teleconferencing was available as well as a television for viewing media reporting. A running time log was

being kept along with Situation Reports (SitRep) being created. This allowed the EOC to do handoffs and maintain 24-hour coverage with the history of what had been done and what decisions had been made. The SitRep was sent to the State and would have been sent out to the other Districts were this a real event. The room also held two site area maps. One was an enlarged section of this area of the State; the other was a site area map with the zones identified. Both were available to all in the EOC. Communication systems were used without failures or issues. Supplies, barricades, signs, and other equipment for directing traffic was available and Texas Department of Transportation (TXDOT) was well represented in the EOC.

In summary, the status of DHS/FEMA criteria for this location is as follows:

a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. NOT DEMONSTRATED: None
e. PRIOR ISSUES - RESOLVED: None
f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.2. Department of State Health Services, Radiation Control Program - Headquarters

Criterion 1.a.1: In the aftermath of flooding of the Wall Street Headquarters in Austin, Texas, the Texas Department of State Health Services, Radiation Control Program (DSHS-RCP) established a temporary Accident Assessment Center in the library for participation in the August 29, 2007 Comanche Peak Nuclear Power Plant exercise.

In accordance with the extent of play, the State Operations Center (SOC) was not activated during this exercise, and the Radiation Program Officer reported to and remained in the temporary Wall Street Accident Assessment Center for the duration of the exercise. During an interview, the Radiation Program Officer explained that during normal business hours, the Emergency Response Call Center, also located in the Wall Street Headquarters receives the Notification Message Form from the Comanche Peak Nuclear Power Plant and then notifies the person on call. Based on the Emergency Classification Level (ECL), the person on call uses a call tree to notify key personnel assigned to the Accident Assessment Center and SOC. Accident Assessment Center personnel report to their facility and assigned SOC staff, most of who work in the building, are briefed by the Radiation Program Officer in preparation of SOC activation.

Updated Notification Message Forms are received in the Emergency Response Call Center and forwarded to the Accident Assessment Center until the Emergency Operations Facility is activated.

Although the SOC was not activated for this exercise, through interview it was determined that activation times for the SOC are typically half an hour while activation of the Accident Assessment Center is typically less than 15 minutes.

Criterion 1.c.1: The Radiation Program Officer has the key leadership role for the Austin-based Department of State and Health Services - Radiation Control Program (DSHS-RCP) and normally reports to the State Operations Center (SOC) during radiological emergencies at the Comanche Peak Nuclear Power Plant. In accordance with the extent of play, the SOC was not activated during the August 29, 2007 exercise, and the Officer remained at the temporary Accident Assessment Center at Headquarters for the duration of the exercise.

After the initial Comanche Peak Nuclear Power Plant (CPNPP) Notification Message Form was received at 0758 hours, the Radiation Program Officer explained that he would normally notify and assemble SOC personnel, brief them on the event classification, and advise them to prepare for SOC activation.

The Radiation Program Officer phoned the Chief of Field Operations at the Staging Area and informed him of the Unusual Event declaration and the details known at that time. The initial and subsequent Notification Message Forms were faxed from the DSHS-RCP Headquarters to the Staging Area (which was also pre-staged in accordance with the extent of play) until the CPNPP Emergency Operations Facility (EOF) was activated.

The Radiation Program Officer monitored plant status by contacting the CPNPP EOF personnel. He kept the Accident Assessment Team Leader and evaluator informed of events and explained that upon SOC activation, he was responsible for coordinating response activities for other DSHS-RCP personnel prior to the staffing of the DSHS-RCP at the CPNPP EOF.

Without activation of the SOC, the Radiation Program Officer had a limited role in this exercise. He worked closely with the Accident Assessment Team Leader and maintained contact with the staff in the Comanche Peak Nuclear Power Plant EOF. The DSHS-RCP Plans and Procedures were available and referenced. The Accident

Assessment Team Leader was asked to run the Comanche Peak Assessment Model Projecting Estimated Dose Evaluation (CPAMPEDE) dose assessment program based on a reported 6.1E-4 uCi/ml gas concentration in containment.

The Radiation Program Officer performed his duties in a proficient manner and could have provided timely and accurate information to the DSHS-RCP organization and the SOC.

Criterion 1.d.1: In accordance with the extent of play, the State Operations Center (SOC) was not activated during the 2007 Comanche Peak Nuclear Power Plant (CPNPP) REP exercise. The Radiation Program Officer, who normally reports to the SOC, remained at the temporary Accident Assessment Center set up in the library of the Texas Department of State and Health Services - Radiation Control Program (DSHS-RCP) Headquarters in Austin. This facility contained a commercial landline telephone and a FAX machine which was used to receive and forward the CPNPP Notification Message Form during the exercise. Additionally, both the Accident Assessment Team leader and Radiation Program Officer each had state-issued cell phones.

All communication systems worked without failure throughout the exercise.

Criterion 1.e.1: The Department of State and Health Services – Radiation Control Program (DSHS-RCP) Headquarters has a dedicated facility for Accident Assessment located on the first floor of the Headquarters building on Wall Street in Austin. The facility is temporarily closed due to flooding of the facility and is not expected to be re-opened for approximately eight months. Currently, the library is being temporarily used for this function. A printer and laptop computer with the associated Comanche Peak Assessment Model Projecting Estimate Dose Evaluation (CPAMPEDE) program and a FAX were brought to the library and used during the exercise. Additionally, a white board, procedures, a large Sector Map and Siren Map were posted and available for use. One set of procedures was on the table and referenced when needed. A single line commercial phone was next to the FAX and both the Accident Assessment Team Leader and the Radiation Program Officer had state-issued cell phones.

In accordance with the extent of play, the State Operations Center was not activated nor evaluated under this criterion.

DSHS-RCP is located more than 150 miles from the Comanche Peak Nuclear Power

Plant. Potassium iodide and dosimetry are not needed for State Operations Center or the Accident Assessment Center personnel.

Criterion 2.b.1: The dedicated Accident Assessment Facility, located on the first floor of the Department of State and Health Services – Radiation Control Program (DSHS-RCP) Headquarters in Austin is unavailable due to flooding in June and is not expected to be re-opened for approximately eight months.

Currently, the library is being used for this function. A printer and laptop computer with the associated Comanche Peak Assessment Model Projecting Estimate Dose Evaluation (CPAMPEDE) program were available, and an initial dose assessment was performed at 0900, after the declaration of an Alert.

At 1002 hours, Accident Assessment was discontinued in the DSHS-RCP Headquarters as the Emergency Operations Facility was activated and that facility assumed the responsibility for dose assessment.

At 1104, the Accident Assessment Team Leader and Radiation Program Officer were informed of the recommendation to the County Judges to evacuate sectors 1A, 2A, 1B, 2B, 2D, 2E, and 4A. Although not procedurally required, the Accident Assessment Team Leader and Radiation Program Officer demonstrated good initiative by reviewing the procedures and verifying the recommendation.

In summary, the status of DHS/FEMA criteria for this location is as follows:

a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.b.1.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. NOT DEMONSTRATED: None
e. PRIOR ISSUES - RESOLVED: None
f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.3. Department of State Health Services - Radiation Control Program at the Emergency Operations Facility

Criterion 1.a.1: On August 29, 2007 the Texas Department of State Health Services (DSHS) successfully demonstrated effective procedures to alert, notify, and mobilize emergency personnel and to activate the Comanche Peak Nuclear Power Plant (CPNPP) Emergency Operation Facility (EOF) in a timely manner in response to a simulated accident. In accordance with the extent of play, the DSHS EOF personnel were pre-staged at the Hood County Courthouse Annex in Granbury. DSHS EOF personnel were at the Hood County Court Annex by 0730.

A Notification of an Unusual Event (NOUE) Emergency Classification Level (ECL) was declared by the utility at 0747 and transmitted to the DSHS personnel at the Staging Area at 0802 from the DSHS Headquarters in Austin. While still at the Staging Area, the EOF personnel were notified at 0835 by the DSHS Headquarters that an Alert had been declared. Once the Alert was declared, the Chief of Field Operations (CFO) dispatched most of the DSHS EOF personnel to the EOF to prepare the EOF for operation. The CFO and one assistant stayed at the Staging Area until the Field Monitoring Teams were dispatched. At 0926 the CFO and assistant left for the EOF.

Upon arrival at the EOF at 0958, the CFO conferred with the utility Licensee Liaison representative concerning the current conditions. After conferring with the DSHS EOF staff, the DSHS portion of the EOF was declared operational by the DSHS CFO at 1000. All key EOF personnel, as indicated in Texas Emergency Procedure 12 (draft), Emergency Notification and Deployment, were available when the EOF was declared operational. The DSHS Headquarters was notified that the DSHS EOF was assuming the accident assessment role from Headquarters. A Site Area Emergency (SAE) ECL was declared by the utility at 0958 and received at the CPSES EOF at 1000. The General Emergency (GE) ECL was declared by the utility at 1048 and received at the CPSES EOF at 1048.

The CFO and the Licensee Liaison communicated directly with licensee personnel in the EOF in person as conditions or ECLs changed. ECL changes were not verified because they came directly from the utility (an adjacent room in the EOF). The DSHS EOF personnel were notified by the CFO of ECL changes, and other significant information, through regular briefings.

For this exercise, the DSHS EOF participants were pre-staged for the exercise. The CFO stated that DSHS maintains a call list and EOF personnel would be notified by telephone, cellular telephone, email or pager to report for duty during an emergency.

Regional DSHS personnel would deploy with appropriate equipment and report to the CFO for instructions. The CFO stated that emergency operations planners in Austin would notify and mobilize enough personnel for staffing of two twelve-hour shifts. These actions are in compliance with DSHS procedures.

Criterion 1.c.1: The key Department of State Health Services (DSHS) personnel with leadership responsibilities for the Offsite Response Organizations (ORO) successfully demonstrated direction and control to that part of the overall emergency response effort for which they were responsible. The overall direction of the emergency response at the Comanche Peak Nuclear Power Plant (CPNPP) Emergency Operations Facility (EOF) was coordinated by the DSHS, Chief of Field Operations (CFO). The CFO was in constant contact with State and county organizations and the utility.

Staff briefings occurred approximately every 30 minutes when a change in the Emergency Classification Level (ECL) occurred, for review of plant operations status, or when other significant information needed to be shared with EOF staff. During the briefings, the CFO solicited input from his support staff at the EOF. The CFO was clearly in charge and provided instructions to the staff and assured that logs, records (including message logs), and display boards were timely maintained. The staff was also reminded by the CFO to perform activities that were important to the operation of the EOF, such as, remind FMTs to read dosimeters, communicate essential information to other OROs, and position FMTs in appropriate locations. When a simulated vehicle accident occurred in the 10-mile EPZ, the CFO dispatched personnel to perform radiological surveys to determine if additional actions were needed (surveys indicate no radiological problems). The CFO coordinated the DSHS EOF activities with the utility dose assessment personnel by comparing dose assessment results and by conferring with the utility's Radiation Protection Supervisor when making a recommendation for Protective Action Recommendations. Once the General Emergency was declared, the CFO concurred with the utility's PAR. The CFO ensured that the State Operations Center, appropriate county EOCs, Joint Information Center, Hood County Court Annex Staging Area, and the Mobile Lab were informed of current ECLs, PARs, and plant conditions. The CFO demonstrated the ability to carry out essential functions in the DSHS EOF.

The CFO and staff tracked the increasing thyroid dose projections and at 1128 a recommendation was made that all DSHS field personnel should take potassium iodide (KI). This was based on projections of 29 Rem thyroid dose at one mile. Current DSHS procedures were available and were utilized by the staff.

Criterion 1.d.1: The Texas Department of State Health Services (DSHS) personnel located at the Comanche Peak Nuclear Power Plant (CPNPP) Emergency Operations Facility (EOF) and the Hood County Court Annex demonstrated that communications systems were available, operated properly, and that communications links were established and maintained with the appropriate locations.

The primary communications equipment was a radio receiver/transmitter/repeater using the Radiation Control Program's assigned frequencies. The first backup was state issued cell phones and then Department of Public Safety radios. The DSHS personnel were pre-staged at the Hood County Court Annex in accordance with the extent of play. While at the pre-staged location, communications checks were performed successfully with the Field Monitoring Teams (FMTs) on primary and backup systems. Communication links were maintained with the FMTs with no observed equipment failures at the Hood County Court Annex. Once the DSHS personnel relocated to the EOF, communications checks were again adequately performed with the FMTs on both the primary and backup systems. During the remainder of the exercise, no communication equipment failures were observed. The DSHS personnel managed the communication systems so that no disruptions occurred that negatively affected the conduct of emergency operations at the EOF. Communications with fixed and mobile medical support facilities was not required at this facility and was not evaluated.

Criterion 1.e.1: The Comanche Peak Nuclear Power Plant (CPNPP) Emergency Operations Facility (EOF) had adequate maps, displays, photocopiers, computers, printers, as well as sufficient radiological equipment (dosimetry and potassium iodide) and communication supplies. During the exercise, no equipment failures occurred and supplies were sufficient to perform assigned tasks.

In accordance with the extent of play, the Department of State Health Services (DSHS) EOF personnel were pre-positioned at the Hood County Courthouse Annex Staging Area, located in Granbury, Texas. The facility was well organized, with stations and signs for various groups to prepare for deployment, i.e. Field Monitoring Teams (FMTs). A Display of Siren Location map, which included the 10-mile Emergency Planning Zone (EPZ), was posted and used during the FMT briefing for positioning of the teams. Dry erase boards were used to display field monitoring data, meteorological data, DSHS team status, and emergency conditions/protective action status. Two computers were available. One computer was connected to the internet and was used to project the current weather on a large screen. Other equipment included telephones, two fax

machines, radios, cell phones, and sufficient forms and supplies.

The DSHS EOF personnel were deployed to the CPNPP EOF which became operational at 1000. At this facility, there was sufficient space, equipment, displays and supplies to support emergency operations. Displays included a 10-mile EPZ map and 50-mile EPZ map. Dry erase boards were used to display meteorological data, dose assessment results, field monitoring data, the current ECL and PARs. Equipment available included 8 phone lines, radio for contacting FMTs, cell phones, copier/printer, fax machine, dose assessment computer with Comanche Peak Assessment Model Projecting Estimated Dose Evaluation (CPAMPEDE) software, laptop computer with Radiological Assessment System for Consequence Analysis (RASCAL) software to backup CPAMPEDE, and a computer to track location of FMTs using global positioning equipment. Appropriate DSHS procedures were available and used by the EOF staff.

The DSHS EOF personnel were not issued any radiological instruments; however, the Staging Area also included FMT personnel. Radiological instrumentation availability, calibration, and operability checks are discussed in the FMT evaluation. DSHS EOF personnel carry permanent record dosimetry (Landauer LUXEL +). In addition to that dosimetry, they are issued additional permanent record dosimetry and two direct-reading dosimeters. Dosimetry available for issuance included 171 CDV-730 0-20 R direct-reading dosimeters and 179 Arrow Tech Model 138 0-200 mR direct-reading dosimeters. There were also 15 CDV-750 Model 6 dosimeter chargers available. It was noted that personnel zeroed there direct-reading dosimeters when they were issued to them. In addition, the FMTs were issued a Mini-Radiac electronic dosimeter. All pocket dosimeters were within current annual leak tests (CDV-730 7/16/07; Arrow Tech Model 138 5/25/07). Calibration of Mini-Radiacs occurred on 9/2006 with a due date of 9/2007. There were 100 potassium iodine (KI) packets (14 tablets per package) available for distribution to emergency workers with an expiration date of April 2011. Sufficient quantities of dosimetry and KI were available for DSHS personnel including the FMTs.

Traffic and access control personnel were not deployed from this location. It was determined with discussions with DSHS personnel that barricades and other equipment were available through the Sheriff's Offices at Hood and Somervell Counties for access and traffic control.

Criterion 2.a.1: Members of the Texas Department of State Health Services (DSHS), participated as the Radiological Assessment Staff and Field Team Coordinator at the

Emergency Operations Facility (EOF) at the Comanche Peak Nuclear Power Plant (CPNPP) exercise on August 29, 2007, and successfully demonstrated the decision making process for emergency worker (EW) exposure control and the use of potassium iodide (KI). The EOF is in the southeast corner of the Training Building located about 1.2 miles west of the reactor containment buildings at the CPNPP Facility, which is 4.7 miles northwest of Glen Rose, Texas.

DSHS deployed personnel to staff accident assessment, field team management positions, and a Chief of Field Operations (CFO) to the EOF. The personnel were pre-positioned in accordance with the extent of play agreement.

The Texas DSHS personnel assigned to the EOF initially responded to an equipment Staging Area located at the Hood County Courthouse Annex. At the Staging Area, State Emergency Workers (EWs) were issued dosimetry and potassium iodide (simulated). At 0804 the CFO instructed all personnel to obtain this equipment and to standby for deployment. At 0837 the CFO gave a short briefing stating that the plant was at the ALERT emergency classification level because of a reactor coolant leak. He stated that he planned to deploy the EOF Staff and Field Monitoring Teams (FMTs) at an early time. Teams were reminded of their turnback value of 100 mR/hr, their daily 200 mrem/shift administrative dose limit (40 mR on dosimeter x 5 correction factor = 200 mrem). A correction factor of five is used to dosimeter readings to total effective dose equivalent (TEDE) dose. An advanced party of individuals assigned to report to the EOF left the staging area at 0855, immediately following the briefing.

The advanced portion of the EOF staff arrived at 0910, and at 0915 the Utility EOF Manager and the Licensee Liaison gave a short briefing to the Acting CFO. At these briefings, the Acting CFO was told that the offending unit was Unit #1 and that there was a planned entry to containment to detect the reactor coolant leak. However, before that was accomplished, there was a reactor scram at 0953, and it was determined that Unit #1 had a loss of coolant.

The CFO arrived at 0958 and at 1000 held a briefing in which he called on all staff members to update each other with meteorological data, plant information, and other pertinent information.

At 1128 the CFO made the decision to recommend KI for all State EWs inside the Emergency Planning Zone (EPZ). The recommendation was based on a dose projection of over 29 rem thyroid at approximately one mile from the plant (The dose

projection was calculated based on field iodine cartridge air sample results measured by a State FMT.). The CFO noted that conditions were still degrading and the teams could encounter exposure rates exceeding the protective action guidelines. The KI recommendation was a conservative measure considering the current monitoring location of State EWs. The KI recommendation was immediately conveyed to State FMTs, the courier and traffic/access control teams.

The DSHS EOF communicator also used a call list to notify the affected counties, the State Emergency Operations Center, and the Joint Information Center of the KI recommendation.

During the exercise, State EWs did not encounter any exposure rates or situations that would require them to obtain approval for exceeding their 200 mrem/shift administrative limit. The FTL was interviewed to determine the process for authorizing additional exposure, should it become necessary. The FTL said that he has the authority to approve up to 1000 mrem/day for State EWs. If over 1 rem were needed to complete a mission, he would have to obtain approval from the CFO. The CFO indicated that he would question the necessity of the task, the urgency, and if it could be completed by a different EW (with less accrued dose), or if it could be done a different way to avoid the radiation exposure. If it were determined that the exposure were necessary, he could approve a dose limit of 10-25 rem for lifesaving, and >25 rem for lifesaving if the task was performed by a volunteer who was aware of the risks. He stated that the County Judges have the authority to approve exposure extensions for county EWs; however the County Judges would consult with DSHS prior to giving approval.

Criterion 2.b.1: Members of the Texas Department of State Health Services (DSHS), participated as the Radiological Assessment Staff and Field Team Coordinator at the Emergency Operations Facility (EOF) at the Comanche Peak Nuclear Power Plant (CPNPP) exercise on August 29, 2007, and successfully demonstrated the ability to develop appropriate Protective Action Recommendations (PARs). PARs were based on plant status, field team data and meteorological information. The EOF is in the southeast corner of the Training Building located about 1.2 miles west of the reactor containment buildings at the CPNPP Facility, which is 4.7 miles northwest of Glen Rose, Texas.

During an emergency, the Texas DSHS dispatches a staff of personnel to the utility EOF. Accident assessment personnel utilize Comanche Peak Assessment Model Projecting Estimated Dose Evaluation (CPAMPEDE) 7.0.1.3 dose assessment software

to calculate projected radiation doses to the public. PARs are developed using dose projections, weather conditions, and meteorological information. The DSHS Chief of Field Operations CFO) is responsible for approving PARs for dissemination to affected counties.

During the exercise, two personnel were assigned to dose assessment tasks. One individual operated the CPAMPEDE dose assessment computer program; the other individual coordinated with utility dose assessment personnel. The DSHS staff had access to the utility's main plant computer video display of pertinent plant parameters and plant radiation monitoring information. The main plant computer provided current radioactive release rates, and other temperature and pressure information related to the reactor coolant leak.

When the plant was in an ALERT emergency classification level, the accident assessment team (AA) conducted several worse case dose projections to determine affected sectors of the emergency planning zone (EPZ) if a release were to occur. At 1154, when Field Monitoring Teams #2 initially reported measuring radiation levels of 7 mR/hr (gamma), the AA team utilized FMT data to run dose projections. Initial dose projections were higher than expected and the DSHS AA individual requested verification of field team locations. If the location were off by a quarter mile, it could significantly affect dose projections. He also checked with utility AA personnel to determine what utility FMTs had measured as they traversed the projected plume path.

Both utility and DSHS personnel performed dose projections using plant parameters. Utility dose projections and DSHS dose projections were compared for consistency and accuracy and determined to be within a factor of two. The CPAMPEDE program displays results in both dose rate (in rem/hr), total dose (in rem) and highlights doses in excess of protective action guidelines (in rem). Both groups utilized the same dose projection program. The projected plume path was displayed on wall map in the DSHS work area.

Dose projections and computer-generated PARs were reviewed with the DSHS CFO. The PARs were based on plant status (General Emergency), the radioactive release in progress, and projected dose rates. At 1056 the CFO signed concurrence with the utility PAR; evacuation of subareas 2A, 2B, 1A, 2D, 2E, 4A, and 1B. The wind direction and stability class remained relatively constant and plant parameters did not change enough to require further changes to PARs. The wind direction did shift somewhat and caused changes in field team assignment locations, but not enough to warrant a revised

PAR.

The utility PAR (with concurrence signed by DSHS CFO) was faxed to affected counties (faxed by utility personnel). The DSHS communicator also telephoned the counties, the State Emergency Operations Center and the Joint Information Center to inform them of the PAR. County Judges, in consultation with DSHS, are responsible for making Protective Action Decisions (PADs) for their county.

Criterion 3.a.1: Members of the Texas Department of State Health Services (DSHS), participated as the Radiological Assessment Staff and Field Team Coordinator at the Emergency Operations Facility (EOF) at the Comanche Peak Nuclear Power Plant (CPNPP) exercise on August 29, 2007, and successfully demonstrated issuance of appropriate dosimetry and management of radiological exposure to emergency workers. The EOF is in the southeast corner of the Training Building located about 1.2 miles west of the reactor containment buildings at the CPNPP Facility, which is 4.7 miles northwest of Glen Rose, Texas.

The Texas DSHS personnel assigned to the EOF initially responded to an equipment Staging Area located at the Hood County Courthouse Annex. At the Staging Area, State Emergency Workers (EWs) were issued dosimetry and were briefed prior to field deployment. Field Monitoring Team (FMT) members were issued a Radiac Electronic Dosimeter, with preset alarms for exposure and exposure rate, and a thermoluminescent dosimeter (TLD). State personnel responding to the EOF were issued an Aero Tech-138 zero-200 mR pocket dosimeter, and a CDV 730 zero-20 R dosimeter. Each EW zeroed his/her dosimeters when they were issued. Initial readings were recorded on the Emergency Worker Radiation Exposure Record Form. DSHS personnel reported to duty with their pre-issued optically stimulated luminescent dosimeters and were not issued TLDs. All pocket dosimeters and electronic dosimeters were within calibration or leak check, as appropriate. The dosimeters issued allow emergency workers to manage their exposure within their 200 mrem per shift and 1 rem per day administrative limit. The State of Texas utilizes a correction factor of five to allow subsequent calculation of total effective dose equivalent (TEDE) dose.

The Field Team Leader (FTL) conducted a briefing for State Emergency Workers prior to deployment from the Staging Area. The briefing covered exposure limits (200 mrem/shift), their turn around exposure rate of 100 mR/hr, that TEDE dose is calculated by multiplying their dosimeter reading by five, and that authorization of exposure over 1 rem/day would require approval from the Chief of Field Operations. They were

reminded to read their dosimeters every 15-30 minutes.

Contamination Control Point Teams and FMTs were instructed to standby at the Staging Area and await further assignment. When the FTL arrived at the EOF, he reviewed plant conditions, consulted with the utility FTL and determined that it was prudent to pre-stage teams for monitoring if a release were to occur. Pre-staging teams minimized the need for a team to traverse the plume path during a radioactive release. Although in one instance, it was decided to have a team cross the plume rather than spend over an hour navigating a circuitous route about CPNPP to arrive at a monitoring point of interest. The team was cautioned that it must turn back if their dose rate exceeded 100 mR/hr; it did not, and reached only 70 mR/hr with the team members receiving an exposure of less than 10 mrem for the relocation route. At 0855 the FTL dispatched teams to locations on either side of the projected plume path. He also dispatched two Contamination Control Point Teams to appropriate locations on major roadways (on either side of the plume path).

During the exercise, individuals assigned to the EOF read their dosimeters every thirty minutes. One of the individuals assigned to field team tracking reminded EWs to read their dosimeters. The FTL was kept informed of the exposure rates encountered by field teams as well as their accrued exposures.

During the exercise, State EWs did not encounter any exposure rates or situations that would require them to obtain approval for exceeding their 200 mrem/shift administrative limit. The FTL was interviewed to determine the process for authorizing additional exposure should it become necessary. The FTL said that he has the authority to approve up to 1000 mrem/day for State EWs. If over 1 rem were needed to complete a mission, he would obtain approval from the CFO. The CFO indicated that he would question the necessity of the task, the urgency, if a different EW could complete the task (an EW with less accrued dose), or if it could be done a different way to avoid the radiation exposure. If it were determined that the exposure were necessary, he could approve a dose limit of 10-25 rem for lifesaving, and >25 rem for lifesaving if the task were performed by a volunteer who was aware of the risks. He stated that the County Judges have authority to approve exposure extensions for county EWs; however, the County Judges would consult with DSHS prior to giving approval.

Criterion 4.a.2: Members of the Texas Department of State Health Services (DSHS), participated as the Radiological Assessment Staff and Field Team Coordinator at the Emergency Operations Facility (EOF) at the Comanche Peak Nuclear Power Plant

(CPNPP) exercise on August 29, 2007, and successfully demonstrated appropriate management of field monitoring teams in order to obtain sufficient radiological information for use in characterizing a radioactive release. The EOF is in the southeast corner of the Training Building located about 1.2 miles west of the reactor containment buildings at the CPNPP Facility, which is 4.7 miles northwest of Glen Rose, Texas.

The Texas DSHS personnel assigned to support field monitoring reported to an equipment Staging Area at the Hood County Courthouse Annex. At the Staging Area, Emergency Workers (EWs) were issued dosimetry and were briefed by the Field Team Leader (FTL) prior to field deployment.

The 0840 FTL briefing covered the following topics:

- The FTL did not have any information regarding plant status (The briefing was held before the Staging Area was informed of the Notice of Unusual Event.).
- When plant status information became available, the FTL stated that he would brief teams via radio.
- Teams were reminded that their mission was to locate the edge of the plume and take an air sample in the area that measured 2-10 mR/hr. They were to travel to a low background area and perform a field analysis of their air sample.
- Utility teams would traverse the projected plume path and measure centerline exposure rates.
- They were told that they might encounter utility teams, the County Sheriff and Parks and Wildlife personnel.
- Teams were reminded of their turn around exposure rate of 100 mR/hr.
- Teams were reminded to take air samples with a 10 ft3 volume.
- They were reminded to calculate their total effective dose equivalent (TEDE) dose by multiplying their dosimeter reading by five.
- They were reminded to read their dosimetry every 15-30 minutes.
- The FTL reviewed administrative dose limits: 200 mrem/shift, 1 rem/day. Exposure over 1 rem required approval of the Chief of Field Operations.
- Start and stop all communications with "this is a drill".
- Teams were reminded to ensure their cellular telephones were fully charged.
- They were told to report their coordinates in latitude and longitude.
-Team members were instructed to take potassium iodide (KI) with them, but not to ingest it until the FTL told them to do so.
- End of shift, vehicles and personnel survey requirements were discussed.
- They were instructed to remain on duty until they were told that the exercise was over.

- He told the teams to finish getting ready and to standby. He stated that he would deploy teams via radio, from the EOF.
- The briefing concluded at 0850.

After the briefing, the FTL and staff traveled to the utility EOF. He immediately obtained current meteorological information from utility personnel. Several DSHS individuals updated FMT status boards and aided him in determining appropriate monitoring locations and field team management. Upon arrival the EOF, the FTL was advised of the plant's escalation to an ALERT emergency classification. Four teams were sent to locations on the edges of the projected plume path; two teams were positioned on the northern and southern edges close to the plant (approximately 3 miles), and the other teams further out (approximately 5 miles). The FMT positioning allowed teams to approach from outside the plume path and locate the plume boundaries. The FTL coordinated field monitoring efforts with the utility FTL. Teams kept up to date on current meteorological data and plant status. To minimize exposure, teams were staged in areas outside of the projected plume path, but in areas that allowed for easy access to the plume for performance of radiation monitoring. Pre-staging teams minimized the need for a team to traverse the plume path during a radioactive release. Although in one instance, it was decided to have a team cross the plume rather than spend over an hour navigating a circuitous route about CPNPP to arrive at a monitoring point of interest. The team was cautioned that it must turn back if their dose rate exceeded 100 mR/hr; it did not, and reached only 70 mR/hr at the plume centerline, with the team members receiving an exposure of less than 10 mrem for the relocation route. The assigned monitoring locations were determined by fixed siren locations. If it had been an actual emergency, teams would be deployed based on geographical location (by road name/intersection). All FMT assignments, survey results and completion of tasks were tracked on a status board.

At 1048 the EOF was informed that a radioactive release was in progress. FMTs were immediately informed. The FTL gave instructions for FMT monitoring and calculated the approximate arrival time of the plume (based on team locations and 10 mph wind speed). At 1116 FMT #1 reported measuring exposure rates of 6 mR/hr open window; 3 mR/hr closed window at 3' above the ground. At 1120 FMT #2 reported measuring 6 mR/hr open window and 4 mR/hr closed window. The utility FTL was immediately informed of the State FMTs detection of radioactive material offsite. All field team data was logged on a status board for use by DSHS personnel in the EOF. The FTL immediately informed Accident Assessment personnel when the FMTs began to measure exposure rates above normal ambient radiation levels. The Chief of Field

Operations was kept apprised of FMT data by the FTL and by information logged on the status board.

At 1125 the FTL instructed FMT #1 to take an air sample and retreat to a low background area to perform a field count. At 1135 FMT #2 was also instructed to obtain an air sample and perform a field count. Both air samples indicated the presence of radioactive iodine. Air sample results were immediately forwarded to accident assessment personnel for use in calculating projected dose.

Throughout the exercise, the FTL and his team worked with the CFO, accident assessment personnel, and utility personnel to determine the appropriate placement of teams for radiation monitoring. Meteorological information was updated frequently to ensure the teams were monitoring appropriate locations. Accident assessment personnel effectively utilized FMT data to confirm dose projections based on plant parameters. The exercise terminated while FMTs were still in the field.

In summary, the status of DHS/FEMA criteria for this location is as follows:

a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 3.a.1, 4.a.2.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. NOT DEMONSTRATED: None
e. PRIOR ISSUES - RESOLVED: None
f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.4. Department of State Health Services - Radiation Control Program Field Monitoring Team One

Criterion 1.d.1: Field Monitoring Team 1 (FMT 1) used the radio located in the Department of Public Safety's (DPS) vehicle as the primary means of communication. Back-up communication was the cellular phone issued to the Health Physicist from the Texas Department of State Health Services (DSHS). Prior to leaving the Staging Area, FMT 1 tested all forms of communications and all systems worked. The DPS radio was used primarily during the exercise, and at 1010, the Field Monitoring Team Leader (FMTL) called FMT 1 via cellular phone to make sure there was communication contact. There were no communication delays or difficulties.

Criterion 1.e.1: As per the extent of play agreement, FMT 1 reported to the Staging Area (Hood County Courthouse Annex) at 0730. Upon arrival, the members checked out the following dosimetry - one CDV-138 (0-200 mR leak tested May 2007), one CDV-730 (0-20R leak tested July 2007), and one mini-Radiac electronic dosimeter (due for calibration in September 2007). Both members recorded their information on their Emergency Worker Radiation Exposure Record (Procedure 7 of the Texas Emergency Management Procedures), and they both "zeroed" their dosimeters. Both members also received a plastic TLD card, which was to be used during the exercise. The Health Physicist (HP) also had her work TLD badge, which is used during her normal work hours. All the dosimeters would be turned back at the Staging Area at the end of the exercise.

FMT 1 was comprised of one HP from the Texas Department of State Health Services (DSHS), and a Trooper from the Texas Department of Public Safety who drove and provided support to the HP. Both members worked excellent as a team. The HP checked out her only instrument - one Eberline E-600 survey meter and the following probes: one SHP 270 "open/closed window" probe due for calibration in September 2007; one FHP pancake probe due for calibration in September 2007; and one SSPA-8 probe used while traveling in their vehicle, due for calibration September 2007. She followed her checkout as per Attachment 5 to Procedure 10 of the Texas Emergency Management Procedures, and performed a source check on all the probes, using a Cesium-137 check source and comparing her readings with the established readings on the back of the survey meter.

While the HP was checking her equipment, the Trooper checked out the supplies needed to perform field monitoring (gloves, booties, etc.) from their footlocker, in accordance with Attachment 1 to Procedure 10 of the Texas Emergency Management Procedures. The last item checked by both members was the Radeco air sampler (due for calibration September 2007). They plugged it in to a wall outlet and it worked without difficulty. Also, the HP made two packages containing one paper filter (for iodine collection) and one charcoal canister (to simulate a silver zeolite canister). These were placed in baggies for air sampling, if needed.

All the necessary maps and supplies, including instructions on how to take KI (expiration date of April 2011) were available and were inventoried using the checklist found in Procedure 10 of the Texas Emergency Management Procedures. All equipment and supplies necessary to handle field monitoring were available and no

equipment or supplies had to be restocked.

Criterion 3.a.1: Members of FMT 1 arrived at the Staging Area (Hood County Courthouse Annex) at 0730. They signed in and collected their dosimetry package from the Dosimetry Coordinator, who used a CDV-750 Dosimetry Charger to zero the direct-reading dosimeters (DRD). Both members also received a plastic thermoluminescent dosimeter (TLD) to be worn along with the DRDs. The HP also received a mini-Radiac electronic dosimeter to use during the exercise.

The Chief of Field Operations (a member from the DSHS) made the initial decision at 0835, due to the worsening conditions at the plant, to send the field monitoring teams out into the field.

At 0840, the Field Monitoring Team Leader (FMTL) briefed the four field teams prior to being dispatched into the field. According to the FMTL, the objectives of the field teams were to locate the plume and perform field analysis, collect an air sample(s) in a 2-10 mR reading area, use the courier and show proper chain of custody exchange, and to read your DRDs every 15-30 minutes. The FMTL then discussed the "real" hazards of going out near the plant (heat precautions, snakes, fire ants) and then gave an actual road construction description and mentioned to all to be aware of them. He also gave a met data update of winds coming at 200 degrees at 10 mph with a stability class of E (very tight plume). He also mentioned 100 mR was the turnback value and the total effective dose equivalent (TEDE) was fives times the reading on the DRD. Also, an instruction on KI usage was only to be taken when instructed. During the exercise, all field teams were instructed to take KI at 1130 due to dose projections of 29R within the 10-mile EPZ.

Prior to leaving the Staging Area, the FMTC instructed all field teams to perform a radio check and make sure their state-issued cell phones were in working order. Each team had a yellow sheet entitled Comanche Peak Quick Reference Phone List, which contained contact numbers for various positions in the EOF (FMTL, Mobile Lab, etc.).

FMT 1 was instructed to go to their first monitoring location by the corner of State Highway 144 and FM 2425. The team left the Staging Area at 0855 and arrived at the corner of State Highway 144 and FM 24 25 at 0913. The team read their DRDs in the field every 15-30 minutes. At times, they read their DRDs without being prompted by the FMTL. Their exposure readings were written down in the Emergency Worker Radiation Exposure Record (Attachment 1 to Procedure 7 of the Texas Emergency

Management Procedures). A major difference from previous exercises was the development of a smaller notebook containing the attachments needed for the exercise. This eliminated the need to carry around a "bulky binder" and prevented papers being scattered around the vehicle and possibly getting contaminated.

Criterion 4.a.1: As per the extent of play agreement, all field monitoring team members were to report to the Staging Area, located at the Hood County Courthouse Annex, at 0730. Upon arrival, the members checked out the following dosimetry - one CDV-138 (0-200 mR leak tested May 2007), one CDV-730 (0-20R leak tested July 2007), and one mini-Radiac electronic dosimeter (due for calibration in September 2007). Team members recorded their information on their Emergency Worker Radiation Exposure Record (Procedure 7 of the Texas Emergency Management Procedures), and they both "zeroed" their dosimeters. Both members also received a plastic thermoluminescent dosimeter (TLD) card, which was to be used during the exercise. The HP also had her work TLD badge, which is used during her normal work hours. All the dosimeters would be turned back at the Staging Area at the end of the exercise.

Both members worked as a team; the HP checked out her field monitoring team kit and instruments, which were located at the Staging Area. The HP checked out her only instrument - one Eberline E-600 survey meter and the following probes; one SHP 270 "open/closed window" probe due for calibration in September 2007; one FHP pancake probe due for calibration in September 2007 and one SSPA-8 probe use while traveling in their vehicle, due for calibration September 2007. She followed her checkout as per Attachment 5 to Procedure 10 of the Texas Emergency Management Procedures, and performed a source check on all the probes, using a Cesium-137 check source and comparing her readings with the established readings on the back of the survey meter. The last item checked by both members was the Radeco air sampler (due for calibration September 2007). They plugged it in to a wall outlet and it worked without difficulty. Also, the HP made two packages containing one paper filter (for iodine collection) and one charcoal canister (to simulate a silver zeolite canister). These were placed in baggies for air sampling, if needed.

There was spare equipment available at the Staging Area, but none was needed.

Criterion 4.a.3: FMT 1, comprising of a Health Physicist (HP) from the Texas Department of State Health Services (to perform radiation field monitoring) and a Trooper from the Texas Department of Public Safety(to drive the vehicle and assist the HP), arrived at the Staging Area (Hood County Courthouse Annex) and proceeded to

sign in, collect their dosimetry, and check out their equipment. At 0840, the Field Monitoring Team Leader briefed the four field teams on plant conditions, met data, proper use of dosimetry, when to take KI, dose limits on both dosimeters and mini-Radiac electronic dosimetry, turnback values, and contamination control.

FMT 1 was dispatched to the corner of State Highway 144 (SH 144) and FM 2425. After checking out their communications, FMT 1 left the Staging Area at 0855 and arrived at their first location (intersection of SH 144 and FM 2425) at 0913. The HP monitored background levels while traveling with the Eberline E-600 survey meter, using the SSPA-8 probe. They also checked their DRDs and recorded readings on their Emergency Worker Radiation Exposure Record.

At 1045, FMT 1 was then instructed to travel south to SH 144 and Holly Court (Siren #68). FMT 1 arrived at their new location at 1051 and after the declaration of the General Emergency at 1048 due to a release through an unmonitored release point at the plant, FMT 1 was instructed to travel south on SH 144 to find the edge of the plume.

FMT 1 traveled south on SH 144 when at GPS coordinates 32.318 N and 97.747 W (near the location of SH 144 and the Arroyo Ranch) they encountered a 3 mR/hour reading. They called their location back to the FMTL and was prompted instructed to take an air sample.

Prior to exiting the vehicle, the HP and the Trooper donned booties and gloves. The Trooper removed the Radeco air sampler from the backseat of the vehicle and then placed it on the back hood of his pickup. He then plugged the power cord into a power inverter located behind the front seat of his vehicle. The Trooper turned on the air sampler and began to collect the sample for two minutes at a five cubic feet flow rate for a total of 10 cubic feet/minute. While the sample was being collected, the HP monitored the area using the "open/closed" probe attached to the E-600 survey meter, to make sure they were still within the plume. After the sample was completed, the air sampler unit (filter paper and charcoal cannister) was placed into a plastic bag and then placed into the back seat of the vehicle, along with the air sampler. Both members of FMT 1 removed their gloves and booties prior to entering the vehicle and got back into the vehicle to drive back to SH 144 and Holly Court (a low background area).

At 1125, FMT 1 returned back to a low background area and proceeded to remove the filter paper and charcoal canister from the sample holder and bagged all items for transfer to the courier. The team members prepared the filter paper and charcoal

canisters for the courier, by using excellent contamination control (placing a yellow cloth on the back of the pickup to prevent additonal contamination on the filter paper and canister).

At 1130, the FMTL radioed all field teams to instruct them to take KI due to a dose projection of 29R within the 10-mile EPZ. The members of FMT 1 did so (simulated) and then radioed back to the FMTL informing him.

After bagging the samples, FMT 1 were to travel north on SH 144 and the corner of Buzzard Hollow Court to meet the courier and transfer the samples. A clean transfer was made between FMT 1 and the courier. FMT 1 called back to the FMTL to inform him of the transfer and report DRD readings.

At 1225, the FMTL instructed FMT 1 to travel to Siren Location 53 to find the plume and possibly collect another air sample. The team drove north on SH 144 and then proceeded East on FM 2425 towards a gated community to get to Siren Location 53. The team arrived at Siren Location 53 at 1244 and then was instructed to travel to Siren Location 31 (still within the gated community) to locate the plume and take an air sample.

The team arrived at Siren Location 31 (intersection of Ravenwood and Bell Chase Roads still within the gated community) and took GPS coordinates (32.352 N and 97.661 W). Readings at this location were 10 mR/hour open probe and 2 mR/hour closed probe. These readings were reported back to the FMTL and the instructions back were to take an air sample at this location.

Just as before, the same techniques were used at the prior location to collect an air sample. After the collection of the sample, the team members returned to their vehicle and proceeded out towards SH 144 (just outside the gated community), where they pulled over into a background area to perform a field analysis of the samples prior to transferring to the courier.

At 1315, just as the team was performing their field analysis, the FMTL called to announce the exercise was terminated and to return back to the Staging Area. FMT 1 brought their equipment back into the vehicle and proceeded back to the Staging Area.

In summary, the status of DHS/FEMA criteria for this location is as follows:

a. MET: 1.d.1, 1.e.1, 3.a.1, 4.a.1, 4.a.3.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. NOT DEMONSTRATED: None
e. PRIOR ISSUES - RESOLVED: None
f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.5. Department of State Health Services - Radiation Control Program Field Monitoring Team Two

Criterion 1.d.1: The capability to provide and manage communications in support of Field Monitoring Team 2 (FMT 2) activities was effectively demonstrated on August 29, 2007. Communication capabilities for FMT 2 consisted of a forty watt Motorola multi-channel mobile radio with three channels dedicated to the Radiological Control Program. Using the available repeaters, radio coverage could extend thirty miles. Each team member also had a cellular telephone.

During the exercise, the primary communication system used by FMT 2 and the Field Monitoring Team Leader (FMTL) occurred using the radio. FMT 2 periodically used their alternate or backup system cell phone to communicate when radio communication was heavy or unclear. All communication systems were demonstrated and proved to be operable. There were no communication caused delays that adversely affected the emergency response.

Telephone numbers for emergency response facilities and personnel were printed and included in the procedure book carried by FMT 2. Radio checks were performed with FMT 2 and the FMTL prior to deployment into the field. The teams were instructed to use their cellular telephones and conduct a communication check when they arrived at their initial monitoring locations. All communication checks were completed successfully.

All activities associated with the management of communications capabilities were demonstrated based on the plans and procedures and completed as they would have been in an actual emergency except as noted in the extent of play agreement.

Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide and other supplies were sufficiently demonstrated on August 29, 2007 by the Texas Department of State Health Services Radiation Control Program Field Monitoring Team 2 (FMT 2). The Hood County Annex meeting room is used as a Staging Area for personnel and equipment during an emergency.

Supplies at the Staging Area included: instruments, prepackaged sample supply kits for FMT 2, disposable coveralls, gloves, shoe covers, plastic bags, tape, and ribbon. Backup sampling supplies were also available for use by field monitoring teams. Large boards were prominently displayed including the following information: field team instructions, emergency worker dose limits, the 10-mile Emergency Planning Zone (EPZ), a 10-mile EPZ map used for tracking field teams, and a status board used to display current plant status, radioactive release information, emergency classification level, meteorological data, and evacuation zones.

FMT 2 was equipped with an Eberline Model E-600 survey instrument, which included a Model SPA-8 sodium iodide probe, a model SHP-270 beta-gamma probe, and a model SHP-360 pancake probe, and a 5uCi Cs-137 test source that was manufactured in 2005. The instrument and probes were all within a current calibration period until 9/22/2007. A Radeco/SAIC Model 809-HV air sampler used by FMT 2 was last calibrated 9/13/2006. Several charcoal cartridges and particulate filters were present in the team's kit. Silver zeolite cartridges were not used during this exercise in accordance with the extent of play agreement. FMT 2 was observed inventorying, inspecting for damage, battery checking and operationally checking the instruments. The checks were performed step-by-step with the check list included in the kit.

Each member of FMT 2 wore a Landauer Permanent Record Thermoluminescent Dosimeter that was due to be replaced on September 30, 2007. Both team members self-issued themselves 2 direct-reading dosimeters. A CDV-730, 0-20 Roentgen, leak tested on July 16, 2007, and an Arrow Tech model 138, 0-200 mrem, leak tested on May 25, 2007, were checked out. A single Canberra Mini Radiac personal electronic dosimeter was placed in the vehicle for group monitoring.

FMT 2 simulated KI; however, they filled out the form to demonstrate their knowledge of the process. There was sufficient KI with a shelf life of April 2011.

FMT 2 used a Ford Club Cab pickup truck for their transportation. It was equipped with

a Garmin Global Positioning System that was attached to a Dell laptop computer. Paper maps of the 10-mile EPZ were used in addition the Global Positioning System. The map included pre-designated monitoring positions. Primary communication was via a Motorola 40 watt multi-channel radio using a full wave antenna. Three channels were dedicated to the Radiation Control Program. Backup communication was with cell phones. Spare radios were also available.

Additional supplies of sample handling materials, plastic bags, personal protective equipment, extra forms, etc., were present in the team's kit, and no shortages were noted.

Criterion 3.a.1: The ability to issue dosimetry and procedures as well as manage radiological exposure in accordance with their plans and procedures was satisfactorily demonstrated by the Texas Department of Health Services – Radiation Control Program (DSHS-RCP) Field Monitoring Team 2 on August 29, 2007.

Field Monitoring Team 2 (FMT 2) responded to the Staging Area in Granbury, Texas (Hood County Courthouse Annex) where they were directed to a dosimetry issue station. A digital electronic dosimeter (Canberra mini-radiac) was issued for group monitoring of FMT 2. Both team members self-issued two direct-reading pocket dosimeters. A CDV–730 0-20 R and an Aero-Tech model 138 0-200 mR were used. FMT 2 members were issued a Landauer Corp. permanent record thermoluminescent dosimeter (TLD). All dosimeters were zeroed prior to issuance. FMT 2 filled out the dosimeter log, recording their social security number, dosimeter serial number, verification of calibration, beginning dosimeter reading, and TLD number.

At 0840 the Field Monitoring Team Leader (FMTL) held a pre-deployment briefing for FMT 2 in the Staging Area meeting room. During the briefing, he reminded FMT 2 of their maximum exposure limits of 200 mrem Total Effective Dose Equivalent (TEDE) and 1000 mrem TEDE as a shift limit with special permission of the FMTL. FMTL stated that the turnback value is an exposure rate of 100mr/hr. FMTL reminded FMT 2 to read their personal dosimeters at 15 to 30 minute intervals and to record the readings on the activity logs. FMT 2 was instructed to try to locate the edges of a plume if a radioactive release occurred and the precautions to be observed by the teams to prevent unnecessary exposures. FMT 2 was also instructed to use their survey instruments on the most sensitive scale, and to ensure the audible response was on so they could detect an increase in exposure rates. Field data sheets had protective guidelines printed on them.

At 0940 FMT 2 arrived at the pre-determined location of siren 15, took survey data and stood by for further instructions. During the exercise, FMT 2 personnel read and recorded their dosimeters at approximately fifteen minute intervals. FMT 2 reported their exposure to FMTL via radio every thirty minutes or when they reported field data. Their dose was tracked along with plume data. The FMTL is responsible for managing FMT 2's exposure. During the exercise, none of the field teams encountered a situation where they accumulated enough exposure to warrant replacing them with another team. In accordance with their procedure, FMTL would change assignments to equalize exposure, or would replace teams, as necessary.

At the conclusion of the exercise, FMT 2 turned in their dosimetry to the issue station and logged their final reading on the Dosimeter Log. During the course of the exercise, the team was queried on their knowledge of administrative dose limits and both members displayed full knowledge of exposure limits and the conversion factor used to estimate Total Effective Dose Equivalent. The team members' knowledge and RCP procedure requirements would result in a report to the FMTL of exposures approaching maximum administrative limits such that actual exposures would not exceed administrative limits without the knowledge and approval of the FMTL.

Criterion 4.a.1: The equipment to perform field measurements of direct radiation exposure and to sample airborne radioactivity was adequately demonstrated by the Texas Department of Health Services – Radiation Control Program Field Monitoring Team 2 on August 29, 2007.

The Hood County Court Annex meeting room in Granbury Texas functions as a personnel and equipment Staging Area for various emergency response duties including Field Monitoring Team Two (FMT 2). FMT 2 was appropriately equipped to perform direct field radiation measurements, and to sample for airborne radioactive particulates and iodine. FMT 2 utilized an Eberline E-600 radiation meter kit. The kit comes equipped with three detectors. A pancake detector model SHP-360 is to field count iodine and particulate sample cartridges. The open and closed window detector model SHP-270 is for direct radiation measurements. The SSPA-8 is the most sensitive detector and is used to locate the edge of the plume. The instrument was operationally checked with a 5uCi Cs 137 source produced in 2005. The instrument responded within specifications listed in FMT 2's instruction sheet.

A Radeco/SAIC Model 809-HV air sampler was checked for proper operation by FMT 2

using an inverter connected to the field team vehicle and a piggy backed particulate/charcoal cartridge. In accordance with the extent of play agreement, charcoal cartridges were used during this exercise instead of silver zeolite cartridges which would be used for an actual event. Procedure 10 specifies an air sample volume of 10 cubic feet, and the sampler provided this volume without difficulty.

Field teams assembled their necessary equipment and performed pre-operational checks of equipment prior to deployment. FMT 2 was observed to carefully perform inventory checks of field team kits, verified current instrument calibration, and were observed performing equipment pre-operational and source checks. All instruments were within current annual calibration and successfully passed pre-operational checks. All instruments and equipment operated without problems.

The field teams also had supplies for obtaining soil and vegetation samples. Field team protective clothing, air samplers, contamination control and sampling supplies are maintained in prepackaged kits for quick deployment. Additional supplies of radiation survey instruments, cell phones and radios are available at the Staging Area.

Criterion 4.a.3: The Texas Department of Health Services – Radiation Control Program Field Monitoring Team 2 on August 29, 2007 demonstrated the procedure for taking accurate ambient radiation measurements, radioiodine samples and particulate samples at appropriate locations during the Plume Phase Exercise at Comanche Peak Nuclear Power Plant.

Following the inventory of their Field Monitoring Kits to assure the inclusion of all procedure-prescribed items, check-out of the proper operability of all sampling equipment and monitoring instruments, demonstration of their communications equipment, and a thorough situational briefing by the Field Monitoring Team Leader (FMTL), Field Monitoring Team 2 (FMT 2) was deployed at 0920 to their first monitoring location at siren location 15, a point downwind of Comanche Peak Nuclear Power Plant (CPNPP). Upon arrival FMT 2 took radiation survey readings as prescribed in Procedure 10 "Monitoring and Sampling Airborne Gamma Releases." This data was transmitted via radio to the FMTL. FMT 2 remained at this location monitoring only background readings until 1030 when the FMTL instructed the team to proceed to sample location 45. FMT 2 reported (Controller supplied) only background readings were detected.

At 1137 FMT 2 was directed to move to a location on Mitchell Bend road. As they

approached this location, elevated readings were supplied by the Controller. FMT 2 proceeded until a meter reading greater than 2 mR/hr was located and there was a difference between closed and open window readings indicating they were in the plume. In accordance with Procedure 10, open and closed window readings were taken at 3 inches and 3 feet and reported to FMTL. FMT 2 was instructed to take an air sample at this location and then move to a low background area and perform a field analysis of the sample. FMT 2 acquired the air sample; while the air sampler was running, FMT 2 recorded survey instrument readings to insure that the plume strength did not change while the sample was being acquired. FMT 2 then proceeded to a low background area and performed measurements on the charcoal cartridge and particulate filter following the steps in Procedure 10. The cartridge and particulate filter were counted using the Eberline E-600 instrument with the SHP-360 pancake probe. The data was called in to the FMTL by radio. FMT 2 used excellent contamination control practices including switching the air conditioning to recirculate. The cartridge and filter were then properly bagged and the survey form was completed and the chain of custody form was completed.

FMT 2 was then directed to location 68 where a courier picked up the samples for transit to the Mobile Lab using the chain of custody form.

The Chain of Custody form and transfer of the sample to a courier for delivery to the mobile laboratory for further analysis was observed to be in accordance with procedures. The Chain of Custody form was placed on the sample bag given to the courier and it would stay with the sample until delivered to the mobile laboratory.

At 1315 the exercise was terminated.

In summary, the status of DHS/FEMA criteria for this location is as follows:

a. MET: 1.d.1, 1.e.1, 3.a.1, 4.a.1, 4.a.3.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. NOT DEMONSTRATED: None
e. PRIOR ISSUES - RESOLVED: None
f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.6. Department of State Health Services Mobile Laboratory

Criterion 1.e.1: This criterion was adequately demonstrated pursuant to the negotiated extent of play and existing plans and procedures. No new issues were identified.

The Texas Department of State Health Services (DSHS) mobile laboratory was located at 1100 W. 49th Street in Austin, TX. According to the extent of play agreement, the mobile lab simulated travel to the Staging Area at the Comanche Peak Nuclear Power Plant (CPNPP). The mobile lab remained in Austin and information was relayed to this location by a Laboratory Services liaison physically located at the Comanche Peak Emergency Operation Facility (EOF). The information was provided in real time as it became available.

The mobile laboratory maintained sufficient quantities of equipment and supplies to support emergency operations. This included documentation forms, contamination control supplies, personal protection equipment, sample preparation media, radionuclide analysis equipment, thermal fax paper, paper for printing analytical reports, and associated office supplies. Additional supplies were available in the main DSHS building. In accordance with the extent of play agreement, supplies available at the Radiation Control Program (RCP) Staging Area and the sample preparation area could not be observed.

The mobile laboratory had maps and displays of the CPNPP ten mile Emergency Planning Zone (EPZ). These maps identified pre-determined sampling locations, roads, radial sectors, plant location, plume travel and wind direction. Mobile laboratory staff used these displays to track plume direction, plume edges and plume centerline.

The DSHS Laboratory Services staff would normally be issued dosimetry and potassium iodide (KI) at the Staging Area by the DSHS Radiation Control Program (RCP) staff. Since the mobile laboratory did not relocate to the Staging Area (extent of play agreement) the issuing of dosimetry and potassium iodide (KI) could not be observed. Review of dosimeter calibration, leak testing, and calibration dates was not conducted. The laboratory staff did have their own Landauer optically stimulated luminescent (OSL) permanent record dosimeter. This OSL is issued monthly as part of their normal job functions.

By interview, it was determined that each staff member would normally be issued an emergency response Landauer OSL permanent record dosimeter and a 0-200 milliRoentgen direct-reading dosimeter (DRD) and a 0-20 rem DRD. The staff was able

to describe the reading and zeroing of the DRDs, the return of the dosimetry after the emergency, the radiation exposure limits, and simulate the periodic reading of dosimetry every thirty minutes. The dosimetry would normally be returned to the RCP staff, located at the Staging Area, at the conclusion of the exercise.

According to procedure, the mobile laboratory staff should have available a survey instrument for sample screening, contamination control and personnel monitoring. Laboratory staff stated that the instrument was returned for calibration 2 weeks prior to the exercise. The instrument was still out for calibration at the time of the exercise. Mobile laboratory staff identified the availability of another calibrated survey meter from the RCP offices in Austin. This instrument could have been delivered to the mobile lab; however, it was decided that the use of the instrument would be simulated. The calibration record for this meter was faxed to the mobile laboratory. The meter is a Ludlum Model 14-C with a Ludlum Model 44-38 Geiger-Mueller detector. The instrument was calibrated on May 01, 2007 by the RCP staff. The laboratory staff stated that additional meters are available at the Staging Area had the team been dispatched there. Due to the extent of play agreement, these additional meters could not be observed.

Criterion 3.a.1: This criterion was adequately demonstrated pursuant to the negotiated extent of play and existing plans and procedures. No new issues were identified.

The Texas Department of State Health Services (DSHS) mobile laboratory was located at 1100 W. 49th Street in Austin, TX. According to the extent of play agreement, the mobile lab simulated travel to the Staging Area at the Comanche Peak Nuclear Power Plant (CPNPP). The mobile lab remained in Austin and information was relayed to this location by a Laboratory Services liaison physically located at the Comanche Peak Emergency Operation Facility (EOF). The information was provided in real time as it became available.

The decision to dispatch the Texas Department of State Health Services (DSHS) Laboratory Services staff would be made by the DSHS Bureau Chief. According to procedure, the Bureau Chief has the discretion to dispatch the team at any Emergency Classification Level (ECL) declared by CPNPP. However, at the Site Area ECL, the team must be placed in precautionary status and at the General Emergency ECL, the team must be activated and operational.

The DSHS Laboratory Services staff would normally be issued dosimetry and

potassium iodide (KI) at the Staging Area by the DSHS Radiation Control Program (RCP) staff. Since the mobile laboratory did not relocate to the Staging Area (extent of play agreement) the issuing of dosimetry/KI and the subsequent briefings could not be observed. The laboratory staff did have their Landauer optically stimulated luminescent (OSL) permanent record dosimeter that is issued monthly as part of their normal job functions.

By interview, it was determined that each staff member would normally be issued an emergency response Landauer OSL permanent record dosimeter and a 0-200 milliRoentgen direct-reading dosimeter and a 0-20 rem direct-reading dosimeter. The staff did simulate reading their dosimetry every thirty minutes and logging the results. The staff could correctly state their radiation exposure limits. These were 0.2 rem per shift, 1 rem per day and 5 rem per event. The decision to replace an emergency worker would be made by the RCP Chief of Field Operations based reported dosimetry results. The dosimetry would normally be returned to the RCP staff, located at the Staging Area, at the conclusion of the exercise.

Criterion 4.c.1: This criterion was adequately demonstrated pursuant to the negotiated Extent of Play and existing plans and procedures. No new issues were identified.

The capability to perform the required radiological analyses to support protective actions was adequately demonstrated by the staff of the Department of State Health Services (DSHS) mobile laboratory. According to the extent of play agreement, the mobile lab simulated travel to the staging area at the Comanche Peak Nuclear Power Plant (CPNPP). The mobile lab remained in Austin and information was relayed to this location by a Laboratory Services liaison physically located at the Comanche Peak Emergency Operation Facility (EOF). The information was provided in real time as it became available.

The laboratory has two operating high purity Germanium (Ge) detectors connected to a computer based gamma spectral analysis program. The program used for spectral analysis is the Canberra Genie ProCount 2000 program. This program contains a library for typical radionuclides expected to be released in a reactor accident. This includes gamma emitters with energy peaks from 59 keV to 1836 keV. These radionuclides are summarized in the Radionuclide Analysis Report form (EP-6 dated 1/25/2007). Additional radionuclides can be added to the library as needed. The laboratory implements a quality assurance (QA) program to ensure the reliability of the analytical results and system functionality. This program includes daily quality control (QC)

checks of system functions, as well as detector energy and efficiency calibrations.

Detectors in the mobile laboratory are checked for efficiency and energy calibration on a periodic basis while the laboratory is in "standby" mode in Austin. Energy and efficiency calibrations of the detectors are performed on an annual basis. These calibrations were also successfully demonstrated during the exercise in accordance with written procedures. Because of the nature of gamma spectroscopy systems, it is important, and necessary, to re-establish instrument performance after shutdown and transport. DSHS procedures address the transport of the detector systems and require calibration immediately after deployment and setup of the laboratory at field locations. Calibrations are performed using DSHS prepared standards in five geometries. These geometries are charcoal cartridge, charcoal cartridge with elevated filter, 400 cc soil, 1 gallon cubitainer water, and 1 gallon vegetation. Standards are traceable to the National Institute of Standards and Technology (NIST) and are prepared in accordance with Standard Operating Procedure (SOP) "Preparation, Control and Traceability of Radioactive Standards" Rev 2.0. These standards are transported with the mobile laboratory during deployment.

The DSHS laboratory also has an extensive, well documented, and implemented QA/QC program to maintain calibration of the precision weight scales (Sartorius Co.) used to properly aliquot the standard solutions to prepare the radioactive standards. The precision scale QA/QC program uses daily measurements, control charts, and annual calibrations by a commercial service provider (Aldinger Company, Dallas, TX) using NIST traceable mass standards.

By interview, the DSHS mobile laboratory staff stated that the highest sample radiation reading that would be accepted for analysis was 0.1 mR/hr. Provisions for analyzing samples with higher radiation levels are available. Counting times could be reduced or it was stated that samples above the limit can be sent to Texas A&M University for analysis. Federal agencies, if involved in the response, could also provide additional analytical capabilities.

Use of a survey instrument for contamination control within the laboratory was simulated because the assigned meter was sent out for calibration and was not available. A replacement instrument was identified at the State Radiation Control Program (RCP) Offices and could have been delivered to the mobile lab. Additional instruments would be available to the laboratory if deployed to the field at the Staging Area. Mobile laboratory staff demonstrated when and how they would check for contamination during

sample analysis.

At 0945 hours, the mobile laboratory reported to the Emergency Operations Facility (EOF) that it was operational for the analysis of air samples. At 1145 hours, the mobile laboratory reported it was fully operational for all calibrated sample types/geometries (e.g. soil, vegetation).

Actual sample preparation was not observed because the DSHS Sample Preparation and Coordination team would normally co-locate with the laboratory at the Staging Area and perform this function. According to the extent of play, the DSHS Radionuclide Analysis Report form (EP-6 dated 1/25/2007) was transmitted to the mobile laboratory via facsimile (fax) for each simulated sample collected by the field teams. This form contained the sample type, sample volumes, contact radiation levels and chain of custody signatures. The faxed DSHS Radionuclide Analysis Report form was used to log in the samples and demonstrate chain of custody. A background (blank charcoal cartridge and particulate filter) was used to represent the simulated sample and to demonstrate sample analysis and contamination control procedures. Sample aliquot size was documented on the gamma analysis report and was used to calculate specific activities. Laboratory staff donned latex gloves, lab coats, safety glasses and followed written procedures for sample login, analysis and reporting. The mobile laboratory staff reviewed the air sampling data on the Radionuclide Analysis Report form for accuracy. The laboratory analysis report was completed and the controller injected analysis data for the sample results. Sample results were sent via fax to the DSHS liaison located at the EOF. Throughout the exercise, faxes sent from the mobile laboratory were followed up by phone calls to assure that data was properly transmitted.

Once analysis and reporting was completed on the sample, laboratory staff demonstrated how the samples would be transferred to the secured storage area outside of the mobile lab. The storage area serves to reduce the potential for increased background in the laboratory. According to procedure, air samples collected during the plume phase do not require sample preservation.

The chain of custody form was completed by staff to ensure sample integrity was maintained.

In summary, the status of DHS/FEMA criteria for this location is as follows:

a. MET: 1.e.1, 3.a.1, 4.c.1.

b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. NOT DEMONSTRATED: None
e. PRIOR ISSUES - RESOLVED: None
f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.7. Joint Information Center, Granbury

Criterion 1.a.1: Comanche Peak Nuclear Power Plant (CPNPP) notified the Joint Information Center (JIC) staff by pager at 0818 of a Notice of Unusual Event (NOUE). The JIC staff was on standby. A second notification by pager was an ALERT at 0827. The staff reports to the JIC upon notification of an ALERT, and they started arriving at the Granbury City Hall to set up the JIC, where equipment is pre-staged, at 0846. If the event had occurred after hours, a calldown notification system would locate staff by pagers, cell phone and home phone. Representatives from CPNNP, the Texas Department of Public Safety who also represented Somervell County, Hood County, the Governor's Division of Emergency Management, and the Texas Department of State Health Services-Radiation Control Program reported to the JIC. The Site Area Emergency (SAE) notification was faxed to the JIC at 0958, and the General Emergency (GE) notification was faxed at 1048. The JIC was declared operational at 0916.

Criterion 1.d.1: The Joint Information Center (JIC) staff began arriving at the Granbury City Hall at 0846 to set up operations in the conference room adjacent to the Granbury City Council Chambers and in a room on the first floor for media monitoring/rumor control. The JIC was operational at 0916 and the staff confirmed phone numbers and fax numbers. The primary communication system for the JIC staff was landlines. A fax machine and connectivity for email was available as a redundant notification or backup communications. The fax machine was sending as well as receiving faxes which caused a delay in receiving information. A separate fax machine for incoming faxes would be beneficial. The JIC Communicator was in constant contact with a liaison to the Emergency Coordinator who provided updates to the event and shared that with the spokespersons and the Rumor Control Coordinator. JIC staffers had cell phones that could be used if landlines or fax lines failed.

Criterion 1.e.1: The Joint Information Center (JIC) staff occupied two separate areas in the Granbury City Hall. The spokespersons room was adjacent to the City Council

Chambers and was equipped with 8 telephone lines for the spokespersons and connectivity to email was available. There was one fax machine for incoming and outgoing faxes that also served as a copier. An additional fax machine would prevent a delay in receiving or sending information as the incoming and outgoing faxes were sometimes needed at the same time. The Information Liaison and the JIC Communicator positions had telephones. The Press Release Writer had a computer, telephone and printer. The Texas Department of State Health Services (DSHS), Radiation Control News Writer and Public Information Officer had a computer and printer. A large dry erase status board was updated with information as it became available. A map of the EPZ was displayed and used as information was provided or changed with protective action decisions.

The rumor control area was equipped with phones for media and public inquiries. One person was listening to WBAP and monitoring the internet for news on the event. There was also staff assigned to monitor television stations. An easel was updated with new information for the phone teams. There was an EPZ map reflecting protective action decisions, a jurisdictional map and an aerial map displayed in the room.

Criterion 5.b.1: A group of spokespersons gathered in the Joint Information Center (JIC) conference room adjacent to the Granbury City Council Chambers that served as a press briefing room. A JIC staffer identified as a JIC Communicator stayed in phone contact with a liaison to the Emergency Coordinator at the Emergency Operations Facility (EOF). The JIC Communicator relayed Emergency Classification Level (ECL) changes and updates to the spokespersons as they became available. The notification was simultaneous to the announcements made by the Emergency Coordinator at the EOF. The EOF also faxed ECL changes to the JIC, but the primary notification was made by phone. The Communicator also put this information on a white status board. The group of spokespersons included representatives from Comanche Peak Nuclear Power Plant, Texas Department of Public Safety (who also represented Somervell County), Hood County, the Governor's Division of Emergency Management (GDEM), and the Texas Department of State Health Services (DSHS) - Radiation Control. All spokespersons maintained contact with their jurisdictions and coordinated information with the group during internal briefings. After coordinating that information, the group entered the press briefing room and shared emergency information with the public through the press in a timely fashion. There were six press briefings. The first began at 0940 and the last began at 1225. The briefings were followed by a question and answer session with the media. The Company Spokesperson briefed the ECL changes to the media and explained the reasons for the changes. Supporting the explanations

were PowerPoint slides, an enlarged photo of the plant, and an EPZ map. Media kits were available outside the press briefing room to include press releases and a media guide that had background information, a map, and drawings of the plant. Additional press briefings were held at 1010, 1040, 1115, and 1125. Two news releases were issued by DSHS - Radiation Control that informed the public that field monitoring teams were gathering samples at and around the plant. The utility put out six news releases detailing events at the plant, ECLs, and ECL changes. Though Hood and Somervell Counties delivered timely information about protective actions during the press briefings, the counties generated no news releases regarding the protective actions that would have made it easier for the media to share with the public.

The media, internet and radio monitoring were done in a room on the first floor at Granbury City Hall. There was also a team of six people to answer media and public inquiries. The rumor control staff referred the public to the telephone book for further emergency information or instructed them to listen to WBAP for protective action instructions. Accurate information about the incident was provided to the public including referrals for homebound to call the Sheriff's office about the inability to evacuate. There were rumors from the public and media about an explosion, fatalities, and possible terrorist-related activities. These were addressed by correct information by the phone teams and at the press briefings.

In summary, the status of DHS/FEMA criteria for this location is as follows:

a. MET: 1.a.1, 1.d.1, 1.e.1, 5.b.1.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. NOT DEMONSTRATED: None
e. PRIOR ISSUES - RESOLVED: None
f. PRIOR ISSUES - UNRESOLVED: None

4.2.2. Risk Jurisdictions

4.2.2.1. Hood County Emergency Operations Center and Traffic/Access Control Point

Criterion 1.a.1: The activation and mobilization of the Hood County Emergency

Operations Center (EOC) was successfully demonstrated.

At 0755, a call was received from Comanche Peak Nuclear Power Plant (CPNPP) that an unusual event (NOUE) had been declared at the plant. There was currently no threat to the public and no protective action was recommended. The call was received on a dedicated hotline over which the State of Texas and all risk counties were notified. Since the line is a dedicated, private line, no verification process was required.

The Communications Supervisor (CS) took the call and notified the County Judge, the Emergency Coordinator, the Granbury Chief of Police, and the Hood County Sheriff. Although they were not required to report to the Hood County Emergency Operations Center (EOC), each one decided that they wanted to report and did so.

At 0814, the Judge asked the CS to notify key personnel to be on standby in preparation for a limited activation of the EOC. At 0836, following the notification of an Alert at 0833, the Judge decided to fully activate the EOC. He requested the CS to notify all EOC staff to report to the EOC.

The CS initialized the computerized "Code Red" system at 0842. The Code Red system automatically dialed the telephone number of each staff member and a voice activated message was sent when the staff member answered the telephone. At 0854, the Judge declared the EOC to be operational.

The Site Area Emergency was received at 1008 and the General Emergency at 1103. A second shift roster was provided to assure that enough staff was available to support two 12-hour shifts for continuous 24-hour operation, if needed.

Criterion 1.c.1: The Hood County Judge was responsible for overall operations of the Hood County Emergency Operations Center (EOC) and approval of the Protective Action Decisions (PADs). He demonstrated effective command and control of the EOC. He conducted seven (7) briefings and a couple of updates as necessary during the event. The briefings were 30 minutes apart and every other briefing consisted of a roundtable update from the EOC staff.

The Communications Supervisor and administrative support staff were responsible for maintaining the status log projected on the board, distribution of messages and documentation traffic, incoming and outgoing faxes, making copies and recordkeeping along with supporting the EOC staff in general.

At 0854 the EOC was declared operational and the first EOC briefing was conducted at 0858; the Judge reviewed the plant status. Each briefing concluded with the time of the next scheduled briefing. In addition, the Hood County Judge maintained close communication with the Judge at the Somervell County EOC.

At 0901 the Emergency Management Coordinator (EMC) addressed the staff and reviewed the EOC rules and confirmed the roles of key staff members. During the event he addressed the staff several times to assure continuity of staff support, shift change, alerts on reported impediments/accidents, and preparations for possible evacuations.

The staff utilized the EOC log sheets and their procedures binder as outlined in the Emergency Management Plan. Copies of the Emergency Management Plan for Hood County and the Hood County Annex W dated March 2003 were kept in the EOC and readily available for the staff to use.

At 1008, the EOC received confirmation from the plant of the Site Area Emergency. Immediately afterwards, the Judge, EMC and Public Information Officer (PIO) started discussions on possible sounding of the sirens and review of the pre-scripted (H-1) messages to release the 1st EAS message. At 1022, the Judge also directed the EMC to activate the reception centers and prepare the "Declaration of Disaster" for review and signature.

Prior to EOC briefing #5, the Comanche Peak Nuclear Power Plant (CPNPP) representative informed the Judge that the plant had declared a General Emergency (GE) at 1048. During EOC briefing #5 at 1114, the GE classification had been confirmed and was announced. The Judge and the EOC staff were prepared for discussion and recommendations on evacuations, PADs, traffic and access control points (T/ACPs), EOC group dosimetry and distribution of potassium iodide (KI) for emergency workers. Within minutes, decisions were made and carried out. Throughout the event as the Judge delegated tasks, the staff kept him advised on status and/or completion of tasks.

The EOC was well organized and everyone was well informed and kept current on the plant status and the impact and activity within the emergency planning zone. The Judge valued all staff input and recommendations, especially when making the PADs for protecting the safety of the community, including the emergency workers. It was evident that the EOC staff had great respect for the Hood County Judge.

Criterion 1.d.1: Primary and secondary communications capabilities were demonstrated at the Hood County Emergency Operations Center (EOC).

The primary communications method used for notification of emergency information from Comanche Peak Nuclear Power Plant was a dedicated private line to the State of Texas, Department of Public Safety, Disaster District 6A in Waco, and the two risk counties, Hood and Somervell.

All other communication was done using the commercial telephone system and cellular telephones. Additional communications systems available were Radio Amateur Civil Emergency Services (RACES) and a VHF radio system. Neither of those two systems were demonstrated. There was an organized message processing system implemented, so that all messages got to the appropriate parties promptly.

The staff in the Hood County EOC could communicate with the State of Texas in Waco and Austin, Somervell County, the utility, and emergency workers deployed to the field, as needed.

There were no problems with communications and no delays because of communications failures.

Criterion 1.e.1: The Hood County Emergency Operations Center (EOC) had sufficient equipment, supplies, dosimetry, and potassium iodide (KI) available to support emergency operations.

Maps that were available and in view of the EOC staff included three 10-mile Emergency Planning Zone (EPZ) maps showing evacuation routes, protective action zones, traffic control points, and reception centers, as well as a map of the State of Texas and a map of Hood County. Emergency information could be posted on two small white boards, a large major event board, and a pull down screen for displaying computer generated information. There was also a sign indicating what the current status of the Emergency Classification Level was.

There were 15 commercial telephones for the EOC staff and 3 dedicated hotline phones to Comanche Peak. Two of the dedicated telephones were in the EOC and one was in the Dispatch Center. There were two computers, a facsimile machine that could also be used as a copier, and access to two additional copy machines. There was a video

conferencing system and other miscellaneous office supplies available.

Dosimetry available included 18 Merlin Gerin electronic dosimeters and 40 thermoluminescent dosimeters (TLDs). The dosimeters were calibrated on 1/24/07. The Radiological Officer (RO) had one Thermo Surveyor 50 manufactured by Electron Corporation with a pancake probe calibrated on 08/31/07.

There were nine field radiation detection kits. Each kit contained one CDV 700 survey instrument, one CDV 715 survey instrument, 3 CDV 742 dosimeters with a range of 0-200R, one dosimeter charger, and instructional manuals. The above equipment was calibrated on 08/31/06 with a due date of 08/31/07.

There were 126 units of KI available. Each unit contained 14 pills in a blister pack. The expiration date was August of 2013.

For traffic and access control, officers had cones in their vehicles and could acquire barricades from the Hood County Roads Department if needed. They had all appropriate communications equipment necessary for their mission and maps of the EPZ showing evacuation routes, traffic and access control point (T/ACP) designated locations, and reception centers.

Criterion 2.a.1: The Hood County officials, assigned to the Hood County Emergency Operations Center (EOC) located in Granbury, Texas, successfully demonstrated the protective action decision making process for emergency worker exposure control.

The Hood County Judge authorized the use of potassium iodide (KI) for emergency workers (EWs) with the assistance and input from the Texas Department of State Health Services (DSHS) and the Emergency Management Coordinator (EMC).

The County Judges have authority to approve exposure extensions for county EWs; however the County Judges would consult with DSHS prior to giving approval. The Radiological Officer (RO) in the EOC obtained technical data from the State of Texas who utilizes a correction factor of five to allow for subsequent calculation of total effective dose equivalent (TEDE) dose.

After the Alert classification, the RO prepared for the EW protection briefings on warning/use of KI and dosimetry reading/recording/reporting information. He inventoried and checked the equipment in the Hood County Dosimetry Kit maintained in

the EOC; all equipment was in proper working order. He set-up (simulated) the control point for entry into the EOC at the back door of the building.

At Site Area Emergency (SAE) classification, the EMC requested law enforcement prepare for set-up and staffing of the Traffic and Access Control Points (T/ACPs) and evacuation routes. After a brief discussion and consideration of projected doses, the decision making staff dispatched EWs to their designated locations. They were briefed on the use of KI and were issued dosimetry (simulated) and instruction cards. The RO setup group dosimetry for the EOC staff and checked and logged the readings approximately every 30 minutes.

At 1148, the Squaw Creek T/ACP EWs reported a real time dosimeter reading and beeping alarm to the EOC Sheriff/Chief of Police. The Judge, EMC, DSHS representative and RO discussed the situation and recalled the EWs to the EOC. Pending their arrival the RO and DSHS representative worked as a team to setup the entry point outside the EOC entrance and prepared to survey the EWs. The RO, with assistance of the DSHS representative, conducted a very through survey of the EWs who were found to be free of any contamination. It was determined that the dosimeter readings and beeping alarm were due to false readings. The EWs were cleared to enter the EOC and the Hood County Judge was briefed on the outcome.

Criterion 2.b.2: The Hood County Judge is responsible for making protective action decisions (PADs) for the Hood County population. PADs were issued based on protective action recommendations (PARs) received from the Emergency Operations Facility (EOF) at the plant. Potassium iodide (KI) may be approved for institutionalized populations, but the State of Texas does not issue KI for the general public.

During the event, the County Judge conducted EOC briefings and updates starting at 0858. He maintained close communication with the Somervell County EOC Judge when making decisions that impacted both counties. At 0927 the Granbury Independent School District (GISD) busses were placed on standby for potential evacuations and shortly afterwards, an Early Precautionary Action was issued for evacuation of five schools within the emergency planning zone (EPZ). At 1020, the 1st PAD was made with sirens sounded at 1032; at 1038 an Emergency Alert System (EAS) message (H-1) was released containing the initial Site Area Emergency information. At 1113 PAD #2 was made resulting in the evacuation of Zones 2A, 2B, 1A, 2D, 2E, 4A and 1B. At 1120, shortly after briefing #5 was conducted, the sirens were sounded, and at 1129, a supplemental message (H-6) was released to the public

via a special news broadcast.

The County Judge consulted with the EOC staff during the event and prior to making the PADs and releasing the EAS and supplemental messages. He consulted with EOC staff, the Emergency Management Coordinator, Radiological Officer, and representatives from the Department of State Health Services (DSHS), Comanche Peak Nuclear Power Plant (CPNPP), and the Sheriff/Chief of Police when making KI decisions for emergency workers.

Criterion 2.c.1: The Hood County Judge was responsible for making Protective Action Decisions; he coordinated with the Emergency Operations Center (EOC) staff as needed. The County Sheriff/Chief of Police were tasked with the primary responsibility to perform evacuation planning for special needs facilities and to dispatch personnel to the necessary locations as needed.

The Hood County EOC had received notification from the Comanche Peak Nuclear Power Plant (CPNPP) of an Unusual Event (NOUE) at 0755 followed by an Alert at 0833, a Site Area Emergency (SAE) at 1008, and the General Emegency (GE) at 1103.

At 1022, the Hood County Judge declared a State of Emergency and the Lake Granbury Medical Center (LGMC) representative initiated his procedures to place the LGMC staff on standby, set-up of the decontamination area, and the necessary preparations for evacuation of the hospital. He simulated contacting the backup hospitals in Hillsboro, Weatherford, and the Dallas/Fort Worth areas, alerted them of the incident, and placed them on standby for medical and/or patient evacuations support.

At 0927, after the SAE notification, the County Judge and Granbury Independent School District (GISD) Superintendent executed early precautionary actions (simulated) for evacuating five (5) schools within the Emergency Planning Zone (EPZ). The schools ranged from kindergarten to 9th grade plus a Behavioral Transition Center for a total estimated number of 2267 students that would be transported to the Cleburne and Stephenville Reception Centers. The Aledo Independent School District was contacted and busses were placed on standby if needed for emergency tranportation. There were two methods used to inform the parents of the school evacuations: (1) signs were posted at the schools with evacuation/relocation information, and (2) the EOC Communications Supervisor was tasked with notification to the parents utilizing the "Code Red Emergency Communications Network" calldown system in Dispatch.

The Hood County Judge conducted EOC Briefing #5 at 1114, and he confirmed the General Emergency (GE). Sectors affected were C, D and E, and zones recommended for evacuation were 2A, 2B, 1A, 2D, 2E, 4A and 1B. The Hood County Judge made the 1st Protective Action Decision, to evacuate the affected zones. After the briefing, the Communications Supervisor proceeded to Dispatch and reviewed the procedures for checking the database and telephone book for special population facilities (nursing homes, daycares, etc.); there were 5-6 facilities but they were not in the affected zones.

At 1119, after notification of the GE, the remaining two GISD schools were evacuated (simulated) using the same process as for the precautionary school evacuations. The schools were a Middle School and High School with an estimated number of 1345 students who would be transported to the Stephenville Reception Center. Additional busses were staged at the Acton Elementary and Oakwood Intermediate schools if needed for emergency evacuations.

The Hood County Judge and EOC staff issued the protective action decisions to evacuate the Special Populations' categories of schools, nursing homes, day cares and hospitals as per the county emergency plans. However, during the exercise, there were no discussions or taskings to check for the Special Populations' categories of the mobility impaired, special needs, hearing impaired and/or transportation dependent individuals living in the affected zones.

Criterion 3.a.1: The Radiological Officer (RO) and two law enforcement officers (a Deputy Sheriff and a Granbury policeman) successfully demonstrated emergency worker (EW) exposure control at the Hood County EOC.

The RO issued each officer an electronic dosimeter and a thermoluminescent dosimeter (TLD). On a form titled "Dosimetry Issue Log," the RO recorded the serial number of each device, the emergency worker's name, social security number, and initial reading. Upon return, the RO recorded the final reading, the date returned, and any dose received.

Prior to the EWs' departure to the field, the RO briefed them about the dosimeters, how to read them, and how to convert the reading to account for any ingestion. He told them to multiply the reading by five to convert to the total effective dose equivalent (TEDE). The dosimeters were programmed to alarm at a reading of 25 mR and 200 mR. They were told to call their supervisor and report if the dosimeter alarm sounded and that their mission limit was 200 mR as read on their dosimeter. The supervisor was

responsible for deciding whether to leave the EW in the field or replace him. The EWs knew how to read their dosimeters and that staying in the field beyond their turnback value was on a voluntary basis.

The RO setup a group dosimeter in the EOC after being notified that there was a release from the plant. He had a timer which he set to alarm every 30 minutes so he could record the reading on a regular basis. He also setup a monitoring point at the entrance of the EOC (the RO explained that the monitoring point would actually be setup at the back door and the front door would be secured) so that anyone entering the building could be monitored. The RO simulated issuing each EW in the EOC a TLD as stated in the procedure.

Criterion 3.d.1: Traffic and access control was coordinated with the Granbury Police Department and the Hood County Sheriff's Department. Traffic access and control points are predefined.

Following the notification at 1007 that non-essential personnel were being evacuated at the Comanche Peak Nuclear Power Plant, the Chief Deputy deployed (simulated) officers to the intersection of Highway 51/56 to monitor traffic flow. At 1048, he had barricades erected at Highway 144 and Contrary Creek southbound.

At 1041 two officers deployed to Squaw Creek to assist in evacuating the park. At 1021 the Police Chief had the barricades relocated from Highway 144 and county line to FM 2425 to direct traffic northbound. Somervell County was directing traffic on the southern part of the evacuation area preventing traffic from going northbound into the affected area.

The evaluation of the traffic and access control point (T/ACP) staff was conducted by interview at the Hood County EOC. A Granbury Policeman and a Deputy Sheriff were being deployed to Squaw Creek Park. The two officers knew their responsibilities at the T/ACP. They understood the purpose and proper use of their dosimetry and what the reporting and turnback values were.

They knew where the reception centers were and knew that they would be directed by their supervisor which one would be open based on wind and plume direction. They had cones for traffic control in their vehicle and could acquire barricades from the Hood County Roads Department if needed.

The two officers had maps of the County showing evacuation routes and reception centers. The officers knew that they needed to go to the Emergency Worker Monitoring and Decontamination Station at the end of their shift and be monitored for possible contamination prior to returning to the EOC.

Criterion 3.d.2: The handling of impediments to evacuation was demonstrated by the injection via a phone call that there was wreck blocking traffic at the intersection of Highway 144 and Highway 67. The Deputy Sheriff had officers reroute the traffic back to Highway 144 North via Highway 200.

During the interview with two law enforcement officers, they indicated that tree removal would be done by the Granbury Voluntary Fire Department. Wrecks would be cleared by calling a local towing service. If the impediment was a bridge being out or highway being flooded, or anything that made the road impassable, traffic would be rerouted until the road could be reopened.

Criterion 5.a.1: The Hood County Emergency Operations Center (EOC) is located at the County Sheriff's Office (SO) in Granbury, TX. The County Judge is responsible for making protective action decisions (PADs) for the Hood County population and the Emergency Management Coordinator (EMC) assists with the EOC operations. The Judge and EMC defined roles and responsibilites, EOC rules, and established clear lines of communication during the initial EOC briefing shortly after the EOC was declared operational at 0854.

The warning system equipment is kept at the SO's Dispatch Center located next door to the EOC. This is a computerized system, Federal Signal, Model SS2000 unit for siren activation that was simulated used twice during the exercise. The backups were the National Warning System (NAWAS) and the Texas Warning System (TEWAS) which are a 24-hour nationwide multiple line telephone warning system, linking federal agencies and states, used to dissimenate civil emergency warnings. Other EAS methods include route alerting. The Dispatch Center was manned by two dispatchers and a Communications Supervisor. A procedures binder and a siren standard operating procedure (SOP) were also available for use in activating the sirens.

The County Judge made protective action decisons (PADs) and directed the Public Information Officer (PIO) to prepare the initial Emergency Alert System (EAS) message and the Emergency Management Coordinator (EMC) to sound the sirens. The EMC coordinated with the Communications Supervisor who re-confirmed the information with

the Somervell County EOC Judge and then activated the sirens (simulated) for both counties. The County Judge approved and signed the EAS message which was faxed to the WBAP Radio Station. The station called and confirmed receipt with the EOC PIO and conducted the broadcast.

Hood County has a staff of two PIOs; one is assigned to the EOC and the other is at the Joint Information Center (JIC). The EOC PIO used his procedures binder which included prescripted messages designed to expedite approval and release of messages. The selected prescripted message included specific information meeting the Federal Emergency Management Agency's (FEMA's) EAS message requirements. The messages are selected based on the event(s) and are given to the County Judge for review, approval, and signature.

Shortly after the EOC was declared operational, the County Judge and staff made a precautionary action decision to evacuate schools. The PIO had reviewed the prescripted messages and selected H-1 in preparation for releasing the initial EAS message which was approved at 1011; issued at 1020 with sirens activation (simulated) for both counties at 1032. WBAP Radio Station simulated the EAS broadcast at 1038. At 1113 the 2nd PAD was made, supplemental message (H-6) was approved at 1119, followed by the siren activation (simulated) for both counties at 1120 with the simulated special news broadcast at 1129.

During the 2nd siren activation, the Communications Supervisor noticed that the system was not responding accordingly and indicated potential failure of the siren activation. Immediately she reviewed the procedures binder and terminated the process. She re-activated the sirens (simulated) and was successful in sounding the sirens for both counties within seven minutes of receiving the task.

The PADs, siren activation, EAS messages, and transmission to the radio station were conducted in a timely and efficient manner.

Criterion 5.b.1: The Hood County Judge was responsible for overall operation of the Emergency Operations Center (EOC). EOC operations required a coordinated team effort of the staff which was evident in the actions taken during the exercise.

The Hood County EOC staff made an Early Precautionary Decision to evacuate five (5) Granbury Independent School District (GISD) schools located in the Emergency Planning Zone (EPZ) prior to the Site Area Emergency (SAE) classification. The

remaining GISD schools in the EPZ were evacuated at the General Emergency.

At 1008 the SAE classification was received at the EOC and the 1st Protective Action Decision (PAD) was made at 1020. The initial Emergency Alert System message was reviewed, approved and signed by the County Judge and faxed to the WBAP Radio Station and broadcast at 1038. At 1113, the 2nd PAD was made and the supplemental message was released (using the same process as before) as a special news broadcast at 1129. There were no delays in making decisions and releasing the EAS and supplemental messages to the public.

The following was the information included in the prescripted messages (H-1 & H-6) released from Hood County EOC:

- Emergency alert classification, site and plant status.
- Reminder of the Emergency Information Section in the local telephone.
- Detailed instructions on what public should take with them when evacuating, how to secure homes and personal safety.
- Information on care for pets.
- Evacuation zones and detailed evacuation routes.
- Reception center locations.
- Public information/inquiry telephone number.
- Hood and Somervell County telephone numbers for anyone needing special assistance and/or transportation.

There were no messages released from the Hood County EOC informing the parents of the school evacuations at the Early Precautionary Decision and the General Emergency.

At 1315, the exercise was terminated.

In summary, the status of DHS/FEMA criteria for this location is as follows:

a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 3.a.1, 3.d.1, 3.d.2, 5.a.1.
b. AREAS REQUIRING CORRECTIVE ACTION: 5.b.1.

ISSUE NO.: 14-07-5b1-A-01

ISSUE: OROs provide accurate emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654, E.5., 7.,

G.3.a, G.4.a.b.c)

CONDITION: The Hood County Emergency Operations Center (EOC) did not release any messages informing the parents of the Granbury Independent School District (GISD) school evacuations at the Early Precautionary Decision and General Emergency. Hood County was designated to release the EAS message which was intended to contain information about both counties. No reference or specific information on Somervell County was contained in the EAS message.

POSSIBLE CAUSE: There was a failure to follow the plan. EOC staff failed to communicate critical information to the public and/or parents about the precautionary evacuations of the GISD schools and the General Emergency evacuations utilizing the "Special News Advisory – School & Public Facilities" pre-scripted message contained in the Hood County Plan, Annex A.

REFERENCE: NUREG-0654, E.5, 7; Memorandum from Kay C. Goss to Regional Directors, I-X, dated 2/2/99, on "Guidance for Providing Emergency Information and Instructions to the Public for Radiological Emergencies Using the New Emergency Alert System (EAS);" Emergency Plan for Hood County dated March 2003, Annexes A and I.

EFFECT: Possible confusion, additional traffic flow and overloaded telephone circuits could have been caused due to parents and/or caregivers trying to pick-up students at evacuated schools instead of meeting them at the reception centers.

RECOMMENDATION: Review training and procedures to ensure that the EOC staff address all actions required when Precautionary Action Decisions and Protective Action Decisions are made. Update plan pre-scripted messages to reference both Hood and Somervell County and related information when one county is designated to release messages to the public.

c. DEFICIENCY: 2.c.1.

ISSUE NO.: 14-07-2c1-D-02

ISSUE: PADs are made, as appropriate, for special population groups

CONDITION: The Hood County Emergency Operations Center (EOC) staff failed to identify mobility impaired, special needs, hearing impaired and/or transportation dependent individuals living in the recommended evacuated zones when the protective action decisions were made. A post-exercise review of the Special Assistance File found that there were special needs individuals living in the recommended evacuated zones that would have required assistance in evacuating.

POSSIBLE CAUSE: Failure to follow procedures. Both the Hood County Annex W and the Hood County Emergency Management Plan have procedures to assist with Special Populations (individuals and facilities).

REFERENCE: NUREG-0654, J.9; J.10.d. The Hood County Annex W, Tab C, Appendix 3, Section III.B.4 & 5 and Attachment G state that the Sheriff/Chief of Police are tasked to (1) "REVIEW THE SPECIAL ASSISTANCE FILE and prepare to dispatch personnel to the necessary locations." and (2) Attachment G, Section V, D: The Sheriff or a designated staff member will refer to the Special Assistance File kept in the Sheriff's office to determine whether any member of the community may need special attention.

EFFECT: Failure to identify and initiate response for special needs individuals residing in the evacuated zones resulted in an inadequacy to provide reasonable assurance that the appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public.

RECOMMENDATION: Review training and procedures to ensure that the EOC staff addresses the requirements of individuals with special needs during an emergency. Update and maintain the Special Assistance File.

d. NOT DEMONSTRATED: None
e. PRIOR ISSUES - RESOLVED: None
f. PRIOR ISSUES - UNRESOLVED: None