



## Federal Emergency Management Agency

Region VII  
2323 Grand Blvd., Suite 900  
Kansas City, MO 64108-2670

AUG 7 2003

Mr. Ellis Merschoff  
Regional Administrator  
U.S. Nuclear Regulatory Commission, Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-8064

Dear Mr. Merschoff:

Enclosed is a copy of the final report for the May 21, 2003, full-scale emergency planning zone exercise of the offsite radiological emergency response plans site-specific to the Wolf Creek Generating Station. The state of Kansas and Coffey County participated in this exercise. The Federal Emergency Management Agency (FEMA) Region VII prepared the report. A copy of the final report will be provided to the state of Kansas by the FEMA Region VII staff.

There were no deficiencies and no Areas Requiring Corrective Action (ARCAs) identified during the exercise. We will be submitting plan issues in a separate letter to the state.

Based on the results of the full-scale exercise, the offsite radiological emergency response plans and preparedness for the state of Kansas, and affected local jurisdictions, site-specific to the Wolf Creek Generating Station are determined to be adequate to provide reasonable assurance that appropriate measures can be taken offsite to protect the health and safety of the public in the event of a radiological emergency at the site. Therefore, based on the above, the Title 44 CFR, Part 350 approval, granted on April 4, 1989, will remain in effect.

Should you have any questions, please contact Mr. Ronald L. McCabe, RAC Chairman, at (816) 283-7021 or [Ron.McCabe@dhs.gov](mailto:Ron.McCabe@dhs.gov).

Sincerely,

A handwritten signature in cursive script, appearing to read "Richard J. Hainje".

Richard Hainje  
Regional Director

Enclosure

cc: Vanessa Quinn, NP-TS-RP (w/o enclosure)  
Ken Wierman, NP-TS-RP (w/o enclosure)  
William Maier, NRC IVI (w/o enclosure)  
Tim East, WCGS (w/o enclosure)  
Kathy Halvey Gibson, NRC-HQ (w/enclosure)



## **EXERCISE REPORT**

### **WOLF CREEK GENERATING STATION**

**Licensee:** Wolf Creek Nuclear Operating Corporation

**Exercise Date:** May 21, 2003

**Report Date:** August 8, 2003

**Federal Emergency Management Agency  
Region VII  
2323 Grand Boulevard, Suite 900  
Kansas City, Missouri 64108-2670**

**Richard Hainje, Regional Director**

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## **I. EXECUTIVE SUMMARY**

On May 21, 2003, the Federal Emergency Management Agency (FEMA), Region VII, conducted an exercise in the plume exposure pathway emergency planning zone (EPZ) around the Wolf Creek Generating Station. The purpose of the exercise was to assess the level of State and local preparedness in responding to a radiological emergency. These exercises were held in accordance with FEMA's policies and guidance concerning the exercise of State and local radiological emergency response plans and procedures.

The previous exercise at this site was conducted on November 14 and 15, 2001. The qualifying emergency preparedness exercise was conducted on November 7, 1984.

FEMA wishes to acknowledge the efforts of the many individuals who participated in this exercise. In the State of Kansas, the risk county of Coffey participated along with the various organizations of the State government. The efforts of the utility should also be commended for their work on the scenario development and exercise preparation.

Protecting the public health and safety is the full-time job of some of the exercise participants and an additionally assigned responsibility for others. Still others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. Cooperation and teamwork of all the participants were evident during this exercise.

This report contains the evaluation of the biennial exercise.

The State and local organizations demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. There were no Deficiencies and no Areas Requiring Corrective Action (ARCAs) identified as a result of this exercise. Planning issues that were identified during the exercise will be forwarded under a separate correspondence.

There were no Areas Requiring Corrective Action remaining from the previous exercise in 2001.

The final protective action decision (PAD) during the emergency phase was an evacuation of subzones CTR, CCL, JRR, W-1, W-2, SW-1, SW-2, S-1, S-2, and an area beyond the EPZ out to 15 miles southwest of the plant. This included the towns of New Strawn and Burlington, Burlington Schools, county jail, nursing and retirement centers, the county hospital and several recreational lakes. Approximately 3, 787 residents in Kansas were affected by the evacuation.

## **II. INTRODUCTION**

On December 7, 1979, the President directed FEMA to assume lead responsibility for all offsite nuclear planning and response. FEMA's activities are conducted pursuant to 44 Code of Federal Regulations (CFR) Parts 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 governments' 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 radiological emergency planning for fixed nuclear facilities include the following:

- \* Taking the lead in offsite emergency planning and in the review and evaluation of radiological emergency response plans (RERP) and procedures developed by State and local governments.
- \* Determining whether such plans and procedures can be implemented on the basis of evaluation of exercises of the plans and procedures conducted by State and local governments.
- \* Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA (Federal Register, Vol. 58, No. 176, September 14, 1993).
- \* Coordinating the activities of the following federal agencies with responsibilities in the radiological emergency planning process:
  - U.S. Department of Commerce
  - U.S. Nuclear Regulatory Commission
  - U.S. Environmental Protection Agency
  - U.S. Department of Energy
  - U.S. Department of Health and Human Services
    - U.S. Food and Drug Administration
    - U.S. Public Health Service
  - U.S. Department of Transportation
  - U.S. Department of Agriculture
  - U.S. Department of the Interior

Representatives of these agencies serve as members of the FEMA Region VII Regional Assistance Committee (RAC), which is chaired by FEMA.

Formal submission of the RERPs for the Wolf Creek Generating Station to the RAC by the State of Kansas and involved local jurisdictions was followed by a critique and evaluation of these plans. Formal approval of the plans and the Alert and Notification System was granted by FEMA on April 4, 1989.

A REP exercise was evaluated on May 21, 2003, by FEMA Region VII to assess the capabilities of State and local offsite emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the Wolf Creek Generating Station. The purpose of this exercise report is to present the exercise results and findings on the performance of the offsite response organizations (OROs) during a simulated radiological emergency.

The findings presented in this report are based on the evaluations of the Federal evaluator team, with final determinations made by the FEMA Region VII RAC Chairperson and approved by the Regional Director.

The criteria utilized in the FEMA 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.
- \* Radiological Emergency Preparedness: Exercise Evaluation Methodology as published in the Federal Register on September 12, 2001, and April 25, 2002.

Section III of this report, entitled "Exercise Overview," presents basic information and data relevant to the exercise. This section of the report contains a description of the plume pathway EPZ, a listing of all participating jurisdictions and functional entities that were evaluated, and a tabular presentation of the time 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 criteria at each jurisdiction or functional entity evaluated in a jurisdiction-based, issues only format. This section also contains: (1) descriptions of all Deficiencies and ARCAs (if any), assessed during this exercise, recommended corrective actions, and the State and local governments' schedule of corrective actions for each identified exercise issue and (2) descriptions of ARCAs assessed during previous exercises and the status of the OROs efforts to resolve them.

### **III. EXERCISE OVERVIEW**

Contained in this section are data and basic information relevant to the May 21, 2003, exercise that tested the offsite emergency response capabilities in the area surrounding the Wolf Creek Generating Station. This section of the exercise report includes a description of the plume EPZ, a listing of all participating jurisdictions and functional entities that were evaluated, and a tabular presentation of the time of the actual occurrence of key exercise events and activities.

#### **A. PLUME EPZ DESCRIPTION**

The Wolf Creek Generating Station is located in the State of Kansas in Coffey County, about four miles northeast of Burlington, Kansas.

The topography of the 10-mile or plume EPZ is relatively flat.

The plume EPZ is divided into twenty-two sub zones containing a total population of 4,397, all within Coffey County, Kansas. With the exception of Burlington (population 2,790) and three other population clusters, the population density of the effective 10-mile EPZ is quite low - approximately 4.4 persons per square mile. Most of the seasonal or daily shifts in population are associated with recreational areas around John Redmond Reservoir and Coffey County Lake. Approximately 70% of the annual visitors to the John Redmond Reservoir and Coffey County Lake come to the area during the summer months. Sparsely populated farmland comprises the majority of the effective 10-mile EPZ. Other than the Wolf Creek Generating Station, there are not any large industries in the area.

#### **B. EXERCISE PARTICIPANTS**

Indicated below is a list of organizations/functions that participated in the May 21, 2003, exercise.

##### **State of Kansas**

1. Division of Emergency Management
2. Department of Health and Environment
3. National Guard
4. Highway Patrol
5. Adjutant General
6. Department of Transportation
7. Department of Agriculture
8. Department of Wildlife and Parks
9. WIBW Radio Station
10. Civil Air Patrol

11. American Red Cross
12. Wolf Creek Generating Station – Health Physics

**Coffey County**

1. Board of County Commissioners
2. County Attorney
3. Emergency Preparedness Coordinator
4. County Sheriff's Department
5. County Engineer
6. County Treasurer
7. County Appraiser (Shelter Systems Officer)
8. County Road and Bridge Department
9. County Health and Medical Management
10. Public Information Officer
11. County Fire Leader
12. Radiological Officer
13. Le Roy School District
14. Extension Agency
15. Wolf Creek Generating Station - Health Physics/Chemistry

**Federal Agencies**

1. FEMA – Region VII
2. Nuclear Regulatory Commission - IV

**C. EXERCISE TIMELINE**

Table 1, on the following pages, presents the time at which key exercise events and activities occurred during the Wolf Creek Generating Station exercise held on May 21, 2003. Also included are times that notifications were made to the participating jurisdictions/functional entities.

**TABLE 1 EXERCISE TIMELINE**

**DATE AND SITE: May 21, 2003 Wolf Creek Generating Station**

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken											
		Kansas State EOC	Dose Assessment & FTC	EOF	Field Monitoring Team - BLUE (Centerline)	Field Monitoring Team - RED (Plume edge)	Field Monitoring Team - GREEN (Leading edge)	Field Monitoring Team - BLACK (Counting station)	Information Clearing House & Public Inquiry	Coffey County EOC	Forward Staging Area	Coffey County Road And Bridge	WIBW EAS Station
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alert	0812	0813	0815	0815	0828	0815	0815	0828	0826	0823	0821	0835	N/A
Site Area Emergency	1013	1020	1018	1018	1017	1017	1018	1017	1020	1020	1022	1037	N/A
General Emergency	1202	1206	1207	1207	1216	1215	1205	1216	1218	1214	1215	1227	N/A
Rad. Release Started	1202	1202	1209	1209	1206	1215	1205	1216	1218	1235	1212	N/A	N/A
Rad. Release Terminated	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Facility Declared Operational		0900	0845*	0940**	0940	0845	0925	0950	0929	0858	0914	0835	N/A
Governor Declared State of Emergency		1022	1029	1029	N/A	N/A	N/A	N/A	1026	1022	N/A	N/A	N/A
Coffey County Declaration of Emergency		1020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1019	N/A	N/A	N/A
Exercise Terminated <sup>1</sup>		1418	N/A	N/A	1410	1409	1410	1350	1415	1408	1418	1408	N/A
1 <sup>st</sup> A & N Activation		1026	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1st Siren Activation		1019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1019	N/A	N/A	N/A
1st EAS Message		1026	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1026
2 <sup>nd</sup> A & N Activation		1030	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2 <sup>nd</sup> Siren Activation (No Siren)		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2 <sup>nd</sup> EAS Message		1030	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1030	N/A	N/A	1030
3 <sup>rd</sup> EAS Message (No Siren)		1247	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1246	N/A	N/A	1247
4 <sup>th</sup> EAS Message (No Siren)		1333	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1333
KI Recommended	1203	1219	1203	N/A	1206	1206	1208	1206	1226	1235	1219	1238	N/A

		Time That Notification Was Received or Action Was Taken											
KI to Emergency Workers		1225	N/A	N/A	1208	1207	1209	1208	N/A	1238	1228	1245	N/A
KI to Emergency Workers out to 15 miles	1330	1343/ 1349	1330	N/A	N/A	N/A	N/A	N/A	N/A	1346	N/A	N/A	N/A

LEGEND: D - Decision Making Jurisdiction A - Activating Jurisdiction N/A - Not Applicable

<sup>1</sup> Various times are indicated due to the completion of exercise criteria

\*State Department of Health & Environment arrived at EOF at 0920

\*\*State Department of Emergency Management and Coffey County Commissioner arrived at EOF at 0920.

## **IV. EXERCISE EVALUATION AND RESULTS**

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities that participated in the May 21, 2003, exercise to test the offsite emergency response capabilities of State and local governments in the 10-mile plume and 50-mile ingestion EPZs surrounding the Wolf Creek Generating Station.

Each jurisdiction and functional entity was evaluated on the basis of the demonstration of criteria delineated in Radiological Emergency Preparedness: Exercise Evaluation Methodology as published in the Federal Register on September 12, 2001, and April 25, 2002.. Detailed information on the exercise criteria and the extent-of-play agreement for this exercise are found 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 criteria that were scheduled for demonstration during this exercise at all participating jurisdictions and functional entities. Exercise criteria are listed by number and the demonstration status of those criteria is indicated by the use of the following letters:

- M - Met (No Deficiency or ARCAs assessed and no unresolved ARCAs from prior exercises)
- D - Deficiency assessed
- A - Area(s) Requiring Corrective Action (ARCA) assessed and or unresolved ARCA(s) from prior exercise(s)
- N - Not Demonstrated (Reason explained in subsection B)

TABLE 2

May 21, 2003  Wolf Creek Generating Station	Mobilization	Facilities	Direction & Control	Communications Equipment	Equipment & Supplies to Support Operations	Emergency Worker Exposure Control	Rad Assmt PARs Based on Available Information	Rad Assmt PADs for General Public	Prot Action Decisions for Special Population's	Rad Assmt & Decision Making for Ingest Exposure	Rad Assmt & Dec Making for Relo/Re-entry/& Return	Implementation of Emergency Wrkr Exposure Control	Implementation of KI Decision	Implementation of PADs for Special Population's	Implementation of PADs for Schools	Implementation of Traffic Access & Control	Impediments to Evac & Traf are Identified & Resolved	Implementation of Ingestion Pathway Decisions	Impl of IP Decisions Show Strat & Instr Material	Impl of Relocation/Re-entry/Return Decisions	Plume Phase Measurement & Analysis Equip	Plume Phase Field Measurement & Analysis Mgmt	Plume Phase Fld Measurements & Analysis Proced	Post Plume Phase Field Measurements & Sampling	Laboratory Operations	Activation of Prompt Alert & Notification	Activation Prompt Alert & Notif 15 Min (Fast Breaker)	Activation Prompt Alert & Notif in Exception Areas	Emerg Info & Instructions for the Public & Media	Monitoring/Decon/Registration of Evacuees & EWs	Monitoring & Decon of Emerg Worker Equipment	Temporary Care of Evacuees	Trans & Treatment of Contam Injured Individuals	
	EMERGENCY OPNS MANAGEMENT					PROTECTIVE ACTION DECISION-MAKING						PROTECTIVE ACTION IMPLEMENTATION						FIELD MEASUREMENT & ANALYSIS				EMERG NOTIF & PUBLIC INFO				SUPPORT OPNS/FACILITIES								
	1a1	1b1	1c1	1d1	1e1	2a1	2b1	2b2	2c1	2d1	2e1	3a1	3b1	3c1	3c2	3d1	3d2	3e1	3e2	3f1	4a1	4a2	4a3	4b1	4c1	5a1	5a2	5a3	5b1	6a1	6b1	6c1	6d1	
	KANSAS STATE OPERATIONS																																	
State EOC	M	M	M	M	M			M								M	M										M			M				
Dose Assmt./Field Team Coord.	M	M		M	M	M	M					M	M									M												
Field Monitoring Teams	M			M	M							M	M									M		M										
WIBW Radio Station																										M				M				
IC/MC	M	M		M	M																									M				
Forward Staging Area	M			M	M	M						M	M			M	M																	
Emergency Operations Facility	M	M	M	M	M	M						M	M																					
COFFEY COUNTY OPERATIONS																																		
Coffey County EOC	M	M	M	M	M	M			M			M	M	M	M	M	M										M		M	M				
Coffey County Road and Bridge	M	M	M	M	M	M						M	M	M		M	M																	
USD #245 LeRoy School District					M							M	M		M																			
Coffey County EWMDS	M		M	M	M							M	M																			M	M	

M - Met (No Deficiency or ARCA(s) Assessed and no Unresolved ARCAs from Prior Exercises  
 N - Not Demonstrated as Scheduled (Reason Explained in Section IV.B)  
 Blank - Not Scheduled for Demonstration  
 A - ARCA Assessed and Corrected Immediately

A - ARCA(s) Assessed and Unresolved  
 or Unresolved ARCAs from prior Exercises  
 D - Deficiency

## **B. STATUS OF JURISDICTIONS EVALUATED**

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

**Met** - Listing of the demonstrated exercise Criteria 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 Criteria under which one or more Deficiencies were assessed during this exercise. Included is a description of each Deficiency and recommended corrective actions.

**Area Requiring Corrective Actions (ARCA)** - Listing of the demonstrated exercise Criteria under which one or more ARCAs were assessed during the current exercise. Included is a description of ARCA(s) assessed during this exercise and the recommended corrective action(s) to be demonstrated before or during the next biennial exercise.

**Not Demonstrated** - Listing of exercise Criteria that were not demonstrated as scheduled during this exercise and the reason they were not demonstrated.

**Prior ARCAs - Resolved** - Description of ARCA(s) assessed during previous exercises that were resolved in this exercise and the corrective actions demonstrated.

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

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

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

**An ARCA** is defined by FEMA 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 between 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 four digits of the year the exercise was conducted.
- \* **Criterion Number** - A three-digit number corresponding to the criteria numbers in the FEMA Exercise Evaluation Areas.
- \* **Issue Classification Identifier** - (D = Deficiency, A = ARCA). Only 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. KANSAS STATE OPERATIONS**

### **1.1 State Emergency Operations Center**

The State Emergency Operations Center (SEOC) is located in the State Defense Building in Topeka, Kansas. There was good use of visual aids, such as; EOC rules, KI emergency worker notification/verification, traffic and access control points, and public information releases. The use of handheld radios and a public address system greatly enhanced communication. The state is developing a robust G.I.S. resource that works well and shows great potential. Excellent direction, control, and multi-agency coordination were observed throughout the exercise at the SEOC.

- a. **MET:** 1a1, 1b1, 1c1, 1d1, 1e1, 2b2, 3d1, 3d2, 5a1, and 5b1
- b. **DEFICIENCY:** None
- c. **AREA REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

## **1.2 Dose Assessment and Field Team Coordination**

These state functions are located in the utility EOF at the Eisenhower Learning Center. Field team command and control to locate and characterize the plume was exemplary. The Dose assessment and the management team displayed thorough and in-depth knowledge and experience. The collocation of the Kansas Department of Health and Environment with Wolf Creek personnel greatly facilitated emergency response. Both the state and utility personnel functioned as a well-trained, experienced, and fully integrated team. Protective action recommendations were appropriate and timely. Many "what if" situations were considered and protective action recommendations were anticipated.

- a. **MET:** 1a1, 1b1, 1d1, 1e1, 2a1, 2b1, 3a1, 3.b.1, and 4a2
- b. **DEFICIENCY:** None
- c. **AREAs REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

## **1.3 Radiological Field Monitoring Teams**

The four joint (state/county/utility) radiological monitoring teams (JRMTs) are deployed from the utility EOF at the Eisenhower Learning Center. The joint field team concept provided an excellent mix of abilities and technical knowledge. The joint monitoring concept works very well. It allows for team members to use their specific skills and abilities. Using the county to drive the emergency vehicles is a great asset to the team. The RED JRMT was very proactive at predicting a plume path and anticipating monitoring locations to track the southern edge of the plume. They had good discussions regarding the location of other field teams. They were very resourceful on managing communication during busy radio traffic by using their cell phones to contact the Field Team Coordinator. The BLUE JRMT was well acquainted with their duties, responsibilities and their plan/procedures and they worked well together. In addition the JRMT team members were proactive in their efforts to identify the northern edge of the plume. The implementation of assignments to the BLACK JRMT to locations outside the plume was completed in an excellent manner as one member of the team was with the county highway department and familiar with the new addresses being provided. The GREEN JRMT worked well together. The team members were well acquainted with their duties, responsibilities and their plan/procedures. It is recommended that all equipment, including spectacle kits, be demonstrated during training, practices, drills, and exercises. To practice without all equipment can lead to errors during exercises and potential actual incidents.

- a. **MET:** 1a1, 1d1, 1e1, 3a1, 3b1, 4a1, and 4a3

- b. **DEFICIENCY: None**
- c. **AREA REQUIRING CORRECTIVE ACTION: None**
- d. **NOT DEMONSTRATED: None**
- e. **PRIOR ARCAs - RESOLVED: None**
- f. **PRIOR ARCAs - UNRESOLVED: None**

#### **1.4 WIBW Radio Station**

WIBW radio station is located in Topeka, Kansas. Both shifts of the keyboard operator were knowledgeable in the use of the equipment and very conscientious regarding repeating messages every 15 minutes. All exercise duties were demonstrated while maintaining daily radio station duties.

- a. **MET: 5a1, 5b1**
- b. **DEFICIENCY: None**
- c. **AREA REQUIRING CORRECTIVE ACTION: None**
- d. **NOT DEMONSTRATED: None**
- e. **PRIOR ARCAs - RESOLVED: None**
- f. **PRIOR ARCAs - UNRESOLVED: None**

#### **1.5 Information Clearinghouse/Media Center**

These functions are located in the State Defense Building and at the Nickell Memorial Armory in Topeka, Kansas. The State, Coffey County, utility, and FEMA Public Information Officers worked well together as a team. The utility's rumor control staff and rumor tracking system were outstanding. After being notified and mobilized, the staff was extremely efficient and rapid in their setup of the facility. They were proactive with news releases when the evacuation was extended out to 15 miles.

- a. **MET: 1a1, 1b1, 1d1, 1e1, and 5b1**
- b. **DEFICIENCY: None**
- c. **AREA REQUIRING CORRECTIVE ACTION: None**

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

### **1.6 State Forward Staging Area**

The Forward Staging Area (FSA) is located in a park at the intersection of Highway 75 and Old Highway 50, approximately 10.5 miles north of the plant site. Three agencies were at this location: Kansas Highway Patrol (KHP), Kansas National Guard (KNG), and Kansas Wildlife and Parks (KWP). The configuration of the FSA with the mobile command posts of the KHP and KNG made communications flow better. KWP had a dedicated telephone line in the KNG command post. One of the strengths of the FSA is the variety of communications equipment brought to the exercise. Staffs were professional and used the exercise as a valuable training opportunity for new personnel.

Several recommendations were identified during the exercise. One is to develop an Integrated Command (IC) system at the FSA and all other locations. This would alleviate the need for multiple notifications by each agency at each notification level and could speed up implementation of emergency response measures. There is a need to follow-up on rumors on potentially erroneous information. For example, KWP was notified by their State EOC contact of a "release" at the ALERT. They checked with KHP and KNG who indicated no knowledge of any release. No agency worked to clarify the information regarding a release. Three different agencies have responsibility for portions of the evacuation for the John Redmond Reservoir (JRR). There needs to be better coordination and specific procedures to ensure that the mission, evacuation of JRR, is accomplished. The alternate Forward Staging Area at Lebo should be reconsidered. By moving the FSA to Lebo moves the FSA from North to Northwest of the plant and could potentially keep the FSA in the plume, if it were to go beyond 10 miles..

- a. **MET:** 1a1, 1d1, 1e1, 2a1, 3a1, 3b1, 3d1, and 3d2
- b. **DEFICIENCY:** None
- c. **AREA REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

### **1.7 Emergency Operations Facility**

This facility is located at the Eisenhower Learning Center outside of Burlington, Kansas. There

was excellent coordination and communication between agencies and with their field counterparts.

- a. **MET:** 1a1, 1b1, 1c1, 1d1, 1e1, 2a1, 3a1, and 3b1
- b. **DEFICIENCY:** None
- c. **AREA REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

## **2. COFFEY COUNTY OPERATIONS**

### **2.1 Coffey County Emergency Operations Center**

The Coffey County Emergency Operations Center is located within the 10-mile emergency planning zone at the Coffey County Courthouse in Burlington, Kansas. There was an outstanding demonstration of community involvement by county officials as all 5 Coffey County Commissioners participated in the exercise. The County Attorney also participated and provided counsel and recommendations on applicable issues. The Sheriff has developed a process of photographing the traffic access and control points and then emailing it to the State EOC, EOF, and Forward Staging Area. This enabled the staff at other locations to have visual and immediate information. The Emergency Operations Management in Coffey County is to be commended for demonstrating exceptional communication and training skills that brought out the best in all participants. Coffey County is to be commended for their innovative and proactive planning for areas outside the 10-mile EPZ. The county has already mapped the entire county into unofficial emergency planning zones. In addition, the populations living in those areas were registered into an emergency-planning database that was capable of being sorted to identify special needs populations. The County uses this database to notify the potentially affected population of the emergency by a combination of telephone calls and door to door visits.

- a. **MET:** 1a1, 1b1, 1c1, 1d1, 1e1, 2a1, 2c1, 3a1, 3b1, 3c1, 3c2, 3d1, 3d2, 5a1, 5a3, and 5b1
- b. **DEFICIENCY:** None
- c. **AREA REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None

- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

## **2.2 Coffey County Road and Bridge Department**

This function is performed in the "County Shop" located in Burlington, Kansas. The staff was knowledgeable and demonstrated a very positive attitude. The staff was well-equipped and prepared. There was an excellent demonstration of traffic and access control. The barricades were set in a timely manner. Staff demonstrated an excellent knowledge of emergency worker exposure control and thoroughly documented all roadblocks and access control points required during the exercise.

One of the county maps used by Road and Bridge personnel in establishing access control points, was labeled in a confusing manner for some of the "lanes." It is strongly recommended that this map be relabeled to eliminate the confusion.

- a. **MET:** 1a1, 1b1, 1c1, 1d1, 1e1, 2a1, 3a1, 3b1, 3c1, 3d1, and 3d2
- b. **DEFICIENCY:** None
- c. **AREA REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

## **2.3 Coffey County Emergency Worker Monitoring and Decontamination**

This function was demonstrated at the Coffey County Road and Bridge Building by the Road and Bridge staff. The monitoring and decontamination staff were knowledgeable and demonstrated a very positive attitude. The staff was well-equipped and prepared. The Emergency worker monitoring and decontamination was significantly improved from previous demonstrations.

- a. **MET:** 1a1, 1c1, 1d1, 1e1, 3a1, 3b1, 6a1, and 6b1
- b. **DEFICIENCY:** None
- c. **AREA REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None

- f. **PRIOR ARCAs - UNRESOLVED:** None

#### **2.4 Unified School District #245, LeRoy School District**

This school district is located in LeRoy, Kansas, within the Emergency Planning Zone (EPZ). There are 300 students in K-12 in this district that will soon merge with another school district outside the EPZ. The Superintendent, Principal, and one bus driver were available for this out of sequence drill. All were very knowledgeable regarding their emergency response duties. There are six buses for transport of students to Anderson County Reception Center. Each bus is equipped with a radio, seat belts for each passenger, and a complete dosimeter kit with the exception of KI (located in the first aid kit). The County Radiological Officer stated the kits are checked quarterly. It is noted that the principal sends a letter home each year to parents of high school students to sign and return if they authorize their child to drive their personal vehicle to the reception center rather than ride the bus. The Principal noted that over the years he has yet to receive a signed letter.

- a. **MET:** 1e1, 3a1, 3b1, and 3c2
- b. **DEFICIENCY:** None
- c. **AREA REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

## **Appendix 1 - Acronyms and Abbreviations**

<b>A&amp;N</b>	<b>Alert and Notification</b>
<b>ARC</b>	<b>American Red Cross</b>
<b>ARCA</b>	<b>Area Requiring Corrective Action</b>
<b>CFR</b>	<b>Code of Federal Regulations</b>
<b>DOT</b>	<b>U.S. Department of Transportation</b>
<b>DRD</b>	<b>Direct Reading Dosimeter</b>
<b>EAS</b>	<b>Emergency Alert System</b>
<b>EOC</b>	<b>Emergency Operations Center</b>
<b>EOF</b>	<b>Emergency Operations Facility</b>
<b>EPA</b>	<b>U. S. Environmental Protection Agency</b>
<b>EPZ</b>	<b>Emergency Planning Zone</b>
<b>EW</b>	<b>Emergency Worker</b>
<b>EWMS</b>	<b>Emergency Worker Monitoring and Decontamination Station.</b>
<b>FEMA</b>	<b>Federal Emergency Management Agency</b>
<b>FSA</b>	<b>Forward Staging Area</b>
<b>FTC</b>	<b>Field Team Coordination</b>
<b>GPM</b>	<b>Gallons Per Minute</b>
<b>IC/MC</b>	<b>Information Clearinghouse/Media Center</b>
<b>JRMT</b>	<b>Joint Radiological Monitoring Team</b>
<b>KDEM</b>	<b>Kansas Division of Emergency Management</b>
<b>KDHE</b>	<b>Kansas Department of Health &amp; Environment</b>
<b>KHP</b>	<b>Kansas Highway Patrol</b>

KI	Potassium Iodide
KNG	Kansas National Guard
KWP	Kansas Wildlife and Parks
mR	Milliroentgen
NRC	U.S. Nuclear Regulatory Commission
NUREG-0654	Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants (NUREG-0654/FEMA-REP-1, Rev. 1).
ORO	Offsite Response Organization
PAD	Protective Action Decision
PAR	Protective Action Recommendation
PIO	Public Information Officer
R	Roentgen
RAC	Regional Assistance Committee
RCS	Reactor Coolant System
REM	Roentgen Equivalent Man
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
SEOC	State Emergency Operations Center
SRAM	State Radiological Assessment Manager
TDD	Telecommunications Device for the Deaf
TEDE	Total Effective Dose Equivalent
TL	Team Leader
TLD	Thermo-luminescent Dosimeter

<b>USD</b>	<b>Unified School District</b>
<b>WCGS</b>	<b>Wolf Creek Generating Station</b>
<b>WCNOC</b>	<b>Wolf Creek Nuclear Operating Corporation</b>

## Appendix 2 - Exercise Evaluators and Team Leaders

Fourteen federal agency personnel and five FEMA contract staff evaluated the offsite emergency response functions for the Wolf Creek Generating Station exercise on May 21, 2003. Evaluation Team Leaders are indicated by the letters "(TL)" after their names. The organization which each evaluator represents is indicated by the following abbreviations:

DOT U.S. Department of Transportation  
 EPA U.S. Environmental Protection Agency  
 FEMA Federal Emergency Management Agency  
 ICF FEMA contract staff

\* Indicates locations evaluated out-of-sequence during the May 2003 exercise.

EVALUATION SITE	EVALUATOR	ORGANIZATION
State Emergency Operations Center	Audie Canida – TL David Smith Al Lookabaugh	FEMA FEMA ICF
Dose Assessment/Field Team Coordination.	Daryl Thome'	ICF
Radiological Field Monitoring Teams	Garriane Howard David Jacobson Hollis Berry Edward Woinas	EPA ICF ICF ICF
WIBW Radio Station	Judy Dodgen	FEMA
Information Clearinghouse & Media Center	Joe Schulte - TL Rex Jennings	FEMA FEMA
Forward Staging Area	Joe Chandler	FEMA
Emergency Operations Facility	Sharron McDuffie	FEMA
Coffey County Emergency Operations Center	Eleanor Castle – TL Bill Maier Debbie Waggoner	FEMA NRC DOT
Coffey County Road & Bridge Dept.	Norm Valentine – T/L James Purvis	FEMA FEMA
Coffey County Emergency Worker Monitoring and Decontamination	Norm Valentine – T/L James Purvis	FEMA FEMA
USD 245 LeRoy School District*	Jane Young	FEMA

## **Appendix 3 - Exercise Criteria and Extent of Play Agreement**

This appendix lists the exercise criteria that were scheduled for demonstration during the Wolf Creek Generating Station exercise on May 21, 2003 and the school evaluation on May 22, 2003. Because the exercise criteria are intended for use at all nuclear power plant sites and because of variations among offsite plans and procedures, an extent-of-play agreement was prepared by FEMA Region VII and provided to the State of Kansas for further clarification of expected demonstration of the criteria.

Site-specific information was negotiated in the extent-of-play agreement approved by FEMA Region VII for the State of Kansas on March 20, 2003.

The exercise criteria, contained in the FEMA Evaluation Areas published in the Federal Register on September 12, 2001, and April 24, 2002, represent a functional translation of the planning standards and evaluation criteria of NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for the Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980.

Listed below are the specific REP Criteria scheduled for demonstration during this exercise and the extent of play agreement, if applicable.

### **Exercise Criterion and Extent-of-Play**

#### **EVALUATION AREA 1: EMERGENCY OPERATIONS MANAGEMENT**

##### **Sub-element 1.a – Mobilization**

**Criterion 1.a.1: OROs use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0654, A.4, D.3, 4, E.1, 2, H.4)**

The State of Kansas has requested, and it has been approved, for the pre-positioning of the following groups for the May 21, 2003, exercise:

- Kansas Department of Emergency Management (KDEM), Kansas Department of Health and Environment (KDHE), and Coffey County personnel will pre-stage at Beto Junction, Kansas, prior to deploying to the Wolf Creek Nuclear Operations Corporation Emergency Operations Facility.
- Wolf Creek Public Information personnel will pre-stage at the State Emergency Operations Center.
- Kansas National Guard Bureau, Kansas Highway Patrol, and Kansas Wildlife and

Parks will pre-stage at the Forward Staging Area.

- KDEM's Coffey County Liaisons will pre-stage at the Coffey County Emergency Operations Center.

All staff that have been approved for pre-positioning cannot arrive at their respective facility until one hour after receipt of the ALERT emergency classification level.

Pre-positioning of any additional staff is not authorized, except by written approval from this office prior to the exercise. Your request must include which staff positions will be pre-positioned and the facility (ies) that will be affected.

Although demonstration of a shift change is not required, all evaluated facilities and functions shall provide current rosters identifying the individuals that will maintain around the clock operation. A current roster for 24-hour staffing must be provided to the evaluation team at each location.

All telephone calls to mobilize personnel or place them on standby must actually be made. A copy of who was notified will be provided to the evaluator.

#### **Sub-element 1.b – Facilities**

**Criterion 1.b.1: Facilities are sufficient to support the emergency response. (NUREG-0654, H)**

Based on current FEMA guidance and Federal Register notice (April 25, 2002) the following facilities are not required to be evaluated for this criterion, unless there has been a major change in their physical structure or they are a new facility. The following sites are: Kansas State EOC, Dose Assessment/Field Team Coordination, Information Clearinghouse/Media Center; Emergency Operations Facility; Coffey County EOC, Coffey County Road and Bridge Department.

#### **Sub-element 1.c - Direction and Control**

**Criterion 1.c.1: Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible. (NUREG-0654, A.1.d., 2.a., b.)**

No Modifications

### **Sub-element 1.d – Communications Equipment**

**Criterion 1.d.1: At least two communication systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654, F.1., 2.)**

All facilities and field teams that are evaluated must demonstrate communications capability. The evaluators will request copies of all messages and logs of message traffic at each site.

### **Sub-element 1.e – Equipment and Supplies to Support Operations**

**Criterion 1.e.1: Equipment, maps, displays, dosimeters, potassium iodide (KI), and other supplies are sufficient to support emergency operations. (NUREG-0654, H., J.10.a.b.e.f.j.k., 11, K.3.a.)**

Verification of dosimeters and KI supplies, as applicable, will occur at the State Emergency Operations Center, State Forward Staging Area, Wolf Creek Emergency Operations Facility, the Coffey County EOC, LeRoy USD 245, Anderson County Reception Center, Coffey County ambulance and Coffey County hospital, and all other facilities that maintain dosimeters and KI supplies in accordance with the plan.

### **OUT OF SEQUENCE**

The issuance of radiological instrumentation and operability checks at the Anderson County Reception Center must not be accomplished prior to the evaluators' arrival.

The issuance of radiological instrumentation and operability checks at the Coffey County Ambulance and Coffey County Hospital must not be accomplished prior to the evaluators' arrival.

## **EVALUATION AREA 2: PROTECTIVE ACTION DECISION-MAKING**

### **Sub-element 2.a – Emergency Worker Exposure Control**

**Criterion 2.a.1: ORO(s) use a decision-making process, considering relevant factors and appropriate coordination, to insure that an exposure control system, including the use of KI, is in place for emergency workers including provisions to authorize radiation exposure in excess of administrative limits or protective action guides. (NUREG-0654, K.4.)**

No Modifications

**Sub-element 2.b. Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency**

**Criterion 2.b.1: Appropriate protective action recommendations are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of on-site and off-site environmental conditions. (NUREG-0654, I.8., 10., 11. and Supplement 3.)**

No Modifications

**Sub-element 2.b. Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency**

**Criterion 2.b.2: A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy). (NUREG-0654, J.9., 10.m.)**

No Modifications

**Sub-element 2.c - Protective Action Decisions Consideration for the Protection of Special Populations (Schools)**

**Criterion 2.c.1: Protective action decisions are made, as appropriate, for special population groups. (NUREG-0654, J.9., 10.c.d.e.g.)**

During the emergency phase of the exercise on May 21, 2003, all appropriate actions (e.g. notification, EAS messages, etc.) must be demonstrated by the EOC staff for any public or private schools affected by protective action recommendations. Contacts with public school systems/districts must be actual and all public school systems/districts in the EPZ must be notified. If there are any private schools or day care centers that require notification and are in the plan, they must also be notified.

**EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION**

### **Sub-element 3.a – Implementation of Emergency Worker Exposure Control**

**Criterion 3.a.1: The OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. (NUREG-0654, K.3.)**

Emergency workers must wear appropriate direct reading and permanent record dosimeters and have access to a dosimeter charger in accordance with state and local plans and procedures. In addition, they must be able to demonstrate basic knowledge of dosimeters, radiation exposure limits, and turn-back exposure limits through an interview process. Procedures to monitor and record dosimeter readings and to manage radiological exposure control must be demonstrated.

#### **OUT OF SEQUENCE**

##### **Out of Sequence in May:**

For the LeRoy school interview the bus driver must demonstrate knowledge of emergency worker exposure control. The bus driver and whoever is responsible for issuing the dosimeters must have dosimeters available for this demonstration and be knowledgeable of procedures for their use and of their exposure limits. Dosimeter chargers are not provided to the bus drivers; however, they are provided with information on where to obtain one if they need to charge or re-zero their direct reading dosimeter.

##### **Out of Sequence in September:**

For the medical drill on September 23, 2003, the responding Coffey County ambulance and the staff at Coffey County Hospital must have dosimeters and a dosimeter charger available for this demonstration and be knowledgeable of procedures for their use and of their exposure limits

For the Anderson County reception center drill on the evening of September 25, 2003, emergency workers must demonstrate their knowledge of emergency worker exposure control. Workers must have dosimeters and a dosimeter charger available for this demonstration and be knowledgeable of procedures for their use and of their exposure limits.

### **Sub-element 3.b – Implementation of KI Decision**

**Criterion 3.b.1: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for emergency workers and institutionalized individuals (not the general public) is maintained. (NUREG-0654, E. 7., J. 10. e., f.)**

Although the decision to recommend the use of KI is not due for demonstration during this

exercise, it is possible that the scenario could require it. If the decision to use KI is made, the instructions must be appropriately disseminated to all personnel including those deployed (simulated) for traffic and access control and other missions. However, if the decision to use KI is not required by the scenario, all emergency workers, at all facilities, will be expected to demonstrate this criterion through an interview of their knowledge of the procedures for the authorization and the use of KI. Actual administration of KI will be simulated.

## OUT OF SEQUENCE

### Out of Sequence in May:

During the school evaluation, the bus driver and whoever is responsible for issuing KI, must have KI available and be knowledgeable of procedures for the authorization and use of KI.

### Out of Sequence in September:

During the medical drill, the responding ambulance crew must have KI available and be knowledgeable of procedures for the authorization and use of KI.

## **Sub-element 3.c – Implementation of Protective Actions for Special Populations**

**Criterion 3.c.1: Protective action decisions are implemented for special populations other than schools within areas subject to protective actions. (NUREG-0654, E.7., J.9., 10.c.d.e.g.)**

Telephone calls to special facilities and individuals with special needs may be actually made or simulated. Actual telephone calls must be made to at least 1/3 of the transportation providers, including special resources for disabled individuals. However, all facilities, individuals with special needs, and transportation providers that are required to be notified must be clearly identified and the actual or simulated contacts appropriately documented. Telecommunications Device for the Deaf (TDD) calls to the hearing impaired population will be simulated and appropriately documented

## **Sub-element 3.c – Implementation of Protective Actions for Special Populations – Schools**

**Criterion 3.c.2: OROs/School officials decide upon and implement protective actions for schools. (NUREG-0654, J.10.c., d., g.)**

We will expect the capability to take appropriate protective actions for schools to be demonstrated by LeRoy USD 245 during the week of May 18th. An exercise evaluator will be assigned for the school to interview the district superintendent (or other designated school official) and principal. This demonstration will be out of sequence.

In addition, at least one school bus driver must be available for an interview to determine their awareness of and preparedness for the evacuation of school children.

### **Sub-element 3.d. – Implementation of Traffic and Access Control**

**Criterion 3.d.1: Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654, J.10.g., j., k.)**

Deployment of traffic and access control personnel to assigned locations will be simulated. However, the locations where traffic and access control would be established must be appropriately documented. Staffing of traffic and access control points must be appropriately coordinated with all involved jurisdictions.

At least two individuals, who would normally perform traffic and access control, must be available at the Coffey County Road and Bridge and Forward Staging Area (Wildlife and Parks, National Guard, Highway Patrol) for interviews to demonstrate knowledge of their roles and responsibilities concerning traffic and access control, as well as appropriate knowledge concerning dosimeters and KI. We recommend that this demonstration take place early in the exercise.

### **Sub-element 3.d. – Implementation of Traffic and Access Control**

**Criterion 3.d.2: Impediments to evacuation are identified and resolved. (NUREG-0654, J.10., k.)**

No Modifications

## **EVALUATION AREA 4: FIELD MEASUREMENT AND ANALYSIS**

### **Sub-element 4.a – Plume Phase Field Measurements and Analyses**

**Criterion 4.a.1: The field teams are equipped to perform field measurements of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates. (NUREG-0654, H.10, I.8., 9., 11.)**

Each of the deployed field monitoring teams must take radiation measurements at a sufficient number of locations to identify the plume. A demonstration of an operational check of the instruments utilizing a check source is required. Information on the proper reading or range of readings should be attached to or accompany the instrument. Radiological detection instruments, equipment, and protective clothing should be available for the demonstrations. The Field Teams will be deployed from the Emergency Operations Facility.

### **Sub-element 4.a – Plume Phase Field Measurements and Analyses**

**Criterion 4.a.2: Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654, I.8., 11., J.10.a).**

The field teams must demonstrate this evaluation criterion as they would in an actual emergency.

#### **Sub-element 4.a – Plume Phase Field Measurements and Analyses**

**Criterion 4.a.3: Ambient radiation measurements are made and recorded at appropriate locations, and radiiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media. (NUREG-0654, I.8., 9., 11.)**

The field teams must demonstrate this evaluation criterion as they would in an actual emergency. Activities related to the use of equipment and procedures for the collection and transport of samples from areas that received deposition from the airborne plume must be demonstrated. The field team(s) will demonstrate contamination control procedures and a chain of custody form must be used.

### **EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION**

#### **Sub-element 5.a – Activation of the Prompt Alert and Notification System**

**Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum the elements required by current FEMA REP guidance. (10 CFR Part 50, Appendix E & NUREG-0654, E. 1., 4., 5., 6., 7.)**

An evaluator will be assigned at WIBW EAS radio station to observe the station's procedures for broadcasting all exercise related messages. We expect to see the actual receipt of the messages from the State or Coffey County EOC. Following receipt at the station, procedures to broadcast the message must be fully demonstrated up to the point of transmission. Actual broadcasts of the messages or EAS test messages are not required. The FEMA evaluator will remain at the EAS station until the termination of the exercise to observe receipt and broadcast procedures for all EAS messages and Public Information messages. Copies of all EAS messages and Public Information messages will be requested from the facility. The appropriate facility sending messages to the radio station must demonstrate the capability to verify receipt of messages at the radio station.

The procedures for siren activation must be demonstrated up to the point of actual activation. Actual siren activation may be simulated. In addition, tone alert radio and/or weather radio

activation may be simulated.

The following basic criteria should be included in the initial EAS announcements.

1. Identification of the State or local government organization and the official with authority for providing the alert signal and instructional message.
2. Identification of the commercial nuclear power plant and a statement that an emergency exists at the plant.
3. Reference to Radiological Emergency Preparedness specific emergency information (e.g. brochures and phone book information) for use by the general public during an emergency.
4. A closing statement asking that the affected and potentially affected population stay tuned for additional information.

#### **Sub-element 5.a – Activation of the Prompt Alert and Notification System**

##### **Criterion 5.a.2: RESERVED**

Not to be demonstrated at this exercise.

#### **Sub-element 5.a – Activation of the Prompt Alert and Notification System**

**Criterion 5.a.3: Activities associated with FEMA approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup alert and notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system. (NUREG-0654, E. 6., Appendix 3.B.2.c)**

To be demonstrated only if there is a siren failure. Demonstration would occur up to the point of the dispatch of back up route alerters.

#### **Sub-element 5.b – Emergency Information and Instructions for the Public and the Media**

**Criterion 5.b.1: OROs provide accurate emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654, E. 5., 7., G.3.a., G.4.a., b., c.)**

All subsequent protective action instructions provided to the public after the initial notification should be disseminated in a timely manner. Messages should be all inclusive by including previously identified protective action areas as well as new areas. Procedures must be demonstrated, if appropriate, to ensure that EAS messages and Public Information messages

containing Protective Action Recommendation(s) (PARs) that have been changed are rescinded and not repeated by the EAS station. In addition, procedures must be demonstrated to ensure that EAS messages and Public Information messages containing current PARs are repeated at pre-established intervals.

Media briefings and public information will be coordinated at the Kansas Information Clearinghouse and Media Center (IC/MC). Sufficient and timely media briefings should be conducted from this location.

The Public Inquiry System (Rumor Control) is activated at the Emergency News Center in Topeka, Kansas. Kansas City Power and Light monitors media sources from their general offices in Kansas City. This will require close coordination between utility staff, state public information staff, and KCPL staff. Each rumor control staff member must demonstrate the capability to respond to an average of at least six calls per hour throughout the emergency phase. Any trends in rumors identified by rumor control staff must be addressed by the IC/MC in news releases and media briefings. At least one message should address a false or misleading rumor for which measures should be taken. Evaluators will be assigned at the IC/MC to monitor public information and rumor control activities. Copies of all messages, message logs, news releases, and public information statements will be provided to the evaluators at each site.

## **EVALUATION AREA 6: SUPPORT OPERATION/FACILITIES**

### **Sub-element 6.a – Monitoring and Decontamination of Evacuees and Emergency Workers, and Registration of Evacuees**

**Criterion 6.a.1: The reception center/emergency worker facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or emergency workers. (NUREG-0654, J.10.h.; K.5.b.)**

This demonstration will occur on September 25, 2003, in the evening. The number of evacuees that must be monitored within twelve hours at the Anderson County reception center is 391 (20% of the evacuees assigned to the center). According to the plan, a portal monitor will be used at this facility. Therefore, one monitoring team for the portal monitor must be demonstrated. In the event that the portal monitor does not function, then according to the plan and based on a monitoring time of four minutes per person, three (3) monitoring teams (2 individuals each) will be required to monitor this number of evacuees within twelve hours. At least one third of this total (one team) must be available for demonstration.

Two additional monitoring teams must be available for evacuee (male/female) decontamination. Therefore, at least three teams must be available for demonstration. The Anderson County Fire Department and Anderson County volunteers provide the monitors for this facility. Therefore, the monitoring resources should be from this organization and the identified volunteers.

The facilities at Anderson County utilized for monitoring and decontamination of evacuees must be set up for evaluation. This will require full staffing of personnel required to accomplish monitoring and decontamination of evacuees. At least six evacuees must be processed to demonstrate registration, monitoring, and decontamination capabilities. Monitoring and decontamination procedures should be initiated for at least one male and one female evacuee. Decontamination may be simulated and completed through an interview process.

As this facility could be used for emergency worker vehicle monitoring and decontamination, at least one vehicle must be monitored. Decontamination of the vehicle is not required according to the evaluation criterion. This component of the demonstration may be completed through an interview process.

The individuals who perform monitoring must demonstrate an operational check of the instruments, utilizing a check source, prior to monitoring. Information on the proper reading or range of readings should be attached to or accompany the instrument.

All organizations that, per the plans, provide support of registration center activities must be present for evaluation at the Anderson County Reception Center.

#### **Sub-element 6.b – Monitoring and Decontamination of Emergency Worker Equipment**

**Criterion 6.b.1: The facility/ORO has adequate procedures and resources for the accomplishment of monitoring and decontamination of emergency worker equipment including vehicles. (NUREG-0654, K.5.b)**

This will be demonstrated at the Coffey County Decontamination center on May 21, 2003. The Coffey County Road and Bridge Shop personnel who perform the monitoring must demonstrate this criterion. Monitoring of at least one emergency worker vehicle must be demonstrated. Decontamination of the vehicles may be conducted by interview. This demonstration will occur after the termination of the exercise.

#### **Sub-element 6.c - Temporary Care of Evacuees**

**Criterion 6.c.1: Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with American Red Cross planning guidelines (found in MASS CARE-Preparedness Operations, ARC 3031). Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities. (NUREG-0654, J.10.h., 12.)**

OUT OF SEQUENCE

This will be demonstrated at the Anderson-Garnett Junior/Senior High School and Anderson-Garnett Elementary School on September 25, 2003. Successful demonstration will fulfill the baseline requirements for evaluation of these facilities. They will not need to be demonstrated again unless there is a significant change made to the facilities that would affect the ability to care for evacuees as stated under the current plan.

According to the plans, Anderson County Emergency Preparedness, Anderson County Sheriff's Department and the Superintendent of Schools USD 365 and 479, the American Red Cross and the Salvation Army provide personnel to staff the registration and congregate care center. Therefore, a representative from each of these organizations must be present during the evaluation.

#### **Sub-element 6.d - Transportation and Treatment of Contaminated Injured Individuals**

**Criterion 6.d.1: The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals. (NUREG-0654, F.2, H.10., K.5.a.b., L.1., 4.)**

**OUT OF SEQUENCE – To Be Demonstrated on September 23, 2003.**

Coffey County ambulance and Coffey County Hospital will demonstrate this out of sequence. The use of flashing lights and sirens are not necessary during this exercise. A non-specialized vehicle may be used to transport the simulated victim to the medical facility. However, should the ambulance portion of the drill terminate prior to actual transportation to the medical facility, communications between the ambulance and the receiving medical facility must be demonstrated as in the discussion in the generic (national) extent of play.

The ambulance and crew must be monitored before release back into service. In addition, the crew will be interviewed as to their knowledge of where monitoring and decontamination of their vehicle will be accomplished.

On September 23, 2003, the hospital portion will be demonstrated by Coffey County Hospital.

In the event that during an out-of-sequence demonstration an evaluator identifies an exercise issue, the evaluator will discuss it with the Team Leader, Controller, and Trainer (state or utility representative). If possible, the trainer will provide immediate instruction and a re-demonstration will occur to correct the issue. The exercise report will reflect the exercise issue and that it has been corrected.

## **Appendix 4 - Exercise Scenario**

This appendix contains a summary of the simulated sequence of events -- Exercise Scenario -- that was used as the basis for invoking emergency response actions by OROs during the Wolf Creek Generating Station exercise on May 21, 2003. The exercise scenario was submitted by the Wolf Creek Nuclear Operating Corporation on March 14, 2003 and approved by FEMA Region VII on April 23, 2003.

During the exercise, controllers from Wolf Creek Nuclear Operating Corporation gave "inject messages" containing scenario events and/or relevant data to those persons and locations that would normally receive notification of such events. These inject messages were the method used to invoke response actions by ORO's. The times listed below are those contained in the scenario. Actual times of key events are documented in Table 1 of the Exercise Timeline.

### **SEQUENCE OF EVENTS**

- 730 Initial conditions are provided to the Shift Manager
- 800 Drill activities begin
- 800 The Radwaste Building truck bay area radiation monitor alarms reading in excess of 240 mR per hour. The control room is notified of a resin spill in the Radwaste building. ALERT is declared.
- 900 Transformer fails causing service water pumps to fail due to a loss of power, resulting in a reactor trip
- 915 A transformer suffers an internal fault. 'A' diesel generator starts and loads, but after a few minutes it stops when its fuel strainer becomes clogged.
- 930 The component cooling water to regenerative heat removal isolation valve fails closed, ensuring that there is no available core cooling after suction transfers to the containment pipes.
- 1000 An incore thimble tube fails, which causes the reactor coolant system to begin losing inventory into containment. The initial leak rate is approximately 480 gpm and results in the declaration of a SITE AREA EMERGENCY.
- 1030 An accident involving a gasoline transport tanker occurs on Highway 75, beneath the bridge where I-35 crosses over. This forces a temporary closure of both highways.
- 1200 The integrity of the transfer tube fails. The leak rate increases to 10,000 gpm. With the Fuel Building rollup door stuck open, there is an unfiltered release path to the public. This will require an evacuation of down wind populations to 10 miles and results in the declaration of a GENERAL EMERGENCY.

1400 Exercise terminates.

There is no mitigation that will terminate the release until the plant cools below 212°F.