



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV

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December 3, 2001

Mr. C. L. Terry
TXU Electric
Senior Vice President & Principal Nuclear Officer
ATTN: Regulatory Affairs Department
P.O. Box 1002
Glen Rose, Texas 76043

SUBJECT: FEDERAL EMERGENCY MANAGEMENT AGENCY'S REPORT

Dear Mr. Terry:

Enclosed is a copy of the Federal Emergency Management Agency's (FEMA) exercise evaluation report of the August 22, 2001, emergency preparedness exercise at the Comanche Peak Steam Electric Station.

The report indicates that FEMA observed no deficiencies or areas requiring corrective action during the exercise.

The purpose of this letter is to transmit to you the results of the FEMA evaluation of the emergency exercise. No response to the NRC is required.

If you have any further questions, please contact Paul J. Elkmann at (817) 276-6539.

Sincerely,

A handwritten signature in cursive script that reads "Gail M. Good".

Gail M. Good, Chief
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Dockets: 50-445, 50-446
Licenses: NPF-87, NPF-89

Enclosure:
As stated

TXU Electric

-2-

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Final Exercise Report

Nuclear Power Plant: Comanche Peak Steam Electric Station

Licensee: *TXU*

Exercise Date: *August 22, 2001*

Report Date: *November 20, 2001*

***FEDERAL EMERGENCY MANAGEMENT AGENCY
REGION VI
800 North Loop 288 Denton, Texas 76209-3606***

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I. EXECUTIVE SUMMARY

On August 22, 2001, a biennial Radiological Emergency Preparedness (REP) exercise was conducted in the Plume Exposure Pathway emergency planning zone (EPZ) around the Comanche Peak Steam Electric Station (CPSES), Glen Rose, Texas. The Federal Emergency Management Agency (FEMA) Region VI evaluated the exercise. The purpose was to assess the level of preparedness of State and local responders to react to a simulated radiological emergency at the CPSES. It was held in accordance with FEMA's policies and guidance concerning the implementation of State and local radiological emergency preparedness plans and procedures.

The final qualifying exercise to satisfy FEMA Rule 44 CFR 350 requirements for NRC licensing to operate the facility was conducted in July 1989. Including the exercise on August 22, 2001, there have been seven FEMA evaluated exercises plus several drills conducted since that time.

FEMA Region VI wishes to acknowledge the dedicated participation of many individuals in the State of Texas and Somervell and Hood Counties. Some of these participants are paid civil servants whose full-time job is to protect the health and safety of the public within the jurisdictions they serve. Many more are volunteers who make themselves available to perform a service to the community in which they live. Their participation is particularly noteworthy.

This report contains the written assessment of the biennial exercise including the identification of any exercise issues and recommendations for corrective action where appropriate.

All State and local organizations, except where noted in this report, demonstrated an adequate knowledge of the emergency plans and procedures and properly implemented them. There were no Deficiencies and no Areas Requiring Corrective Action (ARCA) identified during this exercise.

II. INTRODUCTION

On December 7, 1979, the President directed FEMA to assume the lead responsibility for all off-site nuclear power facility planning and response. The FEMA activities are conducted pursuant to 44 Code of Federal Regulations (CFR) 350, 351 and 352. These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Station accident in March 1979.

FEMA Rule 44 CFR 350 establishes the policies and procedures for FEMA's initial and continued approval of State and local government radiological emergency planning and preparedness for commercial nuclear power plants. This approval is contingent, in part, on State and local governments' participation in joint exercises with licensees.

FEMA's responsibilities in Fixed Nuclear Facility Radiological Emergency Response Planning include:

- Taking the lead in off-site emergency response planning and in the review and evaluation of State and local government emergency plans, ensuring that the plans meet the Federal criteria set forth in NUREG-0654/FEMA REP-1, Rev.1 (November 1980).
- Determining whether the State and local emergency response plans can be implemented on the basis of observation and evaluation of an exercise conducted by the appropriate emergency response jurisdictions.
- Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA dated June 17, 1993 (Federal Register, Vol. 58, No. 176, September 14, 1993); and
- Coordinating the activities of volunteer organizations and other involved Federal agencies. Representatives of these agencies, listed below, serve as members of the Regional Assistance Committee (RAC), which is chaired by FEMA.
 - U.S. Nuclear Regulatory Commission (NRC)
 - U.S. Environmental Protection Agency (EPA)
 - U.S. Department of Energy (DOE)
 - U.S. Department of Health and Human Services (DHHS)
 - U.S. Department of Transportation (DOT)

- U.S. Department of Agriculture (USDA)
- U.S. Department of Interior (DOI)
- U.S. Food and Drug Administration (FDA)

The findings presented in this report are based on the Federal evaluation team's assessment of the participants' response to a simulated radiological incident at the Comanche Peak plant that affected the off-site population. The Region VI RAC Chairman made the final classification of any issues identified and the Regional Director approved the report.

The criteria used in the evaluation process are contained in:

- NUREG-0654, FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (November 1980);
- FEMA-REP-14, "Radiological Emergency Preparedness Exercise Manual" (September 1991); and
- FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology (EEM)" (September 1991).

Section III of this report entitled "Exercise Overview" presents basic information and data relevant to the exercise. This section contains a description of the emergency planning zone, a listing of all participating jurisdictions, which were evaluated, and a tabular presentation of the times of actual occurrence of key exercise events and activities.

Section IV of this report, entitled "Exercise Evaluation and Results," presents basic information on the demonstration of applicable exercise objectives at each jurisdiction or functional entity in a jurisdiction-based format. This section also contains descriptions of all Deficiencies and ARCAs assessed during the exercise and recommended corrective actions, as well as descriptions of ARCAs assessed during previous exercises and the current status of each.

III. EXERCISE OVERVIEW

This section contains data and basic information relevant to the August 22, 2001, exercise to test the off-site response capabilities in the area surrounding the CPSES. This section of the report includes a description of the EPZ, a listing of all participating jurisdictions, which were evaluated, and a tabular presentation of the times of actual occurrence of key exercise events and activities.

A. Plume Emergency Planning Zone Description

The area within 10 miles of CPSES is located in the State of Texas within the confines of Hood and Somervell Counties. This area is referred to as the EPZ. Incorporated cities in Hood County within the EPZ include Granbury, located 9.9 miles north of CPSES, and Tolar, located 9.9 miles northwest of CPSES. The only incorporated city in Somervell County is Glen Rose, located 5.0 miles south of CPSES. The rest of the EPZ consists of unincorporated farmland, rural housing developments and recreation areas.

Based on the 1990 census, the total population of the EPZ is 18,046 with the cities of Granbury, Tolar and Glen Rose accounting for 7,549.

The Santa Fe east-west railroad crosses the extreme northwestern portion of the EPZ through the cities of Tolar and Granbury. A spur of that railroad serves CPSES and crosses the northwest quadrant of the EPZ from Tolar to CPSES. Major highways within the EPZ are US 377, running east to west through Granbury and Tolar; US 67, running east to west through Glen Rose; and State Highway 144, running north to south from Granbury through Glen Rose to the southernmost point in the EPZ.

Public institutions, aside from schools and churches within the EPZ, include two hospitals, an amphitheater, an Expo Center, and Dinosaur Valley State Park.

The EPZ is divided into 30 zones for the purpose of emergency response planning and implementation of protective actions.

B. Exercise Participants

Agencies and organizations of the following jurisdictions participated in the CPSES exercise at the locations indicated:

State of Texas

Texas Bureau of Radiation Control (BRC)
Texas Department of Public Safety, Disaster District 6A

Risk Jurisdictions

Somervell County
Hood County

Support Jurisdictions and Organizations

Radio Station WBAP

C. Exercise Timeline

Table 1 on the following page presents the times at which key events and activities occurred, or were noted, during the Comanche Peak exercise held on August 22, 2001.

DATE AND SITE: August 22, 2001

TABLE I. EXERCISE TIMELINE
Comanche Peak Steam Electric Station

Emergency Classification Level or Event	Time Declared By Utility	Time That Notification Was Received or Action Was Taken						
		TX STATE EOC	DISASTER DISTRICT 6A WACO	BRC at CPSES EOC	NEWS CENTER	SOMERVELL CO. EOC	HOOD CO. EOC	EAS STATION WBAP
Unusual Event	N/A	Actual Credit	N/A	N/A	N/A	N/A	N/A	N/A
Alert	8:05 a.m.	No Evaluation	8:19 a.m.	8:57 a.m.	8:57 a.m.	8:18 a.m.	8:20 a.m.	
Site Area Emergency	9:34 a.m.		9:45 a.m.	9:34 a.m.	9:44 a.m.	9:41 a.m.	9:44 a.m.	
General Emergency	10:19 a.m.		10:29 a.m.	10:19 a.m.	10:19 a.m.	10:25 a.m.	10:29 a.m.	
Simulated Rad. Release Started	SAE # 5 9:39 a.m.		10:11 a.m.	10:06 a.m.	10:06 a.m.	10:13 a.m.	10:08 a.m.	
Simulated Rad. Release Terminated	1:16 p.m.		1:16 p.m.		1:16 p.m.		1:16 p.m.	
Facility Declared Operational			8:35 a.m.	9:30 a.m. at EOF	8:47 a.m. at R/C	9:02 a.m.	9:01 a.m.	
Declaration of State of Emergency			N/A	N/A	N/A	9:58 a.m.	9:47 a.m.	
Exercise Terminated			1:30 p.m.	1:30 p.m.	1:30 p.m.	1:31 p.m.	1:34 p.m.	
Early Precautionary Actions: Park/School evacuations						8:45 a.m.	9:40 a.m.	
1st Protective Action Decision Shelter: Evacuate: 2A						10:26 a.m.	10:26 a.m.	
1st Siren Activation						10:29 a.m.	By Somervell	
1st EAS Message						10:29 a.m.	By Somervell	10:31 a.m.
2nd Protective Action Decision Evacuate: 2A,1C,1D,2G,4E,4A, 4E,1B,1A,Granbury,2B						10:47 a.m.	10:47 a.m.	
2nd Siren Activation						By Hood	10:49 a.m.	
2nd EAS Message						By Hood	10:51 a.m.	10:51 a.m.
KI Administration Decision:				10:40 a.m.		11:20 a.m.	11:32 a.m.	

IV. 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 22, 2001, exercise to test the off-site emergency response capabilities of State and local governments in the 10-mile EPZ surrounding the Comanche Peak Steam Electric Station.

Each jurisdiction and functional entity was evaluated on its demonstration of criteria contained in exercise objectives delineated in FEMA-REP-14, Radiological Emergency Preparedness Exercise Manual, dated September 1991. Detailed information on the exercise objectives and the extent-of-play agreement for this exercise is in Appendix 3 of this report.

A. Summary Results of Exercise Evaluation

The matrix presented in Table 2 on the following page presents the status of all exercise objectives from FEMA-REP-14, which were scheduled for demonstration during this exercise at all participating jurisdictions and functional entities. Exercise objectives are listed by number and the demonstration status of those objectives is 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)
- AE - Credit for Actual Event

TABLE 2. SUMMARY OF EXERCISE RESULTS

DATE AND SITE: August 22, 2001, COMANCHE PEAK

JURISDICTIONAL OR FUNCTIONAL ENTITY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
STATE OF TEXAS:																														
State Emergency Operations Center	A	A	A	A																										
Disaster District 6A EOC	E	E	E	E																										
BRC at CPSES EOF	M	M	M	M																										
BRC Staging Area & Field Radiological Monitoring Teams (2)	M			M	M	M		M																						
News Center/Rumor Control	M	M		M									M	M																
RISK JURISDICTIONS:																														
Somervell County -																														
Emergency Operations Center	M	M	M	M	M					M	M	M				M														
Traffic/Access Control Point	M			M	M													M												
School Bus Drill	M			M	M											M														
Hood County -																														
Emergency Operations Center	M	M	M	M	M					M	M	M				M														
Traffic/Access Control Point	M			M	M													M												
SUPPORT ORGANIZATIONS:																														
N/A																														

LEGEND: M = Met (No Deficiencies or ARCA's Assessed)
 D = Deficiency Assessed

A = ARCA Assessed
 N = Not Demonstrated

AE = Credit for Actual Event

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B. Status of Jurisdictions Evaluated

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

- **Met** - Listing of the demonstrated exercise objectives under which no Deficiencies or ARCAs were assessed during this exercise and under which no ARCAs assessed during prior exercises remain unresolved.
- **Deficiency** - Listing of the demonstrated exercise objectives under which a Deficiency was assessed during this exercise. Included is a description of each Deficiency and recommended corrective actions.
- **Areas Requiring Corrective Action** - Listing of the demonstrated exercise objectives under which one or more ARCAs were assessed during the current exercise or ARCAs assessed during prior exercises that 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 objectives 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, which were resolved in this exercise and the corrective actions demonstrated.
- **Prior Issues - Unresolved** - Description of ARCAs assessed during prior exercises, which were not resolved during this exercise. Included is the reason the ARCAs remain unresolved and recommended corrective action to be demonstrated before or during the next biennial exercise.

The following are definitions of exercise issues, which are discussed in this report.

- A **Deficiency** is defined in FEMA-REP-14 as "an observed or identified inadequacy of organizational performance in an exercise that could cause a finding that off-site 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 FEMA-REP-14 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.
- **Objective Number** – A two-digit number corresponding to the objective numbers in FEMA-REP-14.
- **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.

1. STATE OF TEXAS

1.1 STATE EMERGENCY OPERATIONS CENTER, AUSTIN

The State Emergency Operations Center (EOC) minimally supported the Comanche Peak Steam Electric Station (CPSES) exercise. On July 10, 2001, FEMA Headquarters granted exercise credit to the State as a result of activities performed at the State EOC due to an actual occurrence, Tropical Storm Allison.

In summary, the status of FEMA exercise objectives for this location is as follows:

- a. **MET:** Objectives 1, 2, 3, 4, and 23.
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ISSUES:** NONE
- f. **PRIOR ISSUES RESOLVED:** NONE
- g. **PRIOR ISSUES – UNRESOLVED:** NONE

1.2 DISASTER DISTRICT 6A - EOC

The State Disaster District 6A Emergency Operating Center (EOC) is located in the Department of Public Safety (DPS) building at 1617 East Crest Drive, Lacy-Lakeview, Texas. The EOC is an excellent facility, with more than adequate space, furnishings, lighting, and ventilation. A natural gas powered 100kw/347 amp generator provides backup power for critical operation areas. Access to the facility is controlled by a double-redundant security system, with an intercom and closed circuit TV at the rear entrance. A receptionist controls access through a locked door at the front entrance during normal duty hours. The DPS Dispatch Center is staffed 24-hours per day.

A large training/conference room doubles as the EOC. Displays included a 10-mile EPZ map with the evacuation zones designated, a status board and an action log. Highway maps were also available to indicate evacuation routes, relocation centers, and monitoring points. Posting of these displays was adequate overall, although slow at the beginning. This was attributable in part to delays in receiving the messages with the appropriate information. A consolidated status board that lists all items in chronological order would be easier to manage. The use of brighter colored markers or overlays would provide clearer designations on the 10-mile EPZ map.

Communications available included three hard-wired telephones, two portable telephones, numerous cell phones, a fax machine, computers, dedicated lines to the plant, TLETS, and redundant radio systems. This equipment is adequate to meet the needs of the Disaster District Committee in managing an emergency response. Additional telephone lines had been installed but were lost during a recent renovation project. A telephone system upgrade is underway, which will hopefully permit an increase in the number of lines available. There were no communication failures or delays.

Alert, mobilization, and staffing of the EOC were completed in a timely manner. Following the receipt of the **ALERT** message at 8:19 a.m., dispatchers accomplished the initial notification in a very professional manner. Current personnel rosters were used to notify the command staff via telephone. Notifications were complete and the EOC was operational by 8:35 a.m. The **SITE AREA EMERGENCY (SAE)** message was received at 9:45 a.m., and the Commander activated the complete Disaster Committee and requested that they report to the EOC. The **GENERAL EMERGENCY (GE)** message was received at 10:29 a.m. and indicated that a sustained release had begun at 10:19 a.m.

The Acting Disaster District Committee Chairman carried out his designated responsibilities in a timely and professional manner. Direction and control of the situation and the committee of 19 members was excellent. Frequent briefings and status

updates were held to keep the entire EOC staff current on the ever-changing emergency situation.

Coordination with many other jurisdictions was accomplished to obtain a variety of supplementary assistance. No specific request for Federal assistance was received.

Per the extent-of-play agreement, the shift change was accomplished through a roster only. Each committee member provided the name and contact number for the second shift relief member. The Chairman gave a thorough shift-change briefing as though there was an actual shift change.

In summary, the status of FEMA objectives for this location is as follows:

- a. **MET:** Objectives 1, 2, 3, 4, 23, and 30.
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ISSUES:** NONE
- f. **PRIOR ISSUES - RESOLVED:** NONE
- g. **PRIOR ISSUES - UNRESOLVED:** NONE

1.3 BRC AT CPSES EMERGENCY OPERATIONS FACILITY

The Texas Department of Health, Bureau of Radiation Control (BRC) Emergency Response Team was pre-positioned in the Granbury area in accordance with the exercise extent-of-play agreement. The team members began arriving at the Staging Area (Hood County Courthouse Annex) at 8:00 a.m. Upon arrival, the Chief of Field Operations (CFO) instructed staff to sign-in and obtain their emergency worker dosimetry. Staff were instructed to check their equipment to verify operability. The BRC Emergency Operations Facility (EOF) staff all received two direct-reading dosimeters (0-200mR and 0-20R), a thermoluminescent dosimeter (TLD) and simulated potassium iodide (KI). KI would not be ingested unless advised by the CFO or a direct supervisor. The serial numbers of the dosimetry were recorded along with the staff person's name. All direct-reading dosimeters (DRD) were zeroed during the distribution process. The staff was instructed to read their dosimeters at approximately 30-minute intervals.

The CFO received notification of the **ALERT** declaration via a phone call at 8:57 a.m. from the BRC staff in Austin. This initial call indicated that an **ALERT** had been declared at 8:05 a.m. There was some initial confusion when the projection on the screen was identified as information for the South Texas Project Electric Generating Station. The CFO called back to her main office in Austin and learned that both nuclear facilities in the State were exercising on the same day. She received the correct information for CPSES and continued to brief the participants without any further delay.

The CFO dispatched an initial BRC team to the EOF at 9:05 a.m. This team included Licensee Liaisons, an Accident Assessment Team member, Public Information Team members, and an Administrative Support Team member. They left the Staging Area at 9:09 a.m. and arrived at the EOF at 9:29 a.m. The CFO also dispatched BRC liaisons to the two EPZ County EOCs at this time. Dose assessment staff and the Field Monitoring Team Leader (FMTL) reviewed the meteorological data and assigned pre-selected sampling locations to each of the four Field Monitoring Teams (FMTs). After receiving their initial assigned locations, the FMTs were dispatched. The CFO directed the BRC Public Information Team to deploy to the News Center at approximately 9:05 a.m. As the plant conditions continued to deteriorate, the CFO received information from the initial EOF Response Team and from the BRC staff in Austin. After receiving notification of the **SAE** declaration, the remaining BRC EOF staff deployed, leaving the Staging Area at 9:34 a.m. The CFO and remaining staff arrived in the EOF at 10:09 a.m.

The EOF was located within the utility-controlled property. The EOF has additional shielding that may be placed over the door if required. In the event of power loss, the EOF would have limited lighting by battery-powered emergency lights. The EOF could relocate to the alternate site in Cleburne if necessary. The space allotted to the BRC was adequate to allow for emergency response functions. The BRC staff had a sufficient

number of single line telephones, a dedicated fax machine, and a computer for dose calculations. The necessary maps, displays and status boards were available and used. Status boards were updated throughout the incident. In addition to the equipment in the BRC work area, staff had access to copiers and other fax machines in the EOF. The staff had access to portable computers and cellular phones.

The BRC staff assigned to the field response for the CPSES incident were under the direction and control of the CFO. The CFO received briefings from the utility and the initial BRC EOF team. She made effective use of her staff throughout the incident. The CFO or her staff coordinated activities with the local EOCs. As conditions warranted, she involved staff in necessary decisions. The CFO and her staff maintained good coordination with members of the utility staff in the EOF.

The BRC staff relied on commercial telephones as their primary communication system. Contact with the FMTs was via radio. Cellular phones were available and other radio frequencies could have been used. There was a minor communication problem with a FMT. Another team in the area was contacted who relayed the message, solving the problem.

The BRC staff assigned to the EOF demonstrated the capability to continuously monitor and control radiation exposure. As previously stated, the staff were issued dosimetry and completed exposure record forms at the BRC Staging Area. The BRC staff that was interviewed indicated that the proper interval for reading the DRDs was every 30 minutes until such time that utility personnel confirmed the habitability of the EOF. When the advance party arrived at the EOF at 9:29 a.m., the habitability of the EOF was established, and no further DRD readings were necessary. The individuals who were interviewed were knowledgeable of exposure limits and knew that the CFO was the only individual who could authorize exposures in excess of the reporting limits. A Health Physics Technician from CPSES radiologically surveyed the EOF during the exercise, and radiation levels in the EOF never exceeded background levels.

The BRC staff assigned to the EOF were issued fact sheets for potassium iodide (KI) at the BRC Staging Area. All BRC personnel received the simulated instruction sheet, which provided information on dosage and potential side effects. At 10:38 a.m., the BRC EOF, based on dose calculations between the State and utility, recommended that emergency workers in the field take KI. At 10:40 a.m., the FMTL instructed the field teams to take KI.

The capability to develop dose projections and protective action recommendations was demonstrated by BRC dose assessment personnel. When the advance party arrived at the EOF at 9:29 a.m., they immediately set up the State section of the EOF. The Dose Assessor met with utility Dose Assessors to discuss plant and utility field monitoring team status. The dose projections, prepared by use of the computer program

STAMPEDE (South Texas Assessment Model Projection Estimate Dose Evaluation), were all completed timely in terms of changes in plant conditions or receipt of field monitoring data. This computer program is used at both nuclear facilities in the State. No backup method was demonstrated, but when the Dose Assessor was interviewed, he mentioned he would use his handheld calculator and forms provided in the plan if necessary.

At 10:09 a.m., the CFO and remaining members arrived at the EOF. The GE was declared at 10:19 a.m. The CFO and the BRC Dose Assessor reviewed and concurred with the utility-generated PARs. The first utility PAR issued with Notification Message #6, recommending evacuation of zone 2A (the area surrounding the plant), received concurrence from the CFO. The second PAR (Message #7), to evacuate zones 2A, 1C, 1D, 2G, 4E, Granbury, 4A, 4B, 1B, and 1A was made at 10:43 a.m. All of the PARs were driven by plant or field monitoring status, and both the State and utility concurred with the recommendations.

The BRC FMTL, arriving at the EOF with the CFO and remaining team members, quickly established communications with the field teams. The teams were deployed to locations where the plume edges could be located (monitoring points #6 and #7) and air samples collected following announcement of the sustained release at 10:22 a.m. The teams were identified on a map located close to the FMTL. The utility field monitoring teams were denoted by a yellow dot. The Traffic/Access Control Points were immediately authorized. No loss of communications occurred.

The capability to maintain staffing on a continuous 24-hour basis was demonstrated at the EOF. As per the extent-of-play agreement, the following individuals performed their shift change: FMTL at 11:31 a.m., the License Liaison at 11:38 a.m., the CFO at 11:44 a.m., and the Dose Assessor at 11:52 a.m. All individuals knew the time it would take to have their replacements arrive from Austin (approximately four hours) and would brief them when they arrived before relinquishing their roles.

In summary, the status of FEMA exercise objectives for this location is as follows:

- a. **MET:** Objectives 1, 2, 3, 4, 5, 7 and 30.
- b. **DEFICIENCY:** NONE
- c. **AREA REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ISSUES:** NONE

f. PRIOR ISSUES RESOLVED: NONE

g. PRIOR ISSUES - UNRESOLVED: NONE

1.4 FIELD RADIOLOGICAL MONITORING TEAM #2

The Texas Bureau of Radiation Control deployed four Field Monitoring Teams for the exercise on August 22, 2001. Only Team #2 and Team #3 were evaluated.

FMT #2 was comprised of two members, a Texas State Department of Public Safety (DPS) License and Weight Trooper and a Health Physics (HP) Technician from the BRC. The teams mobilized at and deployed from the BRC Staging Area at the Hood County Courthouse Annex, 400 N. Clinton Road, Granbury, Texas.

Upon arrival at the BRC Staging Area, the team inventoried all their equipment and supplies using a printed checklist. Additional instruments and supplies were available at the Staging Area, if needed. Operability checks were performed on the air sampling equipment, survey instrument and probes. The team was prepared and ready for field deployment by 8:15 a.m. The DPS Trooper drove the vehicle, operated the radio communications and assisted the BRC HP with the sampling/monitoring operations.

The capability to communicate with all appropriate emergency personnel was demonstrated by FMT #2. The DPS radio system in the team vehicle was used to provide all communication with the FMTL at the CPSES EOF. A cellular telephone was available as the backup system. All communication systems were tested and found to be functional before FMT #2 departed the Staging Area. The radio worked sufficiently throughout the exercise with no losses in communication.

The ability to continuously monitor and control radiation exposure to emergency workers was successfully demonstrated by FMT #2. Team members were issued dosimetry equipment at the Staging Area. Each individual received a TLD, a CDV-138 and CDV-730 (0-200 mR low range; 0-20 R high range) DRDs, a record card, potassium iodide (KI) tablets and instructions. DRDs were initially zeroed and numbers were recorded prior to departing from the Staging Area. Each DRD had been checked for electrical leakage, according to timeframes stated in the plan. DRDs were read at appropriate intervals, and records were maintained on DRD readings. The team members were briefed on dose limits and were provided with instructions regarding dose limits printed on a sticker attached to their pre-designated monitoring point map. The team members were aware that the turn-back rate was 100 mR/hr. Simulated KI was issued to field team members but this team did not hear the recommendation to ingest KI. Team members knew that dosimetry was to be returned to the dosimetry station at the Staging Area at the end of the shift.

The appropriate use of equipment and procedures for determining field radiation measurements was demonstrated. After receiving the **ALERT** notification at the BRC Staging Area based on current and anticipated plant conditions and the meteorological data, field teams were pre-assigned their first sampling location at 9:05 a.m. Prior to

dispatch, the Field Team Coordinator reminded team members of the current plant conditions, meteorological information, monitoring procedures, exposure control information, and communication protocol. FMT #2 left the Staging Area for Monitoring Point #5 at 9:25 a.m. They arrived at the bend in Pear Orchard Road (Monitoring Point #5) at 9:42 a.m. and performed ambient monitoring. They reported a background reading to the FMTL and were instructed to remain at Monitoring Point #5 for further instructions. FMT #2 continued to perform radiation monitoring at a number of different locations that were assigned by the FMTL. FMT #2 used detailed maps with predetermined monitoring locations and arrived at each monitoring point without excessive delay. At each location, FMT #2 performed open- and closed-window measurements at waist and ground level. The locations along with the measurement data were recorded on log sheets and promptly reported to the FMTL.

At 10:40 a.m., the FMTL instructed FMT #2 to proceed down Highway 144 (South) until the survey meter read 2 mR/hr. At 10:45 a.m., FMT #2 stopped on Highway 144 at Coates Road and immediately took an ambient measurement and reported to the FMTL the values of 2.27 mR/hr closed and 4.59 mR/hr opened. The team was instructed to draw an air sample at this location. Air sampling was conducted using a RADeCO air sampler powered through a voltage inverter by the DPS vehicle's electrical system. Air flow was adjusted to 2 cubic feet per minute (cfm), and a volume of 10 cubic feet was taken. The air sample was started at 10:52 a.m. and completed at 10:57 a.m. (5 minutes). The team used appropriate procedures to collect, bag, and label the sample while paying close attention to contamination control. The team relocated to an area of background radiation to prepare the sample media for transfer. At 11:06 a.m., FMT #2 arrived at Highway 144 and Williamson Road and turned the sample over to the courier for transport to the laboratory using their approved chain-of-custody documentation.

During all of the described operations, FMT #2 demonstrated a high degree of training, awareness of procedures and worked effectively together. Appropriate instruments, equipment, and supplies were available and properly utilized.

The observed relevant functions and activities overall were implemented by the team in a manner consistent with emergency plan and procedures, as modified by pre-exercise agreements.

In summary, the status of FEMA exercise objectives for this location is as follows:

- a. **MET:** Objectives 1, 4, 5, 6 and 8.
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTIONS:** NONE

- d. **ISSUES: NONE**
- e. **NOT DEMONSTRATED: NONE**
- f. **PRIOR ISSUES - RESOLVED: NONE**
- g. **PRIOR ISSUES - UNRESOLVED: NONE**

1.5 FIELD RADIOLOGICAL MONITORING TEAM #3

In accordance with the pre-exercise agreement, FMT #3 personnel were pre-positioned at the BRC Staging Area. The Staging Area is located in the Hood County Courthouse Annex. The FMT consisted of an HP Technician from the BRC and a Texas DPS License and Weight Trooper. The staff reported to the Staging Area at the designated time.

FMT #3 demonstrated the ability to communicate with all appropriate locations via the DPS vehicle radio. The DPS radio was a 32-channel digital unit that included the BRC frequency in addition to the normal public safety frequencies. The primary frequency used by the FMT was the BRC frequency. Another communications path would have been through the DPS dispatchers with a relay to the BRC facilities. A backup cellular phone was available if needed. Additional hand-held radios on the BRC frequency were available at the Staging Area as an additional backup capability. FMT#3 conducted a radio check prior to being deployed from the Staging Area and again just after being deployed. The primary BRC frequency operated throughout the exercise; however, on several occasions, the transmissions were somewhat weak. No significant information exchange delays were encountered due to communications systems.

FMT #3 demonstrated the ability to monitor and control exposure to emergency workers. After arriving at the BRC Staging Area, the FMT members received dosimeters that included a TLD and two DRDs. The DRDs had ranges of 0-200 mR and 0-20 R. Serial numbers of all dosimeters were recorded. The DRDs, which had been leak tested on August 16, 2001, were zeroed and the initial readings recorded. The FMT members read their DRDs at approximately 30-minute intervals and positive readings were reported to the FMTL. The team members were aware of the shift, daily and incident administrative dose limits and the DRD correction factor to convert DRD readings to TEDE dose.

FMT #3 demonstrated the appropriate use of equipment and procedures for determining field radiation measurements. The HP technician on the team carefully inventoried all field instrumentation while at the BRC Staging Area. The monitoring instrument used was a Ludlum 14C with several replaceable probes. The three probes used were a GM side-window probe, a NaI scintillation probe, and a thin-window GM pancake probe. The count rate meter had a calibration sticker that indicated that the instrument had been calibrated within the last 12 months. Batteries were checked and the operability of all three probes was checked with a low level Cs-137 check source. Background readings were determined before being deployed from the Staging Area. The team had a map of the 10-mile EPZ that included the pre-selected sampling locations. As soon as the CFO received notification that a release was in progress, all four FMTs were deployed. Prior to leaving the Staging Area, the teams were briefed on the conditions at the plant, the meteorological conditions, and directions to take to avoid crossing the projected plume

trajectory. FMT #3 was directed to monitoring point #46 and the team departed from the Staging Area at 9:20 a.m. The team was redirected to monitoring point #4 at 10:29 a.m. The team was asked to move east to the intersection of Contrary Creek and Williamson. Positive ambient radiation measurements were made with the side-window GM probe. Both open- and closed-window measurements were made. The team reported their reading to the FMTL via the BRC frequency on the DPS radio. The team was directed to proceed east until a closed-window reading of 2 mR/hr was encountered. The team proceeded about 0.5 miles east where the specified exposure rate was detected. The team notified the FMTL of all readings within minutes of making the measurements.

FMT #3 had the sampling equipment specified in the plan to obtain a sample of the radioiodine and particulate activity in the plume. During the equipment inventory and check process at the Staging Area, all sampling media specified in the plan was verified as being available. The air-sampling pump had been calibrated on June 12, 2001. The team verified that the pump would operate with either the portable inverter attached to the battery of the DPS vehicle or the internal 110-volt supply that had been installed in the vehicle. When the team encountered the specified 2mR/hr-exposure rate, an air sample was collected. The sampling device had been assembled prior to entering the elevated exposure rate area. A 10 cubic foot sample was collected at 2 cfm. The sample was started at 11:00 a.m. The team reported to the FMTL that the air sample had been collected. In accordance with the plan and the pre-exercise agreement, the air sample was not counted in the field. The team was directed to move to monitoring point at Williamson and Highway 144 and wait for a courier to pick up the sample. The team demonstrated excellent contamination control knowledge and simulated good contamination control activities when re-entering the vehicle. Completion of the documentation for the air sample was delayed until the team had left the area being impacted by the plume. The two components of the air sample were labeled and bagged separately. A chain-of-custody form was completed. The laboratory couriers at this location picked up all of the samples. The team was directed to proceed to Sampling Point #4 at 11:40 a.m. The team returned to the Staging Area for lunch, and the drill was terminated at 1:30 p.m.

The previous exercise resulted in a recommendation to have larger maps for the Field Teams. The maps that were used in this exercise were more than adequate with extensive detail.

In summary, the status of FEMA exercise objectives for this location is as follows:

- a. **MET:** Objectives 1, 4, 5, 6, and 8.
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES: NONE**
- f. **PRIOR ISSUES – RESOLVED: NONE**
- g. **PRIOR ISSUES - UNRESOLVED: NONE**

1.6 EMERGENCY NEWS CENTER

Following the CPSES declaration of an **ALERT** at 8:05 a.m., the Emergency News Center (ENC) began alerting and mobilization procedures. The ENC is co-located next to the EOF in the Visitor's Center, which is a hardened facility. The BRC Public Information (PI) Coordination Team was pre-positioned along with other BRC staff as approved in the extent-of-play agreement. They received a notification call about an incident at CPSES from BRC in Austin at 8:57 a.m. at the **ALERT** Emergency Classification Level (ECL). The CFO dispatched an initial BRC team to the EOF, as well as the BRC PI Coordination Team to the ENC at 9:05 a.m. They left the Staging Area at 9:34 a.m. and arrived at the EOF at 10:09 a.m. The Rumor Control staff began arriving in the ENC at 8:27 a.m. and set up operations. Rumor Control was fully activated at 8:47 a.m.

Security began in the lobby entrance with sign-in rosters and badges issued. Both access doors exiting the lobby and entering the EOF/ENC were locked. A guard was posted at the entrance to the EOF/ENC. The media only had access to their workstations, restroom facilities, and the auditorium.

The lobby of the Visitor's Center served as a work area for the media with workstations equipped with 20 telephones, including 10 direct lines to Dallas. A current 2001 Media Guide for the CPSES was provided by TXU to each person attending a media briefing. The Guide contained a wealth of information in nine parts: (1) Assistance to the News Media, (2) Media Information Contacts, (3) Company Spokespersons, (4) Comanche Peak Fact Sheet, (5) Basic Organization for Emergencies, (6) Emergency Classifications, (7) Alerting and Informing the Public, (8) Basic Information Concerning Radiation, and (9) Map and Plant System Drawings.

The auditorium in the Visitor's Center was used as the media briefing room. It included a stage equipped with a podium, table, chairs, microphones for Spokespersons, easels with both diagrams of the plant systems and maps, a visual aids control room, and seating for approximately 75 individuals.

The ENC had adequate space, lighting, furnishings, and restrooms to support emergency operations. The BRC PI Coordination Team had adequate space for one person, but three were on the team, which did not allow them enough working space. A sufficient number of phone lines were available and utilized, with computers, fax machines and a copier available as well. Although minor malfunctions of telephone headsets and the copy machine resulted in brief delays, these problems were quickly addressed and did not disrupt the flow or dissemination of emergency information.

Emergency information was displayed throughout the EOF and the ENC work areas in

the form of maps and status boards. The status board was updated periodically; however, it would have been more efficient to have a designated person posting updates on the status board as soon as information was received in the ENC. TV monitors, a new addition, were also mounted in each room, which showed continually updated technical information about the incident. Maps included: plume pathway EPZ, radiological monitoring points, emergency classification levels, and weather information.

The BRC Liaison located in the EOF communicated well with the ENC PI Coordination Team and kept them informed and updated on the status of events. The ENC staff demonstrated a good job of working as a team in collecting information. TXU wrote seven News Releases and BRC wrote three News Releases. There was good internal distribution and tracking of News Releases.

The Rumor Control staff was located in the ENC and consisted of a 4-person Media Monitoring team and a 4-person Rumor Control team. One person continuously monitored the web electronically. The Rumor Control team answered calls from the public and media and responded promptly with accurate information. Calls were documented and analyzed to identify recurrent or important trends. False information was forwarded to the Rumor Control Coordinator who reported it to the Press Release Writer and the News Conference Manager for correction and clarification in press releases and news conferences. Similarly, the Media Monitoring staff monitored the major television networks, ABC, NBC, CBS, CNN, and the local EAS station (WBAP). There were six CNN feeds during the exercise.

News stories concerning the incident were recorded for further review by the Media Monitors. When rumors or inaccurate stories were reported, the information was forwarded to the Rumor Control Coordinator for review and correction. The 4-person Rumor Control staff received 141 calls, which averaged approximately 35 calls per hour per operator.

The Utility Technical Spokesperson updated the Rumor Control and Media Monitoring teams after each news briefing. The flip-chart status board also kept the teams updated; however, both teams were seated facing the wall, with their backs to the status board. Periodically, someone would tear the latest information off of the status board and tape it to the wall so that the rumor control staff could see it.

The Rumor Control function of the ENC adequately demonstrated their ability to establish and operate rumor control in a coordinated manner.

Media Briefing #1 began at 9:10 a.m. and concluded 15 minutes later at 9:25 a.m. The ALERT status was posted on the front of the podium. Spokespersons included the News Conference Manager as moderator, Utility Technical Spokesperson, and a Department of Public Safety (DPS) Trooper who was the official Spokesperson for both Hood and

Somervell Counties. The briefing summarized that the status was at the ALERT, there were no injuries, no radiation release, and no State or County action had been taken. After the Spokespersons exited the room, they conducted a debriefing in the adjoining room to determine what additional information was needed for the next media briefing. At 9:30 a.m., the Utility Technical Spokesperson briefed Rumor Control as to what information had been provided to the media.

The EOF conducted a plant status briefing at 9:33 a.m., which was shared with the ENC and Rumor Control (RC) staff via an overhead speaker. At 9:44 a.m., an evacuation alarm was heard in the EOF/ENC at the SAE classification level. The alternate ENC location is in Cleburne City Council Chambers, 10 N. Robinson and TXU at 418 W. Henderson St., Cleburne. A secondary alternate location is at the Lodge of Granbury, 400 E. Pearl, Granbury.

Media Briefing #2 was held at 10:18 a.m. The Texas Department of Health, BRC Public Information (PI) Spokesperson joined the briefing panel. The briefing summarized that a release was in progress, no radiation had been detected by the Field Radiological Monitoring Teams, all actions were precautionary, all unnecessary personnel had automatically been evacuated at the SAE as a precautionary, and three schools had been evacuated to Cleburne Civic Center and Stephenville Junior High School. The DPS Spokesperson provided good information for transients. There were problems with the microphones not working during this briefing. The Utility Technical Spokesperson used the plant systems diagram during the briefing, but the podium blocked the audience's view from one side of the room. This briefing ended at 10:44 a.m. followed by a debriefing and discussion on what additional information could have been provided to the media.

A GE was declared at 10:19 a.m., with a sustained release confirmed at 10:22 a.m. This breaking information occurred while Media Briefing #2 was in progress. At 11:02 a.m., Media Briefing #3 was conducted by the Utility Technical Spokesperson, accompanied by the News Conference Manager, who returned to the auditorium to provide a timely update to the media. Evacuation zones were given as 2A, 2G, 4A, 4B, 1B, 1A, 1C, 1D, 4E, and the City of Granbury, including 2B which was not on the plant's PAR. After returning from the briefing update, the information did not support that zone 2B should have been included. This information was then rescinded to the media. There were no copies of documents received at the ENC from the counties (and State since they were not fully participating in the exercise). All county information was relayed over the phone from the counties to the ENC through the DPS Spokesperson.

At 11:17 a.m., the BRC ENC staff conducted a shift change by a briefing and providing a roster to the evaluator. Information was received in the ENC that KI had been authorized for the BRC staff in the field and also that counties should notify their field personnel to take KI.

Media Briefing #4 began at 11:46 a.m. The same evacuation zones were stated as in the previous media briefing, which again included zone 2B. It had been clarified that although the PAR did not advise evacuation of 2B, the Hood County Judge made the Protective Action Decision (PAD) to add zone 2B. All evacuations were to Cleburne and Stephenville Relocation Centers. The Spokespersons were pressed by the media for more details and specific information than was available at each press briefing. Although the verified basic information was provided, additional available facts could have been provided. Media questions were accepted by the News Conference Manager. Some questions were left with incomplete answers when moving to another question and when terminating the media briefing session.

Media Briefing #5 was scheduled for 1:30 p.m., but the radiological release was stopped at 1:16 p.m. and the exercise terminated at 1:30 p.m.

In summary, the status of FEMA exercise objectives for this location is as follows:

- a. **MET:** Objectives 1, 2, 4, 12, 13 and 30 (for BRC PI Coordination Team).
- b. **DEFICIENCIES:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ISSUES:** NONE
- f. **PRIOR ISSUES - RESOLVED:** NONE
- g. **PRIOR ISSUES – UNRESOLVED:** NONE

2. RISK JURISDICTIONS

2.1 SOMERVELL COUNTY

2.1.1 EMERGENCY OPERATIONS CENTER

The **ALERT** was declared by CPSES at 8:05 a.m. and was received via telephone at 8:18 a.m. to the 911 Dispatch Center at the Somervell County EOC and by fax at 8:34 a.m. The Dispatcher notified the County Judge and the Chief Deputy by pager and telephone. The County Judge arrived shortly after notification. A calldown to the remainder of the staff was conducted by pager and telephone, and they arrived shortly after notification. An up-to-date calldown list of all individuals was used for notification, and the calldown was completed at 8:46 a.m. The EOC was declared operational at 9:02 am. The following key positions were staffed in the EOC: Somervell County Judge, Sheriff, Licensee Liaison, Mayor of Glen Rose, Radiological Officer, Glen Rose Independent School District, Hospital Administrator, City Manager and Fire Chief. A liaison from BRC also joined the staff.

Somervell County possesses adequate space, furnishings, lighting, restrooms and equipment to support emergency operations. The facility is equipped with charts, maps, and status boards depicting EPZ planning zones, weather data, population of the planning zones, evacuation routes, ECL levels, special facilities and traffic and access control points. The status boards were updated with actions taken by the County as the exercise progressed. EOC staff members had copies of plans and procedures needed for guidance during the exercise. Access to the facility was controlled throughout the exercise.

The County Judge demonstrated excellent command and control over emergency operations during the exercise. There was an excellent working relationship between the utility and the County. The Licensee Liaison was present during the exercise and provided effective assistance to the County. The Judge provided instructions and held frequent briefings to keep the staff informed, advised of his protective action decisions, and up-to-date on emergency response actions. The Judge coordinated and consulted with other jurisdictions and authorized implementation of protective actions.

Somervell County possesses adequate communication capability with the exception of a sufficient number of telephones for the liaisons working in the EOC. However, the County's new facility does have sufficient telephones to support any future emergency operations. The EOC was equipped with 16 commercial telephones for use by the staff. The PIO also had a direct line to the DPS Officer in the Emergency News Center. There were no interruptions to communications during the exercise. Both secondary and primary systems were used and worked satisfactorily.

The 911 Dispatch Center houses several radio systems, including the statewide radio network that allowed the Dispatcher to contact any agency in the State if necessary. There was a hotline extension in both the 911 Dispatch Center and the EOC linking them to CPSES, the DPS District near Waco, and the Hood County EOC. There were computers, paging, and fax capabilities in the 911 Center.

The Radiological Officer placed dosimetry and a film badge on a map in the EOC, and he read the dosimetry every 30 minutes. The CDV-700 present in the EOC had a calibration date of 8/2001. The EOC possessed 200R and 5R (18 each) DRDs and a dosimeter charger. Procedures are in place to record the dosimeter number assigned to each worker. Workers were briefed prior to dispatch on how to use dosimetry and to read their dosimetry every 30 minutes. Workers were instructed on when and where to turn in dosimetry for processing.

The County Judge made several protective action decisions during the exercise. As an early precautionary measure, the Judge made the decision at 8:45 a.m. to evacuate Dinosaur Valley State Park. The evacuation was completed at 9:30 a.m. CPSES declared a **SAE** at 9:34 a.m. The SAE was received by Somervell County via telephone at 9:41 a.m. and via fax at 9:48 a.m. The County Judge issued an emergency declaration for Somervell County at 9:58 a.m.

CPSES declared a **GE** at 10:19 a.m. that was received by the County by telephone at 10:25 a.m. and by fax at 10:32 a.m. The County Judge consulted with the Licensee Liaison and at 10:26 a.m., made the decision to evacuate zone 2A located in Somervell County. This decision required forethought, and demonstrated the Judge's desire and responsibility to provide maximum protection to the public. The sirens were activated at 10:29 a.m. for Somervell County. The EOC Director/Licensee Liaison confirmed the successful activation of the sirens. The subsequent siren activation was conducted by Hood County.

An EAS message was released at 10:29 a.m. notifying the public of the evacuation of zone 2A. EAS messages are released when the EOC calls the EAS radio station and instructs them on which message to broadcast from a pre-scripted group of messages. Use of the correct message is verified by exchange of a password. This method was instituted as a result of a recommendation from a previous exercise. The Somervell County PIO did not send a hard copy of the EAS message to the EAS station. The procedures only call for this if the EAS station requests it, and they did not.

Somervell County maintains a list of the individuals that make up its special population. The list contains the individual's name, telephone number and 911 address. When an evacuation is ordered, the County dispatches Deputies/Firefighters to the individual's home. Zone 2A had one special needs person. When the protective action recommendation was given to evacuate zone 2A in Somervell County, the EOC

Controller and Fire Chief worked to dispatch an ambulance at 10:19 a.m. to the individual's home. The evacuation and transportation of the special needs person to Stephenville Relocation Center was completed at 10:50 a.m.

The Somervell County Judge made several requests for outside assistance. For example, he requested Troopers for traffic and access control from the Department of Public Safety near Waco and from Johnson County. He requested assistance from the Texas Department of Transportation for roadblocks. In addition, the Judge assisted Hood County in the evacuation of zone 2G.

At 11:00 a.m., the Hospital Administrator demonstrated a shift change. The Administrator briefed the incoming person on all activities and actions taken up until the time of the shift change. This included briefing on the time sequence, evacuations, manual, all written and verbal information, forms and charts. He explained his techniques in note taking and updated his relief on calls that were made to hospital. He briefed her on how to handle problems if they should occur and introduced her to the Judge and the rest of the EOC staff. A roster was provided of key persons for a shift change. Outgoing personnel would brief the incoming personnel on the incident and actions taken by each position.

There was confusion during the exercise regarding the evacuation of zone 2B. An EAS message was released by Hood County at 10:48 a.m. advising of the evacuation of zones 4A, 4B, 1B, 1A, Granbury, 1C, 1D, 4E, 2G, and 2B. The Somervell County Judge had not made the decision to evacuate 2B prior to the issuance of this EAS message. After learning of the EAS message advising of the evacuation of 2B, the County Judge consulted with the Licensee and State Liaisons and at 11:20 a.m., decided to move forward with the evacuation of 2B rather than cause more confusion to the public by retracting the evacuation. The population in 2B is very small, therefore the citizens were notified through route alerting as well a second sounding of the sirens conducted by Hood County. The evacuation of 2B was completed by 11:58 a.m.

BRC recommended ingestion of KI for field monitoring teams at 10:40 a.m. At 11:20 a.m., BRC recommended KI for all field workers. Therefore, at 11:22 a.m., Somervell County began distribution of KI to their workers. A discussion ensued among the County Judge, the Licensee Liaison, and the BRC Liaison about BRC's reports indicating exposure out to 2 miles in the plume path warranted emergency workers taking KI. The County Judge, the Sheriff, and Licensee Liaison realized that they had no one in this area. Therefore, KI was not needed for workers in Somervell County; however, the distribution of KI was already underway. At 11:30 a.m., the distribution of KI was recalled.

In summary, the status of FEMA exercise objectives for this location is as follows:

- a. **MET:** Objectives 1, 2, 3, 4, 5, 9, 10, 11, 15, 23 and 30.

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

2.1.2 TRAFFIC/ACCESS CONTAMINATION CONTROL POINT

This activity was conducted out-of-sequence from the exercise. At 8:40 a.m., a Somervell County Deputy Sheriff was dispatched from the EOC to establish a Traffic/Access and Contamination Control Point (T/ACP) at the Squaw Creek Park picnic area. Prior to dispatch, the EOC Radiological Officer (RO), role-played by the Licensee Liaison, issued the Deputy DRDs, one 0-5R and one 0-200R, and a personal TLD badge. The RO gave detailed instructions on the proper use of dosimetry. The RO also issued record keeping forms for recording exposure levels while working in the field. The RO reminded workers to read dosimeters every 30 minutes. The Dispatchers in the EOC had a timer that cued them to remind personnel in the field to read dosimetry every 30 minutes and to not exceed their exposure limits.

At 8:54 a.m., the Deputy arrived at the designated site for the establishment of the T/ACP, which was pre-selected and described in the extent-of-play agreement.

At 8:55 a.m., the BRC Contamination Control Team arrived at the T/ACP and the control point was officially established. The BRC team had completed an equipment check prior to dispatch from the Staging Area. Each member of the team was issued a 0-20R and a 0-200mR DRD, one TLD, and 10 additional 0-20R and 0200mR DRDs for persons who might be admitted to the restricted areas. The team had plastic gloves, a GM instrument for monitoring for contamination, and coveralls. Both teams regularly read their DRDs and recorded the results. In addition to making random readings on his own initiative, the Deputy Sheriff received instructions at 30-minute intervals from the EOC to read his DRDs.

During the exercise, six players arrived at the T/ACP. Three were authorized entrance to the restricted area after being issued dosimetry and given complete instructions on their use. The others were not authorized entry and were given directions and maps to the relocation centers.

The players and their vehicles were monitored for contamination upon returning from the restricted area. If contamination was found, they were directed to the relocation and decontamination center in either Stephenville or Cleburne. The individuals were provided directions, a map, and paperwork to take with them to the decontamination center. All DRDs were retrieved from the players prior to departure for the decontamination centers. The T/ACP was effectively managed controlling access to the restricted area.

The Deputy Sheriff and BRC demonstrated adequate communication capability. The Deputy communicated with the EOC via his automobile radio and had the capability to communicate with other law enforcement agencies. He had a cell phone available for use

as backup. BRC communicated with other field teams, the Field Team Leader, and the Staging Area via the radio in their automobile. Both constantly monitored their radios.

The Sheriff's Department is manned 24-hours a day and shift change at the T/ACP would be accomplished as needed from available staff. The BRC Contamination Control Team demonstrated shift change at the South Texas Project Electric Generating Station (STPEGS) exercise on October 18, 2000. Credit for that activity was inadvertently omitted from STPEGS' exercise report and is hereby granted and recorded.

In summary, the status of FEMA exercise objectives for this location is as follows:

- a. **MET:** Objectives 1, 4, 5, 17 and 30.
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ISSUES:** NONE
- f. **PRIOR ISSUES RESOLVED:** NONE
- g. **PRIOR ISSUES - UNRESOLVED:** NONE

2.1.3. SCHOOL BUS DRILL - GLEN ROSE INDEPENDENT SCHOOL DISTRICT

The Glen Rose Independent School District (GRISD) is comprised of two campuses. The major campus consists of the high school, intermediate school, alternative school, elementary school, transportation department, administration building, and sports complex. The junior high school is located approximately one mile east of the main campus.

The transportation department supports both campuses. Enrollment for all schools is approximately 1,603 students, with an adult staff of 330, for a total evacuation requirement of 1,933. The main campus is located east of the intersection of U.S. 67 and Stadium Drive in Glen Rose, Texas. This location is approximately 4 miles south of CPSES, within the 5-mile EPZ. The transportation department's bus fleet consists of nine 78-passenger, ten 72-passenger, two 66-passenger, six 54-passenger, three 16-passenger, and one 15-passenger buses for a total of 31 buses. Bus capacity is sufficient to accommodate 100% of the evacuees. Students who drive to school are required to evacuate on the buses so that control is maintained of all students. All buses are equipped with radios that communicate with each other and the transportation dispatcher. Each bus has a packet containing maps, student posters, log sheets, and pencils for use during an evacuation. Eighteen bus drivers are on site and normally immediately available, with remaining drivers available within a short time. Drivers are notified through the Somervell County EOC by the transportation dispatcher. All faculty members receive annual refresher training on evacuation procedures from CPSES.

The County Judge and the GRISD Assistant Superintendent made the decision to evacuate GRISD at 9:45 a.m. The school evacuation drill was conducted in sequence with the exercise. After the EOC received information of the SAE, the decision was made to evacuate the ISD to the relocation center at Stephenville. At 9:46 a.m., the GRISD Director of Personnel notified the Transportation Dispatcher by telephone who then alerted the driver. At 10:00 a.m., the bus arrived on the main campus of the GRISD, ready to load students in accordance with the extent-of-play. The bus driver and school nurse simulated the evacuation and outlined procedures involved. The EAS Station, WBAP 820 AM, would broadcast information concerning the relocation of GRISD students.

No dosimetry was issued per the extent-of-play.

In summary, the status of FEMA exercise objectives location is as follows:

- a. **MET:** Objectives 1, 4, 5, and 16.

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

2.2 HOOD COUNTY

2.2.1 EMERGENCY OPERATIONS CENTER

The Hood County portion of the CPSES radiological emergency preparedness exercise on August 22, 2001 began with a voice notification from the plant. The EOC was notified at 8:20 a.m. by dedicated telephone in the 911 Center, adjacent to the EOC, that an **ALERT** had been issued by CPSES. The **ALERT** message was hard copy verified by facsimile transmission at 8:25 a.m. Upon receipt of the **ALERT**, the Communications Supervisor and Communications Assistant utilized a staffing roster to notify EOC staff to report. The Communications staff utilized work phone, home phone, cellular and pagers to contact personnel.

The alerting process began at 8:28 a.m. and was completed at 8:48 a.m. Emergency response personnel began arriving at the EOC at 8:29 a.m. with the mobilization of alerted staff completed at 9:01 a.m., at which time the County Judge declared the EOC operational.

Calldown rosters were maintained and available for SAE and GE notifications. The SAE roster was utilized starting at 9:50 a.m., following receipt of the **SAE** at 9:44 a.m., with staff notification completed at 10:04 a.m. Staff began arriving at the EOC at 9:51 a.m. with all staff reporting to the EOC by 10:39 a.m. The **GE** notice reached the EOC at 10:29 a.m.; however, the GE roster was not utilized as it contained the same personnel as the SAE roster. Of special note was the efficiency of the communications staff as they were simultaneously dispatching to three real fire events, multiple EMS and police calls, and a multitude of 911 calls related to a plane crash in an adjoining county. The notification continued throughout the real events. Also, the reporting officials arrived in a timely manner and quickly got to work with remaining notifications.

The EOC is equipped with adequate backup systems for communications and power. The County utilizes commercial telephones, dedicated phone lines, radio systems, cellular phones and pagers. The EOC is equipped with a diesel generator for a backup power source. It is recommended that the County look into noise reduction options and install additional phone lines for EOC responders. A training session and written procedures on telephone operations would be beneficial to staff that are not familiar with the EOC equipment.

The EOC has adequate space, ventilation, furnishings, restrooms, a fax machine, a copier and a computer to support emergency operations. Maps in the EOC included a 10-mile EPZ map, Special/Transient facility map, Hood County Map, and a 10-mile EPZ map showing evacuation sectors and zones. Display boards in the EOC included a Major Event Board and an Emergency Status Board indicating the ECLs, PARs, evacuation

information, Relocation Center status, and times of alert/notification and EAS messages. All status boards were updated promptly as information was made available to the EOC staff. Significant changes in the status of the event were posted upon receipt. As the status board filled up, the staff posting events began erasing items on the top of the status boards, an action that was noted in the previous exercise. However, with the recent installation of a computer prior to this exercise, a hard copy record of the events will be retained in the future. Copies of the Hood County Emergency Plan were available in the EOC for review.

A map in the EOC identified all the special populations in the specified zones. The County also had a recently updated card file with pertinent information on all special populations. It included names, addresses, telephone numbers and special needs. The EOC staff consulted the map and identified persons needing transportation. Simulated calls were made to each individual and to schools indicating that personnel from the police or fire department would pick them up. There was excellent coordination between the school district and hospital personnel for adequate transportation of the special populations.

Precautionary school evacuations began at 9:40 a.m. with a call to the District Transportation Director to initiate evacuations at the outlying schools. Evacuation of the Granbury Independent School District followed. School children would be sent to the Relocation Centers in Cleburne and Stephenville. By 10:45 a.m., all schools were reported as evacuated (simulated).

The Hood County Judge declared a local emergency at 9:47 a.m. and posted the official proclamation. Following receipt of CPSES Notification Message #6 containing the first PAR, the Hood County Judge coordinated with the Somervell County Judge on activation of the Emergency Alert System (EAS). It was agreed that at 10:26 a.m. Somervell County would activate the warning sirens for both counties and send the initial EAS message recommending evacuation of zone 2A. Hood County EOC did not receive a copy of the initial EAS message issued by Somervell County. It is recommended that a checklist be developed that lists the entities, i.e., State EOC, Emergency News Center, Somervell County EOC, with contact numbers (voice and fax) that should receive copies of all EAS messages, press releases and emergency declarations.

Radiological emergency equipment was available in the EOC and included DRDs, TLDs, and dosimeter chargers. One emergency kit, which included two DRDs and a TLD, was hung in the EOC to monitor radiological exposure to the staff. All equipment was checked for proper operation and dosimeters were zeroed and initial readings were recorded. The dosimeters were inspected by the utility in June. The Radiological Officer (RO) and staff issued emergency kits containing two DRDs (ranges 0-5R and 0-200R), a TLD, and a dosimeter record card to emergency workers departing for field assignments. The dosimeter record card, which included instructions and a dose record log, was kept

intact and taken with the emergency workers into the field so they could record doses received. A record of the dosimeters assigned to each emergency worker was kept by the RO. The RO issued instructions on the use of dosimeters including how to read them at 30-minute intervals. Emergency workers were instructed to report any exposure level beyond 200mR to the County RO.

The second siren activation and EAS message transmission were performed by Hood County after concurrence by the Hood and Somervell County Judges following receipt of Notification Message #7. Zone 2B was added to the recommended evacuation zones of 2A, 1C, 1D, 2G, 4E, Granbury, 4A, 4B, 1B, and 1A. The Communications Supervisor demonstrated activation of all 66 warning sirens in Hood and Somervell Counties at 10:49 a.m. The EAS message was transmitted telephonically and followed-up with a fax at 10:51 a.m. to WBAP. It is recommended that the communications staff establish a master file for all incoming message traffic to serve as a focal point for retrieval of all messages relating to the event. At 11:00 a.m., the Mayor of Granbury announced that he had declared Martial Law.

The County Judge did an excellent job of demonstrating direction and control. The County Judge had the legal authority to request implementation of her decisions. The Judge frequently briefed the EOC staff on the current status of the event, the response efforts in progress, and gave the EOC staff the opportunity to provide input into the decision making process. The Judge asked the staff to consider the actions to be taken if the situation at the plant worsened. All decisions and protective actions were well coordinated with the State, CPSES, Somervell County and other EOC staff. At 11:32 a.m., the Judge recommended emergency workers in the field ingest KI as recommended by the Texas Commissioner of Health (or his designee).

The County Judge requested supplemental assistance from the DPS Disaster District in Waco in the form of additional troopers to assist with traffic control. Additionally, National Guardsman were requested to assist with the evacuation to relieve local law enforcement to perform other duties.

The EOC Manager implemented shift change by having each EOC occupant provide the name of a replacement who would be currently available to provide relief.

In conclusion, the Hood County staff worked very well together. The Command and Control at the EOC was handled in a professional and efficient manner. The EOC staff were very knowledgeable of County operations and demonstrated response actions in accordance with current plans.

The exercise was terminated at 1:34 p.m.

In summary, the status of FEMA exercise objectives for this location is as follows:

- a. **MET:** Objectives 1, 2, 3, 4, 5, 9, 10, 11, 15, 23 and 30.
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ISSUES:** NONE
- f. **PRIOR ISSUES - RESOLVED:** NONE
- g. **PRIOR ISSUES - UNRESOLVED:** NONE

2.2.2 TRAFFIC/ACCESS CONTAMINATION CONTROL POINT

This activity was conducted out-of-sequence from the exercise. At 8:09 a.m., the Hood County Deputy Sheriff designated to man the T/ACP acquired dosimetry from the Hood County EOC. The Deputy was issued two DRDs, 0-5R and 0-200R, and a TDL. Upon inspection of the 0-5R dosimeter, he found it to be defective and was issued another 0-5R dosimeter. The Deputy received a detailed briefing on the proper use of the dosimeter. The Deputy departed the EOC at 8:15 a.m. arriving at the T/ACP at 8:35 a.m.

The T/ACP evaluated was established at Coates Road and the entrance to Squaw Creek Park. The BRC Contamination Control Team met the Deputy at 9:00 a.m. The BRC team conducted an equipment check, verified dosimeter readings and, per the extent-of-play, wore latex gloves. The BRC team communicated by means of an agency radio and cellular phones. There was no loss of communication with participating organizations. Back-up communications were available from the Deputy by means of a car radio, hand-held radio and cellular phone. Communication between the BRC team and the Deputy Sheriff was exceptional.

At 9:17 a.m., evacuees arrived at the T/ACP. A total of five evacuees were processed at the T/ACP and three were authorized access to the contaminated area. Those citizens denied access were asked to report to the relocation center. Those allowed access into the contaminated area were asked to provide personal information that was logged appropriately. BRC maintained one copy of the information form and the citizens were given two copies. The citizens were issued dosimeters and given detailed instruction on the use of the dosimeters. Upon departing the contaminated area, the citizens returned their dosimetry and a copy of the information form to the control point. Their vehicles were checked for contamination and on each occasion, they were found to be contaminated. The citizens were provided maps and instructed to report to the Cleburne Relocation Center.

Each BRC Team member and the Deputy read their dosimetry and recorded the readings every 30 minutes. The Deputy would turn in dosimetry to the Radiological Officer at the EOC at the end of a shift.

A shift change was demonstrated by the Hood County Sheriff's Office by means of providing a roster of available personnel, by name, with the shifts and hours they would work. The BRC Contamination Control Team demonstrated shift change at the South Texas Project Electric Generating Station (STPEGS) exercise on October 18, 2000. Credit for that activity was inadvertently omitted from STPEGS' exercise report and is hereby granted and recorded.

In summary, the status of FEMA exercise objectives for this location is as follows:

- a. **MET:** Objectives 1, 4, 5, 17 and 30.
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ISSUES:** NONE
- f. **PRIOR ISSUES - RESOLVED:** NONE
- g. **PRIOR ISSUES - UNRESOLVED:** NONE

APPENDIX 1

ACRONYMS AND ABBREVIATIONS

ALARA	-	As Low As Reasonably Achievable
Anti-C	-	Anti-Contamination
ARCA	-	Area Requiring Corrective Action
ARFI	-	Area Recommended for Improvement
BRC	-	Bureau of Radiation Control
CFO	-	Chief of Field Operations
CFR	-	Code of Federal Regulations
CPM	-	Counts Per Minute
CPSES	-	Comanche Peak Steam Electric Station
DEM	-	Division of Emergency Management
DHHS	-	Department of Health and Human Services
DOE	-	U.S. Department of Energy
DOI	-	U.S. Department of Interior
DOT	-	U.S. Department of Transportation
DPS	-	Department of Public Safety
DRD	-	Direct-Reading Dosimeter
DRL	-	Derived Response Level
EAS	-	Emergency Alerting System
ECL	-	Emergency Classification Level

ACRONYMS AND ABBREVIATIONS – CONTINUED

EMC	-	Emergency Management Coordinator
EMC	-	Emergency Management Council
EMS	-	Emergency Medical Service
ENC	-	Emergency News Center
EOC	-	Emergency Operations Center
EOF	-	Emergency Operations Facility
EOP	-	Emergency Operations Plan
EPA	-	U.S. Environmental Protection Agency
EPZ	-	Emergency Planning Zone
ETA	-	Estimated Time of Arrival
EW	-	Emergency Worker
FAA	-	Federal Aviation Administration
FDA	-	U.S. Food and Drug Administration
FEMA	-	Federal Emergency Management Agency
FMT	-	Field Monitoring Team
FMTL	-	Field Monitoring Team Leader
GE	-	General Emergency
GM	-	Geiger Mueller
GM	-	Guidance Memorandum
HF	-	High Frequency
HHS	-	Health and Human Services

ACRONYMS AND ABBREVIATIONS - CONTINUED

HP	-	Health Physicist/Health Physics Technician
KI	-	potassium iodide
M/D	-	Monitoring/Decontamination
mR	-	milliroentgen
mR/h	-	milliroentgen per hour
Mon/Decon	-	Monitoring/Decontamination
NOUE	-	Notification of Unusual Event
NRC	-	Nuclear Regulatory Commission
NUREG	-	NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980
ORO	-	Off-site Response Organization
PAD	-	Protective Action Decision
PAG	-	Protective Action Guide
PAR	-	Protective Action Recommendation
PC	-	Protective Clothing
PIO	-	Public Information Officer
RAC	-	Regional Assistance Committee
RACES	-	Radio Amateur Civil Emergency Service
RC	-	Rumor Control

ACRONYMS AND ABBREVIATIONS - CONTINUED

RCS	-	Reactor Coolant System
REP	-	Radiological Emergency Preparedness
RLO	-	Regional Liaison Officer
RO	-	Radiological Officer
REA	-	Radiological Emergency Area
RPT	-	Radiation Protection Technician
SAE	-	Site Area Emergency
SO	-	Sheriff's office
SOP	-	Standard Operating Procedures
T/ACP	-	Traffic/Access Control Point
TDD	-	Teletype Device for the Deaf
TDH	-	Texas Department of Health
TEDE	-	Total Effective Dose Equivalent
TEWAS	-	Texas Early Warning Alert System
TLD	-	Thermoluminescent Dosimeter
TLETS	-	Texas Law Enforcement Teletype System
USDA	-	U. S. Department of Agriculture
VHF	-	Very High Frequency

APPENDIX 2

EXERCISE EVALUATORS AND TEAM LEADERS

The following is a list of the personnel who evaluated the Comanche Peak Steam Electric Station exercise on August 22, 2001. Evaluator Team Leaders are indicated by the (*) before their names. The organization represented by each evaluator is indicated by the following abbreviations:

DOT	-	Department of Transportation
EPA	-	Environmental Protection Agency
FDA	-	Food and Drug Administration
FEMA	-	Federal Emergency Management Agency, Region VI
NRC	-	Nuclear Regulatory Commission
USDA	-	U.S. Department of Agriculture

<u>EVALUATION SITE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
RAC Chairman	Larry Earp	FEMA
Exercise Coordinator	Marilyn Boots	FEMA
Texas State EOC, Austin	N/A	
Disaster District #6 EOC, Waco	*Willie Malone	FEMA
BRC at CPSES EOF	*George Brozowski Charles Hackney	EPA NRC
FRMT #2	*Henry Delgado	FDA
FRMT #3	*Kathleen Barrett	USDA
Emergency News Center	*Brenda Mosley Shyrlee Fox	FEMA FEMA
Rumor Control	Carrie Moorehead	FEMA
Somervell County EOC, Glen Rose	*Lisa Hammond Nitja McGrane	FEMA FEMA
T/ACP	Gene Nunn	FEMA
School Bus Drill	Marc Williams	DOT

Hood County EOC, Granbury

T/ACP

EAS Station, Arlington

*Russ Bookser

Tony Robinson

Jeff Shapiro

*Henry Christiansen

FEMA

FEMA

FEMA

DOT

APPENDIX 3

COMANCHE PEAK 2001 EXERCISE OBJECTIVES AND EXTENT-OF-PLAY (as submitted by the State)

Objective #1: Mobilization of Emergency Personnel

Demonstrate the capability to alert and fully mobilize personnel for both emergency facilities and field operations. Demonstrate the capability to activate and staff emergency facilities for emergency operations.

Locations: BRC Operations at CPSES EOF; News Center; Field Monitoring teams; Contamination Control Teams; Somervell County EOC (Glen Rose); Hood County EOC (Granbury); State EOC; Disaster District EOC (Waco).

Extent of Play:

- 1) The Bureau of Radiation Control and DPS personnel not stationed in the Hood - Somervell County area will pre-stage in the local area.
- 2) At site area or general emergency, the State EOC will notify agencies, which compose the Emergency Management Council. However, only those agencies on the primary notification list will be requested to send representatives to the State EOC.
- 3) To allow for the maximum amount of play, the staff at the Emergency News Center (JIC/Media Center) from BRC and DPS Waco will be pre-staged within the area.

Objective #2: Facilities-Equipment, Displays, and Work Environment

Demonstrate the adequacy of facilities, equipment, displays and other materials to support emergency operations.

Locations: BRC Operations at CPSES EOF; News Center; Somervell County EOC (Glen Rose); Hood County EOC (Granbury); State EOC; Disaster District EOC (Waco).

Extent of Play:

- 1) Regardless of scenario, no exercise activities will relocate during this exercise. Relocation will be discussed if scenario dictates.

Objective #3: Direction and Control

Demonstrate the capability to direct and control emergency operations.

Locations: BRC Operations at CPSES EOF; Somervell County EOC (Glen Rose); Hood County EOC (Granbury); State EOC; Disaster District EOC (Waco).

Objective #4: Communications

Demonstrate the capability to communicate with all appropriate emergency personnel at facilities and in the field.

Locations: BRC Operations at CPSES EOF; News Center; BRC Field Monitoring Teams; Contamination Control Teams; Somervell County EOC (Glen Rose); Hood County EOC (Granbury); State EOC; Disaster District EOC (Waco).

Objective #5: Emergency Worker Exposure Control

Demonstrate the capability to continuously monitor and control radiation exposure to emergency workers.

Locations: BRC Operations at CPSES EOF; BRC Field Monitoring Teams; Contamination Control Teams; Somervell County EOC (Glen Rose); Hood County EOC (Granbury).

Extent of play:

- 1) Exercise participants (Specifically: BRC Field Monitoring Teams and Contamination Control Teams) will use gloves as necessary. Access to anti-contamination clothing will be demonstrated but will not be worn.
- 2) BRC Field Monitoring Teams and Contamination Control Teams request the option to correct issues immediately as defined in FEMA Policy Paper, Strategic Review Steering Committee, Initiative 1.5, Correct Issues Immediately, effective March 31, 2000, signed by Kay C. Goss, CEM, Associate Director for Preparedness, Training and Exercises.

Objective #6: Field Radiological Monitoring-Ambient Radiation Monitoring

Demonstrate the appropriate use of equipment and procedures for determining field radiation measurements.

Locations: BRC Field Monitoring Teams.

Extent of Play:

- 1) Four (4) Field Monitoring Teams will be deployed however, only two will be evaluated. The remaining two teams will be deployed for training purposes only.
- 2) Any attempts by Field Monitoring Teams to locate (and measure) areas of maximum exposure will be limited in compliance with BRC Procedure 7, Personnel Dosimetry and Exposure Control.
- 3) Use of anti-contamination clothing will be limited to gloves.
- 4) Equipment not required to demonstrate exercise objectives may be left at the staging area to allow for additional space within the vehicle.
- 5) Drill evaluators and controllers may be required to travel in separate vehicles due to space restrictions.
- 6) Request the option to correct issues immediately as defined in FEMA Policy Paper, Strategic Review Steering Committee, Initiative 1.5, Correct Issues Immediately, effective March 31, 2000, signed by Kay C. Goss, CEM, Associate Director for Preparedness, Training and Exercises.

Objective #7: Plume Dose Projection

Demonstrate the capability to develop dose projections and protective action recommendations regarding evacuation and sheltering.

Locations: BRC Operations at CPSES EOF.

Objective #8: Field Radiological Monitoring-Airborne Radioiodine and Particulate Activity Monitoring

Demonstrate the appropriate use of equipment and procedures for the measurement of airborne radioiodine concentrations as low as $10E-7$ microcuries per cubic centimeter in the presence of noble gases and obtain samples of particulate activity in the airborne plume.

Locations: BRC Field Monitoring Teams.

Extent of Play:

- 1) Samples will be counted in the mobile laboratory (note: the mobile laboratory will be participating for training purposes only and will not be evaluated for purposes of this exercise), not by field monitoring teams.
- 2) Request the option to correct issues immediately as defined in FEMA Policy Paper, Strategic Review Steering Committee, Initiative 1.5, Correct Issues Immediately, effective March 31, 2000, signed by Kay C. Goss, CEM, Associate Director for Preparedness, Training and Exercises.

Objective #9: Plume Protective Action Decision Making

Demonstrate the capability to make timely and appropriate protective action decisions (PAD).

Locations: Somervell County EOC (Glen Rose); Hood County EOC (Granbury).

Extent of Play:

1) The protective actions that result from this decision making process will not be implemented. No member of the public will be relocated. Special populations will be addressed in Objective 15.

Objective #10: Alert and Notification

Demonstrate the capability to promptly alert and notify the public within the 10-mile plume pathway emergency planning zone (EPZ) and disseminate instructional messages to the public on the basis of decisions by appropriate State or local officials.

Locations: Somervell County EOC (Glen Rose); Hood County EOC (Granbury).

Extent of Play:

- 1) Siren activation will be simulated.
- 2) There will be decision making regarding the need to alert the public; a message will be generated; and actions will be coordinated, if appropriate, with other organizations.
- 3) Broadcasts of EAS messages will be simulated.
- 4) Route alerting may be discussed but will not be demonstrated.

Objective #11: Public Instructions and Emergency Information

Demonstrate the capability to coordinate the formulation and dissemination of accurate information and instructions to the public.

Locations: Somervell County EOC (Glen Rose); Hood County EOC (Granbury).

Extent of Play:

- 1) Messages will not be broadcast over commercial radio or television.

Objective #12: Emergency Information - Media

Demonstrate the capability to coordinate the development and dissemination of clear, accurate and timely information to the news media.

Locations: News Center.

Objective #13: Emergency Information - Rumor Control

Demonstrate the capability to establish and operate rumor control in a coordinated and timely manner.

Locations: News Center.

Objective #15: Implementation of Protective Actions - Special Populations

Demonstrate the capability and resources necessary to implement appropriate protective actions for special populations.

Locations: Somervell County EOC (Glen Rose); Hood County EOC (Granbury).

Extent of Play:

1) Protective actions for special needs individuals will be considered at the County EOCs; however, actual demonstration of protective actions will not be performed. Special populations identified as being at risk per the scenario will be limited to telephone contact only.

Objective #16: Implementation of Protective Actions - Schools

Demonstrate the capability and resources necessary to implement protective actions for school children within the plume pathway emergency planning zone (EPZ).

Locations: Somervell County EOC (Glen Rose).

Extent of Play:

1) Glen Rose Independent School District will demonstrate implementation of protective actions for schools. The driver will travel to the school being evacuated and will discuss the travel route to the relocation center and demonstrate communications. No actual transportation will take place and the demonstration will terminate at the school. Dosimetry will not be issued if evacuation is directed prior to declaration of a General Emergency.

2) Request the option to correct issues immediately as defined in FEMA Policy Paper, Strategic Review Steering Committee, Initiative 1.5, Correct Issues Immediately, effective March 31, 2000, signed by Kay C. Goss, CEM, Associate Director for Preparedness, Training and Exercises.

Objective #17: Traffic and Access Control

Demonstrate the organizational capability and resources necessary to control evacuation traffic flow and to control access to evacuated and sheltered areas.

Locations: Somervell County EOC (Glen Rose); Hood County EOC (Granbury).

Extent of Play:

- 1) Access Control Points will be established by both Hood and Somervell County. In order to protect exercise participants, each access control point will be established at a pre-selected off-road location. Normal traffic will not be affected by control point operations.
- 2) Request the option to correct issues immediately as defined in FEMA Policy Paper, Strategic Review Steering Committee, Initiative 1.5, Correct Issues Immediately, effective March 31, 2000, signed by Kay C. Goss, CEM, Associate Director for Preparedness, Training and Exercises.
- 3) Access Control Points will be demonstrated out of sequence from the remainder of the exercise.

Objective #23: Supplementary Assistance (Federal/Other)

Demonstrate the capability to identify the need for external assistance and to request such assistance from Federal or other support organizations.

Locations: Somervell County EOC (Glen Rose); Hood County EOC (Granbury); State EOC; Disaster District EOC (Waco).

Objective #30: Continuous, 24 - Hour Staffing

Demonstrate the capability to maintain staffing on a continuous, 24-hour basis through an actual shift change.

Locations: BRC Operations at CPSES EOF; Disaster District EOC (Waco); Hood County EOC (Granbury); Somervell County EOC (Glen Rose).

Extent of Play

- 1) No actual shift changes will occur. Rosters will be submitted which indicate sufficient staffing for two twelve-hour shifts.

Note: Due to an actual occurrence, Tropical Storm Allison, and the resulting activities at the State Emergency Operations Center (EOC), the State EOC has received exercise credit for objectives 1, 2, 3, 4 and 23. As a result of this credit, there will be no evaluation of the State EOC during the Comanche Peak Steam Electric Station (CPSES) exercise.

APPENDIX 4

EXERCISE SCENARIO AND TIMELINE

This scenario is for Comanche Peak Steam Electric Station Unit 1.

The scenario consists of a 15 gallon-per-minute (gpm) Reactor Coolant System leak, a loss of a vital 6.9 kV bus, a turbine and reactor trip due to loss of condenser vacuum, a tube rupture on S/G #4, failed fuel, and an unisolable steam release to the atmosphere from SG #4 safety valve.

The exercise is scheduled to begin at 7:30 a.m., Wednesday, August 22, 2001.

METEOROLOGICAL CONDITIONS

Temperature is 84 degrees with wind out of the southwest at 7 mph. Temperature will increase to about 98 degrees by the end of the exercise. Wind speed will remain light and variable throughout the day.

NARRATIVE SUMMARY

At 0700 a turnover briefing for the simulator crew will occur.

At 0730 the exercise scenario will start on the simulator.

At 0746 there will be a 15-gpm leak from the Reactor Coolant System.

By ~0801 the leak will have been quantified and the source identified.

At ~0816 conditions will warrant declaration of a **NOUE** due to the Reactor Coolant System leak.

(EPP-201; Chart 2; 2A, 2B, NOUE)

At 0826 a bus fault will result in loss of bus 1EA1 and a subsequent fire in a cable tray.

At ~0841 conditions will warrant declaration of an **ALERT** due to fire effecting a safety system.

Emergency Response Facilities should begin staffing.

(EPP-201, Chart 9; 9.H, 9.E, ALERT)

At ~0850 the fire will be put out.

At 0914 vacuum breaker valve 1-HV-2955 will open due to a faulted circuit. This leads to a rapid loss of condenser vacuum and results in a turbine trip and reactor trip. A tube in S/G #4 will rupture at ~550 gpm with RCS activity increasing to failed fuel threshold.

At ~0929 conditions will warrant declaration of an **SITE AREA EMERGENCY** due to a steam generator tube failure greater than capacity of available CCP's and indications of failed fuel.

A Site Evacuation will be called.

(EPP-201, Chart 3; 3.A, 3.B, 3.C, SAE).

By ~0959 Protected Area accountability should be accomplished.

At 1017 a safety valve on S/G #4 will open initiating a radiological release to the atmosphere.

At ~1032 conditions will warrant declaration of a **GENERAL EMERGENCY**.

(EPP-201, Chart 3; 3.A, 3.B, 3.C, 3.D, General Emergency)

(PAR Evac. 2A based on plant conditions or 5 mile evac based on dose projections.)

At ~ 1300 the safety valve will close terminating the release.

The exercise may be terminated by the Lead Controller when the onsite and offsite objectives have been satisfied.

APPENDIX 5

EAS STATION OBSERVATIONS ARLINGTON, TEXAS

Radio Station WBAP, 2221 E. Lamar St., Arlington, Texas, is the Emergency Alert System (EAS) station for Hood and Somervell Counties, Texas. WBAP operates at 820 KHz and 50,000 watts of power. The station is operated 24-hours per day. There is an emergency engine generator for uninterrupted power to both the control room and transmitter locations. Communications from the counties is via an unlisted hotline telephone and fax machine. Incoming calls on this line trigger a visual alert. The EAS station has written procedures and a binder of pre-scripted messages. When requested, radio station KFJZ, 870 AM could relay the EAS messages in Spanish.

At 10:29 a.m., Protection Action Decision (PAD) Instruction, EAS Message #1 was received from Somervell County. The message was verified via a prearranged password. This directed message was pulled from the binder of pre-scripted messages and broadcast (simulated) at 10:31 a.m.

At 10:47 a.m., PAD Instruction, EAS #2 was received from Hood County and verified by a fax copy. The simulated broadcast was accomplished at 10:51 a.m.

Additional PAD Information messages were received from Hood County at 11:18 a.m. and 11:26 a.m. They were broadcast (simulated) at 11:20 a.m. and 11:27 a.m. respectively.

In summary, the objectives for the EAS demonstration were met at this location.

APPENDIX 6

AREAS RECOMMENDED FOR IMPROVEMENT

Disaster District EOC

Description: Posting of displays was adequate overall. A consolidated status board that lists all items in chronological order would be easier to manage.

Recommendation: Establish a Message Center with an assigned clerk(s). The function of this Message Center should be to receive, log, copy and distribute all messages and action items, pass these items to the Committee Chairman, and then record them on a consolidated status board that lists all items in chronological order. Critical items such as ECLs, PARs, and meteorological data, could be indicated in different colors.

Description: The black markers on the 10-mile EPZ map were hard to see.

Recommendation: Use brighter colored markers or overlays to provide clearer designations on the 10-mile EPZ map.

Emergency News Center

Description: The BRC PI Coordination Team had adequate space for one person, but three people were on the team.

Recommendation: Improve space accommodations.

Description: There was some delay in posting updates on the status board.

Recommendation: It might be helpful in the future to have a designated person to update the status board as soon as information is received.

Description: The utility technical spokesperson used the plant systems diagram during his briefing, but the podium blocked the audience's view from one side of the room.

Recommendation: Adjust the placement of the podium and the chart so that all the audience can see the chart.

Description: There were telephone problems in the Emergency News Center.

Recommendation: Provide extra batteries and have them readily available.

Description: The microphones did not always work in the media briefing area.

Recommendation: Check the microphones for operability before each press briefing. There were lavalier microphones readily available for all spokespersons, and they should have been substituted as backup equipment for each spokesperson.

Description: The spokespersons were pressed by the media for more details and specific information than was available at each press briefing. Although the verified basic information was provided, additional available facts could have been provided.

Recommendation: Have a person attend each press briefing and take notes on the questions that were asked where answers were not satisfactory or unknown. Be sure to address each one in the next media briefing.

Description: Media questions were accepted by the News Conference Manager. Some questions were left with incomplete answers when moving to another question and when terminating the media briefing session.

Recommendation: Suggest the News Conference Manager repeat the question over the microphone so all can hear, restating the questions (perhaps eliminating multiple part questions) so it is clear to the Spokesperson and media what is being addressed.

Description: There were delays in providing updated information to the Rumor Control staff that were answering the phones.

Recommendation: The Rumor Control Manager needs to promptly relay information to the staff in order to keep them current at all times.

Description: There were no copies of documents from the counties (and State since they were not fully participating in the exercise) received at the Emergency News Center.

Recommendation: County Liaisons need to ensure that the Emergency News Center and the staff are kept informed of events that have occurred in the counties. Examples are signed News Releases, EAS messages, and Declarations of Emergency. Ensure that this information is faxed to the ENC and distributed in a timely manner. Confirmed information is critical for an ENC to be credible.

Somervell County Emergency Operations Center

See Hood County EOC - first Description and Recommendation.

Hood County Emergency Operations Center

Description: The Hood County EOC did not receive a copy of the initial EAS message.

Recommendation: Hood County EOC did not receive a copy of the initial EAS message issued by Somervell County. It is recommended that a checklist be developed that lists the entities, i.e., State EOC, Emergency News Center, Somervell County EOC, with contact numbers (voice and fax) that should receive copies of all EAS messages, Press Releases and Emergency Declarations. **This same recommendation also applies to Somervell County.**

Description: County EOC responders could use additional telephone lines and noise reduction equipment. A training session and written procedures on telephone operations would be beneficial to staff that are not familiar with the EOC equipment.

Recommendation: Install additional phone lines with equipment for noise reduction for use by EOC responders. Provide written procedures and training on telephone operations.

Description: It is recommended that the communications staff establish a master file for all incoming message traffic.

Recommendation: Establish a master file for all incoming message traffic to serve as a focal point for retrieval of all messages relating to the event.