

Wolf Creek Generating Station
Exercise Report - 2009-06-03
Final Report - Radiological Emergency
Preparedness (REP) Program
2009-08-06





FEMA

Exercise Report

Wolf Creek Generating Station

Exercise Date: 2009-06-03

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U.S. DEPARTMENT OF HOMELAND SECURITY

Federal Emergency Management Agency

REP Program

9221 Ward Parkway, Suite 300

Kansas City, MO 64114

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1. Executive Summary

On June 3, 2009, the Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA), Region VII, conducted an exercise in the plume emergency planning zone (EPZ) around the Wolf Creek Nuclear Generating Station. In addition, out-of-sequence drills were conducted on May 20, 2009, and June 2, 2009. The purpose of the exercise and drills was to assess the level of State and local preparedness in responding to a radiological emergency. These exercises and drills 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 6-7, 2007. 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 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.

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 from the previous Exercise in 2007.

The final protective action decision (PAD) during the emergency phase was an evacuation of sub zones CTR, CCL, JRR, S-1, S-2, SW-1, and SW-2. This included Burlington Township, and the City of Burlington, the South quarter of Hampden Township, the Northeast and Northwest sides of Neosho Township, John Redmond

Reservoir, and Coffey County Lake. Approximately 3,082 residents in Kansas were affected by the evacuation.

2. 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 Nuclear 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 June 3, 2009, 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 Nuclear 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 Administrator.

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.

Chapter 3, 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's 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.

Chapter 4, 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.

3. Exercise Overview

Contained in this section are data and basic information relevant to the June 3, 2009, Wolf Creek Nuclear Generating Station Exercise. This chapter of the exercise report includes a description of the plumes 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.

3.1. EPZ Description

The Wolf Creek Nuclear 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 6,099 (2000 Census), 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 13 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 Nuclear Generating Station, there are not any large industries in the area.

3.2. Exercise Participants

Agencies and organizations of the following jurisdictions participated in the Wolf Creek Generating Station exercise:

State Jurisdictions

- Adjutant General
- Kansas Division of Emergency Management
- Kansas National Guard
- Kansas Department of Health and Environment
- Kansas Department of Wildlife and Parks
- Kansas Civil Air Patrol
- Kansas Department of Transportation

Kansas Department of Agriculture
Kansas Air National Guard
Kansas Department of Animal Health
Kansas Department of Social and Rehabilitation Services
Kansas Highway Patrol
Kansas Department of Aging
Kansas State Fire Marshal
Kansas State Extension Service

Risk Jurisdictions

Coffey County Board of Commissioners
Coffey County Attorney
Coffey County Road and Bridge
Coffey County Emergency Management Coordinator
Coffey County Sheriff's Department
Coffey County Treasurer
Coffey County Fire Department
Coffey County Radiological Officer
Coffey County Health and Medical Department
Coffey County Public Information Officer
Coffey County Shelter Systems Officer
Coffey County Hospital
Coffey County Ambulance
Coffey County Engineering Division
LeRoy USD #245

Support Jurisdictions

Emporia Fire Department
Emporia Police Department
Emporia State University
Flint Hills Community Health Center
Lyon County Emergency Management
Lyon County Appraiser's Officer
Lyon County Court Secretary's Office
Lyon County Road and Bridge
Lyon County Senior Patrol
Lyon County Sheriff's Office
Mental Health Center-East Central Kansas Region

Private Jurisdictions

WIBW Radio Station
Wolf Creek Nuclear Operating Corporation
American Red Cross
Salvation Army
Federal Jurisdictions
Department of Homeland Security / Federal Emergency Management Agency

3.3. Exercise Timeline

Table 1, on the following pages presents the time at which key exercise events and activities occurred during the Wolf Creek Nuclear Generating Station exercise held on June 3, 2009.

Table 1 - Exercise Timeline
DATE: 2009-06-03, SITE: Wolf Creek Generating Station, KS

Emergency Classification Level or Event	Time Utility Declared	Kansas State EOC	Dose Assessment & Field Team Coordination	Kansas Rad Monitoring Team # 2 - Blue	Kansas Rad Monitoring Team # 1 - Green	Kansas Joint Information Center	Forward Staging Area
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alert	0810	0820	0816	----	----	----	----
Site Area Emergency	0925	0938	0933	0938	0938	0940	0941
General Emergency	1049	1056	1059	1102	1102	1100	1104
Simulated Rad. Release Started	1047	1057	1047	1047	1047	1048	1104
Simulated Rad. Release Terminated	----	----	----	----	----	----	----
Facility Declared Operational		0913	0938	1006	1006	0848	0930
Governor Declared State of Emergency		0950	0951	----	----	1035	0950
Exercise Terminated		1223	1221	1223	1223	1245	1223
Initial Protective Action: Precautionary Evacuation of JRR & CCL		0949	0951	----	----	0945	0946
Initial Siren Activation		----	----	----	----	----	----
Initial EAS Message		----	----	----	----	----	----
Route Alerting for Ottumwa, Paper Flyers Completed (Siren Failed)		----	----	----	----	----	----
Notification of Hearing Impaired		----	----	----	----	----	----
1st Protective Action Decision: Precautionary Evacuation of Nursing Homes, Day Cares, Hospital Patients, and Jails in Sub Areas CTR, S-1, S-2, SW-1, and SW-2		1006	----	----	----	----	----
1st Siren Activation		----	----	----	----	----	----
1st EAS Message		----	----	----	----	----	----
Closing Airspace		1105	----	----	----	----	----
2nd Protective Action Decision: Evacuation of CTR, S-1, S-2, SW-1, and SW-2		1107	----	----	----	----	----
2nd Siren Activation		----	----	----	----	----	----
2nd EAS Message		1118	----	----	----	----	----
KI to Emergency Workers in EPZ		1124	1122	1123	1123	1130	1127
3rd Protective Action Decision: Evacuation past 10-mile EPZ		1200	----	----	----	----	----
3rd Siren Activation		----	----	----	----	----	----
3rd EAS Message		1211	----	----	----	----	----

Table 1 - Exercise Timeline
DATE: 2009-06-03, SITE: Wolf Creek Generating Station, KS

Emergency Classification Level or Event	Time Utility Declared	Kansas Emergency Operations Facility	EAS Station - WIBW	Coffey County EOC	Coffey County Road and Bridge Department
Unusual Event	N/A	N/A	N/A	N/A	N/A
Alert	0810	0815	0817	0821	0852
Site Area Emergency	0925	0933	----	0938	0943
General Emergency	1049	1059	----	1055	1110
Simulated Rad. Release Started	1047	1047	----	1054	----
Simulated Rad. Release Terminated	----	----	----	----	----
Facility Declared Operational		0938	----	0853	----
Governor Declared State of Emergency		0951	----	1031	----
Exercise Terminated		1221	----	1220	1220
Initial Protective Action: Precautionary Evacuation of JRR & CCL		0951	0949	0940	0947
Initial Siren Activation		----	----	0947	----
Initial EAS Message		----	0949	0949	----
Route Alerting for Ottumwa, Paper Flyers Completed (Siren Failed)		----	----	0950	----
Notification of Hearing Impaired		----	----	----	1005
1st Protective Action Decision: Precautionary Evacuation of Nursing Homes, Day Cares, Hospital Patients, and Jails in Sub Areas CTR, S-1, S-2, SW-1, and SW-2		----	----	1006	----
1st Siren Activation		----	----	1006	----
1st EAS Message		----	1018	1008	----
Closing Airspace		----	----	----	----
2nd Protective Action Decision: Evacuation of CTR, S-1, S-2, SW-1, and SW-2		----	----	1107	----
2nd Siren Activation		----	----	1118	----
2nd EAS Message		----	1123	1118	----
KI to Emergency Workers in EPZ		1122	----	1125	1125
3rd Protective Action Decision: Evacuation past 10-mile EPZ		----	----	1200	----
3rd Siren Activation		----	----	1208	----
3rd EAS Message		----	1209	1211	----

4. 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 Out-of-Sequence drills on May 20, 2009, and June 2, 2009, and the Fullscale Plume Exercise held on June 3, 2009, to test the offsite emergency response capabilities of State and local governments in the 10-mile plume EPZ surrounding the Wolf Creek Nuclear Generating Station.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of the criteria delineated in Emergency Preparedness: Exercise Evaluation Methodology as printed in the Federal Register September 12, 2001 and April 25, 2002. Detailed information on the exercise criteria and the extent-of-play agreement for this exercise is found in Appendix 3 of this report.

4.1. Summary Results of Exercise Evaluation

The matrix presented in Table 2, on the following pages presents the status of all exercise criteria, which 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 sub-section B)

Table 2 - Summary of Exercise Evaluation

DATE: 2009-06-03 SITE: Wolf Creek Generating Station, KS A: ARCA, D: Deficiency, M: Met, N: Not Demonstrated														
		Kansas State EOC	Dose Assessment & Field Team Coordination	Kansas Rad Monitoring Team # 2 - Blue	Kansas Rad Monitoring Team # 1 - Green	Kansas Joint Information Center	Forward Staging Area	Kansas Emergency Operations Facility	EAS Station - WIBW	Coffey County EOC	LeRoy USD 245	Coffey County Road and Bridge Department	Coffey County Decontamination Center	Lyon County Reception Center
Emergency Operations Management														
Mobilization	1a1	M	M	M	M	M	M	M	M	M	M	M	M	M
Facilities	1b1													
Direction and Control	1c1	M					M	M	M		M	M	M	M
Communications Equipment	1d1	M	M	M	M	M	M	M	M	M	M	M	M	M
Equip & Supplies to support operations	1e1	M	M	M	M	M	M	M	M	M	M	M	M	M
Protective Action Decision Making														
Emergency Worker Exposure Control	2a1		M				M	M	M	M	M			
Radiological Assessment and PARs	2b1	M	M					M						
Decisions for the Plume Phase -PADs	2b2	M	M					M	M					
PADs for protection of special populations	2c1								M					
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1													
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1													
Protective Action Implementation														
Implementation of emergency worker exposure control	3a1		M	M	M		M	M	M	M	M	M	M	M
Implementation of KI decision	3b1		M	M	M		M	M	M	M	M	M	M	
Implementation of protective actions for special populations - EOCs	3c1								M	M				
Implementation of protective actions for Schools	3c2								M	M				
Implementation of traffic and access control	3d1	M					M		M		M			
Impediments to evacuation are identified and resolved	3d2	M					M		M		M			
Implementation of ingestion pathway decisions - availability/use of info	3e1													
Materials for Ingestion Pathway PADs are available	3e2													
Implementation of relocation, re-entry, and return decisions.	3f1													
Field Measurement and Analysis														
Adequate Equipment for Plume Phase Field Measurements	4a1			M	M									
Field Teams obtain sufficient information	4a2		M											
Field Teams Manage Sample Collection Appropriately	4a3			M	M									
Post plume phase field measurements and sampling	4b1													
Laboratory operations	4c1													
Emergency Notification and Public Info														
Activation of the prompt alert and notification system	5a1	M							M	M				
Activation of the prompt alert and notification system - Fast Breaker	5a2													
Activation of the prompt alert and notification system - Exception areas	5a3									M				
Emergency information and instructions for the public and the media	5b1	M				M			M	M				
Support Operations/Facilities														
Mon / decon of evacuees and emergency workers, and registration of evacuees	6a1												M	M
Mon / decon of emergency worker equipment	6b1												M	M

Temporary care of evacuees	6c1																		
Transportation and treatment of contaminated injured individuals	6d1																		

4.2. Status of Jurisdictions Evaluated

This subsection provides information on the evaluation of each participating jurisdiction and functional entity, in a jurisdiction based, 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.

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

4.2.1. Kansas Jurisdictions

4.2.1.1. Kansas State Emergency Operations Center

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.b.1, 2.b.2, 3.d.1, 3.d.2, 5.a.1, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None

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

4.2.1.2. Dose Assessment & Field Team

Coordination

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

4.2.1.3. Kansas Radiological Monitoring Team # 2 -

Blue

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

4.2.1.4. Kansas Radiological Monitoring Team # 1 -

Green

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

4.2.1.5. Kansas Joint Information Center

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

4.2.1.6. Forward Staging Area

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

4.2.1.7. Kansas Emergency Operations Facility

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

4.2.1.8. EAS Station - WIBW

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

4.2.2. Risk Jurisdictions

4.2.2.1. Coffey County Emergency Operations Center

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.2.2. LeRoy USD 245

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

4.2.2.3. Coffey County Road and Bridge Department

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

4.2.3. Support Jurisdictions

4.2.3.1. Coffey County Decontamination Center

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 6.a.1, 6.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None

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

4.2.3.2. Lyon County Reception Center

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 6.a.1, 6.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

APPENDIX 1

ACRONYMS AND ABBREVIATIONS

ARCA	Area Requiring Corrective Actions
CCL	Coffey County Lake
CFR	Code of Federal Regulations
DHS	Department of Homeland Security
DRD	Direct Reading Dosimeters
EAS	Emergency Alert System
ECL	Emergency Classification Level
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPZ	Emergency Planning Zone
ESU	Emporia State University
EW	Emergency Worker
FEMA	Federal Emergency Management Agency
FSA	Forward Staging Area
FT	Field Team
FTC	Field Team Communicator
GE	General Emergency
GPS	Global Positioning System
JIC	Joint Information Center
JRMT	Joint Radiological Monitoring Team
JRR	John Redmond Reservoir
KCPL	Kansas City Power & Light
KDEM	Kansas Division of Emergency Management
KDHE	Kansas Department of Health & Environment
KHP	Kansas Highway Patrol
KI	Potassium Iodine
KNG	Kansas National Guard
KSP	Kansas State Patrol
NRC	Nuclear Regulatory Commission
ORO	Offsite Response Organization
OSL	Optically Stimulated Luminescent
OSLD	Optically Stimulated Luminescent Dosimeter
PAD	Protective Action Decision
PIO	Public Information Officer
RAC	Regional Assistance Committee
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
RO	Radiological Officer
SAE	Site Area Emergency
SEOC	State Emergency Operations Center
TDD	Teletype Device For The Deaf
TEDE	Total Effective Dose Equivalent

USD	Unified School District
WCGS	Wolf Creek Generating Station
WCNGS	Wolf Creek Nuclear Generating Station
WCNOC	Wolf Creek Nuclear Operating Corporation

APPENDIX 2

EXERCISE EVALUATORS AND TEAM LEADERS

DATE: 2009-06-03, SITE: Wolf Creek Generating Station, KS

LOCATION	EVALUATOR	AGENCY
Kansas State Emergency Operations Center	Michael Burriss Thomas Essig *David Smith	ICF ICF FEMA VII
Dose Assessment & Field Team Coordination	*Marynette Herndon	ICF
Kansas Radiological Monitoring Team # 2 - Blue	*Garianne Howard	ICF
Kansas Radiological Monitoring Team # 1 - Green	*Chuck Hooper	EPA
Kansas Joint Information Center	*Al Lookabaugh Wendy Swygert	ICF ICF
Forward Staging Area	*Audie Canida	FEMA VII
Kansas Emergency Operations Facility	*Richard Wessman	ICF
EAS Station - WIBW	*Gary Bolender	ICF
Coffey County Emergency Operations Center	Andrew Chancellor Carl McCoy *Joe Schulte	FEMA VII ICF FEMA VII
LeRoy USD 245	*Gary Bolender	ICF
Coffey County Road and Bridge Department	Alan Bevan *Rex Jennings	ICF FEMA VII
Coffey County Decontamination Center	*Alan Bevan	ICF
Lyon County Reception Center	Thomas Essig Marynette Herndon Garianne Howard *Sharron McDuffie	ICF ICF ICF FEMA VII
* Team Leader		

APPENDIX 3

EXERCISE EVALUATION AREAS AND EXTENT OF PLAY AGREEMENT

The following comments are provided for clarification of exercise requirements for the Full Scale Exercise at Wolf Creek Nuclear Generating Station on June 3, 2009, and for related, out of sequence evaluations conducted as part of the overall Wolf Creek exercise. Criteria that do not require further clarification are not included within this document. The regional extent of play will be added to the generic (national) evaluation modules. The evaluation forms will include both the national extent of play and the regional extent of play. Both the national and regional extent of play will be used as the basis for exercise evaluation.

The press releases to announce the public meeting will be provided to the media by our Public Information Officer and a copy will be provided to your office.

Modifications to the previous Final Extent of Play are typed in ***bold italics*** to distinguish the updates from the Final copy.

In a letter dated May 28, 2009, the Kansas Division of Emergency Management has requested and has approval for this Full Scale Exercise only on (June 3, 2009) to use Coffey Counties EAS Plan Appendix L, Revision 28, dated April 2009, instead of their current State Plan Appendix FF, Revision 18, dated December 1998,. An updated State Plan Appendix FF, Revision 19 should be submitted to the FEMA Region VII Office no later than 30 days from the date of this letter.

The following facilities/locations will be evaluated as part of the 2009 Wolf Creek Full Scale and Out of Sequence Exercise:

1. Kansas State EOC
2. Dose Assessment and Field Team Coordination
3. Radiological Field Monitoring Teams (EPZ) – 2
4. Joint Information Center
5. Forward Staging Area
6. Emergency Operations Facility
7. EAS Radio Station – WIBW
8. Coffey County EOC
9. Coffey County Road and Bridge Department
10. Coffey County Decontamination Center
11. Newman Memorial Hospital
12. Lyon County Ambulance
13. Lyon County Reception Center
14. Leroy USD #245

EVALUATION AREA 1: EMERGENCY OPERATIONS MANAGEMENT

Evaluation Criterion 1.a.1. – Mobilization: Demonstrations at the Newman Memorial Hospital, Lyon County Ambulance, Lyon County Reception Center, and Leroy USD #245, 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. The dates and times for these demonstrations will be provided when they are established.

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 roster for 24-hour staffing must be provided to the evaluation team at each location.

The State of Kansas and Wolf Creek have requested, and have been approved, for the pre-positioning of the following groups for the June 3, 2009, Full Scale Exercise:

- *In addition to the previous requests, KDEM requests approval on behalf of the Teams responding to the Forward Staging Area (FSA), approval to pre-stage at BETO Junction Truck Stop and deploy to the FSA thirty (30) minutes after receipt of the “Alert” Emergency Classification Level (ECL).*
- *Kansas Highway Patrol (KHP) requests approval to allow pre-staging of their agency Command Van at BETO Junction.*
- *Kansas Division of Health and Environment (KDHE) requests approval to pre-stage their EOF staff and Joint Radiological Monitoring Team (JRMT) members at BETO Junction, for notifications. KDHE will wait one (1) hour after an Alert is declared to arrive at the EOF.*
- *Wolf Creek Nuclear Operating Corporation (WCNOC) requests to allow their Public Information Organization to pre-stage at the State EOC in Topeka, Kansas, and be allowed to commence set up of their facilities at the declaration of the Alert, (and not wait until one (1) hour after declaration). This impacts 1.a.1-Mobilization and 5.b.1-Emergency Information and Instructions for the Public and the Media.*
- *WONOC also requests to allow pre-staging of equipment set up at the Lyon County Reception and Care Facility. WCNOC staff will be performing training the morning of the exercise and wants to leave the equipment set up. The participants will perform operational checks for the evaluators before they commence the drill. This impacts 6.a.1 – Monitoring and Decontamination of Evacuees and Emergency Workers and Registration of Evacuees.*
- *Coffey County requests approval to pre-stage their Commissioner and Public Information Officer at the Joint Information Center (JIC) in Topeka, Kansas.*

All staff that has been approved for pre-positioning cannot arrive at their respective facility until one hour after receipt of the ALERT emergency classification level except as noted above for the WCNOG Public Information Organization. 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.

Evaluation Criterion 1.d.1. – Communications Equipment: All facilities and field teams that are evaluated must demonstrate the proper use of two (2) communications systems, one primary and one backup.

The evaluators will request copies of all messages and logs of message traffic at each facility.

Evaluation Criterion 1.e.1. – Equipment and Supplies to Support Operations: 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, Coffey County Decontamination Center, Leroy USD #245, Lyon County Reception Center, Lyon County Ambulance, Newman Memorial Hospital, and all other facilities that maintain dosimeters and KI supplies in accordance with the plan.

EVALUATION AREA 2: PROTECTIVE ACTION DECISION-MAKING

Evaluation Criterion 2.c.1. - Protective Action Decisions Consideration for the Protection of Special Populations: During the emergency phase of the actual exercise, all appropriate actions (e.g. notification, EAS messages, etc.) must be demonstrated by Coffey County EOC Staff for any public or private schools, day care facilities affected by protective action recommendations. Contacts with public school systems/districts must be actual phone calls and all public school systems/districts in the EPZ must be notified. The telephone calls should be more like a Communications Check versus relaying the Exercise message to simplify and reduce the chance of false alarms. 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

Evaluation Criterion 3.a.1. – Implementation of Emergency Worker Exposure Control: 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

For the medical drill, the responding Lyon County Ambulance and the staff at Newman Memorial Hospital must wear appropriate direct reading and permanent record dosimeters and 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 Leroy USD #245 School evaluation, at least one bus driver must demonstrate knowledge of emergency worker exposure control. The bus driver and whoever is responsible for issuing the dosimeters 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 appropriate dosimeters and a dosimeter charger available for this demonstration and be knowledgeable of procedures for their use and of their exposure limits.

Evaluation Criterion 3.b.1. – Implementation of KI Decision: 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. If any emergency workers indicate they would refuse to take KI, procedures must be demonstrated to either take alternative protective measures for the individual(s) or replace them.

Out of Sequence

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 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.

Evaluation Criterion 3.c.1. – Implementation of Protective Actions for Special Populations: Telephone calls to special facilities and individuals with special needs may be actually made or simulated. Actual telephone calls must be made and documented to at least 1/3 of the transportation providers, including special resources for disabled individuals.

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.

Demonstration of Telecommunications device for the Deaf (TDD) will be conducted by interview at each EOC or 911 center(s) equipped with TDD devices. In addition, documentation of the latest test of the device will be provided to the evaluator.

Evaluation Criterion 3.c.2. – Implementation of Protective Actions for Special Populations – Schools: We will expect the capability to take appropriate protective actions for schools to be demonstrated by Leroy USD #245. 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 (1) school bus driver must be available for an interview to determine their awareness of and preparedness for the evacuation of school children.

Evaluation Criterion 3.d.1. – Implementation of Traffic and Access Control: Deployment of traffic and access control personnel to assigned locations will be simulated. 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 jurisdictions involved.

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

EVALUATION AREA 4: FIELD MEASUREMENT AND ANALYSIS

Evaluation Criterion 4.a.1. – Plume Phase Field Measurements and Analyses: *Two* 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 in accordance with the Kansas Emergency Operating Procedures (EOP) should be available for the demonstrations. The Field Teams that are being deployed from the Emergency Operations Facility (EOF) will not have to actually demonstrate wearing respirators. However all emergency equipment, including the respirators and associated items such as spectacle kits must be available during the demonstration. In addition, the list of individuals qualified to wear respirators must be available for the evaluator(s).

Evaluation Criterion 4.a.3. – Plume Phase Field Measurements and Analyses: *Two* 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 teams will demonstrate contamination control procedures and a chain of custody form must be used.

EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION

Evaluation Criterion 5.a.1. – Activation of the Prompt Alert and Notification

System: 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 and/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 broadcast of the messages or EAS test messages is not required or expected.

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 at the conclusion of the exercise. 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 site-specific emergency information (e.g. brochures and/or phone book information) for use by the general public during an emergency.
4. A closing statement asking that the affected and potentially affected populations stay tuned for additional information.

Evaluation Criterion 5.a.3 – Activation of the Prompt Alert and Notification

System: To be demonstrated only if there is a (real or simulated) failure in the primary alert and notification sequence. Evaluators may inquire by interview at Coffey County EOC and the Coffey County Road and Bridge Department concerning procedures for backup alerting and notification. (Once sirens are sounded the county automatically dispatches route alerting teams.)

Evaluation Criterion 5.b.1. – Emergency Information and Instructions for the

Public and the Media: 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 Decision(s) (PADs) 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 PADs are repeated at pre-established intervals.

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

The Public Inquiry System (Rumor Control) is activated at the Wolf Creek Nuclear Operating Corporation (WCNOC) and is co-located in the State EOC. Staff at the Kansas JIC also tracks rumor control. Kansas City Power and Light (KCPL) 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 (6) calls per hour throughout the emergency phase. Any trends in rumors identified by rumor control staff must be addressed by the Kansas JIC in news releases and/or 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 Kansas JIC 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

Evaluation Criterion 6.a.1 – Monitoring and Decontamination of Evacuees and Emergency Workers, and Registration of Evacuees: *Training is going to occur in the morning prior to the evaluated exercise, so the facility will already be set up when the evaluators arrive. Exercise players will have to demonstrate knowledge of how to set up the facility (by interview) and must demonstrate actual instrument operability checks for the evaluators.* The number of evacuees that must be monitored within twelve hours at the Lyon County Reception Center is 1,194 (20% of the anticipated 5,969 evacuees

assigned to the center). Based on a monitoring time of 15 seconds per person, according to the plan, one (1) portal monitoring team is required to monitor this number of evacuees within twelve hours. One (1) monitoring team, with handheld monitors must be available as backup to the portal monitors. Two additional monitoring teams must be available for evacuee (male/female) decontamination. Therefore, at least one (1) portal monitor and three (3) handheld monitoring teams must be available for demonstration. According to the plan, the Emporia Fire Department and / or other Lyon County resources identified in the plan provides the monitors for this facility. Therefore, the monitoring personnel should be from those resources.

The facilities at Lyon County Reception Center (Emporia State University) 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.

Vehicle monitoring and decontamination is not required according to the evaluation criterion. This component of the demonstration may be completed through an interview process concerning how the reception center deals with vehicles of individuals found to be contaminated.

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. This would include staff from Emporia State University, SODEXHO Restaurants, Lyon County Sheriff's Department, Lyon County Public Works, Salvation Army/American Red Cross, Emergency Preparedness Coordinator, Radiological Officer, Emporia Fire Department, and / or other Lyon County resources as identified in the plan as Monitors (portal, handheld and vehicular) and Recorders.

Evaluation Criterion 6.b.1 – Monitoring and Decontamination of Emergency

Worker Equipment: This will be demonstrated at the Lyon County Reception Center and supported by the Emporia Fire Department and / or other Lyon County resources as identified in the plan. Appropriate procedures for monitoring and decontamination of emergency worker equipment, including vehicles, must be demonstrated. A minimum of one (1) vehicle must be monitored and decontamination procedures may be simulated.

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.

Evaluation Criterion 6.d.1 - Transportation and Treatment of Contaminated Injured Individuals:

Out of Sequence

The Lyon County Ambulance and Newman Memorial Hospital will demonstrate this out of sequence. The use of flashing lights and sirens are not necessary during this drill.

Monitoring, decontamination, and contamination control efforts will not delay urgent medical care for the simulated victim. 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.

Before using a monitoring instrument(s), the monitor(s) should demonstrate the process of checking the instrument(s) for proper operation. All monitoring activities should be completed, as they would be in an actual emergency. Appropriate contamination control measures should be demonstrated by the ambulance and hospital crew.

The hospital should demonstrate the capability to activate and setup a radiological emergency area for treatment. Equipment and supplies should be available for the treatment of contaminated injured individuals.

The hospital should demonstrate the capability to make decisions on the need for decontamination of the individual, to follow appropriate decontamination procedures, and to maintain records of all survey measurements and samples taken. All procedures for the collection and analysis of samples and the decontamination of the individual should be demonstrated or described to the evaluator.

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.

Out of Sequence Exercise Events

- *April 30, 2009, - Wolf Creek Pre-Exercise Dress Rehearsal*
- *May 20, 2009, at 1:00 P.M. - Lyon County Reception and Care*
- *June 2, 2009, at 1:00 P.M. - Leroy USD #245 School Superintendent, Principals and Bus Drivers.*
- *September 23, 2009, at 9:30 A.M. - Medical Exercise with Newman Hospital and Lyon County Ambulance EMS (Will start with the EMS response to the staged patient)*

Immediate Correction of Issues

In the event that during an out-of-sequence or exercise demonstration an evaluator identifies an exercise issue, the evaluator will discuss it with the Team Leader, Controller, and Trainer (State 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 AND TIMELINE

Operational events will be conducted as written. Other events may vary from those written according to the actions of the players. 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 at ~50% Reactor power and decreasing, middle of core life, and turbine load at ~ 690 MW. The POD workweek schedule is for 'B' Train components. Diesel Generator 'B' is disassembled and restoration is expected to take another 4 hours. CCW Pump D is out of service for breaker repairs and restoration is expected to take another 6 hours. Results from the performance of STS BB-004 on night shift indicate an RCS unidentified leak of ~ 8 gpm. Leak isolation was NOT successful when OFN BB-007 was performed. GEN-00-004 was entered to perform the tech spec required shutdown at ½% per minute. The plant is being shutdown per Technical Specifications due to the unidentified RCS leakage. Meteorological conditions are: 86 degrees, thunderstorms are moving through the area with lots of lightning and the wind is out of the northwest (towards ~167°) at ~15 mph and no precipitation. Eastern Kansas is under a thunderstorm watch until 1 pm.

SEQUENCE OF EVENTS

The scenario begins with the plant being shutdown. An inadvertent 'A' train Safety Injection (SI) signal generates an SSPS signal to trip the reactor, but the reactor does not trip on the auto trip signal. Efforts to trip the reactor from the Main Control Board (MCB) in the Control Room are successful. The 'A' emergency diesel generator will start, but fail to flash and connect to the NB bus on the SI initiation. This ATWT event meets the conditions for an Alert classification with no PARs.

At the time of the ATWT, the pressure transient resulted in the feed water line to SG 'A' to crack and start leaking inside the CTMT. Once feed water is isolated to the SG, it will start to boil dry, causing CTMT pressure and humidity to increase. Several fuel assemblies are also affected and indications of fuel element failure begin to show with several assembly temperatures slowly increasing and three reaching ≥ 1400 degrees.

The TSC should be activated within 30 minutes of the declaration of the Alert and should provide any assistance with plant monitoring as requested from the Control Room. The EOF should be activated within 90 minutes of the declaration of the Alert and will provide for off-site support as needed.

At 0840 Security reports to the Control Room that the LeRoy siren indicates it has no power. This siren should be considered inoperable. The lightning strike caused power supply problems for the siren. This event will cause plans to be considered for the evacuation initiation of LeRoy due to the wind direction and plume that will be released later in this scenario.

At 0912 the RCS leak increases to ~1000 gpm. The emergency core cooling system (ECCS) pumps will be started as needed to maintain RSC inventory. Three core exit thermocouples have increased to greater than 1400° and the leak is greater than the capacity of a Centrifugal Charging pump (CCP), this event meets the EAL trigger for a Site Area Emergency classification with automatic PAR for John Redmond Reservoir (JRR) and Coffey County Lake (CCL).

At ~1010 there is a report to the County EOC of a vehicle accident near LeRoy involving a pickup truck and a bus loaded with young people. There are multiple injuries and people trapped in the pickup that need to be extricated by responding personnel.

At ~1135 the RCS leak causes GT RE 59 & 60 readings to increase to >2500 R/Hr in the CTMT. This event will meet the EAL trigger for a General Emergency classification with PARs for JRR, CCL, CTR, E-1, SE-1, & S-1.

At ~1205 a problem in the SG 'A' ARV I/P controller causes the ARV to move to 100% open, allowing a release path from CTMT. PARs will be upgraded to.

Environmental samples shall be collected and transported to the EOF.

The drill will be terminated at approximately 1400.