UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

March 5, 2002

Otto L. Maynard, President and
Chief Executive Officer
Wolf Creek Nuclear Operating Corporation
P.O. Box 411
Burlington, Kansas 66839

SUBJECT: FEDERAL EMERGENCY MANAGEMENT AGENCY'S REPORT

Dear Mr. Maynard:

Enclosed is a copy of the Federal Emergency Management Agency's (FEMA) exercise evaluation report of the November 14, 2001 emergency preparedness plume phase and November 15, 2001, ingestion pathway exercises at Wolf Creek Generating Station.

The report indicates that FEMA observed no deficiencies during the exercise, and observed one area requiring corrective action, which was remedied and closed during the exercise evaluation.

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 Ryan E. Lantz at (817) 860-8158 or Paul J. Elkmann at (817) 276-6539 of my staff.

Sincerely,

Gail M. Good, Chief
Plant Support Branch
Division of Reactor Safety

Docket: 50-482
License: NPF-42

Enclosure:
As stated

cc w/o enclosure:
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TABLE OF CONTENTS

List of Tables

I. EXECUTIVE SUMMARY

On November 14 and 15, 2001, the Federal Emergency Management Agency (FEMA), Region VII, conducted an exercise in both the plume and ingestion exposure pathway emergency planning zones (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 17, 1999. 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 and the host county of Lyon participated along with 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 DRAFT evaluation of the biennial exercise.

The State and local organizations, except where noted in this report, demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. There were no Deficiencies; however, there were two Areas Requiring Corrective Action (ARCAs) identified as a result of this exercise, both of which were corrected on the spot through additional actions or training.

There was one ARCA identified during the previous exercise conducted November 17, 1999. It was corrected on November 20, 2001, through the submittal of a revised news statement format from the State to FEMA.

The final protective action decision (PAD) during the emergency phase was an evacuation of subzones CTR, CCL, JRR, E-1, S-1, S-2, SE-1, SE-2, SE-3 and SE-4. This included the towns of Aliceville and LeRoy. Approximately 1,140 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 November 14 and 15, 2001, 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.

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 and ingestion pathway EPZ's, a listing of all participating jurisdictions and functional entities which 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 November 14-15, 2001, 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 and ingestion EPZ's, a listing of all participating jurisdictions and functional entities which were evaluated, and a tabular presentation of the time of the actual occurrence of key exercise events and activities.

A. PLUME AND INGESTION 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-one subzones 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.

The 50-mile or ingestion EPZ is similar in topography to the plume EPZ.

The ingestion EPZ includes all or portions of the following counties in Kansas: Shawnee, Douglas, Johnson, Miami, Linn, Bourbon, Neosho, Wilson, Elk, Greenwood, Chase, Morris, Wabaunsee, Osage. Franklin, Anderson, Allen, Woodson, Lyon, and Coffey.

B. EXERCISE PARTICIPANTS

Indicated below is a list of organizations/functions that participated in the November 14-15, 2001 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 FM Radio Station

Coffey County

1. County Commissioners
2. Emergency Preparedness Coordinator
3. County Sheriff's Department
4. County Engineer (Road & Bridge Dept.)
5. County Health Department
6. Public Information Officer
7. Fire Leader
8. County Appraiser
9. Radiological Officer
10. Burlington School District

Lyon County

1. Emergency Management Coordinator
2. Radiological Officer
3. Emporia Fire Dept.
4. County Sheriff's Office
5. Emporia State University
6. American Red Cross
7. Salvation Army
8. Newman Memorial Hospital
9. Lyon County Ambulance

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 November 14 and 15, 2001. Also included are times that notifications were made to the participating jurisdictions/functional entities.

TABLE 1 EXERCISE TIMELINE

DATE AND SITE: November 14, 2001 Wolf Creek Generating Station (KANSAS)

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken											
		Kansas EOC	Dose Assessment	Field Team Coord.	Field Monitoring Teams	IC/MC	Coffey County EOC\FCP	Forward Staging Area	Coffey County R&B	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			
Alert	0809	0818	0813	0813	0813	0814	0813	0825	0838	0842			
Site Area Emergency	0905	0911	0907	0907	0907	0915	0914	0915	0920	0934			
General Emergency	1134	1145	1141	1141	1141	1145	1146	1154	1152	1207			
Rad. Release Started	1130	1145	1141	1141	1141	1145	1146	1154	1152	1207			
Rad. Release Terminated	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Facility Declared Operational		0858	0841	N/A	1005	1000	0843	0900	0938	N/A			
Governor Declared State of Emergency		0918	0918	0918	N/A	0918	0918	0918	N/A	N/A			
Exercise Terminated[1]		1410	1410	1410	1410	1410	1410	1410	1410	1410			
1st Protective Action Decision Site Area Emergency/evacuate CCL and JRR		0922	N/A	N/A	N/A	N/A	0920	N/A	N/A	N/A			
1st Siren Activation		N/A	N/A	N/A	N/A	N/A	0933	N/A	N/A	N/A			
1st EAS Message		0922	N/A	N/A	N/A	N/A	0922	N/A	N/A	0934			
2nd Protective Action Decision evacuate CTR		1054	N/A	N/A	N/A	N/A	1054	N/A	N/A	N/A			
2nd EAS Message		1054	N/A	N/A	N/A	N/A	1054	N/A	N/A	1105			
KI to Emergency Workers in the entire EPZ		1007	1007	1007	1015	N/A	1010	1015	N/A	N/A			

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

[1] Various times are indicated due to the completion of exercise objectives

TABLE 1con't. EXERCISE TIMELINE

DATE AND SITE: November 14, 2001 Wolf Creek Generating Station (KANSAS)

Emergency Classification Level or Event		Time That Notification Was Received or Action Was Taken											
		Kansas EOC	Dose Assessment	Field Team Coord.	Field Monitoring Teams	IC\MRC	Coffey County EOC	Forward Staging Area	Coffey County R&B	WIBW EAS Station			
3rd Protective Action Decision General Emergency/evacuate CCL, JRR, CTR, S1, S2, E1, SE1, SE2, SE3, SE4		1154	N/A	N/A	N/A	N/A	1155	1200	N/A	N/A			
3rd EAS Message		1154	N/A	N/A	N/A	N/A	1155	N/A	N/A	1207			

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

[1] Various times are indicated due to the completion of exercise objectives

TABLE 1con't. EXERCISE TIMELINE

DATE AND SITE: November 15, 2001 Wolf Creek Generating Station (KANSAS)

Post Emergency Actions	Time That Action Was Taken											
	Kansas EOC		Coffey County EOC									
Day Two												
Release Terminated	0809		0809									
Stopped movement of milk in restricted zones 2 & 4	0815		0815									
Embargo of foodstuffs US 75 west/K 39 south/US 59 east/border Coffey and Osage to border of Anderson and Franklin north	0851		0851									
Evacuate remaining portion of restricted zone 2 (area south and west of WCGS)	0851		0851									
Health advisory on surface water in Humbolt and LeRoy	0854		0854									
Joint PDA request for Allen and Coffey County	0945		0945									
Coordinate potable water delivery for Humbolt and LeRoy	1010		1010									
Quarantine of all livestock within evacuated areas	1016		1016									
Day Nine												
Water safe to treat in Humbolt	1017		N/A									
Addressed insurance concerns	1017		N/A									

TABLE 1con't. EXERCISE TIMELINE

DATE AND SITE: November 15, 2001 Wolf Creek Generating Station (KANSAS)

Post Emergency Actions	Time That Action Was Taken											
	Kansas EOC		Coffey County EOC									
Day Nine												
Embargo released and re-entry authorized all areas except new restricted zone 1/animals old restricted zone 1 to be destroyed	1017		1017									
Confirming re-entry/coordinating relocation/extended KI recommendations	1100-1231		N/A									
Presidential Disaster Declaration	1232		1232									
Addressed sampling of homes in re-entry area	1321		N/A									
Drill terminated	1402		1402									

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 November 14 and 15, 2001, 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. 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 pages, 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 assessed and or unresolved ARCA(s) from prior exercise(s)
- A^1 - Area(s) Requiring Corrective Action assessed but corrected
- N - Not Demonstrated (Reason explained in subsection B)

TABLE 2

November 14-15, 2001

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 OPN/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 and WIBW	M	M	M	M	M			M		M	M					M	M	M	M	M						M			M				
Dose Assmt./Field Team Coord.	M	M		M	M	M	M	M		M	M	M	M									M											
Rad. Field Teams	M			M	M							M	M								M		M										
Ingestion Sampling Teams	M			M	M							M												M									
IC/MC	M	M		M	M																								A[1]				
Forward Staging Area	M			M	M	M						M	M			M	M																
Radiological Laboratory					M							M													M								
Emergency Operations Facility	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[1] - ARCA Assessed and Corrected Immediately

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

TABLE 2

November 14-15, 2001

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 OPN/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
OFFEY COUNTY OPERATION																																	
Coffey County EOC	M	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																
USD #244 Burlington School				M	A[1]							M	M		M																		
LYON COUNTY OPERATIONS																																	
Lyon County Reception	M		M	M	M							M																		M	M	M	
Newman Memorial Hospital					M							M																					M
Lyon County Ambulance					A[1]							M	M																				M
Lyon County Congregate Care																															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[1] - 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 objective 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 ARCAs assessed during previous exercises that were resolved in this exercise and the corrective actions demonstrated.

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

The following are definitions of the two types of exercise issues that 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 offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant."

An **ARCA** is defined in 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 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 and WIBW FM Radio

The State Emergency Operations Center (SEOC) is located in the State Defense Building in Topeka, Kansas. The Emergency Alert System (EAS) station (WIBW Radio) is located in Topeka, Kansas. Excellent direction, control, and multi-agency coordination were observed throughout the exercise at the SEOC. WIBW staff exhibited excellent knowledge of procedures.

a. **MET:** Criteria 1a1, 1b1, 1c1, 1d1, 1e1, 2b2, 2d1, 2e1, 3d1, 3d2, 3e1, 3e2, 3f1, 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

1.2 Dose Assessment/Field Team Coordination

This function is located in the utility EOF at the Eisenhower Learning Center. Sound technical expertise and a proactive attitude were observed throughout the exercise.

a. **MET:** Criteria 1a1, 1b1, 1d1, 1e1, 2a1, 2b1, 2b2, 2d1, 2e1, 3a1, 3b1, 4a2

b. **DEFICIENCY:** None

c. **AREA 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 Field Teams are deployed from the utility EOF at the Eisenhower Learning Center. The joint (state/county/utility) field team concept provided an excellent mix of abilities and technical knowledge.

a. **MET:** Criteria 1a1, 1d1, 1e1, 3a1, 3b1, 4a1, 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 Ingestion Sampling Teams

The Field Teams are deployed from the utility EOF at the Wolf Creek Generating Station. Team members were confident in their abilities and exhibited excellent contamination control. Ingestion sampling teams were comprised of individuals from Kansas Department of Health and Environment, Kansas Wildlife and Parks, and Kansas Department of Agriculture.

a. **MET:** Criteria 1a1, 1d1, 1e1, 3a1, 4b1

b. **DEFICIENCY:** None

c. **AREA REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

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

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

1.5 Information Clearinghouse/Media Center

These functions are located in the State Defense Building at the Nickell Memorial Armory in Topeka, Kansas. The State, Coffey County, and utility Public Information Officers worked well together as a team. The utility's rumor control staff and rumor tracking system were outstanding.

a. **MET:** Criteria 1a1, 1b1, 1d1, 1e1, 5b1

b. **DEFICIENCY:** None

c. **AREA REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** Objective 12 (criteria 5b1)

Issue No.: 72-99-12-A-01

Description: A News Statement contained confusing information for the public. Specifically, News Statement Number 12 provided shelter-in-place instructions to persons in subzones CCL, CTR, JRR, N-1, N-2, NE-1, NE-2, NE-3, NW-1, NW-2, and W-1. The public in all of those subzones had previously been instructed to evacuate. Therefore, News Statement Number 12 could have caused confusion as to what actions should be taken. (NUREG-0654, E.7.)

Recommendation: Procedures should be revised to include the originator of information (in this case, KDHE) in the approval signature block for all News Statements. This objective must be demonstrated using the revised procedures during the next biennial exercise.

Schedule of Corrective Actions: The Division of Emergency Management has instigated the following corrective actions: a) add a signature block on all press releases for the Action Officer to sign prior to any press release to the public; b) conduct mandatory training for all PIO and KDEM Action Officers regarding news releases; and c) the administrator to conduct a back-up review on all protective action recommendations.

Corrective Action Demonstrated: Initially, this ARCA was not corrected as two News Statements, Numbers 5 and 19, contained confusing information for the public. News Statement Number 5 contained information that indicated special facilities in subzone SW-1, including Coffey County Hospital, Life Care Center of Burlington, and the Coffey County Jail, were evacuated to Emporia. News Statement 19 also indicated that prisoners at the Coffey County Jail were

evacuated to Emporia. However, subzone SW-1 was not evacuated by Coffey County and none of the aforementioned special facility populations were moved to Emporia.

With the exception of News Statements 5 and 19, the revised procedure of having the KDEM Action Officer approve all News Statements, prior to release, worked very well. In order to correct the problem with Statements 5 and 19 from this exercise, KDEM submitted a revised News Statement format to FEMA on November 20, 2001. The revised News Statements contain language to indicate that the special facilities will only be moved if the subzones in which they are located are evacuated.

Based on the revised procedure, referenced in the Schedule of Corrective Actions above, and the revised News Statements submitted to FEMA on November 20, 2001, this ARCA has been corrected and is closed.

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

1.6 State Forward Staging Area

The Forward Staging Area is located in a park at the intersection of Highway 75 and Old Highway 50, approximately 10.5 miles north of the plant site. Staff were professional and used the exercise as a valuable training opportunity for new personnel.

a. **MET:** Criteria 1a1, 1d1, 1e1, 2a1, 3a1, 3b1, 3d1, 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 Radiological Laboratory

The Radiological Laboratory is located in the KDHE facility at Forbes Field in Topeka, Kansas and provides primary analysis of ingestion team samples. This demonstration was conducted out-of-sequence from the exercise on November 15, 2001. The laboratory was well organized to prevent cross-contamination and staff were knowledgeable and well trained.

a. **MET:** Criteria 1e1, 3a1, 4c1

b. **DEFICIENCY:** None

c. **AREA REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

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

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

1.8 Emergency Operations Facility

This facility is located at the Eisenhower Learning Center outside of Burlington, Kansas. The multi-agency team demonstrated effective coordination between agencies.

a. **MET:** Criteria 1a1, 1b1, 1c1, 1d1, 1e1, 2a1, 3a1, 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. Direction and control were excellent and the staff was very proactive in their decision-making.

a. **MET:** Criteria 1a1, 1b1, 1c1, 1d1, 1e1, 2a1, 2c1, 3a1, 3b1, 3c1, 3c2, 3d1, 3d2, 3f1, 5a1, 5a3, 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. Staff demonstrated an excellent knowledge of emergency worker exposure control and thoroughly documented all roadblocks and access control points required during the exercise.

a. **MET:** Criteria 1a1, 1b1, 1c1, 1d1, 1e1, 2a1, 3a1, 3b1, 3d1, 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 Unified School District #244, Burlington Schools

This facility is located in Burlington, Kansas. An interview was conducted out-of-sequence from the exercise on November 13, 2001, with the District Superintendent, High School and Elementary School Principals, and Transportation Director/Bus Driver. The school district consists of two schools with a total population of 295 students and 47 faculty and staff members. The superintendent and staff were very proactive and demonstrated a timely lock-down and evacuation of the middle school using two buses and assistance from a Burlington Police Officer.

a. **MET:** Criteria 1d1, 3a1, 3b1, 3c2

b. **DEFICIENCY:** None

c. **AREA REQUIRING CORRECTIVE ACTION:** 1e1

Issue No: 72-2001-1e1-A-01

Description: One of the district's school buses did not have a dosimeter kit. The bus is from a different bus provider than most of the district's buses. However, it is permanently based at the Burlington School District bus barn and transports Head Start children. The County Radiological Officer mistakenly thought that it was a temporary replacement bus and did not provide a dosimeter kit for it. The lack of a dosimeter kit could have resulted in one of the bus drivers not having a means of tracking radiological exposure and not having potassium iodide if

needed. (NUREG-0654, K.3.a.)

Recommendation: Not applicable. See Corrective Action Demonstrated.

Corrective Action Demonstrated: When this issue was identified, the district's Transportation Director and the county Radiological Officer discussed the purpose of the bus. The Radiological Officer understood that the bus would be permanently assigned to this area and that it transported students on a daily basis. The Radiological Officer then provided the school district with a dosimeter kit for placement on the bus. Based on the above discussions and actions, this ARCA is now closed.

d. **NOT DEMONSTRATED:** None

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

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

3. LYON COUNTY OPERATIONS

3.1 Lyon County Reception Center

This facility, located at Emporia State University in Emporia, Kansas, participated out-of-sequence from the exercise on August 16, 2001. The Emporia Fire Department demonstrated excellent monitoring skills and contamination control. The Coffey County Sheriff's Department effectively monitored a jail evacuee and integrated well into the overall demonstration.

a. **MET:** Criteria 1a1, 1c1, 1d1, 1e1, 3a1, 6a1, 6b1, 6c1

b. **DEFICIENCY:** None

c. **AREA REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

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

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

3.2 Newman Memorial Hospital

The Newman Memorial Hospital is located in Emporia, Kansas. This is a back-up hospital for treating contaminated injured individuals. The demonstration was conducted out-of-sequence

from the exercise on September 26, 2001. Hospital staff demonstrated good teamwork and an excellent knowledge of procedures.

a. **MET:** Criteria 1e1, 3a1, 6d1

b. **DEFICIENCY:** None

c. **AREA REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

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

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

3.3 Lyon County Ambulance

The Lyon County Ambulance is located in Emporia, Kansas. This is one of the back-up ambulance services for treating and transporting contaminated injured individuals. The demonstration was conducted out-of-sequence from the exercise on September 26, 2001. Ambulance personnel demonstrated excellent contamination control procedures.

a. **MET:** Criteria 3a1, 3b1, 6d1

b. **DEFICIENCY:** None

c. **AREA REQUIRING CORRECTIVE ACTION:** 1e1

Issue No.: 72-2001-1e1-A-02

Description: The ambulance used in the exercise was not equipped with potassium iodide (KI). It was noted that all of the other ambulances at this facility were equipped with an adequate supply of KI (three packages in each ambulance or one for each crew member assigned). (NUREG-0654, J.10.e.)

Recommendation: Not applicable. See Corrective Action Demonstrated.

Corrective Action Demonstrated: After the drill, the controller went to the ambulance service and placed one package from another ambulance in this ambulance. The rationale was that the crew would need to take one tablet immediately (one tablet a day). Therefore, additional KI would be received by the time the crew would need to take a second tablet. It was agreed that a more permanent solution, placing three packages of KI in the ambulance, will be accomplished. Based on the above solutions, this ARCA is now closed.

d. **NOT DEMONSTRATED:** None

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

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

3.4 Lyon County Congregate Care (Lyon-Morse Hall, Twin Towers, Memorial Union, Singular/Trusler Dorm)

These congregate care facilities are on the campus of Emporia State University in Emporia, Kansas, and are utilized for temporary care of evacuees. This demonstration was conducted out-of-sequence from the exercise on August 16, 2001. These facilities are superb for the handling of large numbers of evacuees and the Emporia State University staff was very professional.

a. **MET:** Criteria 6c1

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

ARCA	Area Requiring Corrective Action
CFR	Code of Federal Regulations
DOT	U.S. Department of Transportation
EAS	Emergency Alert System
ECL	Emergency Classification Level
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPA	U. S. Environmental Protection Agency
EPZ	Emergency Planning Zone
ESW	Essential Service Water
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FEMA-REP-14	FEMA Radiological Emergency Preparedness Exercise Manual
FEMA-REP-15	FEMA Radiological Emergency Preparedness Exercise Evaluation Methodology
IC/MC	Information Clearinghouse/Media Center
KDAG	Kansas Department of Agriculture
KDEM	Kansas Division of Emergency Management
KDHE	Kansas Department of Health & Environment
KI	Potassium Iodide
KWP	Kansas Wildlife and Parks
mR	Milliroentgen

NRC	U.S. Nuclear Regulatory Commission
NSO	Nuclear Security Officer
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
PAR	Protective Action Recommendation
PAD	Protective Action Decision
PIO	Public Information Officer
R	Roentgen
RAC	Regional Assistance Committee
RCS	Reactor Coolant System
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
SEOC	State Emergency Operations Center
TLD	Thermo-luminescent Dosimeter
TL	Team Leader
USDA	United States Department of Agriculture
WCGS	Wolf Creek Generating Station
WCNOC	Wolf Creek Nuclear Operating Corporation

Appendix 2 - Exercise Evaluators and Team Leaders

Thirteen federal agency personnel and three FEMA contract staff evaluated the offsite emergency response functions for the Wolf Creek Generating Station exercise on November 14 and 15, 2001. 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
USDA	United States Department of Agriculture
FDA	Food and Drug Administration
ICF	FEMA contract staff

* Indicates locations evaluated out-of-sequence during the November 2001 exercise.

EVALUATION SITE	EVALUATOR	ORGANIZATION
State Emergency Operations Center & WIBW FM Radio - EAS	Joe Schulte – TL Audie Canida Reggie Rogers Sharron McDuffie	FEMA FEMA ICF FEMA
Dose Assessment/Field Team Coord.	Garianne Howard	EPA
Radiological Field Monitoring Teams	Lori Thomas Reggie Cope	USDA FDA
Ingestion Sampling Teams	Lori Thomas Reggie Cope	USDA FDA
Information Clearinghouse & Media Center	Norm Valentine - TL David Moffet	FEMA ICF
Forward Staging Area	Joe Chandler	FEMA
Radiological Laboratory	Reggie Rogers	ICF
Emergency Operations Facility	Brett Kriger	ICF
Coffey County Emergency Operations Center	Jane Young – TL Eleanor Castle Richard Echavarria	FEMA FEMA FEMA
Coffey County Road & Bridge Dept.	Debbie Waggoner	DOT
USD 244 Burlington School District*	Jane Young	FEMA
Newman Memorial Hospital* & Lyon County Ambulance*	Joe Schulte Jane Young	FEMA FEMA
Lyon County Reception & Congregate Care Center (Emporia State University)* including Morse Hall, Twin Towers, Memorial Union, Singular/Trusler Dorm	Jane Young - TL Rex Jennings Audie Canida Sharron McDuffie Bob Dye	FEMA FEMA FEMA FEMA EPA

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 November 14 and 15, 2001, and out-of-sequence drills on August 16, 2001, September 26, 2001, and November 14 and 15, 2001.

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 August 7, 2001, and amended on October 20, 2001.

The exercise criteria, contained in the FEMA Evaluation Areas published in the Federal Register on September 12, 2001, 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)

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. Pre-positioning of the following staff at the following locations is authorized for the November 14-15, 2001, graded exercise:

1. KDEM, KDHE and Coffey County personnel at the Wolf Creek Nuclear Operating Corporation Emergency Operations Facility
2. Wolf Creek Public Information personnel at the State Emergency Operations Center
3. Kansas National Guard Bureau and Kansas Highway Patrol at the Forward Staging Area
4. KDEM's Coffey County Liaison at the Coffey County Emergency Operations Center

Pre-positioning is approved based on the understanding that no party will set up for operations earlier than 30 minutes after the Alert notification. We recognize that the staff at the State EOC could be there during the working day. However, at all other locations State staff may not arrive until thirty minutes after the Offsite Response Organizations have received notification of the ALERT.

The demonstrations at the Lyon County Reception Center, Newman Memorial Hospital, Lyon County Ambulance, and Burlington USD 244 will occur out of sequence and all personnel at these facilities may be pre-positioned. The issuance of radiological instrumentation and operability checks, where applicable, must not be accomplished prior to evaluator arrival.

Although demonstration of a shift change is not required, the State EOC, Dose Assessment and Field Team Coordination, Radiological Field Monitoring Teams, Information Clearinghouse/Media Center, Forward Staging Area, Radiological Laboratory, Emergency Operations Facility, Coffey County EOC, Coffey County Road and Bridge, Coffey County Decon, and the Lyon County Reception Center (Reception Center Manager/Emergency Preparedness Coordinator, Radiological Officer, Shelter Manager) shall provide current rosters identifying the individuals that will maintain around the clock operation.

Sub-element 1.b – Facilities

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

No Modifications

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, field teams, and ingestion sampling 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, dosimetry 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 dosimetry and KI supplies, as applicable, will occur at the State Forward Staging Area, Wolf Creek Emergency Operations Facility, the Coffey County EOC, Burlington USD 244, Lyon County Reception Center, Newman Memorial Hospital, Lyon County Ambulance, and all other facilities that maintain dosimetry and KI supplies in accordance with the plan.

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.)

No Modifications

Sub-element 2.d. –Radiological Assessment and Decision-Making for the Ingestion Exposure Pathway

Criterion 2.d.1: Radiological consequences for the ingestion pathway are assessed and appropriate protective action decisions are made based on the ORO planning criteria. (NUREG-0654, I.8., J.11)

No Modifications

Sub-element 2.e. – Radiological Assessment and Decision-Making Concerning Relocation, Re-entry, and Return

Criterion 2.e.1: Timely relocation, re-entry, and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the ORO's plan and/or procedures. (NUREG-0654, A.1.b., I.10., M)

No Modifications

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.)

For the medical drill, the responding ambulance crew (Lyon County ambulance) and the appropriate hospital staff (Newman Memorial) 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 school interviews (Burlington) bus drivers must demonstrate their knowledge of emergency worker exposure control. The bus drivers 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 Lyon County reception center, 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.

The interviews described above will be conducted out of sequence from the exercise.

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.)

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

During the school evaluations, the bus drivers 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, individuals with special needs, and transportation providers 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 Burlington USD 244. 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.

During the emergency phase of the actual exercise, all appropriate actions (e.g., notifications, EAS messages, etc.) must be demonstrated or simulated for any public or private schools or day care facilities affected by protective action recommendation. Telephone calls may be actually made or simulated, however, all actual or simulated contacts should be appropriately documented.

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 EOC, 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 dosimetry 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

Sub-element 3.e – Implementation of Ingestion Pathway Decisions

Criterion 3.e.1: The ORO demonstrates the availability and appropriate use of adequate information regarding water, food supplies, milk, and agricultural production within the ingestion exposure pathway emergency planning zone for implementation of protective actions. NUREG-0654, J.9., 11.)

No Modifications

Sub-element 3.e – Implementation of Ingestion Pathway Decisions

Criterion 3.e.2: Appropriate measures, strategies, and pre-printed instructional material are developed for implementing protective action decisions for contaminated water, food products, milk, and agricultural production. (NUREG-0654, E.5., 7., J.9, 11.)

No Modifications

Sub-element 3.f. – Implementation of Relocation, Re-entry, and Return Decisions

Criterion 3.f.1: Decisions regarding controlled re-entry of emergency workers and relocation and return of the public are coordinated with appropriate organizations and implemented. (NUREG-0654, M.1., 3.)

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.)

Radiological detection instruments, equipment, and protective clothing as annotated in the Standard Operating procedures for the Kansas Department of Health and Environment, should be available for the demonstration.

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).

No Modifications

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 radioiodine 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.)

Each of the deployed field monitoring teams must take sufficient radiation measurements too identify the plume. 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 may be explained by interview to the evaluator on day one during the plume phase. The evaluator will interview the field teams as to the procedures for the physical transfer/transport of samples (to include chain of custody forms) by KDHE, KDOT, the Kansas Highway Patrol, or Kansas National Guard to the KDHE Radiation Lab or WCNOC facilities for analysis on day two during the ingestion phase.

Sub-element 4.b – Post Plume Phase Field Measurements and Sampling

Criterion 4.b.1: The field teams demonstrate the capability to make appropriate measurements and to collect appropriate samples (e.g., food crops, milk, water, vegetation, and soil) to support adequate assessments and protective action decision-making. (NUREG-0654, I.8., J.11.)

Demonstration of this criterion will take place out of sequence from the exercise. Samples such as fish, wildlife, meat, and poultry may be simulated (conducted by interview). Adequate samples must be obtained to provide needed data.

Field team sampling will require actual transport of samples to the KDHE lab or WCNOC facilities for analysis. Evaluators will observe the physical transfer of samples.

Sub-element 4.c - Laboratory Operations

Criterion 4.c.1: The laboratory is capable of performing required radiological analyses to support protective action decisions. (NUREG-0654, C.3., I.8., 9., J.11)

No Modifications

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 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.**

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.

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 default in the primary alert and notification sequence.

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.)

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 on day one (emergency phase).

Rumor control is activated at the Wolf Creek Nuclear Operating Corporation (WCNOC) and is located in the EOF. 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 on day one. 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 to the EOF and 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.

On day two (ingestion phase), the Information Clearinghouse and Media Center must demonstrate the capability to prepare and disseminate timely and accurate news releases and/or other public information releases. There must also be sufficient staff available to answer phone

calls from the public. However, it will not be necessary to conduct actual media briefings or staff for rumor control operations on day two.

Issue No.: 72-99-12-A-01 may be closed upon successful demonstration during this exercise.

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.)

The number of evacuees that must be monitored within twelve hours at the Lyon County reception center is 1,194 (20% of the evacuees assigned to the center). Based on a monitoring time of four minutes per person, according to the plan, eight (8) monitoring teams (2 individuals each) will be required to monitor this number of evacuees within twelve hours. At least one third of this total (three teams) must be available for demonstration. Two additional monitoring teams must be available for evacuee (male/female) decontamination. Therefore, at least five teams must be available for demonstration. According to the plan, the Emporia Fire Department. provides the monitors for this facility. Therefore, the monitoring resources should be from that organization. In lieu of using handheld survey instruments as outlined in the plan, two portal monitors may be used at the Lyon County Reception Center to process the required number of evacuees. If portal monitors are used, at least one monitoring team will be available with handheld survey instruments to survey evacuees who trigger the portal monitors or those who cannot physically enter the portal monitor.

The facilities at Lyon 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 and vehicles. 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 (explained through an interview process).

In addition, procedures must be demonstrated regarding the monitoring and decontamination of prisoners relocated from the Coffey County Jail. One representative from the Coffey County Jail, who would normally transport, monitor, and decontaminate prisoners, must be available for this demonstration. The monitoring of a minimum of one individual is required. Decontamination may be conducted through an interview.

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 Lyon 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)

Full credit for emergency worker monitoring and decontamination will be granted upon successful demonstration of criterion 6.a.1. Monitoring of at least one emergency worker vehicle must be demonstrated. Decontamination may be conducted by interview.

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.)

This will be demonstrated at the Lyon County Reception Center, Morse Hall, Twin Towers, Memorial Union, and the Singular/Trusler Dorm. 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, Lyon County Emergency Preparedness, Emporia State University, the Lyon County Sheriff's Department, Lyon County Public Works Department, DAKA Restaurants, the American Red Cross and the Salvation Army provide resources and support for congregate care centers. 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.)

Lyon County ambulance and Newman Memorial Hospital will demonstrate this out of sequence. The ambulance vehicle and crew must be monitored before release back into service. It is not necessary to demonstrate actual decontamination of the vehicle and crew; however, the crew must be knowledgeable of where this would be accomplished.

Actual transport of the patient will be from Emporia Fire Department Station 2 to avoid having an ambulance out of service and out of the county for a prolonged period of time. However, the ambulance crew must simulate the drive time that they would normally experience in picking up a patient at the location specified in the scenario.

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 November 14 and 15, 2001.

The times listed below are those contained in the scenario. Actual times of key events are documented in Table 1 of the Exercise Timeline.

The exercise scenario was submitted by the Wolf Creek Nuclear Operating Corporation on September 25, 2001 and approved by FEMA Region VII on October 26, 2001.

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

SCENARIO SUMMARY

This sequence results in a release of radioactive materials, ensuring that conditions shall require an evacuation of down wind sectors.

INITIAL CONDITIONS

Initial conditions establish the plant is operating at 100% of full power, late in core life. Electrical demand in the area is heavy. The plant is operating with known leakage from the pressurizer spray valve body to bonnet leak (BBPCV 455-B) at a rate of 9 gallons per minute. Per AP 19B-001, "FAILED FUEL ACTION PLAN", we are in Action Level 2. Because of this, the initial containment atmosphere has an elevated concentration of radioactivity. Therefore, the containment area radiation monitors have elevated readings.

A front is moving through the area and we are experiencing high, straight-line winds. The National Weather Service has issued a high wind advisory.

At ~0745, Security reports a very loud noise has been heard from the area of the ESW pump house. An NSO has been dispatched to investigate.

SEQUENCE OF EVENTS

At 0800, the Site Watch reports that in the 'A' Essential Service Water pump room, lighting transformer XQB-50 has blown apart, the sides of it have totally blown out. An ALERT should be declared due to this condition.

At 0900 a microburst occurs, blowing some sheet metal into the Main Transformer B phase, which causes breakers 345-50 and 345-60 to open. The turbine trips, but the reactor fails to trip automatically, there is an anticipated transient without trip, resulting in conditions requiring the

declaration of a Site Area Emergency. The reactor does finally trip, but 4 to 5 rods experience mechanical binding and do not fully insert.

Due to local hot spots in the core, and mechanical failures, RCS activities, containment activities and the containment high area radiation monitors (CHARMs) increases. By ~0930, but not until procedure EMG FR-S1 is completed, three core exit thermal couples exceed 1400 degrees. At this time, CHARMS also begin to trend upward significantly.

At ~1045, the code safety on 'A' S/G breaks free.

At 1130, the stress caused by the loss of the code safety results in a steam generator tube rupture in "A" steam generator, which can not be terminated until the plant is cooled down. A General Emergency should be declared due to this condition. Also, Due to the magnitude of the radioactive release, offsite protective actions should be recommended to the State and County. Anticipated effected subzones are: S-1, S-2, SE-1, SE-2, SE-3, SE-4.

The release will run until the end of the drill.

Environmental samples shall be collected and transported to the EOF.

The drill will be terminated at approximately 1400.