

346



RELATED CORRESPONDENCE

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

January 30, 1985

DOCKETED
USNPC

Alan S. Rosenthal, Esq., Chairman
Atomic Safety and Licensing Appeal
Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Thomas S. Moore
Atomic Safety and Licensing Appeal
Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

'85 FEB -1 A9:39

Dr. Reginald L. Gotchy
Atomic Safety and Licensing Appeal
Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

In the Matter of
Kansas Gas and Electric Company and
Kansas City Power & Light Company
(Wolf Creek Generating Station, Unit No. 1)
Docket No. 50-482-0L

Dear Administrative Judges:

Pursuant to the Order of the Appeal Board, dated October 23, 1984,
forwarded herewith are FEMA's Supplemental Interim Findings and Exercise
Evaluation with respect to the Wolf Creek Generating Station, Unit
No. 1.

Sincerely,

Myron Karman
Deputy Assistant Chief
Hearing Counsel

Enclosure: As stated

cc w/encl.: Remainder of Service List

8502040706 850130
PDR ADOCK 05000482
G PDR

DS07



Federal Emergency Management Agency

Washington, D.C. 20472

JAN 24 1985

MEMORANDUM FOR: Edward L. Jordan
Director, Division of Emergency Preparedness
and Engineering Response
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission

FROM: *Richard W. Krimm*
Richard W. Krimm
Assistant Associate Director
Office of Natural and Technological
Hazards Programs

SUBJECT: Supplemental Interim Finding on Kansas State and Local
Emergency Plans and Preparedness for the Wolf Creek
Generating Station

This is in response to the October 25, 1984, request by the U.S. Nuclear Regulatory Commission (NRC) for a Supplemental Interim Finding for the Wolf Creek Generating Station. Based on conversations between NRC and FEMA staffs, the deadline for response was extended to January 25, 1985. The attached Interim Finding was transmitted to FEMA Headquarters on January 14, 1985, by FEMA Region VII. It is supported by the attached January 10, 1985 exercise evaluation concerning the November 7, 1984, exercise and a December 19, 1984, remedial exercise of the offsite plans and preparedness for the State of Kansas and Coffee County. The Interim Finding and exercise evaluation prepared by FEMA Region VII provides an updating of the Region's September 15, 1984, Interim Finding which was transmitted to NRC on September 28, 1984.

On the basis of the updated Interim Finding and the exercise evaluation, FEMA believes that 1) the State and local emergency plans are adequate and capable of being implemented, and 2) the exercises demonstrated that offsite preparedness is adequate to provide reasonable assurance that appropriate measures can be taken to protect the health and safety of the public living in the vicinity of the site in the event of a radiological emergency.

In addition to the above-mentioned information, we are including data on the one licensing condition and one confirmatory item remaining open before the Wolf Creek Atomic Safety and Licensing Board (ASLB). These concern incomplete letters of agreement and the installation of a second telephone line in the County Engineer's Office. Attached is a January 14, 1985, FEMA Region VII memorandum that addresses these issues. This response, in addition to the November 21, 1984, FEMA memorandum to NRC, completes the FEMA action on the September 20, 1984, NRC request for assistance on Wolf Creek ASLB conditions and confirmatory items related to offsite preparedness.

If you have any questions, please don't hesitate to contact me.

Attachments



Federal Emergency Management Agency

Region VII 911 Walnut Street Kansas City, Missouri 64106

JAN 14 1985

MEMORANDUM FOR: Samuel W. Speck, Associate Director
State & Local Programs & Support

FROM: Patrick J. Sheehy, Regional Director, FEMA-Region VII

SUBJECT: Requested Revised Interim Finding on the State and Local
Emergency Preparedness Plans and Preparedness for the Wolf
Creek Generating Station and Resolution to Open Atomic
Safety and Licensing (ASLB) Issues

Enclosed is a Revised Interim Finding regarding State and County Plans and Implementing Procedures developed for a radiological emergency at the Wolf Creek Generating Station. A number of deficiencies have been cited in past plan reviews. All of these deficiencies have been corrected. There were no Class A deficiencies.

Enclosed, too, are three copies of the Evaluation for the November 7, 1984, exercise and the December 19, 1984, remedial exercise at Wolf Creek.

Two memos which confirm the resolution of all cited open issues before the ASLB are also enclosed.

On the basis of the information provided in this finding and in the exercise evaluation, I believe that; 1) the State and local emergency plans are adequate and capable of being implemented, and 2) the exercises demonstrated that the off-site preparedness is adequate to provide reasonable assurance that appropriate measures can and will be taken to protect the health and safety of the public living in the vicinity of the site in the event of a radiological emergency.

Enclosures

cc: Ken Green
Brian Cassidy



Federal Emergency Management Agency

Region VII 911 Walnut Street Kansas City, Missouri 64106

JAN 14 1985

MEMORANDUM FOR: Richard Krimm, Assistant Associate Director
Office of Natural & Technological Hazards

FROM: Patrick J. Brennan, Regional Director, FEMA-Region VII

SUBJECT: Wolf Creek Atomic Safety and Licensing Board Conditions and
Confirmatory Items Related to Off-Site Preparedness

Per the September 20, 1984, memorandum to you from Edwin L. Jordan, Director, Division of Emergency Preparedness and Engineering Response, Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, my staff has been able to confirm all of the open issues concerning the Wolf Creek Atomic Safety and Licensing Board (ASLB) conditions and confirmatory items related to off-site preparedness. Most of the open issues have previously been completed per a memorandum from my office to you dated November 14, 1984. However, the remaining ASLB condition and confirmatory item are presented below.

The second condition which must be met prior to issuance of the operating license is as follows:

"Letters of Agreement shall be signed by Coffey County with ambulance services and with funeral directors in surrounding counties providing for the transportation of non-ambulatory patients from the Coffey County Hospital and from the Golden Age Lodge Nursing Home in the event of an emergency evacuation occasioned by an accident at the Wolf Creek Plant. These executed Letters of Agreement shall be submitted to the NRC staff and shall be included in the Coffey County Plan."

In our memorandum dated November 14, 1984, we stated that most all the Letters of Agreement and/or Mutual Aid Agreements from the funeral directors and ambulance services were inadequate because of faults with documenting the available litter capacity of the vehicles. We have received all the corrected Letters of Agreement with the exception of the Lyon County Ambulance Service. A representative of the Kansas Gas and Electric Company stated that an agreement has been made verbally and a signed agreement will be forwarded to my office shortly. However, even without the Lyon County resources, the remaining Letters of Agreement provide sufficient litter carrying capacity. Therefore, the status of the second condition is submitted as described above, for consideration by the ASLB and determination of adequacy for satisfaction of the second condition. Copies of the Letters of Agreement are enclosed.

The remaining item that the board requested confirmed was as follows:

Confirm the installation of a second telephone line in the County Engineer's Office.

This was confirmed by FEMA personnel during the remedial drill held on December 19, 1984.

Should you have any questions concerning these items, feel free to contact either Richard Leonard or Marlee Carroll of my staff at (816) 374-2161 or (FTS) 758-2161.

Enclosure

INTERIM FINDINGS ON THE ADEQUACY OF RADIOLOGICAL
EMERGENCY RESPONSE PLANNING BY STATE AND LOCAL
GOVERNMENTS AT THE WOLF CREEK GENERATING
STATION, BURLINGTON, KANSAS

Office of the Director
Federal Emergency Management Agency, Region VII
911 Walnut Street
Kansas City, MO 64106

December 13, 1983

Revision 1: January 5, 1984

Revision 2: September 15, 1984

Revision 3: January 11, 1985

2.1.7 Emergency Facilities and Equipment

[It is not clear in the State Plan that reserve supplies of radiation detection equipment are adequate to replace those being calibrated (Criteria Element H.10).]

The State should provide for at least one backup field radiiodine measuring system for each monitoring team. The inventory should reflect this availability (Criteria Element H.10).

* Corrective action promised by 11-1-84. Per the November, 1984 submission, KG&E has committed to providing equipment and instrumentation required for the joint monitoring teams. KG&E has also committed to providing at least one backup field radiiodine measuring system for each of the seven possible teams. These backups systems will be available to the joint monitoring, teams at the WCGS/EOF, as needed. Item closed.

[Available supplies are not described in terms of emergency kits, and the list is not sufficiently detailed for communications equipment and emergency supplies such as maps, forms, procedures, check sources, and consumables (Criteria Element H.11).]

EPA observed that the cross-referenced section of the State Plan (Table H-3) does not refer to communication kits. Also, protective equipment must include coveralls, headgear, shoes and gloves. Section 4.3.2 refers to "other" emergency supplies listed in the County Plan. If they are there, they will require appropriate cross-references (Criteria Element H.11.).

1.0 INTRODUCTION

This document constitutes the revised interim findings of the Region VII Director of the Federal Emergency Management Agency (FEMA) on the adequacy of emergency radiological response preparation of State and local governments for incidents with potential off-site consequences at the Wolf Creek Generating Station, located near Burlington in Coffey County, Kansas. It compiles and summarizes evaluations of the relevant portions of the State of Kansas Annex A to Assistance R, Nuclear Emergencies of the State Disaster Emergency Plan^a, and of the Coffey County Contingency Plan for Incidents Involving Commercial Nuclear Power.^b It also reflects changes in both Plans made in June, 1984^c. It addresses the consistency of plans and procedures with Federal guidance criteria.

The actual response capabilities of State and local governments with assigned responsibilities in the event of a radiological emergency at Wolf Creek were evaluated at their first exercise of emergency response preparedness on November 7, 1984. One Class A deficiency was cited when it was discovered that a siren located in Waverly, Kansas was incapable of receiving the alert signal. A new antenna was installed and all sirens were successfully retested during a remedial exercise on December 19, 1984. There were no other deficiencies which would lead to a negative finding.

^a Version of September 1983

^b Version of November 1981 as revised November 1982 and September 1983

^c Versions of June, 1984

Criteria Element I.9. satisfied by June 1984 submission.

• Criteria Element I.10 to be corrected by 11-1-84. The November 1984 submission stated that there are four basic methods that will be available for projecting dose rates and integrated doses resulting from direct measure to the plume. The revised procedures for using each of these measures were provided as DHE 16. In addition FDA response level guidelines and NRC Regulatory Guide 1.109 will be used for relating the results of environmental measurements and sample analysis to dose rates and dose commitments to affected populations and were also attached as part of DHE 16. Item closed.

• Criteria Element I.11 to be corrected by 1-1-85. The December 1984 submission noted location and tracking of the radioactive plume will be performed by the joint monitoring teams. The plume boundaries and centerlines are plotted and maintained on a map of the site/Coffey County in the Radiological assessment area of the WCGS/EOF. The procedures used in the joint monitoring team are outlined in SOP DHE 14. Item closed.

[County activity will be very limited in this area. County Plan adequately meets relevant planning standards.]

2.1.9 Protective Response

EPA has called for a definition or specification of the position titled "senior representative of the KDHE, BAQRC," to determine appropriate placement in the decision chain. (Criteria Element J.9.)

3.5 miles west of WCGS. Other centers of population within the EPZ include New Strawn (800), LeRoy (600), Waverly (700), Ottawa, Sharpe, Halls Summit, and Aliceville (all under 100). Two additional population centers, Lebo (950) and Gridley (400), are outside the EPZ but have been included in planning provisions for protective response.

The fifty-mile ingestion pathway EPZ includes all or part of the following Kansas counties: Allen, Anderson, Bourbon, Chase, Coffey, Douglas, Franklin, Greenwood, Linn, Lyon, Miami, Norris, Neosho, Osage, Shawnee, Wabaunsee, Wilson, and Woodson. The largest population center in this EPZ is Emporia (25,000), followed by Ottawa (12,000), Chanute (11,000), Iola (7,000), and Garnett (3,000). Total population of this EPZ is approximately 200,000.

1.2 EMERGENCY PLANNING AUTHORITY AND ORGANIZATION

In accordance with Kansas State Acts (K.S.A.) 48-924, the Governor of the State of Kansas is empowered to issue a proclamation of a State of Disaster Emergency, which condition is defined by K.S.A. 48-904 as "the occurrence or imminent threat of widespread or severe damage, injury or loss of life or property resulting from any natural or man-made cause." The State Disaster Emergency Plan was developed to provide a framework for the authority, responsibilities, and operations of State government under such a condition, and to effectively integrate the combined efforts of State, local and Federal governments. Assistance R to this plan defines the roles of state agencies in nuclear emergencies, and Annex A to Assistance R covers the special case of nuclear facilities incidents. K.S.A. 48-905 establishes within the Adjutant

environs surrounding the WCGS. Maps are also provided in DHE 13-3 which show KG&E's continuous environmental monitoring and sampling as well as predesignated monitoring and sampling points to be used by the joint monitoring teams. However, the latter map has been revised and a copy of the current map was provided. Item closed.

Criteria Element J.10.f is satisfied by June 1984 revision.

• Criteria Element J.10.m will be corrected by 1-1-85. This item was referenced in pp. J-19 to J-21 on Table J-2. Item closed.

• Criteria Element J.11. was corrected by the November submission. Surveys for surface contamination will be performed by monitoring teams using GM instruments. Ingestion exposure pathway samples (vegetation, milk, food products, water, etc.) will be collected by the joint monitoring teams and/or state personnel (KDH&E, KBoAg, or KF&G). These samples will be analyzed by KDH&E personnel in the vicinity of the site and/or will be delivered to the KDH&E's Radiation Laboratory for analysis. Sample analysis results will be compared with FDA's response level guidelines or will be used with NRC Regulatory Guide 1.109 for estimating dose commitment consequences of uncontrolled ingestion and for determining appropriate protective actions. Protective actions which will be considered are outlined in the Kansas Protective Action Guide.

Maps and a listing of public water supplies (surface water) were provided in the KDH&E Bureau of Water Protection SOP's. However, it appears that this information was inadvertently omitted from the KDH&E SOP's during final word processing. A copy of these plans was also attached to the submittal package.

responsibilities of licensees and volunteer agencies are followed by statements of procedure (tabs) each labeled according to the corresponding criteria element (letter) of NUREG-0654. Additional materials, including a glossary, cross-reference table and draft letters of agreement conclude the document. The Coffey County Contingency Plan is subdivided into six principal sections (Organization, Emergency Classifications and Action Levels, Emergency Measures, Emergency Facilities and Equipment, Maintaining Emergency Preparedness, Recovery), followed by appendices covering definitions, legal authority, the draft emergency classification system for WCGS, a plan cross-reference, and evacuation time estimates for the 10-mile EPZ.

1.3 GENERAL STATUS OF PLANS AND EXERCISES

The status of plans and exercise demonstrations for the WCGS as of January 11, 1985 is as described in Section 1.0 of these Interim Findings. Those NUREG Elements with closure pending at the time of the last Interim Finding (due dates of 11-1-84 and 1-1-85) are marked with an asterisk (*) in the margin. All previous plan deficiencies have been corrected, pending actual inclusion in a revised plan.

1.4 MATERIALS AVAILABLE FOR EXAMINATION

Kansas State Acts (48-900 through 48-934; 19-813)

State of Kansas Disaster Emergency Plan

Annex A, Nuclear Facilities Incidents Response Plan to
Assistance R, Nuclear Emergencies

households not having autos (NUREG-0654, Appendix 4, sec. II. A., pp. 4-2&3). A list of these households which do not have autos or who are otherwise transportation dependent should be obtained and maintained.

The County Plan's Evacuation Time Analysis (Appendix K, p. K-5) indicates that special population groups include Coffey County Hospital, Golden Age Lodge, and schools, preschools and day-care centers (NUREG-0654, Appendix 4, sec. II. C., p. 4-3). But there is no indication of how the schools are accounted for in the evacuation time estimates. The summary evacuation times account for the County Hospital and Golden Age Lodge, but not the schools (Table K-7, p. K-19). The summary evacuation times do not provide for both average and adverse weather condition time estimates for the Hospital and Golden Age Lodge.

The County Plan's Evacuation Time Analysis (Appendix K, p. K-5) indicates that the transient population includes the work force at the WCGS site (NUREG-0654, Appendix 4, sec. II. B. p. 4-3). But this portion of the transient population is not indicated to be included in the estimates for either of the two cases of weather condition (Table K-3, p. K-12; Table K-7, p. K-19)

The County Plan's Evacuation Time Analysis (Appendix K, p. K-5) indicates that the transient population includes the occupants of motels and hotels (NUREG-0654, Appendix 4, sec. II. B., p. 4-3). But there is no indication of how the portion of the transient population is accounted for in the evacuation time estimates. The summary evacuation times account for transients at the John Redmond Reservoir, but not other transients (Table K-7, p. K-19).]

- United States Department of the Interior - Central Region

- United States Nuclear Regulatory Commission - Region IV

The RAC Plan review was originally submitted to the FEMA Regional Director on July 1, 1983. Deficiencies were identified during this review and were cited with respect given to planning standards A-P. The plan was subsequently revised to incorporate the correction to these deficiencies and to the Atomic Safety and Licensing Board Hearing requirements and recommendations and submitted for review June 28, 1984. A schedule of corrections was received September 7, 1984. Further corrections were received by the Regional Office on November 5, 1984 and December 27, 1984. The current status of inadequacies with respect to the planning standards following this second review is presented below:

Deficiencies found in the revision of January 5, 1984 will be in brackets ([]). Those not bracketed surfaced as a result of the RAC review conducted in July 1984.

2.1 STATE OF KANSAS: ANNEX A. NUCLEAR FACILITIES INCIDENTS RESPONSE PLAN TO ASSISTANCE R, NUCLEAR EMERGENCIES, OF THE STATE DISASTER EMERGENCY PLAN AND COFFEY COUNTY CONTINGENCY PLAN FOR INCIDENTS INVOLVING COMMERCIAL NUCLEAR POWER.

2.1.1 Assignment Of Responsibility (Organization Control)

[Although it clearly identifies and illustrates the operational roles of the agencies to be involved in emergency response, the State Plan neglects to identify a specific individual by title who shall be in charge of the emergency

Regarding Criteria Element K.3.b., the State plan was revised to reflect readings on an hourly basis. However, EPA takes the position that the procedures should require that readings be taken on self reading dosimeters every 15 to 30 minutes. The State on the advice of its own radiological experts, maintain that hourly reading are adequate. They do not intend to change the procedures. (Criteria Element K.3.b.)

EPA also observes that: "A person qualified in radiological health must be identified in the decision chain, as well as persons with a medical degree or advanced training in dealing with radiation injury". (Criteria Element K.4.)

* Corrective action was provided in the November 1984 submittal, stated that if such a decision is required immediately in an emergency situation, the decision will be made by the State Radiological Assessment Manager (RAM) at the WCGS/EOF. If time permits, the State RAM will consult with the manager, BAQ/RC at the State EOF, the State Health Officer (currently Director, Division of Health, KDH&E) and the Secretary, KDH&E in reaching a joint decision. If circumstances warrant, and time permits, other radiological health specialists may also be consulted.

It should be noted that NUREG-0654 does not specify the qualifications required for individuals making such decisions. Items closed.

[The State Plan does not provide action levels for determining the need for decontamination (Criteria Element K.5.a).]

Both letters will be added to the next plan revision. Letters of Agreement with Federal Agencies have been put on hold pending Headquarters guidance. Item closed.

[Table 1-1 of the County Plan appears to be inconsistent with assignment of responsibility in the State Plan, which identifies a support role for the County in provision of social services that Table 1-1 does not acknowledge (Criteria Element A.2.a).]

Revision of June 1984 is satisfactory.

[The County Plan does not include Letters of Agreement with the Kansas Forestry Commission; the U.S. Fish and Wildlife Service; the U.S. Army Corps of Engineers; Unified School Districts No. 243, 244, and 245; the Coffey County Fire Department; and county school bus services; all of which would be involved in alert notification and possible evacuation of institutional and transient populations, and in other response activities. It is important that, where State agencies will be relied upon by the county to perform or augment emergency functions, written agreements with those agencies be in place (Criteria Element A.3), where the agencies' response are not accounted for under the Kansas State Acts.]

Revision of June 1984 is satisfactory.

2.1.11 Medical and Public Health Support

[Draft Letters of Agreement presented in the State Plan must be finalized and signed in order to complete required medical support arrangements (Criteria Element L.1). Letters of Agreement with Ransom Memorial Hospital and KU Medical Center have not been signed, and the available capacity of neither of these facilities is discussed (Criteria Element L.3). Specific arrangements and a Letter of Agreement with the Coffey County Ambulance Service must be finalized (Criteria Element L.4).]

* Criteria Element L.1. was satisfied by the December 1984 submittal. (Also refer to Criteria Element A.3.) Item closed.

* Criteria Element L.3. regarding signature on the letter was corrected by the December 1984 submittal. Item closed. Facility information was satisfied in June 1984 submission.

[The County involvement in this activity is very limited. However, participation of Coffey County Hospital and Ambulance Service in transporting victims of radiological accidents is alluded to in the County Plan, yet no formal agreement is in place (also Criteria Element L.4).]

* The December 1984 submittal satisfies criteria element L.4 and states: Section 3.11 of the Coffey County Contingency Plan will be Revised to indicate that the Coffey County Ambulance Service will be used to transport contaminated injured individuals to the appropriate medical facilities. The Coffey County Ambulance Service is operated by the Coffey County Hospital which is completely

* Even after the June 1984 revision, element C.4 was still deficient with correction promised by 1-1-85. The December 1984 submission notes that the State has a Letter of Agreement with the State of Nebraska for mutual support in case of a nuclear power facility emergency. Kansas does not deal directly with the Nebraska Public Power District. The Kansas State University and the University of Kansas are State institutions and would be under the direction of the Governor after a State of Disaster Emergency is declared; therefore, no Letters of Agreement are necessary. A Letter of Agreement with the KU Medical Center was provided. Kansas does not intend to call upon Cooper or Callaway nuclear power plants for health physics support. Item closed.

2.1.3 Emergency Classification System

The State and County Plans adequately meet the relevant planning standards.

2.1.4 Notification Methods and Procedures

[The State Plan should specify that means for verification of messages are in place even if details are not included (Criteria Element E.1). Otherwise, the relevant planning standards are adequately met.]

Even after the June 1984 submission, both EPA and HHS question whether the wording presented on page 3-3 of the State Plan adequately "includes the means for verification of messages". Persons involved and the various communication pathways for verification as well as phone numbers should be listed.

Element K.4., a qualified person must be included in the decision chain. If the county is to defer to the State, the interaction between the two should be described. (Criteria Element M.1.)

* Corrective action promised by 11-1-84. Recovery Reentry procedures provided in November submission. Item closed.

The State Plan must specify the means for informing members of the response organizations that a recovery operation is to be initiated. (Criteria Element M.3.)

* Corrective action promised by 11-1-84. This information was provided in the recovery/reentry procedures submitted in November 1984. Item closed.

The State plan provided no technical description of the method used for periodically estimating total population exposure during recovery and reentry. Further, EPA states that the Plan must require that all data necessary will be retained for total population exposure calculation during recovery phase. (Criteria Element M.4.)

* Corrective actions was promised by 1-1-85 and provided in the November, 1984 submittal. See 1st response in this section. Item closed.

This Plan contains draft procedures for the U.S. Corps of Engineers, U.S. Fish and Wildlife Service and Kansas Fish and Game Commission concerning their alerting roles for the John Redmon Reservoir. Thus far only the Kansas Fish and Game Commission has signed a Letter of Agreement committing itself to the Plan.

Also, in order to evaluate the adequacy of these procedures, a description should be available of how individuals in the recreation areas can be provided an alert signal within 45 minutes. Further information is required on how this 45 minute notification criteria is to be met.]

The "FEMA 43" package is being reviewed by FEMA headquarters. Specific recommendations will be forthcoming.

As noted above, signed letters were submitted in the June 1984 revision.

2.1.5 Emergency Communications

[The State Plan should be more specific with respect to the means for backup communications from the near-site EOF to the State EOC (NUREG-0654, Criteria Element F.1.d). Otherwise, the relevant planning standards are adequately met.]

The June 1984 submission adequately supplies the information regarding the use of land line or microwave as back-up communication from the EOF to the State EOC. (Criteria Element F.1.d.).

[Health physics drills are not specifically covered in the referenced section of the State Plan (Criteria Element N.2.e.1). Plan language should be revised in the County Plan to permit non-FEMA Federal observers (Criteria Element N.4)]

• Correction promised by 1-1-85. Another search of the plan references health physics drills on p. N-2 of the State Plan. Item closed.

Criteria Element N.4 has been resolved by stating that page 5-3 of the County Plan will be reviewed to state that arrangements will be made to have State and Federal observers to critique the County's Emergency Response Organization during the exercise. Item closed.

Since the State Plan defers to the County Plan, but the State is developing agreements with Ransom Memorial Hospital, a cross reference requiring an annual medical drill should be shown. (Criteria Element N.2.c.)

• Corrective action promised by 1-1-85 satisfied this requirement in December 1984 by noting that Section N.2.0 of the State Plan will be revised to include the following:

2.3 Medical Emergency Drills

"A medical emergency drill simulating a contaminated, injured individual will be conducted annually. The drill will involve the local ambulance services and medical treatment facilities. Local officials will be responsible for conducting this drill each year."

The State Plan, Tab G., 2.2, states "after a state of disaster is declared, the state PIO is responsible for the coordination, supervision, and release of all state and local emergency public information". However, section 3.0 seems to make local PIOs autonomous: The lead County PIO is responsible for information pertaining to county activities. (Criteria Element G.4.b.)

* Clarification was promised by 1-1-85 and provided in the December 1984 submission. "The EBS messages for release by the State are approved for release by the Director, DEP, or his alternate after a State of Disaster Emergency has been declared. Prior to a State of Disaster Emergency at the State level, the county may release EBS announcements. They will normally do this through the State DEP but may release, depending on need, directly from the Sheriff's dispatchers to the EBS Stations". Item closed.

[More detail is needed in the County Plan regarding the County's arrangements for rumor control. Procedures for collection and transmittal of rumor reports to the State PIO and KG&E are inadequately described. The County PIO's responsibility regarding confirmation, denial, and follow-up on rumors is not clear (Criteria Element G.4.c).]

This is satisfied by the June 1984 submission.

[The Plan does not adequately specify the content of the annual training program and briefing for news media - see comments for this standard under review of State Plan (Criteria Element G.5).]

This is satisfied by June 1984 submission.

2.1.14 Radiological Emergency Response Training

[The State Plan's training provisions should be revised to include the following.

- 1) Provide training to the Kansas Fish and Game Commission personnel in "Radiation Survey Instrumentation" to complement their role in the Plan.
- 2) Provide training to the Kansas Department of Social and Rehabilitation Services personnel in "Overview of the Three Emergency Plans" to complement their role in the Plan.
- 3) Provide training to the Governor's Office in "Overview of the Three Emergency Plans" and "Position and Role in Emergency Plan."
- 4) Provide training to emergency workers to complement their roles in the State Plan.
- 5) Provide training for the U.S. Corps of Engineers and the U.S. Fish and Wildlife personnel for their roles in the State Plan.
(Criteria Element 0.4).]

The June 1984 submission satisfies this deficiency, but EPA comments that the training outline on page 0-3 of the State Plan needs to be amplified to show scope, nature and frequency of the training.

* Corrective action promised by 1-1-85. Per the December 1984 submittal, the State will amend its Table H-3 to include coveralls and the County will revise Table 4-2 to include 2 way radios and coverall. Appendix G will be amended to show Section 4.3.2 cross referenced under the County Sheriff's and County County Engineer's and RDO's procedures. Other items are now listed. Item closed.

[There is insufficient information in the County Plan regarding supplementary emergency equipment such as check sources, maps, forms, procedures, and consumables (NUREG-0654, Criteria Element H.11). This equipment is alluded to but not listed.]

* Correction promised by 1-1-85. This information is listed under County Plan Table 4-2 and State Plan Table H-3 which will be amended accordingly to previous comment. Item closed.

2.1.8 Accident Assessment

[Specific instrumentation and procedures capable of detecting and measuring radioiodine concentrations in the plume EPZ to the required resolution under field conditions are not identified in the State Plan (Criteria Element I.9). The Plan is deficient with respect to the detailed information needed to determine whether measurements can be successfully related to estimated dose rates and to computation of projected and actual integrated dose. The State does not identify any capability for itself in this role. Therefore, more information about specific procedures to be followed must be provided (Criteria Element I.10). Radiological monitoring procedures to be used in performing airborne plume tracking surveys are not described (Criteria Element I.11).]

- 6) Provide training for U.S. Corps of Engineers and U.S. Fish and Wildlife personnel for their roles in the Coffey County Plan.]
(Criteria Element O.4).]

Deficiency satisfied by submission of June 1984.

2.1.15 Responsibility for the Planning Effort

[The State Plan adequately meets the relevant planning standards.]

[The list of contingency plan implementing procedures in the County Plan document does not reference the section of the County Plan to be implemented by each procedure (Criteria Element P.7).]

Satisfied by submission of June 1984.

• Corrective action promised by 11-1-84. Per the November 1984 submission, the "senior representative of the KDH&E, BAQ/RC" is the Bureau Manager, who will dispatch to the State EPC upon notification a Site Area Emergency has been declared or at the alert level if circumstances warrant. The senior KDH&E BAQ/RC representatives at the WCGS/EOF will be the State Radiological Assessment Manager (RAM) who will be one of the Bureau's Public Health Physicists. Item closed.

[Maps shown in the State Plan do not identify radiological sampling and monitoring points (Criteria Element J.10.a). A decision chain for administering radioprotective drugs to the general population (Criteria Element J.10.f) is lacking in the State Plan, as is specific information on expected local protection afforded in residential units and other shelter (Criteria Element J.10.m). A decision has to be made whether or not KI will be administered. If it is going to administered, a decision chain must be outlined. If not, a decision has to be made concerning alternate measures which will be taken.

No reference is made to maps for recording survey and monitoring and key land use data and identifying water sheds, water supply intake, treatment plants and reservoirs in the ingestion pathway EPZ. Nor are there maps showing shelter areas. Procedures described for diversion of affected meat and poultry products are unclear, and detailed crop maps are not referenced (Criteria Element J.11).]

• Criteria Element J.10.a will be corrected by 11-1-84. Per the November 1984 submission, maps are provided in DHE 13-14 of KDH&E's SOPs which show the Department's continuous environmental monitoring and sampling in the

Maps of key land use data (agriculture) are maintained by the KBoAg and maps for at least some of these uses are provided in the KBoAg SOP's. Item closed.

[No provisions are made in the County Plan for sheltering or evacuation of the incarcerated as an institutionalized population (Criteria Element J.10.d). Ambulance and school evacuation capability is unclear without signed Letters of Agreement with ambulance and school bus companies (see above) (Criteria Element J.10.g).]

Criteria Element J.10.d satisfied by June 1984 submission.

* Criteria Element J.10.g has been satisfied by the December 1984 submission. Item closed.

[The County Plan's Evacuation Time Estimates (Appendix K), provide the summary evacuation times for two conditions - average and adverse. But the adverse weather frequency used in the analysis is not identified, nor is its severity specified in order to define the sensitivity of the analysis to the selected events. (NUREG-054, Appendix 4, sec. IV. A., p. 4-6). There is not, therefore, an indication of the range of adverse weather to which the evacuation times apply.

The County Plan's Evacuation Time Analysis (Appendix K) indicates that the population at risk was divided into three groups: permanent residents, transients, and special facility populations. But the analysis does not indicate that the permanent residents were divided into two subgroups: 1) those using autos, and 2) those without autos; nor does it give attention to those

The State of Kansas has been provided a confidential draft copy of the exercise evaluation. A schedule of corrections cannot be developed until after they receive their official working copies and are permitted to distribute them among their response organizations.

1.1 FACILITY AND SURROUNDINGS

The Wolf Creek Generating Station (WCGS) comprises a single-unit 1150 electrical megawatt (Net MWe) pressurized water reactor for which construction is approaching completion. Fuel loading date is currently scheduled for November/December 1984, followed by low power operation until commencement of commercial operation in the spring of 1985. The WCGS site is located east of the approximate geographic center of Coffey County, and includes a cooling lake for the facility with a surface area of about eight square miles.

The surrounding land is rural in character, a gently rolling landscape with no outstanding topographical features. Elevation ranges from 980 to 1200 feet above sea level, with the plant itself at an altitude of 1110 feet.

The estimated population of the 10-mile EPZ is 6,658, based on 1980 census data, at an average density of 6 persons per square mile. This population is resident entirely within Coffey County. WCGS lies 3.5 miles northeast of Burlington (pop. 2,700), county seat of Coffey County, and 75 miles southwest of Kansas City, KS. Largely contained within the EPZ is the John Redmond Reservoir, a man-made recreational/flood control lake sited on the Neosho River, which is in extensive warm seasonal use for water recreation by visitors both from within and outside the EPZ. The John Redmond Dam is located

These issues satisfied by June 1984 corrections, and ASLB Hearing testimony.

2.1.10 Radiological Exposure Control

[The State Plan does not stipulate that all personnel be provided both self-reading and permanent record devices (Criteria Element K.3.a). In areas of possible high radiation exposure, the State Plan stipulation that self-reading dosimeters will be zeroed and a record made of the readings on a daily (rather than an hourly) basis is insufficient (Criteria Element K.3.b).]

* Criteria Element K.3.a will be satisfied by 1-1-85. Per the December 1984 submission, Section 2.3.1 of the State Plan will be rewritten as follows:

The SDEP will in addition provide and distribute self-reading dosimeters to appropriate responding state and local agencies. The licensee will provide thermoluminescent dosimeters (TLDs) to the responding State agencies (except KDHE, see Section 2.1). It is the responsibility of these agencies to see that the self-reading dosimeters and TLDs are distributed to the responding individuals within their respective agencies who have radiological emergency response assignments at the time they are dispatched. At a minimum, the self-reading dosimeters will be read hourly and the TLDs will be read weekly.

Item closed.

General's Department the Kansas Division of Emergency Preparedness (KDEP). the Adjutant General, in accordance with K.S.A. 48-919, has designated within the KDEP an emergency preparedness programs administrator to carry out responsibilities empowered by K.S.A. 48-907 that are required for meeting the provisions of the State Disaster Emergency Plan.

K.S.A. 48-929(d) provides that, in accordance with the standards and requirements for disaster emergency plans promulgated by the KDEP, ". . . each county, city and interjurisdictional disaster agency shall prepare and keep current a disaster emergency plan for the area under its jurisdiction, which has been approved after examination and periodic review by the Division of Emergency Preparedness." The Coffey County Contingency Plan for Incidents Involving Commercial Nuclear Power was developed under this authority. In general, the structure and philosophy of emergency response in the State of Kansas assigns primary responsibility to local and county authorities in the affected area, with the State providing support and resources on request. However, upon declaration of a state of disaster emergency by the governor, he or she becomes, by authorization of K.S.A. 98-924, commander in chief over all emergency resources and may "...require and direct the cooperation and assistance of State and local governmental agencies and officials" [(K.S.A.98-925(c)(10)]. Powers thus vested in the governor during such an extraordinary situation [(ref. K.S.A. 98-925(c)(1-9)] would effectively subordinate local and county emergency response plans and procedures.

Annex A to Assistance R (State Plan) is organized in parallel to the criteria elements of NUREG-0654/FEMA REP-1 (Rev. 1), in that sections defining the concept of operations, respective assignments of responsibility to Federal, State, local government and private sector agencies, and the interface

Criteria action was provided in the November 1984 submittal by noting that action levels for decontamination are contained in DHE 18 of KDHE's SOPs. Item closed.

[The County Plan does not adequately address the issue of disposal of liquid or solid waste of decontamination, nor of the treatment of persons with contaminated wounds or possible internal contamination. No list of supplies, instruments or equipment was found, nor was there a list of the number of emergency workers who will need to be supplied with this equipment. The Plan should also specify the location of the supplies, instruments and equipment as well as procedures for distribution (Criteria Elements K.3.a and K.5.b).]

Concerns per Criteria Element K.3.a. were satisfied by June 1984 submission.

* Criteria Element K.5.b. was accounted for in the December 1984 submittal. Table 5-1 of the Coffey County Contingency Plan describes the training the host county radiation monitors will receive. The training includes "Radiation Survey Techniques" and Position Role in Emergency Plan. As part of this training, the host county radiation monitors will be trained in the procedures for monitoring personnel and vehicles for potential contamination, for decontamination personnel and vehicles of radiological contamination, and for disposing of contaminated wastes. The procedures used in the training courses are those provided in CPIP No.'s 32, 33, and 34 in the Coffey County Contingency Plan Implementing Procedures. Item closed.

Coffey County Contingency Plan for Incidents Involving

Commercial Nuclear Power

Wolf Creek Generating Station Radiological Emergency Response Plan

Wolf Creek State and County REP Plans Technical Reviews (11/15/83
and 8/31/84)

Exercise Evaluation, November 7, 1984 Exercise of the Radiological
Emergency Response Plans and the December 19, 1984 Remedial Exercise
of the Alert and Notification System of the State of Kansas and Coffey
County for the Kansas Gas & Electric's Wolf Creek Generating Station
at Burlington, Coffey County, Kansas (January 10, 1985).

2.0 EVALUATION OF PLANS

Evaluation of radiological emergency response planning of State and
local governments for WCGS is by the FEMA Regional Director, who is advised by
the Region VII Regional Assistance Committee (RAC). The Region VII RAC charged
with reviewing State and county plans for WCGS is composed of representatives of
the following agencies:

- Federal Emergency Management Agency - Region VII
- United States Department of Energy - Albuquerque Operation's Office
- United States Department of Transportation - Region VII
- Environmental Protection Agency - Region VII
- United States Department of Agriculture
- United States Department of Health and Human Services - Region VII
- Food and Drug Administration
- Public Health Service

subsidized by Coffey County. Since the hospital and ambulance service are county owned, a letter of agreement is not required for Coffey County to use the ambulances in an emergency. Item closed.

2.1.12 Recovery and Reentry

[A method for periodically estimating total population exposure during reentry and recovery is not described or mentioned in the State Plan (Criteria Element M.4).]

* Corrective action was provided in the November 1984 submittal. Continuous dose rate measurements and air sampling data provided by the joint monitoring teams will be used to maintain an estimate of cumulative population exposures in affected areas as the accident/incident progresses. As soon as releases have been terminated and the facility stabilized, KDH&E's and KG&E's TLD network will be changed out, as well as particulate filters and iodine cartridges at fixed air sampling stations. This data as well as other environmental sampling results will also be used to determine dose commitments to affected populations. Item closed.

[The County Plan adequately meets the relevant planning standards. Most responsibility in this area is deferred to the State.]

In the course of the second RAC review, EPA observed that the Coffey County Plan must state procedures for reentry and recovery, and also a description of the process by which the decision is made. As in Criteria

response for each organization (NUREG-0654, Criteria Element A.1.d) or to specify responsibilities and functions in certain key areas of need (Criteria Element A.2.a), including accident assessment, protective response, and radiological exposure control. Where no primary responsibility is identified by the state for a particular function, other plans which assign this responsibility should be referenced (Criteria Element A.2.a).]

The policy statement signed and dated June 5, 1984 adequately addresses the deficiency cited under Criteria Element A.1.d. However the deficiency cited under Criteria Element A.2.a. remains.

* Correction promised by 1-1-85.

Criteria Element A.2.a. satisfied by assigning responsibilities to Kansas Department of Health and Environment through new pages B-15 and B-16 by the State Plan (received 12-27-84). Item closed.

[The State Plan contains no copies of signed Letters of Agreement with Ransom Memorial Hospital, the University of Kansas Medical Center and Federal agencies which have been assigned responsibilities in the Plan (Criteria Element A.3).]

* Correction promised by 1-1-85.

The Letter of Agreement with the Ransom Memorial Hospital was furnished to FEMA at the November 7, 1984 exercise. The Letter of Agreement with the University of Kansas Medical Center was provided on December 27, 1984.

2.1.13 Exercise and Drills

[There is no explicit provision in the State Plan for conducting exercises in conformance with the requirement that one start between 6:00 p.m. and midnight, and another between midnight and 6:00 a.m. once every six years. There is no provision for exercises to be conducted unannounced or under various weather conditions (Criteria Element N.1.b).]

* Correction by 1-1-85. This was satisfied by the December 1984 submittal whereby page N-2 of the State plan will be revised to include a statement that certain exercises are recommended and conducted under various weather conditions. Once every six years an exercise will start between 6:00 p.m. and midnight and another between midnight and 6:00 a.m. Item closed.

[County Plan adequately meets the relevant planning standards.]

However, the second RAC review noted that the Coffey County Plan fails to stipulate that an exercise in which they participate will simulate an emergency resulting in off-site release of radioactivity (Criteria Element N.1.a)

* Corrective action promised by 1-1-85. This was satisfied by the December 1984 submission by stating that page 5-2 of the Coffey County Contingency Plan will be revised to include a statement that the exercise will be designed to simulate an emergency that results in offsite radiological releases which require response by offsite authorities. Item closed.

2.1.2 Emergency Response Support and Resources

[Air field resources, command posts, telephone lines, radio frequencies and communications center to support the Federal response are not identified in the State or County Plans (Criteria Element C.1.c).]

The deficiency cited under C.1.c. for both State and County Plans will be satisfied when FEMA, Region VII, compiles and issues a list of resources required by any Federal Agencies assisting in radiological emergency response.

[Capabilities of all participating laboratory facilities are not fully described in the State Plan (Criteria Element C.3).]

* The June 1984 revision did not account for this. Correction scheduled for 1-1-85 did provide the capabilities of the KDH&E Radiological Laboratory. The Department is investigating the feasibility and availability of back up or support laboratory services. In the meantime, should a situation occur, such backup or support services will be requested from those agencies or facilities of the Federal government listed in 2.1 of Tab C of Annex A to Assistance R of the State Disaster Emergency Plan. Item closed.

[The State Plan needs formalized (not draft) letters of agreement with Kansas Gas & Electric; Nebraska Public Power District; Kansas State University; Kansas University; and KU Medical Center. Health physics support agreements should be considered with Cooper and Callaway nuclear power facilities (Criteria Element C.4).]

In addition, page 5-2 of the Coffey County Contingency Plan will be revised to state that the medical emergency drill will involve the Coffey County ambulance Service and Ransom Memorial Hospital. Item closed.

However, in regard to exercise description, the State Plan makes no mention of dates, time period, places or participating organization. (Criteria Element N.3.b.)

* Correction promised by 1-1-85 was provided in December 1984 and stated that page N-3 of the State Plan will be revised to state that the exercise/drill outline will also include the dates, time period, places and participating organizations for the drill/exercise.

Page 5-3 of the Coffey County Contingency Plan will be revised to state that, "For each exercise, KG&E formulates and the Emergency Preparedness Coordinator and State Administrator, Radiological Systems provide comments on the objectives, date, time, period, place, participating organizations, content of the scenario and requirements for observers." Item closed.

The State Plan should stipulate that a post-exercise critique will be held as soon as practicable after an exercise (Criteria Element N.4.)

* Correction promised by 1-1-85. The December 1984 submittal satisfied this criteria by noting Section N-1 of the State Plan and Section 5-2 of the County Plan will be revised to include a statement that a critique will be held as soon as practicable after each exercise and that a formal evaluation should result from the critique. Item closed.

* Corrective action was completed by November 1984 submission.

P.E-4 of the revised State Plan states that the notification procedures are also required to include a method of notification authentication. In the case in which notifications are made by dedicated or limited access communications systems (i.e., ASTRA and NLETS; refer to Tab F), authorization is not required. Item closed.

NRC observed in the second review that Coffey County Contingency Plans do not clearly state when sirens will be sounded and by whom. The Sheriff is named as being responsible, but sounding the sirens is not shown in his list of procedures. (Criteria Element E.6.)

* Correction was promised by 11-1-84. Coffey County provided a list of changes to the plan and procedures November 6, 1984. The Sheriff will activate the sirens at a predetermined time which corresponds to the broadcast of the EBS announcement. The siren will be sounded only once at a Site Area Emergency (or General Emergency which over comes first). Thereafter, the public will be advised of the situation at Wolf Creek through EBS announcements. (Procedures CPIP Nos. 9&10 will be revised accordingly. Item closed.

[The County Plan provides a description of how the tone alert program will be administered in Appendix H, p. H-8. However, additional information will be required in order to bring it into compliance with the "Standard Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants, FEMA 43."

• This will be corrected by 1-1-85. December 1984 submission of training packets satisfied this element. Item closed.

[The County Plan's training provisions should be revised to provide the following.

- 1) Training for bus drivers in "Basic Radiation Effects and Protection."
- 2) Training for volunteer teams that are to provide medical care in "Basic Radiation Effects and Protection".
- 3) Training for the County Health Officer, Traffic Control, the Health and Medical Management Team and The Nursing Home Administrator and staff in "Basic Radiation Effects and Protection".
- 4) Training of the Fire Leader and personnel should include "Basic Radiation Effects and Protection" and "Self-Protection Radiation Monitoring" for those who may be exposed to radiation.
- 5) Training of emergency workers should be considered an important part of the County Plan. More attention should be given to these workers, and they should be provided with group and individual training programs.

[The County Plan indicates that the fire departments, school superintendents and school buses in Coffey County do not have a back-up means of communication with the County EOC. The County Plan indicates that a radio system has been proposed which would serve this purpose. This system should be implemented to fulfill the planning standards. (Criteria Element F.1)]

Deficiency satisfied by June 1984 revision.

Figure 4-2 in the Coffey County Plan does not show communications linkage between ambulances and hospitals. (Criteria Element F.2.)

* Corrective action promised by 11-1-84. Figure 4-2 of the Coffey County Plan will be amended to show that the Coffey County Ambulance Base is located in the Coffey County Hospital. Item closed.

2.1.6 Public Education and Information

[The State Plan lacks needed detail regarding how the public "hot lines" to be set up in Kansas City, Topeka, and Wichita will perform rumor control functions in a coordinated and consistent manner (NUREG-0654, Criteria Element G.4.c). Specific content, organization, and State's role in annual news media briefing are lacking (Criteria Element G.5).]

The June 1984 revision is adequate.



Federal Emergency Management Agency

Region VII 911 Walnut Street Kansas City, Missouri 64106

NOV 14 1984

MEMORANDUM FOR: Richard Krimm, Assistant Associate Director
Office of Natural & Technological Hazards

FROM: Patrick J. Breheny, Regional Director, FEMA - Region VII

SUBJECT: Wolf Creek Atomic Safety and Licensing Board Conditions and
Confirmatory Items Related to Off-Site Preparedness

Per the September 20, 1984, memorandum to you from Edwin L. Jordan, Director, Division of Emergency Preparedness and Engineering Response, Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, my staff has been able to confirm most of the open issues concerning the Wolf Creek Atomic Safety and Licensing Board Conditions and confirmatory items related to off-site preparedness.

The two conditions (as modified by the order) which must be met prior to issuance of the operating license are as follows:

1. Letters of Agreement (LOA's) shall be signed by Coffey County with hospitals and nursing homes in surrounding counties providing for the acceptance of patients from the Coffey County Hospital and the Golden Age Lodge Nursing Home in the event of an emergency evacuation occasioned by an accident at the Wolf Creek Plant. These executed Letters of Agreement shall be submitted to the NRC staff and shall be included in the Coffey County Plan.

RESPONSE

LOA's have been signed with Allen County Hospital, Greenwood County Hospital, Flint Hills Nursing Center, Newman Memorial Hospital, Ransom Memorial Hospital, and St. Mary's Hospital. Anderson County Hospital is covered in the current plan under a Mutual Aid Agreement (MAA). The numbers of potential patients and bed availability were presented in the ASLB testimony, but have not been entered into the plan. The LOA's are attached and will be incorporated into the next revision of the plan.

Summary of Hospital Bed Availability

<u>Hospital</u>	<u>Beds</u>	<u>Testimony Page</u>	<u>MAA or LOA</u>
Allen Co.	10	816	MAA & LOA
Anderson Co.	25	816	MAA
Greenwood Co.	20	850	LOA
Flint Hills	35	851	LOA
Lyon Co. (Newman)	100	813	MAA & LOA
Ransom	62	850	LOA
St. Mary's	45	816	LOA
Total	297		

Hospital Bed Requirement

	<u>Capacity</u>	<u>Testimony Page</u>	<u>Plan Page</u>
Coffey County Hospital	26	814	K-6
Golden Age Lodge	102	819	K-7
Sunset Manor	50		
County Residents (estimated)	<u>10</u>		
Total	188		

Maximum Demand - 188
 Bed Availability - 297
 Surplus Availability - 109

The first condition is considered satisfied and CLOSED

2. Letters of Agreement shall be signed by Coffey County with ambulance services and with funeral directors in surrounding counties providing for the transportation of non-ambulatory patients from the Coffey County Hospital and from the Golden Age Lodge Nursing Home in the event of an emergency evacuation occasioned by an accident at the Wolf Creek Plant. These executed Letters of Agreement shall be submitted to the NRC staff and shall be included in the Coffey County Plan.

Mutual Aid Agreements (MAA's) exist in the current issue of the Coffey County Plan with Allen County, Anderson County and Lyon County to include their County owned ambulances. In addition, the Allen County Ambulance Service has signed a Letter of Agreement (LOA). Funeral Directors in Chanute (2), Garnett, LeRoy, Emporia, Eureka, and Yates Center, Kansas have also signed LOA's. However, the MAA's and LOA's submitted are inadequate due to faults with documenting the available litter carrying capacity of the vehicles. The letters from the funeral directors included a numerical account, but these were discovered to be incorrect, and must be revised to be acceptable. The mutual aid agreements with the counties give no numerical account of resources, and no supporting evidence is available from the ASLB hearing. A supplemental letter from the counties to document ambulance resources available through the mutual aid agreements will be required. The ASLB's second order, therefore, remains unsatisfied as of this date. The second condition is considered unsatisfied and OPEN.

In addition to the two license conditions in the Initial Decision (ID), the Board requested the staff to:

1. Confirm that the tone alert radios have been installed, and the standard "fire" notification procedure has been set forth in the County Plan Implementing Procedures. (ID, p. 10)
 - a) FEMA evaluator reviewed list of recipients of the tone alert radios at the November 7, 1984, exercise. ITEM CLOSED
 - b) The "fire" notification procedure has been added to the June, 1984, issue of the County Plan Implementing Procedures. ITEM CLOSED

2. Confirm the installation of a second telephone line in the Engineer's Office. (ID, p. 12)

Weather has delayed the completion of the new County Shop. The second telephone line is to be added, along with the first line, at that facility. The building was near completion, as of the November 7, 1984, exercise. The phone line is expected to be installed within the next two weeks. FEMA VII will be notified and will provide ASLB confirmation. ITEM OPEN

3. Confirm the installation of radio equipment for the Sheriff. (ID, p. 13)

Installation and operation were confirmed by FEMA evaluators during the November 7, 1984, exercise. ITEM CLOSED

4. Confirm the installation of additional sirens in the John Redmond Reservoir Area. (ID, p. 17)

Installation and operation were confirmed by FEMA evaluators during the November 7, 1984, exercise. ITEM CLOSED

5. Confirm that the County Plan Implementing Procedures have been amended to reflect a breakdown, by class and by number, of the County workers who will be furnished with dosimeters. (ID, p. 45)

Coffey County Plan Revision received November 5, 1984, outlines the above. Copy attached. ITEM CLOSED

6. Confirm that the Implementing Procedures have been amended to specify where the dosimeters will be prepositioned or where the County workers in each class will be able to secure their dosimeters, and the number and types of such dosimeters. (ID, p. 46)

Coffey County Plan Revision received November 5, 1984, outlines the above. Copy attached. Same reference as #5. ITEM CLOSED

7. Confirm that the County Plan and Implementing Procedures appropriately reflect the revisions describing the Joint Training Program. (ID, p. 49)

This was accomplished during the June, 1984, revision of the Plan. ITEM CLOSED

8. Confirm the installation of radio equipment for the Coffey County fire departments and vehicles of the Road Department. (ID, p. 53)

a) Fire Departments equipment confirmed by FEMA evaluators November 8, 1984, the day following the exercise.

b) County Road Department vehicles confirmed by FEMA evaluators when they returned to the County Shop during the November 7, 1984, exercise. ITEM CLOSED

9. Confirm either that the U.S. Army Corps of Engineers will provide its own dosimeters or that Kansas Gas & Electric will provide them (ID, p. 46)

The U.S. Army Corps of Engineers has provided its own dosimeters. However, the Corp is not expected to perform an emergency worker rate during an incident at the WCGS.

We understand that an extension for completion of these items has been granted until November 21, 1984. The State of Kansas and Coffey County have been informed of this revised deadline and its importance to the licensing process. (memo attached).

We will inform you of the results of the final open items on or before November 21, 1984.

Should you have any questions concerning these items, feel free to contact either Richard Leonard or Marlee Carroll of my staff at (816) 374-2161 or (FTS) 758-2161.

Attachments

MM
MM
UN

EXERCISE EVALUATION

**November 7, 1984, Exercise of the
Radiological Emergency Response Plans and the
December 19, 1984, Remedial Exercise of the
Alert and Notification System
of the State of Kansas and Coffey County
for the
Kansas Gas & Electric's**

**WOLF CREEK GENERATING STATION
at Burlington, Coffey County, Kansas
Federal Emergency Management Agency**

January 10, 1985

PATRICK J. BREHENY

911 Walnut

Regional Director Region VII

Kansas City, MO. 64108

EXERCISE EVALUATION OF THE IMPLEMENTATION OF
STATE AND LOCAL RADIOLOGICAL EMERGENCY RESPONSE PLANS

CONDUCTED NOVEMBER 7, 1984

and the

REMEDIAL EXERCISE EVALUATION OF THE
PUBLIC ALERT AND NOTIFICATION SYSTEM

CONDUCTED DECEMBER 19, 1984

for the

WOLF CREEK GENERATING STATION

Burlington, Kansas
Kansas Gas & Electric, Licensee

Participants:

State of Kansas

County of Coffey

(All affected jurisdictions
participated)

January 10, 1985

prepared by

Federal Emergency Management Agency
Region VII

CONTENTS

ABBREVIATIONS AND ACRONYMS.	iv
EXERCISE SUMMARY.	vi
1 INTRODUCTION.	1
1.1 Exercise Background.	1
1.2 Exercise Evaluators.	2
1.3 Evaluation Criteria.	3
1.4 Exercise Objectives.	3
1.5 Exercise Scenario.	7
1.6 Milestones for Exercise Objectives and Critiques	10
1.7 State and Local Resources Planned to be Used in This Exercise. . .	11
2 EXERCISE EVALUATION	12
2.1 State Operations	12
2.1.1 Emergency Operations Facility	12
2.1.2 Media Release Center.	13
2.1.3 State Emergency Operations Center	14
2.1.4 State Forward Staging Area.	15
2.1.5 Dose Assessment and Field Team Coordination	16
2.1.6 Radiological Field Monitoring Teams	18
2.1.7 Medical Emergency	21
2.2 County Operations.	22
2.2.1 Coffey County Emergency Operations Center	22
2.2.2 Coffey County Road & Bridge Department.	26
2.2.3 Host County Relocation/Registration Center - Lyon County. .	27
2.3 Flint Hill National Wildlife Refuge/John Redmond Reservoir	28
3 SCHEDULE FOR CORRECTION OF DEFICIENCIES	31

ABBREVIATIONS AND ACRONYMS

ANL	Argonne National Laboratory
ARC	American Red Cross
ASCS	Agricultural Stabilization and Conservation Service
ATWS	Anticipated Transient Without Scram
CCEOC	Coffey County Emergency Operations Center
CCW	Component Cooling Water
DOC	U.S. Department of Commerce
DOE	U.S. Department of Energy
DOI	U.S. Department of Interior
DOT	U.S. Department of Transportation
EBS	Emergency Broadcast System
ECCS	Emergency Core Cooling System
EMP	Electro-Magnetic Pulse
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPA	U.S. Environmental Protection Agency
EPZ	Emergency Planning Zone
ERFIS	Emergency Response Facility Information System
FDA	U.S. Food and Drug Administration
FEMA	Federal Emergency Management Agency
FHNWR	Flint Hills National Wildlife Refuge
FSA	Forward Staging Area
HHS	U.S. Department of Health and Human Services
IC	Information Clearing House
IPZ	Ingestion Pathway Zone
INEL	Idaho National Engineering Laboratory
JRR	John Redmond Reservoir
KFGC	Kansas Fish & Game Commission
KG&E	Kansas Gas & Electric
KI	Potassium Iodide
LOCA	Loss-of-Coolant Accident
MRC	Media Release Center
NRC	U.S. Nuclear Regulatory Commission
NUREG-0654	Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, NUREG-0654, FEMA-REP-1, Rev. 1 (1980).
PAG	Protective Action Guideline
PHS	Public Health Service
PIO	Public Information Officer
RAC	Regional Assistance Committee
RCS	Reactor Coolant System
REM	Roentgen Equivalent Man

RHR	Residual Heat Removal
RRIS	Radioactive Release Information System
RWST	Refueling Water Storage Tank
SEOC	State Emergency Operations Center
SI	Safety Injection
SOP	Standard Operating Procedures
USDA	U.S. Department of Agriculture
WCGS	Wolf Creek Generating Station

EXERCISE SUMMARY

A day-light exercise of the plans and preparedness for off-site radiological response was conducted for the Wolf Creek Generating Station near Burlington Kansas, on November 7, 1984. Following the exercise, a preliminary evaluation was made by a 19 member, Federal observation team. A briefing for exercise participants and the general public was held on November 8, 1984, at the Coffey County Courthouse, Burlington, Kansas. The evaluation, deficiencies, and recommendations related to this exercise are presented in this report.

The consensus of Federal observers was that exercise play permitted the involved response organizations to accomplish most of the exercise objectives presented to the Federal Emergency Management Agency prior to the exercise. No deficiencies were observed at the State level that would lead to a negative finding. However, one deficiency was observed at the County level that did result in a negative finding. The siren in Waverly, Kansas, failed to sound during the exercise. The signal transmitted by the Coffey County Emergency Operations Center failed to activate the siren. An engineer's analysis indicated that the antenna located on the siren was insufficient to pick up the signal. The utility informed our office that a new antenna would be installed by mid December, 1984. This was done and remedial drill was subsequently held on December 19, 1984, at which time siren activation was satisfactorily demonstrated. This deficiency was not discussed at the public briefing held at the Coffey County Courthouse on November 8, 1984, because the Federal Emergency Management Agency (FEMA) evaluators were not aware of this problem at that time. The Coffey County Emergency Preparedness Director pre-positioned local residents throughout the community to listen and record the time that the siren was activated. Consequently, FEMA was not aware of this deficiency until the residents subsequently mailed the results to the Coffey County Emergency Preparedness Director which was approximately two to three days after the exercise. As this was Wolf Creek Generating Station's first exercise, and the siren had not been tested previously, we feel that this was serious enough to warrant a "Class A" deficiency until such time that siren activation could be demonstrated. This and other deficiencies observed at the November 7, 1984, exercise require that a schedule of corrective actions be developed. Each deficiency with a corresponding recommendation is described in Section 2 of this report. Section 3 provides a form for developing a schedule for correcting the deficiencies.

STATE OPERATIONS

Emergency Operations Facility (EOF)

The EOF was staffed by representatives from the Kansas Division of Emergency Preparedness and State Department of Health and Environment. Each representative displayed adequate knowledge and performed his/her functions well. Mobilization procedures and round-the-clock staffing capability were demonstrated. There was a good flow of emergency information from the utility to the State and County. However, there was little feedback from the State and County to confirm what actions had been taken. As a result, the utility officials at the EOF were forced to contact the County directly to determine the status of emergency actions.

Overall the physical facilities at the EOF were good. Adequate, uncrowded working space was available to the Kansas staff. All necessary visual aids were posted and clearly visible. The State representatives were provided with copies of nearly all messages that the utility was producing and were given opportunities to participate in all briefings. Commercial telephone lines were the primary communication link with the Coffey County Emergency Operations Center (CCEOC) with no break in communication observed. Backup communication was by the utility radio system. Also, a vehicle with a mobile radio located in the EOF parking lot, provided a communication link to the Kansas Highway Patrol.

Media Release Center (MRC)

Representatives from the State of Kansas, Coffey County and the utility staffed the MRC in Topeka, Kansas. These individuals, especially the representatives from the utility, were extremely well informed, knowledgeable and prepared. Mobilization procedures were demonstrated as the staff was not pre-positioned. Round-the-clock staffing capabilities were also demonstrated. Three formal briefings were presented. The information provided was complete and accurate with most of the technical jargon explained. Technical displays and maps were used whenever possible during the briefings. News releases were promptly available for reports along with media kits supplied by the utility. Rumor control numbers were listed in literature that was previously distributed to the public and was included in the media kits that were provided to members of the press.

The MRC was located in a building next door to the State Emergency Operations Center (SEOC). The facilities were adequate with space available for approximately sixty media representatives. Communications with Coffey County Emergency Operations Center (CCEOC), the utility and other locations were carried out at the Information Clearing House (IC), located in a room adjacent to the SEOC. Telephones were also provided in the MRC. Secondary communication systems available were radio and hard copy transmission.

State Emergency Operations Center (SEOC)

The SEOC was activated promptly and mobilization procedures were demonstrated. Representatives from the Kansas State Department of Health and Environment, Highway Patrol, Fish and Game Commission, Board of Agriculture and Governors Office reported to the SEOC Operations Room. The staff generally demonstrated adequate training and knowledge. Round-the-clock staffing capabilities were demonstrated with double staffing. During the exercise, the Director of the SEOC gave only one short briefing. As a result, the staff was not fully aware of actions taken by the various State Agencies. Additional briefings would benefit the entire staff.

The SEOC facilities were excellent and are admirably suited to support sustained emergency conditions. The status boards and all necessary maps were posted and kept up-to-date. Commercial phone lines were the primary communication system between the utility and the SEOC. There was no dedicated hot line. Backup communication to the utility and other organizations was by radio. Overall, communications for the supporting State Agencies in the operations room were adequate and functioned well.

Public alerting and notification activities conducted at the SEOC were limited to contacting the Emergency Broadcast System (EBS) stations to transmit prescribed messages prepared by the Coffey County Emergency Operations Center (CCROC). Protective action recommendations were effectively coordinated between all the State Agencies represented. Current information was available on the location of dairy farms, food processing plants and water supply intake points. Ingestion pathway protective actions and recommendations were adequately demonstrated.

The majority of the recovery/reentry portion of the exercise was demonstrated at the Coffey County Emergency Operations Center (CCEOC). However, the SEOC had a brief discussion demonstrating the decision making process for measures to be taken for controlled reentry.

State Forward Staging Area (FSA)

Overall, the activities demonstrated at the FSA were performed promptly and implemented smoothly. Participants from the Kansas State Highway Patrol, Kansas National Guard and Coffey County Sheriff's Office worked well together. The staff of all the organizations demonstrated adequate training and were prepared to implement their respective responsibilities. As the FSA is a roadside park, mobile communication was the only communication link available. However, commercial phone lines are to be installed in the near future, which will add further communication capabilities. All required dosimetry were available to staff members.

An amendment to the State Plan changed the location of the FSA from the Kansas Fish and Game Commission District Office at New Strawn, to the roadside park outside of Burlington, Kansas. However, the staff at the New Strawn Office were not aware of this change. Changes made to the plan should be disseminated to all interested parties.

Dose Assessment and Field Team Coordination

Dose assessment and field team coordination were adequately demonstrated at the Emergency Operations Facility (EOF). Overall coordination, performance of calculations and tracing the path of the plume were very good. The dose assessment methods used were adequate, but they are not those shown in the State plan. The plan should be amended to reflect this change. Round-the-clock staffing capability was demonstrated via staffing roster. All staff demonstrated adequate training and knowledge of their respective functions.

The facilities at the EOF were good with no crowding observed. All necessary visual aids were posted and clearly displayed. However, protective subsector maps were difficult to understand and somewhat confusing. As a result, one whole sector was inadvertently left out of the initial protective action recommendations. Subsector maps should be revised to reduce confusion. In general, communications were good. Commercial telephone lines were the primary communication link to the State and County Emergency Operations Center. Communications to the field teams and backup communications were by radio. Field

teams were utilized very well. Data were received routinely and used to check calculations based on release data. Protective actions were based on plant status conditions and later updated by dose projections.

State personnel in the FDF had inadequate dosimetry and were not provided a supply of Potassium Iodide (KI). As the State personnel may traverse a plume while enroute to the EOF, a full range of dosimetry should be available. In addition, most of the EOF staff had only partial dosimetry. Some had none. Adequate dosimetry should be provided to the State personnel and EOF staff members. State personnel should have an adequate supply of KI available for their use. The field team coordinator maintained a running estimate of team members dose, which was commendable.

Relaxation of protective actions for recovery and reentry were discussed with all decisions communicated properly to all response organizations. Necessary field monitoring activities required for reentry were discussed.

Field Monitoring Teams

Field team activation and mobilization were adequately demonstrated during the exercise. The teams were adequately equipped with the proper instruments and equipment. However, the equipment listed in the State Plan is somewhat different from the equipment used during the exercise. The plan should be modified to reflect the actual equipment used. Also, one team (Yellow Team) should be provided additional training with regard to some of the procedures in the operation of the radiological monitoring equipment. In some instances the operating procedures were not correctly implemented. The vehicles provided for transportation of the field teams were well suited for all expected terrain and weather conditions. Radio communications capabilities were adequately demonstrated.

The field teams had proper protective equipment and dosimetry. A decision was made at the Emergency Operation Facility (EOF) to utilize respirators while transversing the plume. However, two members of the three man field team have not been fitted for respirators or physically tested for working while wearing a respirator. Upon notification to the EOF, the teams were subsequently instructed to proceed through the plume with those individuals unmasked. Adequate protection actions should be implemented, e.g. all team members should be fitted and qualified for the use of respirators or KI should be provided with appropriate instructions for its use.

The three man field team consisted of a representative from the State, County and utility. The State and County Plans calls for the team members to meet and deploy from the EOF. However, the County and some State members joined the teams in the field rather than meeting at the EOF. This procedure raised several questions by the evaluators. Their primary concerns were:

- o The County and State team members did not have radio communication equipment in their vehicles. If changes were made to the field rendezvous point, the teams could not be notified.

- o The County and State team members did not have radiological monitoring equipment available until they joined the field teams at the rendezvous point.
- o The County team members did not receive the briefing at the EOF.
- o The EOF was not aware who the individuals were that made up the County teams and if they were provided adequate dosimetry.
- o Vehicles that the County and State team members abandoned when they joined the field teams were subsequently contaminated by the plume.

If this procedure of meeting in the field is to be followed, the State and County Plans should be amended to reflect this option while addressing the preceding concerns of the evaluators.

Decontamination procedures for personnel, vehicles and equipment were not demonstrated. However, the teams were familiar with the procedures.

Medical Emergency

The emergency response capability of the Ransom Memorial Hospital was observed during this exercise. An accident was simulated at the plant which involved injuries and contamination to a utility worker in the reactor building. The ambulance crew, with proper dosimetry and in protective clothing, entered the building and removed the victim with the assistance of Kansas Gas & Electric (KG&E) personnel. Communication links were established between the hospital and ambulance and between the hospital and Coffey County Emergency Operations Center (CCEOC) and the Emergency Operations Facility (EOF). Consequently, when the ambulance arrived at the emergency room entrance, the hospital staff was prepared to accept the patient.

Upon arrival at the hospital, and after the Health Physicist determined all precautionary methods had been taken to prevent further contamination, the victim was taken into the emergency room. The hospital was adequately prepared to handle the contaminated victim. The emergency room entrance was marked and a heavy plastic floor runner was in the bay and also partially covered the interior entrance. Security was present to restrict access. Hospital personnel were in protective clothing. The equipment and procedures for determining contamination levels on the patient were adequately demonstrated. Charts were posted to show procedures and priorities for treating contaminated patients. The equipment and procedures to decontaminate patients were demonstrated satisfactorily.

After the patient was provided for, the ambulance and crew were monitored for contamination. Protective clothing was removed and dosimetry equipment was gathered in an acceptable manner. Overall, the medical emergency exercise went very well.

COUNTY OPERATIONS

Coffey County Emergency Operations Center (CCEOC)

Mobilization of the Coffey County Emergency Operations Center (CCEOC) staff was promptly demonstrated through their 24 hour call up procedures. All personnel were briefed and appeared to be knowledgeable and adequately trained. Round-the-clock staffing capability was demonstrated by the Emergency Response Organization. Overall, emergency operations were well managed by the Chairman of the Board of County Supervisors who was clearly in charge. Periodic, informative briefings were held and decision making involved the Emergency Operations Center (EOC) staff and other elected officials. A fine emergency response with a high intensity of play was displayed at the CCEOC.

Overall, the facilities were good. Adequate space and resources were available. The existing facility cannot support extended operations as there are no bunks, showers, kitchen facilities, etc. However, a permanent EOC is now under construction, which will have additional office space, a full kitchen, showers, sleeping quarters and a new Electro-Magnetic Pulse (EMP) shielded communications center. Commercial telephone was the primary means of communication with the State and local EOC's, EOF, Emergency Broadcast System (EBS) stations, media center, local schools and support hospital; all of which were adequately demonstrated. Secondary communication systems consisting of radio and hard copy transmission were also available and partially demonstrated.

Public alert and notification was accomplished within the fifteen minute time frame and went very well with one exception; siren activation was not adequately demonstrated at Waverly, Kansas. Due to a faulty antenna located on the siren, the signal transmitted by the CCEOC did not activate the siren. However, a remedial drill was held on December 19, 1984. Consequently, siren activation was properly demonstrated and the deficiency was remedied. The initial message was broadcast (simulated) to the public twelve minutes after the call was received from the utility declaring the SITE AREA EMERGENCY. The EBS instructions were clear and appropriate to the situation. Protective action areas were described in terms of local landmarks and familiar boundaries. However, the instructions failed to include information on the evacuation of school children. Rumor control calls were referred through the proper channels to the Media Center in Topeka.

Traffic control points were promptly activated by the CCEOC. Adequate personnel and resources were available to handle all traffic and access control functions simultaneously. Congregate care centers were appropriately activated at the declaration of the GENERAL EMERGENCY. The addresses and special needs of both institutionalized and home-bound mobility-impaired residents were available in written form and arrangements were made for their subsequent evacuation. School buses from three neighboring school districts were acquired in a simulated evacuation of school children. Appropriate instructions and recommendations were made for the ingestion pathway with current information available on the location of dairy farms and stored feed.

Adequate supplies of self-reading and permanent dosimeters were available with instructions provided at time of issue. However, some members of the CCEOC staff require additional training regarding periodic reading and recording of dosimeter values.

The County participated in good recovery/reentry activities. Discussions regarding the responsibilities of each Emergency Response Organization were held. Also, procedures for allowing reentry of essential services and for maintaining security were discussed.

Coffey County Road and Bridge Department

Activation of the Coffey County Road and Bridge Department emergency operations was promptly demonstrated. All personnel were briefed and appeared to be knowledgeable and adequately trained. Overall, emergency operations were well managed and were implemented smoothly. Access control was adequately demonstrated with tasks completed in a timely manner. Personnel and resources were available to cover all traffic and access control functions simultaneously. The Department also played a role in public alerting. Notification and evacuation procedures were adequately demonstrated for the hearing impaired and the elderly.

A new building has been constructed which will provide sufficient space, furniture and lighting. The Department transferred to the facility in mid December. Communications were adequate. Primary and secondary links were established with the County Emergency Operations Center with no break in communication observed. The vehicles utilized for emergency operations were equipped with mobile radios that provided a communication link to the Road and Bridge Department. All required dosimeters were available with proper procedures for reading and recording dosimetry demonstrated. Status boards were utilized effectively and kept up-to-date.

Host County Relocation/Registration Center

The Relocation/Registration Center was located in Lyon County at the Emporia State University gymnasium. Representatives from the Lyon County Civil Defense Office, the Salvation Army and the Kansas Department of Health were at the facility. Activation and mobilization procedures were not demonstrated as the staff was pre-positioned. The ability to maintain a round-the-clock operation was demonstrated with double staffing. The staff represented appeared adequate in terms of numbers, background and experience. Registration, monitoring, decontamination and processing of evacuees at the center were adequately demonstrated. A communication link was established with the Coffey County Emergency Operations Center (CCEOC) through the University Police. This is an adequate system, but it is not in agreement with the County Plan. Procedures for demonstrating congregate care were not demonstrated.

FLINT HILLS NATIONAL WILDLIFE REFUGE/JOHN REDMOND RESERVOIR

Flint Hills National Wildlife Refuge

Route alerting and evacuation confirmation for that portion of the Flint Hills National Wildlife Refuge (FHNWR) within the effective EPZ but outside siren coverage were effectively demonstrated during the exercise. Notification of emergency levels were made to the Refuge in a timely manner. The subsequent alerting and evacuation confirmation were completed in accordance with the County Plan, which calls for such action only on Refuge lands on the southside of John Redmond Reservoir.

Commercial telephone was the primary communication link to the County EOC. One truck was equipped with a radio that could provide a secondary communication link to the County Sheriff's Office but the vehicle was undergoing repairs and was unavailable during the exercise.

Billboards located at various points in the Refuge did not contain emergency information and evacuation routes as stated in the County Plan. Informational brochures had not been provided for distribution to Refuge visitors.

The Refuge staff were equipped with self-reading and permanent dosimeters. However, chargers had not been provided. In addition, the staff had not received training in KI procedures nor was KI available for emergency workers.

John Redmond Reservoir

Route alerting and evacuation confirmation in the John Redmond Reservoir (JRR) were adequately demonstrated by the Kansas Fish and Game Commission (KFGC). Their role was limited to alerting boaters on the reservoir. Notification of emergency levels were appropriately made to KFGC. Communication capability was adequate. The staff was supplied with required dosimetry and appeared knowledgeable in reading and recording values.

The majority of the billboards located in JRR did not contain emergency evacuation information (per the County plan) for visitors. Emergency information flyers were available for use by the staff to be placed on unattended cars. Informational brochures for distribution to JRR visitors were not available.

1 INTRODUCTION

1.1 EXERCISE BACKGROUND

On December 7, 1979, the President directed the Federal Emergency Management Agency (FEMA) to assume lead responsibility for all off-site nuclear planning and response.

FEMA's responsibilities in radiological emergency planning for fixed nuclear facilities include the following:

- . Taking the lead in off-site emergency planning and in the review and evaluation of radiological emergency response plans developed by state and local governments.
- . Determining whether such plans can be implemented on the basis of observation and evaluation of exercises of the plans conducted by state and local governments.
- . Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:
 - U.S. Department of Commerce (DOC)
 - U.S. Nuclear Regulatory Commission (NRC)
 - U.S. Environmental Protection Agency (EPA)
 - U.S. Department of Energy (DOE)
 - U.S. Department of Health and Human Services (HHS)
 - U.S. Food and Drug Administration (FDA)
 - U.S. Public Health Service (PHS)
 - U.S. Department of Transportation (DOT)
 - U.S. Department of Agriculture (USDA)
 - U.S. Department of the Interior (DOI)

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

Formal submission of the radiological emergency response plans for the Wolf Creek Generating Station (WCGS) to the RAC by the State of Kansas and affected local jurisdictions was followed by a critique and evaluation of these plans.

A joint radiological emergency preparedness exercise was conducted for WCGS on November 7, 1984. The results of that exercise are presented in this report. The exercise was conducted between the hours of 8:00 a.m. and 4:15 p.m. on November 7, to assess the capability of state and county emergency preparedness organizations to (1) implement their radiological emergency preparedness plans and procedures, and (2) protect the public during a radiological emergency at the Kansas Gas & Electric WCGS. The plans evaluated included the "Kansas Nuclear Facilities Incidents Response Plan" and "Coffey County Contingency Plan for Incidents Involving Commercial Nuclear Power". This was the first exercise held for WCGS.

An observer team consisting of personnel from FEMA Region VII, the RAC and FEMA's contractor's evaluated the activities in the State of Kansas and affected local jurisdictions.

Following the exercise, these Federal observers met to compile their evaluations. Team leaders consolidated the evaluations of individual team members and furnished them to the Exercise Leader. A public critique of the exercise for exercise participants and the general public was held jointly by the RAC Chairman and the NRC, Region IV, Emergency Preparedness Analyst at 7:00 p.m. on Thursday, November 8, 1984, at the Coffey County Courthouse, Burlington Kansas.

The findings presented in this exercise report are based on the evaluations of the Federal observers, and have been reviewed by FEMA Region VII. FEMA requests that state and local jurisdictions submit a schedule of remedial actions for correcting the deficiencies discussed in this report. The Regional Director of FEMA is responsible for certifying to the FEMA Associate Director of State and Local Programs and Support, Washington, D.C., that all negative findings observed during the exercise have been corrected and that such corrections have been incorporated into state and local plans, as appropriate.

1.2 EXERCISE EVALUATORS

Nineteen Federal observers evaluated off-site emergency response functions. These individuals, their affiliations, and their exercise assignments are given below.

<u>Observer</u>	<u>Agency^a</u>	<u>Assignment</u>
F. Begley	FEMA	Exercise Overview - Kansas State EOC
W. Biedenfeld	HHS/PHS	Medical Emergency - WCGS
B. Elsell	FEMA	Exercise Overview
W. Brinck	EPA	Radiological Team Coordinator/Dose Assessment
M. Carroll	FEMA	Exercise Overview, Exercise Leader
B. Conley	USDA	Kansas State EOC
T. Hogan	FEMA	Coffey County EOC
G. Jacobson	HHS/FDA	State Forward Staging Area
R. Leonard	FEMA	Exercise Overview
J. Levenson	ANL	Coffey County EOC
E. O'Hare	ARC	Lyon County Relocation/Registration Center
D. Remboldt	DOT	Coffey County Access Control
B. Salmonson	INEL	Field Radiological Monitoring Team
G. Sanborn	NRC	State and Utility Liaison
K. Craighead	FEMA	Media Release Center/Information Clearing House
B. Stewart	DOI	Flint Hills National Wildlife Refuge
R. Sumpter	FEMA	Kansas State EOC
D. Washer	FEMA	John Redmond Reservoir
D. Warren	DOE	Field Radiological Monitoring Team

^aANL = Argonne National Laboratory
 ARC = American Red Cross
 DOE = U.S. Department of Energy
 DOI = U.S. Department of Interior

DOT	= U.S. Department of Transportation
EPA	= U.S. Environmental Protection Agency
FEMA	= Federal Emergency Management Agency
HHS	= U.S. Department of Health and Human Services
	FDA = Food and Drug Administration
	PHS = Public Health Service
INEL	= Idaho National Engineering Laboratory
NRC	= U.S. Nuclear Regulatory Commission
USDA	= U.S. Department of Agriculture

1.3 EVALUATION CRITERIA

The exercise evaluations presented in Section 2 are based on applicable planning standards and evaluation criteria set forth in Section II of NUREG-0654/FEMA-REP-1, Rev. 1 (November 1980). Following the overview narrative for each jurisdiction, deficiencies are presented with accompanying recommendations. Deficiencies can be presented in two categories. The first category includes those deficiencies that would cause a finding that off-site emergency preparedness was not adequate to provide reasonable assurance that appropriate measures can be taken to protect the health and safety of the public living near the sites in a radiological emergency. These are "Class A" deficiencies that lead to a negative finding. A negative exercise finding must be based on at least one deficiency of this type. There was one deficiency in this category observed at the exercise of the Wolf Creek Generating Station (WCGS). However, this deficiency was corrected during a subsequent remedial exercise conducted on December 19, 1984.

The second category includes "Class B" deficiencies where demonstrated (and observed) performance during the exercise was considered faulty and corrective actions are considered necessary. But other factors indicate that reasonable assurance could be given that, in the event of a real radiological emergency, appropriate measures can be taken to protect the health and safety of the public.

1.4 EXERCISE OBJECTIVES

The licensee, Kansas Gas & Electric (KG&E), the State of Kansas and Coffey County planned a coordinated exercise of their respective emergency plans for both the on-site and off-site support agencies on November 7, 1984. The exercise involved activation and participation of the staff and response facilities of WCGS as well as emergency organizations and emergency facilities of the State of Kansas and Coffey County.

The exercise was intended to demonstrate many, but not necessarily all, of the WCGS capabilities to respond to a wide range of emergency conditions. The scenario was designed to activate the radiological emergency response plans for WCGS and KG&E's radiological emergency response plan through their various levels. Although the scenario accurately simulated operating events, it was not intended to assess all of the operator's diagnostic capabilities, but rather to provide sequences that ultimately demonstrated the operator's ability to respond to events, and that resulted in exercising both on-site and off-site emergency procedures. The exercise demonstrated a number of primary emergency preparedness functions.

Free play was encouraged and the referees interfered only if operator or player action prematurely terminated the exercise or deviated excessively from the drill schedule.

Exercise objectives included full-scale participation from the State of Kansas and Coffey County. State activities included the activation of the Radiological Field Monitoring Teams, participation at the Media Release Center (MRC) and communication and information with Coffey County and KG&E organizations. The Kansas State EOC in Topeka was activated to support KG&E and Coffey County play. In addition, the State Forward Staging Area (FSA) was activated. The warning system sirens and Emergency Broadcast System (EBS) notifications for the emergency planning zone (EPZ) were to be activated during the exercise. Kansas Gas & Electric, in a communication to FEMA Region VII dated September 4, 1984, identified the following formal exercise objectives to be accomplished at the November 7, 1984, emergency response exercise for the WCGS.

KANSAS STATE EXERCISE OBJECTIVES

1. Demonstrate the ability to activate, staff, and operate the State EOC and the State Forward Staging Area (FSA).
2. Demonstrate the ability to initiate and support 24-hour operation of the State EOC and State Forward Staging Area.
3. Demonstrate the ability to make decisions and to coordinate emergency activities with the County and KG&E.
4. Demonstrate the adequacy of facilities and displays to support emergency operations.
5. Demonstrate the ability to communicate with members of the State Emergency Response Organization, the County EOC, KG&E, and field personnel.
6. Demonstrate the ability to mobilize and deploy Joint Radiological Monitoring Team Members in conjunction with the County and KG&E.
7. Demonstrate the use of appropriate equipment for determining ambient radiation levels.
8. Demonstrate the use of appropriate equipment for measurement of airborne radiiodine concentrations as low as 10^{-7} uCi/cc in the presence of noble gases.
9. Demonstrate the ability to project dosage to the general public via plume exposure, based on plant and field data, and the ability to determine appropriate protective measures, based on Protection Action Guides (PAGs), available shelter, evacuation time estimates, and all other appropriate factors.
10. Demonstrate the ability of State radiological assessment personnel to monitor environmental conditions and provide information to the appropriate decision makers.

11. Demonstrate the ability to formulate and distribute appropriate instructions to the public in a timely fashion.
12. Demonstrate the ability to control access to an evacuated area.
13. Demonstrate the ability to identify the need for, request and obtain Federal assistance.
14. Demonstrate the ability to distribute personnel dosimetry and continuously monitor and control emergency worker exposure.
15. Demonstrate the ability to decide, based on predetermined criteria, whether to issue KI to emergency workers.
16. Demonstrate the ability to coordinate timely and accurate media releases with the County, KG&E, and other organizations.
17. Demonstrate the ability to provide advance coordination of information released.
18. Demonstrate the ability to coordinate rumor control in conjunction with the County and KG&E.
19. Demonstrate the ability to estimate total population exposure.
20. Demonstrate the decision making process to determine the appropriate measures for controlled recovery and reentry.
21. Demonstrate the ability to assess and critique the exercise in order to determine areas requiring additional improvement.

COFFEY COUNTY EXERCISE OBJECTIVES

1. Demonstrate the ability to promptly notify and mobilize the Coffey County Emergency Response Organization.
2. Demonstrate the ability to initiate and support 24-hour operation of the Coffey County EOC.
3. Demonstrate the ability to make decisions and to coordinate emergency activities with the State and KG&E.
4. Demonstrate the adequacy of facilities and displays to support emergency operations.
5. Demonstrate the ability to communicate with members of the Coffey County Emergency Response Organization, the State, other local organizations, and KG&E.
6. Demonstrate the ability to request outside support when local capabilities are exceeded.
7. Demonstrate the ability to mobilize Joint Radiological Monitoring Team members in conjunction with the State and KG&E.

8. Demonstrate the use of appropriate equipment for determining ambient radiation levels.
9. Demonstrate the use of appropriate equipment for measurement of airborne radiiodine concentrations as low as 10^{-7} uCi/cc in the presence of noble gases.
10. Demonstrate the ability to determine appropriate protective measures, based on Protective Action Guides, available shelter, evacuation time estimates, and all other appropriate factors.
11. Demonstrate the ability to alert the public within the effective 10-mile EPZ, and to disseminate an initial instructional message within 15 minutes after the decision is made to do so.
12. Demonstrate the adequacy of notification procedures for alerting the public within 45 minutes for the portion of the Flint Hills National Wildlife Refuge not covered by the siren system, but within the effective 10-mile EPZ.
13. Demonstrate the ability to formulate and distribute appropriate instructions to the public in a timely fashion.
14. Demonstrate the ability to organize and manage the resources necessary to support an orderly evacuation of the affected subzones within the effective 10-mile EPZ.
15. Demonstrate the ability to control access to an evacuated area.
16. Demonstrate the organizational ability and resources necessary to deal with impediments to evacuation such as any actual conditions, inclement weather, or traffic obstructions during the exercise.
17. Demonstrate the decision making ability and coordination necessary to evacuate non-ambulatory individuals within the affected subzones within the effective 10-mile EPZ.
18. Demonstrate the decision making ability and coordination necessary to evacuate the schools within the affected subzones within the effective 10-mile EPZ.
19. Demonstrate the ability to distribute personnel dosimetry and continuously monitor and control emergency worker exposure.
20. Demonstrate the ability to coordinate timely and accurate media releases with the State, KG&E, and other organizations.
21. Demonstrate the ability to provide advance coordination of information released in conjunction with the State and KG&E.
22. Demonstrate the ability to coordinate rumor control in conjunction with the State and KG&E.
23. Demonstrate adequacy of ambulance and hospital facilities, in coordination with KG&E, for handling a contaminated and injured onsite individual.

24. Demonstrate the ability to register and conduct radiological monitoring of evacuees at a host County Registration Center.
 25. Demonstrate the procedures and decision-making process to select adequate facilities for the 24-hour care of evacuees.
 26. In conjunction with KG&E, demonstrate adequate equipment and procedures for decontamination of emergency workers, equipment and vehicles.
 27. Demonstrate the decision making process to determine the appropriate measures for controlled recovery and reentry.
 28. Demonstrate the ability to assess and critique the exercise in order to determine any areas requiring additional improvement.
- 1.5 EXERCISE SCENARIO (Reproduced as presented in Section 3.0, November 7, 1984, Exercise Scenario, submitted by Kansas Gas & Electric)

A. Narrative Summary

This exercise is based upon an Anticipated Transient Without Scram (ATWS) incident, a loss of heat sink, failure of the Emergency Core Cooling System (ECCS), and a small break Loss-of-Coolant Accident (LOCA).

The initial conditions for the scenario establish that the plant is operating at 100% power, with all systems normal and stable. Several plant components are out for maintenance including the Train B Class 1E Emergency 4.16 KV Bus and Train B Component Cooling Water Heat Exchanger.

The initiating event for the scenario occurs when the Refueling Water Storage Tank (RWST) is accidentally ruptured by a tractor. As Control Room personnel begin reducing reactor power level in response to the RWST rupture, inadvertent safety injection and reactor trip signals are received. The reactor trip breakers fail to function properly and trip the reactor, resulting in an ATWS event.

In the same time frame as the above operational events, an individual is injured and contaminated as a result of a fall in the Fuel Building at the fuel transfer canal. The Shift Supervisor should declare an UNUSUAL EVENT.

Within a few minutes of the ATWS condition, Control Room personnel manually trip the reactor locally at the trip breakers. The plant undergoes excessive cooldown to the pre-set, no-load temperature of 557°F and then stabilizes. Some fuel damage is detected following the ATWS event. At this time the Duty Emergency Director should declare an ALERT.

As Control Room personnel attempt to stabilize plant conditions, the remaining Train A Class 1E Emergency 4.16 KV Bus is lost due to a fault. All emergency AC power is now lost, leaving the ECCS equipment without power. In addition to the fuel matrix barrier failure, the Heat Sink Critical Safety Function Status Tree is on a "Red" path. The Duty Emergency Director may now choose to upgrade the plant emergency status to a SITE AREA EMERGENCY.

The plant experiences further uncontrolled cooldown as the operators respond to the loss of all AC power. This condition leads to crack initiation in the Reactor Coolant System (RCS) and a small break LOCA. At this time, the Duty Emergency Director should declare a SITE AREA EMERGENCY. Although a radiological release to the public has not yet occurred, County and State officials may consider precautionary protective actions for those individuals in the affected Sectors N, P, and Q.

Pressure in the Containment Building increases slowly due to the LOCA. A severe challenge to the Containment barrier eventually develops and Containment Critical Safety Function Status Tree is now on an "ORANGE" path. The Duty Emergency Manager should declare a GENERAL EMERGENCY at this time. At this point in the scenario, County and State officials should consider protective actions for the affected Sectors N, P, and Q (subzones A1, E1, E2, E3, and E4).

The pressure build-up in the Containment Building ruptures the blind flange on the fuel transfer canal. The pressure differential across the ruptured flange provides a driving force for airborne effects to blow into the Fuel Building, enter the emergency ventilation system through a ruptured damper, and finally escape to the atmosphere via the plant vent.

Within seconds of the LOCA, the accumulators empty and the core is uncovered. The stack effluent monitors trend upward indicating additional fuel damage.

Plant conditions stabilize when maintenance personnel restore the faulted emergency AC bus to operability and return ECCS equipment to operation. Soon, with the Containment Spray System in operation, pressure in Containment is reduced and the radioactive release is terminated.

B. Initial Conditions

The unit has been operating at full power for 20 days and is currently at 100% power.

Residual Heat Removal (RHR) Pump B has been tagged out due to excessive seal leakage. A mechanical maintenance team is currently four hours into a 20-hour seal replacement procedure. Technical Specification 3/4.5.2 allows the pump to be inoperable for up to 72 hours.

Component Cooling Water (CCW) Heat Exchanger EEBO1B is tagged out and a tube inspection is in progress.

The Emergency Response Facility Information System (ERFIS) computer is down for maintenance. The Radioactive Release Information System (RRIS) computer is operable. However, the dew point sensor has been producing erroneous values and is currently out of service.

The Train B Class 1E 4.16 KV Bus NBO2 is out of service due to a failure of the ESF Transformer XNBO2. The transformer is tagged out due to overheating and excessive vibration. As a result of the work being done on RHR Pump B and CCW Heat Exchanger B the entire bus has been tagged out including the Diesel Generator and the alternate feeder breaker (from

XNBO1). An electrical maintenance team estimates the job to take approximately 3 hours. Technical Specification 3/4.8.3 allows the bus to be out of service for up to 8 hours, however, power to the containment isolation valves must be available within 4 hours according to Technical Specification 3/4.6.3.

Maintenance has drained the fuel transfer canal in the Fuel Building and is working on gate valve (tag #V995).

C. Initial Meteorological Conditions

Winds are out of the ESE at approximately 3 miles per hours. The skies are clear, temperatures are in the low 40's, and no precipitation has fallen in the past 24 hours.

SEQUENCE OF MAJOR ON-SITE EVENTS

<u>Date</u>	<u>Approximate Time</u>	<u>Event</u>
11/7/84	0800	Initial conditions are established
	0811	The RWST is ruptured by a tractor backing up into the tank.
	0816	While preparing to climb into the fuel transfer canal, a maintenance mechanic slips and tears off his face mask. He is contaminated and has fractured his collar bone.
	0831	UNUSUAL EVENT declared.
	0900	ALERT is declared when Control Room operators receive indication of an inadvertent Safety Injection (SI). An ATWS condition exists.
	1045	SITE AREA EMERGENCY is declared due to the loss of the auxiliary feedwater pump. All steam generators have begun to boil dry. Emergency Operations Facility (EOF) is activated
	1205	GENERAL EMERGENCY is declared as pressure in the Containment Building increases due to the LOCA. Containment pressure causes a rupture of the fuel transfer canal and a damaged damper on the emergency exhaust system opens a pathway for the release into the atmosphere.
	1515	Radioactive releases terminated.
	1540	Radioactive plume has dispersed. Recovery/reentry operations begin

1625

Exercise terminated

1.6 MILESTONES FOR EXERCISE OBJECTIVES AND CRITIQUES

Indicated below are milestones for exercise observations and critiques with scheduled and actual completion dates.

<u>Activity</u>	<u>Scheduled</u>	<u>Actual</u>	<u>Comment</u>
State and licensee jointly submit exercise objectives to FEMA and NRC regional offices	8/23/84	9/4/84	
FEMA and NRC regional offices discuss and meet with licensee/ State as necessary and prepare response	9/7/84	9/19/84	Conference call with FEMA/NRC/ State/Utility- delayed to coincide with NRC on-site visit
State and licensee scenario developers submit exercise scenario to FEMA and NRC regions for review	9/22/84	9/22/84 10/3/84	FEMA Receipt INEL Receipt
FEMA and NRC regions notify State and licensee of scenario acceptability	10/2/84	10/23/84	As a result of delayed receipt at INEL
FEMA and NRC regions develop specific post-exercise critique schedule with the State and, advise FEMA and NRC headquarters	10/7/84	10/16/84	
RAC chairman and NRC team leader meet to develop observer action plan	10/22/84	10/22/84	
Meeting in the exercise area, of all federal observers both on-site and off-site to finalize assignments, and give instructions	11/6/84	11/6/84	
Exercise	11/7/84	11/7/84	
FEMA and NRC observers caucus to collate observations. NRC observers also caucus to collate observations	11/7/84	11/7/84	
RAC chairman and NRC team leader meet, as soon after their respective caucuses as practical, to coordinate federal participation in critique	11/7/84	11/7/84	

RAC Chairman and Exercise Team leaders conduct exit interview with State and local governments	11/8/84	11/8/84
Joint RAC/NRC critique	11/8/84	11/8/84

1.7 STATE AND LOCAL RESOURCES

Indicated below is a list of organizations which planned to participate in the exercise.

State of Kansas

1. State Division of Emergency Preparedness
2. Kansas Dept. of Health and Environment/Bureau of Air Quality and Radiation Control
3. Kansas Highway Patrol
4. Kansas National Guard
5. Kansas Dept. of Transportation
6. Kansas Fish and Game Commission
7. Kansas Board of Agriculture
8. Adjutant General's Department Public Information/Relations Director

Coffey County

1. Board of Coffey County Commissioners
2. County Sheriff
3. Emergency Preparedness Coordinator
4. Public Information Officer
5. County Engineer
6. Fire Leader
7. Health and Medical Management Team Leader
8. Shelter Systems Officer
9. County Attorney
10. Radiological Defense Officer

Other Participating Organizations

1. Coffey County Ambulance Service
2. Ransom Memorial Hospital
3. U.S. Fish and Wildlife Service
4. Lyon County Emergency Preparedness Coordinator (host county)

2 EXERCISE EVALUATION

This section presents the exercise evaluation grouped by State and County jurisdictions. For each jurisdiction, there is an overview section followed by a statement of each specific observed deficiency, referenced to the appropriate planning standard and element of NUREG-0654/FEMA-REP-1, Rev. 1, and accompanying recommendation. This evaluation includes only those planning standards which are appropriate for off-site emergency activities. The evaluation criteria are described in Section 1.3 of this report.

2.1 STATE OPERATIONS

2.1.1 Emergency Operations Facility (EOF)

Overview

The State of Kansas dispatched six representatives to the near-site Emergency Operations Facility (EOF): three from the Division of Emergency Preparedness and three from the Department of Health and Environment. Mobilization procedures were demonstrated with full staffing completed at 1136. Each representative demonstrated adequate training and knowledge of their respective functions. Round-the-clock staffing capability was demonstrated by shift change or by staffing roster. Oncoming staff were briefed and generally demonstrated adequate training and knowledge.

Overall, the physical facilities at the EOF were good. The space set aside for the State representatives was adequate. Large, uncrowded working surfaces provided ample spaces for each function. No crowding was observed at the EOF. All necessary visual aids were posted and clearly displayed.

The Division of Emergency Preparedness used commercial telephone lines as the primary link to the State and County EOC's. Backup communication was by the utility radio system. Also, a vehicle with a mobile radio located in the EOF parking lot, provided a communication link to the Kansas Highway Patrol.

There was good flow of information from Kansas Gas & Electric (KG&E) to the State and County both formally and informally. However, there was little, if any, feedback from the State and County to confirm what actions were being taken. This was particularly true for information on the State and County implementation of the utility's recommendations for protective actions. As a result, the utility officials at the EOF were forced to contact the Coffey County Emergency Operations Center (CCEOC) directly to determine the status of emergency actions. A formal mechanism should be developed that would provide feedback to the utility from the State and County concerning activities that are being carried out and recommendations which have been implemented. Possibly, a separate status board for County activities could be utilized or the County could dispatch a liaison to the EOF.

The State representatives were provided copies of nearly all messages that KG&E was producing, including copies of the significant events status board messages (these were hand copied and reproduced prior to being erased as the status board was updated). Also, the State was involved and given opportunities to participate in all briefings conducted by KG&E's Duty Emergency Manager.

There was good utilization by both State and KG&E personnel of the assignment board at the entrance to the EOF. This proved to be an effective means of keeping track of the individuals of both organizations who were occupying the numerous functions at the EOF.

Deficiencies That Would Lead to a Negative Finding

No deficiencies were observed at the EOF that would lead to a negative finding during this exercise.

Deficiency and Recommendation

1. Deficiency: There was very little feedback from the State and County to confirm what emergency actions recommended by the utility had been implemented. (NUREG-0654, II. F.1.d.)

Recommendation: A formal mechanism should be developed that would provide feedback to the utility concerning actions that have been implemented. Perhaps the County could dispatch a liaison to the EOF to join State and utility personnel and to be responsible for keeping KG&E informed of County activities.

2.1.2 Media Release Center (MRC)

Overview

The Media Release Center (MRC) was located in a building next door to the State Emergency Operations Center (SEOC). The Kansas State Public Information Officer (PIO) was on duty at the SEOC and consequently was available as the exercise began. The Kansas Gas & Electric (KG&E) PIO arrived at approximately 1100. The County PIO's arrived shortly after. The ability of the State and utility to initially staff the MRC was adequately demonstrated. The State, County and utility PIO's mobilized from their normal work areas. None of the participants were pre-positioned. Round-the-clock staffing capability was demonstrated with double staffing. These individuals, especially the representative from KG&E, were extremely well informed, knowledgeable and prepared to perform their functions.

Approximately 60 representatives from the media could be accommodated at the MRC for briefing sessions. Twenty telephones were available for their use. The space, furniture and lighting were adequate. The media had ample room to set up in a corner for interviews. Backup power was available in the MRC but was not demonstrated. Communication with the Coffey County EOC, utility and other locations were carried out at the Information Clearing House (IC) located in a room adjacent to the SEOC. However, phones were also provided in the MRC. Primary and backup communication systems were available and demonstrated. Both primary and backup systems consisted of commercial lines. Backup systems also available were radio and hard copy transmission. A dedicated line was established between the IC and the utility.

Three formal briefings were presented at 1205, 1330 & 1530. The first briefing at 1205 was over three hours after the exercise began. The PIO representatives agreed that the initial briefing should have been earlier. The information provided was complete and accurate with most of the technical jargon explained. The PIO's interacted well and exchanged information freely. Maps

and technical displays were posted in the MRC and were used as necessary in the briefings. News releases were promptly available for reporters. Media kits were provided by KG&E. The kits included information regarding nuclear power, emergency procedures and the Wolf Creek Generating Station (WCGS). The rumor control number was listed in literature that was previously distributed to the public and was included in the media kits that were provided to the press.

Deficiencies That Would Lead to a Negative Finding

No deficiencies were observed at the MRC that would lead to a negative finding during this exercise.

2.1.3 State Emergency Operations Center (SEOC)

Overview

The call to activate the Kansas State Emergency Operations Center (SEOC) was received at 0958 from the utility. The call was verified and staff mobilization procedures were demonstrated. The SEOC was fully staffed by 1030. The facility was not prepared in anticipation of the exercise. However, it was fully operational in a very short time. Representatives from the Kansas State Department of Health and Environment, Highway Patrol, Fish and Game Commission, Board of Agriculture, Department of Transportation and Governor's Office reported to the SEOC Operations Room. During the exercise the Director of the EOC gave only one short briefing lasting only about 20 seconds. In the absence of periodic briefings, the staff was not fully aware of actions taken by the various State agencies. An increase in briefings would keep the staff regularly apprised of exercise events. The SEOC demonstrated round-the-clock staffing capability by double staffing all agencies. The SEOC Director and Governor's Representative remained throughout the exercise. The staff generally demonstrated adequate training and knowledge.

The SEOC facilities were excellent with sufficient space, furniture, lighting and communication equipment. The facility has all the necessary resources and supplies to operate on a 24 hour basis and is admirably suited for a radiological emergency response. A source of backup power was available, but not demonstrated. The status boards were clearly visible and posted with current information. Maps and displays were posted and properly used.

Commercial phone lines were the primary communication system between the utility and SEOC. There was no dedicated line. Backup communication to the utility and other organizations was with radio. Conference call capability was available between the SEOC, Coffey County EOC, Emergency Operations Facility (EOF) and the Emergency Broadcast System (EBS) stations. This capability was demonstrated when the Coffey County EOC called in the EBS message for concurrence by the State. Overall, communication for the supporting State agencies in the operations room appeared to be adequate and functioned well.

Public alerting and notification activities conducted at the SEOC were limited to contacting the EBS station to transmit prescribed messages prepared by Coffey County. As soon as the Director of the SEOC concurred, the EBS stations were contacted. The first contact with the stations was made at 1030.

Protective action recommendations, evacuation and access control, were effectively coordinated in the SEOC. The Kansas Highway Patrol and the Kansas Department of Transportation adequately demonstrated the expertise and availability of manpower to control highway and air access to the affected area. These agencies were knowledgeable of references on road capacity and expected traffic volumes.

The representative from the Kansas Board of Agriculture had current information available on the location of dairy farms and food processing plants. The Department of Health and Environment had similar information on water supply intake points. The County Extension Agent supplied detailed maps showing crop information. According to the participants, the local Kansas Board of Agriculture and the United States Department of Agriculture (USDA), Agricultural Stabilization and Conservation Service (ASCS) would contact farmers, foodworkers and water utilities in a real emergency. Ingestion pathway protective actions and recommendations were based on plant status data and were effectively coordinated in a professional and competent manner.

No representatives from the press were present during the exercise and no press briefings were staged at the SEOC. The Media Release Center (MRC) was located in a building next door to the SEOC. There was adequate space and telephone connections for approximately 60 media representatives.

The majority of the recovery/reentry portion of the exercise was demonstrated at the Coffey County EOC. The SEOC had a brief discussion, involving all the agencies, demonstrating the decision making process for measures to be taken for controlled recovery and reentry.

The scenario was realistic and provided enough activity in most areas. The SEOC was able to demonstrate its planned objectives.

Deficiencies That Would Lead to a Negative Finding

No deficiencies were observed at the SEOC that would lead to a negative finding during this exercise.

2.1.4 State Forward Staging Area (FSA)

Overview

With the declaration of the SITE AREA EMERGENCY, the Kansas State Division of Emergency Preparedness directed that the Forward Staging Area (FSA) be activated. Representatives from the Kansas State Highway Patrol, Kansas National Guard, and County Sheriff's Office were dispatched to the FSA. The Kansas Fish & Game Commission was evacuated to the FSA later in the day. The State Highway Patrol provided a mobile communications van as the field control point for major state highway roadblocks. The National Guard also provided a mobile communication van for a link with the State EOC, Emergency Operations Facility (EOF), Coffey County EOC and other guard locations. As the FSA is a roadside park at the intersection of two main highways, mobile communication was the only communication link. Consequently, as emergency response and condition activities were received by the National Guard, they had to be hand carried to the Highway Patrol communications van. However, phone lines were being installed on the day of the exercise for future use by the National Guard and Highway Patrol which could alleviate this problem.

Overall, the staff demonstrated adequate training and knowledge of their assigned responsibilities. The State Highway Patrol simulated a road block and access control at the intersection of highway 75 and 50 at the FSA. Traffic control was well organized. Round-the-clock staffing capability was demonstrated. Interaction between the organizations was good as they discussed and developed responses to exercise situations. All required dosimetry was available to members of each organization at the FSA. Proper procedures for reading and recording dose information were followed.

As stated previously, the FSA was located at a roadside park which required use of mobile communications. Due to the cramped conditions of the mobile units, the status boards and maps were not clearly visible to all staff and were not updated in a timely manner. Shelter and restroom facilities were not available which could impose a hardship on staff members during adverse weather and/or extended operations.

An amendment to the State Plan changed the location of the FSA from the Kansas Fish and Game Commission District Office at New Strawn to the roadside park at the intersection of highway 75 and 50. However, the staff at the New Strawn Office were not aware of this change.

Deficiencies That Would Lead to a Negative Finding

No deficiencies were observed at the FSA that would lead to a negative finding during this exercise.

Deficiency and Recommendation

1. Deficiency: The State did not notify the Kansas Fish and Game Commission of the change in the FSA location. (NUREG-0654, II. P.5.)

Recommendation: Proper methods should be established to assure that changes to the State Plan are disseminated to all interested organizations.

2.1.5 Dose Assessment and Field Team Coordination

Overview.

Dose assessments and field team coordination were performed at the Emergency Operations Facility (EOF). Notification was received from the licensee at the ALERT stage. Mobilization procedures were demonstrated as the State of Kansas dispatched three representatives from the Department of Health and Environment and three representatives from the Division of Emergency Preparedness to the EOF. Each representative demonstrated adequate training and knowledge of their respective functions. Round-the-clock staffing capability was demonstrated by shift change and roster. Oncoming staff were briefed and generally demonstrated adequate training. An additional roster was presented to show Department of Transportation staff available for field monitoring teams in addition to those available from the Department of Health and Environment.

The facilities at the EOF were adequate with sufficient furniture, lighting and ventilation. No crowding was observed. All necessary visual aids were posted and clearly displayed. Display boards indicated appropriate status

information. Protective subsector and predesignated monitoring point maps were displayed but were somewhat confusing. Subsector maps were difficult to understand. As a result, one whole sector was inadvertently left out of the initial protective action recommendations. Subsector maps should be revised to reduce confusion.

In general, communications were good. Commercial telephone lines were the primary communication link to the the State and County EOC's. Communication with the field teams was by radio. Backup communication to the State and local EOC's was also by radio. Conference call capability was not available.

Dose assessment and dose projections were performed by the utility staff using a computer and programmable calculator. Calculations were periodically checked by a State representative by hand calculation. State representatives also performed other calculations required by State decision makers but not available from the utility. Dose assessment methods used were adequate, but are not those shown in the State Plan. The plan should be amended to reflect this change. Monitoring teams were utilized well. Data were received routinely and used to check calculations based on release data. Protective actions were based on plant status conditions and later updated by dose projections.

Potassium Iodide (KI) was considered for field teams, but not recommended based on estimates that radiation exposures to the thyroid would remain below twenty-five Roentgen Equivalent Man (REM). State personnel in the EOF had inadequate dosimetry (low-range dosimeter only). State personnel may traverse a plume while traveling to the EOF and consequently need the full range of dosimetry. A few of the EOF staff had appropriate full dosimetry but most had only partial. Some had none. State personnel in the EOF had no available supply of KI. However, the remaining EOF staff had adequate supplies and were aware of dose limits and proper procedures concerning its use. The field team coordinator maintained a running estimate of team members dose, which was a very commendable practice.

Relaxation of protective actions for recovery and reentry were discussed with all decisions communicated properly to all response organizations. State and related utility personnel discussed field monitoring activities which would be necessary before population could return. One public message was prepared by technical staff which emphasized that return will not be permitted until sampling and analysis were completed. Recovery and reentry play was somewhat complicated by the attempt to combine both utility and State discussion, while the concept is different for each.

The scenario appeared quite adequate. More play would have been encouraged if the time specified for the dose projection had been longer. The lead controller elected not to use a contingency message to bring on an Alert Status. This delayed that event by approximately thirty minutes and, consequently, delayed the arrival of State personnel.

Deficiencies That Would Lead to a Negative Finding

No deficiencies were observed at the EOF that would lead to a negative finding during this exercise.

Deficiencies and Recommendations

1. Deficiency: One subsector was inadvertently left out of the initial protective action recommendations. (NUREG-0654, II. J.9.)

Recommendation: Protective action recommendations should include all subsectors affected by the radioactive air borne plume, i.e. maps could be revised so that they are easily comprehensible as to avoid the likelihood of confusion over protective actions.

2. Deficiency: Dose assessment methods used were adequate but are not consistent with those shown in the State Plan. (NUREG-0654, II. P.4.)

Recommendation: The State Plan should be amended to reflect the methods used for dose assessment demonstrated during the exercise.

3. Deficiency: State personnel and other utility staff in the EOF had inadequate dosimetry. State personnel had no available supply of KI. (NUREG-0654, II. K.3.a., J.10.e.)

Recommendation: Additional dosimeters should be provided to State personnel and other EOF staff so they are equipped with proper dosimetry. The State personnel should be provided with KI or the State Plan should be revised to indicate they will have access to the supply maintained by the utility.

2.1.6 Radiological Field Monitoring Teams

Overview

Field team activation and mobilization were adequately demonstrated during the exercise. An up-to-date written call list was used to contact team members at home and workplace. All team members arrived promptly with respect to travel distance.

Three field teams were utilized consisting of 3 members each. The three member team consisted of a representative from the utility, State and County. Two field teams were evaluated by the Federal Emergency Management Agency (FEMA) and one by the Nuclear Regulatory Commission (NRC). Comments contained in this section are based on evaluations made by FEMA observers only.

The three utility field team members were dispatched from the Emergency Operations Facility (EOF) in their respective vehicles. Prior to departure, the utility team members received their dosimetry, checked the equipment kits, tested the radiological monitoring instruments and received a briefing from the EOF Radiological Assessment Supervisor on current plant and meteorological conditions. Division of responsibilities and work roles among members were assigned before departure.

However, the County and some State team members joined the radiological monitoring teams in the field rather than meeting and deploying as a team from the EOF, as the State and County Plans calls for. This procedure raised several questions by the evaluators. Their primary concerns were:

- o The County and State team members did not have radio communication equipment in their vehicles. If changes were made to the field rendezvous point due to a release, plume shift, etc., the teams could not be contacted.
- o The County and State team members did not have radiological monitoring equipment available until they joined the field teams at the rendezvous point. Consequently, they could not determine if they were driving through the plume in the event of a release.
- o The County members did not receive the briefing from the Radiological Assessment Supervisor at the EOF.
- o The EOF was not aware who the individuals were that made up the County teams and if they were provided adequate dosimetry.
- o Vehicles that the County and State team members abandoned when they joined the field teams were subsequently contaminated by the plume.

If the County and State team members are going to join the radiological monitoring teams in the field rather than meeting and deploying from the EOF, then the State and County Plans should be amended to reflect this option while addressing the preceding concerns expressed by the evaluators.

The field teams had the proper radiation monitors, air sampling and environmental sampling equipment to perform their tasks. All equipment used for measuring purposes had been calibrated within the last four months. However, the equipment listed in the State Plan for monitoring teams is somewhat different from the equipment found in the monitoring kits supplied by the utility. The plan should be modified to reflect the actual equipment used. The vehicles used for the transportation of the teams were suitable for all expected terrain and weather conditions and were large enough for the teams and equipment.

Members of each field team generally understood the operation of all monitoring equipment and demonstrated their use. Written Standard Operating Procedures (SOPs) were used for setup and operation. However, one team (Yellow Team) could use more training with regard to procedures which are listed in the plan. For example:

- o The procedures call for making beta-gamma measurements with the vehicle windows open, assuming the measurements are made inside the vehicle. However, the windows were closed during the measurements taken in the afternoon.
- o The iodine measurement procedure calls for a clean air purge of the silver zeolite cartridge before counting. However, the clean air purge was not demonstrated.
- o In some cases, the team members could have been more attentive to observing the instrument readings and relaying the information to the EOF. In one instance, the team had excellent data for a cross-section traverse of the plume, complete with plume centerline data. However, this data was not relayed to the EOF.

One team (Green Team) demonstrated the collection of soil, vegetation and water samples. Both teams were familiar with the territory being monitored and were able to follow maps and find monitoring points easily.

Radio communication between the field teams and the coordinator at the EOF was by radio. Both teams were in constant contact with the EOF with no dead spots observed. There are no backup radio systems currently available. However, per the State Plan, telephones are to be used as secondary communication links, if needed.

The field teams had proper protective equipment and dosimetry. The teams did not have KI for this exercise and, consequently, procedures for its use were not observed. A decision was made at the EOF for the field team members to utilize respirators while traversing the plume. However, the State and County team members have not been fitted for respirators or physically tested for working while wearing a respirator. Upon notification to the EOF, the teams were subsequently instructed to proceed through the plume with the unmasked individuals. Adequate protective actions should be implemented, e.g. all team members should be fitted and qualified for the use of respirators or KI should be provided with appropriate instructions for its use.

The team members regularly read the dosimeters and reported the results to the team coordinator. The Green Team read and recorded the dosimeter readings at thirty minute intervals. However, the Yellow Team read their dosimeters when the EOF requested the data. Members of the Yellow Team should read their dosimeters more frequently on their own accord. Members of both teams were aware of the maximum exposure limits allowed without authorization and knew the appropriate procedures if they received an overexposure.

Decontamination procedures for personnel, vehicle and equipment were not demonstrated due to the termination of the exercise before such actions. However, both teams were familiar with the procedures.

The scenario provided plume exposure sufficient to test the capability of the field teams with two exceptions: recovery and reentry field sampling (Green Team evaluator did request samples be taken) was not requested and decontamination procedures were not demonstrated.

The use of a tripartite (utility, State and County) field team appears to be a very workable concept. However, in this exercise there were a few minor mobilization problems with the County and State teams that should be addressed. Overall, this demonstrates a very viable and enthusiastic working relationship between the utility, State and County.

Deficiencies That Would Lead to a Negative Finding

There were no observed deficiencies that would lead to a negative finding.

Deficiencies and Recommendations

1. Deficiency: The County and some State team members joined the radiological monitoring teams in the field rather than deploying from the EOF, as stated in the State and County Plans. (NUREG-0654, II. P.4.)

Recommendation: The State and County Plans should be amended to reflect this option while addressing the concerns of the evaluators as stated in the report.

2. Deficiency: The radiological monitoring equipment used by the teams were somewhat different from the equipment listed in the State Plan. (NUREG-0654, II. P.4.)

Recommendation: The State Plan should be modified to reflect the actual radiological equipment used during the exercise.

3. Deficiency: One field team (Yellow Team) was not familiar with some of the procedures in the operation of the radiological monitoring equipment. (NUREG-0654, II. I.8.)

Recommendation: Training should be provided to members of the field teams in the operation of the radiation survey equipment as outlined in the State Plan.

4. Deficiency: The State and County team members were not provided adequate protective measures for the plume exposure pathway, e.g. they have not been fitted for or physically tested for working while wearing a respirator, nor was KI provided. (NUREG-0654, II. O.4.c., J.10.e.)

Recommendation: Adequate protective actions should be implemented e.g. all members of the field teams should be fitted and qualified for the use of respirators or KI should be provided with appropriate instructions for its use.

2.1.7 Medical Emergency

Overview

The emergency response capability of the Ransom Memorial Hospital was observed during this exercise. The hospital was notified by the plant that an accident had occurred at the plant involving injuries and contamination. The call was verified and an ambulance dispatched. Communication links were established between the hospital and the ambulance by radio and between the hospital and the Coffey County EOC and Emergency Operations Facility (EOF) by telephone. Upon arrival at the hospital, the staff was prepared to receive the patient based on the call from the plant and a call from the ambulance in transit. The hospital contacted the Coffey County EOC and gave an update on the patient's status. Overall, communication capabilities were satisfactory. The utility also dispatched a health physicist to the hospital to assist the staff in preparation of the emergency room.

The hospital demonstrated sound procedures for handling contaminated patients. The emergency room entrance was marked and a heavy plastic (herculite) floor runner was in the bay. The entire interior entrance was protected by herculite, including a partial shielding of walls to approximately waist height. Security was present outside and inside to restrict access. The ambulance crew brought the patient into the emergency room where hospital personnel (in protective clothing) began monitoring vital signs and assessing the injury. The equipment and procedures for determining contamination levels on the patient were demonstrated periodically throughout the exercise and a

chronological record of each survey was maintained. Emergency room personnel "gloved hands" were also periodically surveyed for contamination. Charts were posted to show the procedures and priorities for treating contaminated patients. The equipment and procedures to decontaminate patients were demonstrated satisfactorily. However, there was one instance when the rinse decontamination container overflowed on the floor. This occurred partly because the color of the container made it difficult to determine the water level. Samples were collected for laboratory analysis. The hospital also has an arrangement with a radiological laboratory for analysis if required.

When the ambulance arrived at the plant, it was met by a security vehicle and escorted to the security fence gate. A second health physicist and security personnel were waiting at the gate with protective clothing and dosimetry. Direct reading and permanent dosimeters were logged and issued to the ambulance crew. The ambulance then proceeded through the gate to the reactor building where the injured party was. The crew entered the reactor building with a litter to remove the patient. The plant had a trained health physicist, emergency medical technician and a public health person with the victim. While the patient status was communicated to the ambulance crew, the health physicist supervised the lining of the ambulance with a protective barrier to reduce chance contamination.

Upon arrival at the hospital, and after the health physicist determined all precautionary methods had been taken to prevent further contamination, the patient was taken into the emergency room. After the patient had been provided for, the ambulance crew was screened for possible contamination. The ambulance was also monitored by the health physicist. Protective clothing was removed in an acceptable manner and all dosimetry equipment was gathered. When all surveys were completed, the ambulance crew was released.

The scenario was appropriate to test the adequacy of ambulance and hospital facilities and the procedures for handling contaminated individuals.

Deficiencies That Would Lead to a Negative Finding

There were no observed deficiencies that would lead to a negative finding.

2.2 COUNTY OPERATIONS

2.2.1 Coffey County Emergency Operations Center

Overview

Initial notification and the call to activate the Coffey County Emergency Operations Center (CCEOC) was received at 1000 by the Coffey County Sheriff's dispatcher. The call was received from the utility over commercial telephone and was verified. The Sheriff's office is a 24 hour operation and, consequently, is capable of receiving a call at any hour of any day. Activation and mobilization procedures were demonstrated with the EOC fully staffed at 1028. Organizations represented at the EOC were: the Board of Coffey County Supervisors, County Sheriff, Emergency Preparedness Coordinator, Public Information Officer, County Engineer, Health and Medical Management Leader, Shelter Systems Officer, Radiological Officer and County Attorney. Round-

the-clock staffing capability was demonstrated by shift changes, rosters, and double staffing. All personnel were briefed and appeared to be knowledgeable and adequately trained.

Emergency operations were well managed by the Chairman of the Board of County Supervisors, who was clearly in charge. He held periodic informative briefings and involved the staff in decision making. However, additional briefings (short and informal) and announcements of significant messages received would help the EOC staff stay current on the overall EOC operations. Copies of the County Plan and written procedures were readily available and messages were logged, reproduced and distributed. Radiological monitoring teams, reception center and congregate care centers were activated from the EOC in a timely manner.

Overall, the Coffey County Emergency Operations Center (CCEOC) facilities were adequate in terms of space, furniture and lighting. At no time were conditions crowded or noisy. Access to the EOC was controlled. The facility could support extended operations with adequate food storage, cooking and sanitary facilities. Backup power to the CCEOC was not demonstrated. Currently, a permanent CCEOC is under construction which will have additional office space, facilities for a full kitchen, showers, and sleeping quarters. A new diesel generator with adequate fuel storage has been installed, and a new Electro-Magnetic Pulse (EMP) shielded communications center is near completion.

The emergency classification level was always posted during the exercise and prominently displayed separately from the status boards. The status boards were clearly visible, kept up-to-date and contained appropriate information. All necessary maps and charts were displayed including the Emergency Planning Zone (EPZ) sector designations, and protective action zones. Also present were maps of evacuation routes, access control points, radiological monitoring points and relocation centers. A map of Coffey County, the 50-mile Ingestion Pathway Zone (IPZ) and several city maps were available and posted.

Commercial telephone was the primary means of communication with the State and local EOC's, utility, Emergency Broadcast System (EBS) stations, media center, local schools, support hospital and radiological monitoring teams; all of which were adequately demonstrated with the exception of the EBS stations. The normal means for contacting the EBS is through the Kansas State EOC. A telecopier was available which served as backup communication with the media center and State EOC. This capability was also adequately demonstrated. There is radio backup communications to the local EOC, utility, EBS stations, local schools and ambulances. Backup communication was demonstrated to the five local schools and to the support hospital. Conference call capability was not available; however, there were two telephones on both the utility and Emergency Preparedness Coordinator's telephone lines.

The Coffey County EOC received the SITE AREA EMERGENCY declaration from the utility at 1018. Coffey County subsequently contacted the Kansas State EOC. The line was kept open while decision-making and drafting of the initial EBS message took place (using prescribed forms). Arrangements were made between the County EOC and State EOC concerning siren, tone alert and EBS message activation. Consequently, siren activation was simulated at 1029, tone alert simulated at 1030 and EBS simulated at 1030. The initial message was broadcast (simulated) to the public twelve minutes after the call was received from the utility declaring the SITE AREA EMERGENCY. Vehicles were dispatched for route

alerting at 1038. The local schools were contacted between 1038 and 1045. Overall, the initial public alerting went very well with one exception; siren activation was not adequately demonstrated at Waverly, Kansas. The signal transmitted by the CCEOC did not activate the siren. An acoustical engineering analysis revealed that the antenna located on the siren was insufficient to receive the signal. The utility informed our office that a new antenna would be installed by mid December, 1984. This was done and a remedial drill was held on December 19, 1984, to test the CCEOC's capability to activate the siren. Consequently, siren activation was properly demonstrated and the deficiency was remedied.

The EBS instructions drafted at the Coffey County EOC were clear and appropriate to the situation. Protective action areas were described in terms of familiar boundaries and landmarks. Instructions to "take shelter" included guidance on sheltering methods and instructions for transients. However, the EBS messages did not include information on the evacuation of school children. Some rumor control did take place at the County EOC. Calls received by the Sheriff's dispatcher were referred through the proper channels to the Public Information Officer (PIO) at the media center.

Protective actions implemented by the CCEOC included the prompt establishment of traffic control points at 1140 following the decision to evacuate subsectors A0, A1, E1 and E3 (at 1134). Some consideration was given to the anticipated traffic volume. In the event of bad weather, the County reportedly had an adequate supply of tow trucks and snow plows to keep the evacuation routes clear. According to the EOC staff, local personnel and vehicles were adequate to handle all traffic and access control functions simultaneously.

Congregate care shelters were placed on standby at 1031 following the declaration of the SITE AREA EMERGENCY. The shelters were ordered to be activated at 1156 with the declaration of the GENERAL EMERGENCY (1145) and subsequent evacuation order. The Health and Medical Management Team was aware of the location of both institutionalized and home-bound mobility-impaired residents in the area. The addresses and special needs of each individual were available in written form. Arrangements were made to evacuate the mobility-impaired residents by using ambulance services from three neighboring counties (to relieve the stress on local ambulance services). Transportation routes were carefully coordinated with the other agencies through access control points to reception centers.

A simulated evacuation of school children was accomplished by buses acquired from the Gridley, LeRoy, and Waverly school districts. Arrangements for buses were made through the respective school superintendents.

Protective actions for the ingestion pathway were formulated and implemented throughout the exercise by the Health and Medical Management Team. The Team obtained information on the availability of stored feed and issued recommendations to place livestock on stored feed in sectors M, N, P, and subzone D1. Also, advisories were made not to butcher cattle for consumption or harvest and co-mingle feed in the affected sectors. Current information was available on the location of all dairy farms and dairies in the affected area. The recommendations were based on plant status data and updated throughout the exercise.

The CCEOC was located within the 10-mile EPZ. Although the EOC was not affected by the plume during this exercise, the Radiological Officer was aware of measures to be taken to protect EOC personnel against exposure should the plume change direction. Dosimetry was issued to members of the joint radiological monitoring teams as well as some of the EOC staff. Adequate supplies of self-reading and permanent-record dosimeters were available in pre-packed, individualized kits. The kits also contained record keeping cards. Adequate instructions were provided at the time of issue. It was noted, however, that some members of the EOC staff require additional training regarding the periodic reading and recording of dosimeter values. Although not observed at the CCEOC, an adequate supply of Potassium Iodide (KI) was reportedly available at the Emergency Operations Facility (EOF).

Reentry and recovery activities were demonstrated at the CCEOC. The players coordinated a comprehensive plan for obtaining environmental samples and for implementing a controlled reentry of the evacuated areas. Each County agency briefly described the recovery/reentry recommendations they were implementing. Relaxation of protective actions were based on monitoring data and samples which indicated safe levels. Particularly strong planning efforts were demonstrated by the Health and Medical Management Team. Consideration was given to prioritizing reentry based on need. Procedures were developed to allow reentry to evacuated areas for essential service, e.g., farmers and ranchers. In the meantime, efforts to maintain security of the evacuated areas continued.

Overall, the scenario was adequate to drive a demonstration of the exercise objectives identified for Coffey County. Particularly noteworthy was the controlled de-escalation of activity to adequately allow for recovery/reentry decisions. This was accomplished through the three hour time jump approximately 45 minutes prior to exercise termination.

Deficiencies that Lead to a Negative Finding

1. Deficiency: Siren activation was not adequately demonstrated at Waverly, Kansas. The signal transmitted from the encoder at the CCEOC did not activate the siren. The antenna located at the siren, per the utility analysis, was insufficient to receive the signal. (NUREG-0654, II. E.6.)

Recommendation: A remedial drill was held on December 19, 1984, to test the County's capability to activate the siren under drill conditions. Consequently, siren activation was properly demonstrated and the deficiency was remedied.

Deficiencies and Recommendations

1. Deficiency: The Emergency Broadcast System (EBS) messages did not include information on the evacuation of school children. (NUREG-0654, II. E.7.)

Recommendation: The EBS messages should be amended to include information concerning evacuation of schools in accordance with the plan.

2. Deficiency: Some members of the CCEOC staff were not aware of the procedures for reading and recording dosimeter values. (NUREG-0654, II. K.3.b.)

Recommendation: All emergency workers on the CCEOC staff should be adequately trained in the proper use of dosimetry regarding reading and recording values.

2.2.2 Coffey County Road and Bridge Department

Overview

The call to activate the Coffey County Road and Bridge Department was received at 1022 from the Coffey County Emergency Operations Center (CCEOC). The call was verified and staffing was completed at 1149. Activation and mobilization procedures were adequately demonstrated. According to participants, a system is in place to call up staff at any hour day or night. A written call list was used to contact staff members. Round-the-clock staffing capability was demonstrated with double staffing and presentation of a roster. All personnel were briefed and appeared to be knowledgeable and adequately trained.

Emergency operations were well managed by the Superintendent of the Road and Bridge Department, who was clearly in charge. Periodic briefings were held to keep the staff current on emergency operations. County plans and written procedures were available for reference.

A new building has been constructed for the Coffey County Road and Bridge Department which will provide sufficient space, furniture and lighting. The staff transferred to the new building in mid December. Status boards were clearly visible and kept up to date. A map of Coffey County, the Emergency Planning Zone (EPZ), evacuation routes and traffic access points were posted. Radiological monitoring points and population statistics in evacuation areas were available, but not posted.

The County Road and Bridge Department maintained constant communication with the CCEOC. Commercial telephone was the primary means of communication with the County EOC. Backup communication capability was by radio. The new facility has two separate commercial telephone lines available for emergency use. The vehicles observed at the facility (utilized during emergency operations) all had mobile radios that provided a communication link to the Road and Bridge Department.

The County Road and Bridge Department adequately demonstrated procedures for access control. Activation of traffic control points were promptly ordered. Crews were dispatched to set up roadblocks at various locations throughout the County. Initiation and completion of the tasks were timely. Access control was well organized. An adequate number of vehicles and personnel were available to cover all traffic and access control functions simultaneously. Resources were available to keep evacuation routes open and clear during inclement weather. A "Traffic Control Plan" for the Road and Bridge Department was available to manage possible traffic jams due to evacuation.

The Department also played a role in public alerting. Vehicles were dispatched at 1045, based on a call from the CCEOC, for notification of the hearing impaired. This was completed at 1135. Evacuation of the Senior Citizen's Center, across the street from the facility, was also simulated.

Evacuation confirmation procedures were also demonstrated for subzone E-1 and E-2. Overall the public alerting and evacuation confirmation was timely and managed well.

All required dosimeters were available to members of the Department. The staff demonstrated proper procedures for reading and recording dosimetry information. All were aware of maximum dose levels allowed without authorization. The staff was aware of decontamination procedures for personnel and vehicles.

The scenario was adequate for the objectives prescribed for Coffey County Road and Bridge Department and provided ample opportunities for the demonstration of emergency response capabilities.

Deficiencies That Would Lead to a Negative Finding

There were no observed deficiencies that would lead to a negative finding.

2.2.3 Host County Relocation/Registration Center - Lyon County

Overview

The relocation center was in Lyon County at the Emporia State University Gymnasium. Representatives from the Lyon County Civil Defense Office, Salvation Army and the Kansas Department of Health were at the facility. The staff represented appeared adequate in terms of numbers, background and experience. Round-the-clock staffing capability was demonstrated by double staffing. Activation and mobilization procedures were not demonstrated as the local civil defense director pre-positioned the staff. Communications with Coffey County EOC was by radio through the Emporia State University Police. It should be noted that the County Plan states that the communication link is through the Coffey County Sheriff's radio to the host county Sheriff's radio who then telephones the registration center or dispatches a Sheriff's deputy to the registration center. However, the method used by Lyon County is faster and certainly adequate. The use of the Emporia State University Police radio eliminates an additional phone call or dispatching a Sheriff's deputy to deliver messages. The County Plan should be amended to reflect the above.

Procedures for registration of evacuees were adequately demonstrated. As the evacuees were brought to the center, five teams would monitor them for contamination. Dosimetry was provided for the monitors. However, there was no provision for protective clothing. If no radiological contamination was evident, the evacuees would then be registered. If evacuees were found to be contaminated, they would be sent to the showers for decontamination. Clothing would be bagged and sent to the utility for decontamination. However, the only provision for clothing for evacuees who went through decontamination was what was available at the university gym (presumably team uniforms).

Congregate care procedures were not demonstrated. The evaluator was informed that congregate care could be provided for 3500 evacuees all within the boundaries of the campus. However, adequate sleeping accommodations, food and water supplies, and restroom facilities were not observed.

The Salvation Army simulated providing canteen service. The health physicist from the Kansas Department of Health assisted the monitoring teams in radiological assessment and decontamination procedures.

Deficiencies That Would Lead to a Negative Finding

There were no observed deficiencies that would lead to a negative finding.

Deficiencies and Recommendations

1. Deficiency: A communication link was established between the Emporia University Police and the Coffey County EOC, which is in conflict with the County Plan. (NUREG-0654, II. P.4.)

Recommendation: The County Plan should be amended to reflect the system used in the exercise, as it is a direct link and obviously faster.

2. Deficiency: Emergency workers were pre-positioned at the relocation/reception center in Lyon County. (NUREG-0654, II. E.2.)

Recommendation: The Lyon County emergency preparedness agencies need to demonstrate their capability to alert and mobilize their representatives to the relocation/reception area.

2.3 Flint Hills National Wildlife Refuge/John Redmond Reservoir

Overview

Flint Hills National Wildlife Refuge

Route alerting and evacuation confirmation were adequately demonstrated by the Flint Hills National Wildlife Refuge (FHNWR) during the exercise. The Refuge staff completed this task within 45 minutes after the Coffey County Emergency Operations Coordinator notified the Refuge Office. The Coffey County Plan calls for route alerting and evacuation confirmation by Refuge personnel on those portions of the Flint Hills National Wildlife Refuge outside siren coverage but within the effective EPZ. The Refuge staff appeared familiar with the emergency plans and completed their assigned tasks effectively. One 4 x 4 pickup truck was used by Refuge personnel during the exercise. The truck was equipped with a radio that provided a link to the FHNWR Office.

The communications capability was adequately demonstrated. Notification of emergency levels was made to the refuge in a timely manner by telephone. There was no radio link between the FHNWR Office and the Coffey County Sheriff's Office. One truck was equipped with a radio that provided a link to the Sheriff's Office, but was undergoing repairs and not available for this exercise. Consequently, there was not a backup system of notification other than a tone alert radio. A scanner radio to monitor State/County frequencies would be beneficial but not required.

Billboards are located at various points throughout the Refuge which, per the County Plan, should contain emergency information and evacuation routes for visitors and transients. However, four billboards observed by the evaluator were empty. Emergency information flyers were available for use by the Refuge

staff only. During an evacuation, the flyer would be placed under the windshield wiper of unattended vehicles. The emergency evacuation information on the flyer was adequate. However, adding landmarks and directional arrows would be beneficial to visitors unfamiliar with the area. There were no informational brochures available for distribution to Refuge visitors.

The staff was equipped with low range, self reading and permanent record dosimeters. Mid or high range dosimetry was not available, nor were chargers for the dosimeters. Although Refuge staff must function as emergency workers, KI was not available and personnel were only generally aware of the need for and procedures concerning its use.

John Redmond Reservoir

Route alerting and evacuation confirmation in the John Redmond Reservoir (JRR) were effectively demonstrated by the Kansas Fish and Game Commission (KFGC). KFGC personnel appeared familiar with the County Plan and performed well. Their role was limited to alerting boaters and fishermen on the reservoir.

The KFGC manager was appropriately notified by the Coffey County Sheriff's Office by telephone of the SITE AREA EMERGENCY. The manager then dispatched staff to the boat launching areas to determine if visitors were on the reservoir. Actual notification of people on the reservoir was simulated.

Billboards have been placed throughout the reservoir which, per the County Plan, contain emergency information for transients. However, the evaluator noted that of the nine billboards observed, only two contained emergency information. The remaining seven were empty. Emergency information flyers were available for use by the KFGC staff to be placed on unattended vehicles. Informational brochures for distribution to JRR visitors were not available.

The communications capabilities were adequate. Each vehicle has a radio that provides a link to the KFGC Office. Also, there is a radio link to the Coffey County Sheriff's Office. A tone alert radio was also available that could be used as backup system of notification.

All required dosimetry was available with appropriate instructions. The staff was trained and appeared knowledgeable in reading and recording values.

The KFGC was evacuated to the State Forward Staging Area (FSA) at approximately 1200.

Deficiencies That Would Lead to a Negative Finding

There were no observed deficiencies that would lead to a negative finding.

Deficiencies and Recommendations

1. Deficiency: A majority of billboards (11 out of 13) did not contain emergency information and evacuation routes for transients and visitors at the FHNWR or JRR. (NUREG-0654, II. E.6.)

Recommendation: Emergency information must be posted as this is an integral part of the alert and notification process for visitors unfamiliar with that area.

2. Deficiency: FHNWR personnel had not been provided chargers for their dosimeters. KI was not available for emergency workers, nor was training provided for the need and procedures concerning its use. (NUREG-0654, II. K.3.a., J.10.e.)

Recommendation: The Refuge staff should be provided with sufficient dosimetry equipment. KI should be available for emergency personnel, and they should be provided the appropriate training in its use.

3 SCHEDULE FOR CORRECTION OF DEFICIENCIES

Section 2 of this report lists deficiencies based on the findings and recommendations of Federal observers at the radiological emergency preparedness exercise for the Wolf Creek Generating Station held on November 7, 1984. These evaluations are based on the applicable planning standards and evaluation criteria set forth in NUREG-0654/FEMA-1, REV. 1 (Nov. 1980), and objectives for the exercise agreed upon by the state, FEMA, and the RAC.

The Regional Director of FEMA is responsible for certifying to the FEMA Associate Director, State and Local Programs and Support, Washington, D.C., that any deficiencies which require corrective actions have been corrected and that such corrections have been incorporated into the plans as appropriate.

FEMA requests that both the state and local jurisdictions submit the measures they have taken to intend to take to correct these deficiencies. FEMA recommends that a detailed plan, including dates of completion for scheduling and implementing recommendations, be provided if remedial actions cannot be instituted immediately.

WOLF CREEK GENERATING STATION - REMEDIAL ACTION
 EXERCISE: NOVEMBER 7, 1984

NIREG Element	RAC Recommendation Corrective Action	State(S)/ County(C) Response (ACTION)	Proposed Completion Date	FEMA Evaluation of State/County Response	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
	STATE OPERATIONS					
	<u>Emergency Operations Facility</u>					
F.I.D.	<p>1. <u>Deficiency:</u> There was very little feedback from the State and County to confirm what emergency actions recommended by the utility had been implemented.</p> <p><u>Recommendation:</u> A formal mechanism should be developed that would provide feedback to the utility concerning actions that have been implemented. Perhaps the County could dispatch a liaison to the EOF to join State and utility personnel and to be responsible for keeping KG&E informed of County activities.</p>					

MOLF CREEK GENERATING STATION - REMEDIAL ACTION
 EXERCISE: NOVEMBER 7, 1984

NUREG Element	RAC Recommendation Corrective Action	State(S) County(C) Response (ACTION)	Proposed Completion Date	FEMA Evaluation of State/County Response	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
	<u>State Forward Staging Area</u>					
P.5.	<p>1. <u>Deficiency:</u> The State did not notify the Kansas Fish and Game Commission of the change in the FSA location.</p> <p><u>Recommendation:</u> Proper methods should be established to assure that changes to the State plan are disseminated to all interested organizations.</p>					
	<u>Dose Assessment and Field Monitoring Teams</u>					
J.9	<p>1. <u>Deficiency:</u> One subsector was inadvertently left out of the initial protective action recommendations.</p> <p><u>Recommendation:</u> Protective action recommendations should include all subsectors affected by the radioactive airborne plume, i.e. maps should be revised so that they are easily comprehensible as to avoid the likelihood of confusion over protective actions.</p>					

WOLF CREEK GENERATING STATION - REMEDIAL ACTION
EXERCISE: NOVEMBER 7, 1984

NIREG Element	RAC Recommendation Corrective Action	State(S) County(C) Response (ACTION)	Proposed Completion Date	FEMA Evaluation of State/County Response	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
P.4.	<p>2. <u>Deficiency:</u> Dose assessment methods used were adequate but are not consistent with those shown in the State Plan.</p> <p><u>Recommendation:</u> The plan should be amended to reflect the methods used for dose assessment demonstrated during the exercise.</p>					
K.3.a. J.10.e.	<p>3. <u>Deficiency:</u> State personnel and other utility staff in the EOF had inadequate dosimetry. State personnel had no available supply of KI.</p> <p><u>Recommendation:</u> Additional dosimeters should be provided to State personnel and other EOF staff so they are properly equipped with required dosimetry. The State personnel should be provided with KI or the State Plan should be amended to indicate they will have access to the supply maintained by the utility.</p>					

WOLF CREEK GENERATING STATION - REMEDIAL ACTION
 EXERCISE: NOVEMBER 7, 1984

NUREG Element	BAC Recommendation Corrective Action	State(S) County(C) Response (ACTION)	Proposed Completion Date	FEMA Evaluation of State/County Response	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
	<u>Radiological Field Monitoring Teams</u>					
P.4.	<p>1. <u>Deficiency:</u> The County and some State team members joined the radiological monitoring teams in the field rather than deploying from the EOF as stated in the State and County Plans.</p> <p><u>Recommendation:</u> The State and County Plans should be amended to reflect this option while addressing the concerns of the evaluators as stated in the report.</p>					
P.4.	<p>2. <u>Deficiency:</u> The radiological monitoring equipment used by the teams were somewhat different from the equipment listed in the State Plan.</p> <p><u>Recommendation:</u> The State Plan should be modified to reflect the actual radiological equipment used during the exercise.</p>					

WOLF CREEK GENERATING STATION - REMEDIAL ACTION
 EXERCISE: NOVEMBER 7, 1984

NUREG Element	RAC Recommendation Corrective Action	State(S) County(C) Response (ACTION)	Proposed Completion Date	FEMA Evaluation of State/County Response	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
I.B.	3. Deficiency: One field team (Yellow Team) was not familiar with some of the procedures in the operation of the radiolo- gical monitoring equipment. Recommendation: Training should be provided to members of the field teams in the operation of the radiation survey equipment as outlined in the State Plan.					
D.N.C. J.10.e.	4. Deficiency: The State and County team members were not provided adequate protective measures, e.g. they have not been fitted for or physically tested for working while wear- ing a respirator, nor was KI provided. Recommendation: Adequate Pro- tective actions should be im- plemented, e.g. all members of the field teams should be fit- ted and qualified for the use of respirators or KI should be provided with appropriate in- structions for its use.					

WOLF CREEK GENERATING STATION - REMEDIAL ACTION
EXERCISE: NOVEMBER 7, 1984

NUREG Element	RAC Recommendation Corrective Action	State(S) County(C) Response (ACTION)	Proposed Completion Date	FFMA Evaluation of State/County Response	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
COUNTY OPERATIONS						
<u>Coffey County Emergency Operations Center</u>						
E.6.	<p>1. <u>Deficiency:</u> Siren activation was not adequately demonstrated at Waverly, Kansas. The signal transmitted from the encoder at the CCEOC did not activate the siren. The antenna located at the siren, per the utility analysis, was insufficient to receive the signal.</p> <p><u>Recommendation:</u> A remedial drill was held on December 19, 1984 to test the County's capability to activate the siren under drill conditions.</p>	<p>A remedial drill was held on December 19, 1984, to test the County's capability to activate the siren at Waverly.</p>	12/19/84	<p>Satisfactorily demonstrated during the remedial exercise for siren activation.</p>	A	C
E.7.	<p>2. <u>Deficiency:</u> The Emergency Broadcast System (EBS) messages did not include information on the evacuation of school children.</p>					

WOLF CREEK GENERATING STATION - REMEDIAL ACTION
 EXERCISE: NOVEMBER 7, 1984

NUREG Element	RAC Recommendation Corrective Action	State(S) County(C) Response (ACTION)	Proposed Completion Date	FEMA Evaluation of State/County Response	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
K.3.b.	<p>Recommendation: The EBS messages should be amended to include information concerning evacuation of schools in accordance with the plan.</p>					
	<p>3. Deficiency: Some members of the CCEOC staff were not aware of the procedures for reading and recording dosimeter values</p>					
	<p>Recommendation: All emergency workers on the CCEOC staff should be adequately trained in the proper use of dosimetry regarding reading and recording values.</p>					
	<p><u>Host County Relocation/ Registration Center</u></p>					
P.4.	<p>1. Deficiency: A communication link was established between the Emporia University Police and the Coffey County EOC, which is in conflict with the County Plan.</p>					

WOLF CREEK GENERATING STATION - REMEDIAL ACTION
 EXERCISE: NOVEMBER 7, 1984

REG ement	RAC Recommendation Corrective Action	State(S) County(C) Response (ACTION)	Proposed Completion Date	FEMA Evaluation of State/County Response	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
	<p>Recommendation: The County plan should be amended to reflect the system used in the exercise, as it is a direct link and obviously faster.</p>					
.2.	<p>2. Deficiency: Emergency workers were pre-positioned at the relocation/reception center in Lyon County.</p>					
	<p>Recommendation: The Lyon County emergency preparedness agencies need to demonstrate their capability to alert and mobilize their representatives to the relocation/reception area.</p>					

WOLF CREEK GENERATING STATION - REMEDIAL ACTION
 EXERCISE: NOVEMBER 7, 1984

NUREG Element	RAC Recommendation Corrective Action	State(S) County(C) Response (ACTION)	Proposed Completion Date	FEMA Evaluation of State/County Response	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
E.6.	<p><u>FLINT HILLS NATIONAL WILDLIFE REFUGE/JOHN REDMOND RESERVOIR</u></p> <p>1. <u>Deficiency:</u> A majority of billboards (11 out of 13) did not contain emergency information and evacuation routes for transients and visitors at the FHNWR or JRR.</p> <p><u>Recommendation:</u> Emergency information must be posted as this is an integral part of the alert and notification process for visitors unfamiliar with that area.</p>					
K.3.a. J.10.e.	<p>2. <u>Deficiency:</u> FHNWR personnel had not been provided chargers for their dosimeters. KI was not available nor was training provided for the need and procedures concerning its use.</p>					

