APPENDIX C

U.S. NUCLEAR REGULATORY COMMISSION REGION IV

NRC Inspection Report: STN 50-482/84-25

Docket: STN 50-482

Permit: CPPR

Licensee: Kansas Gas and Electric Company (KG&E)
P.O. Box 208
Wichita, KS 67201

Facility Name: Wolf Creek Generating Station

Appraisal At: Wolf Creek Generating Station, Burlington, Kansas

Appraisal Conducted: September 17-28, 1984

Inspector: J B Baird
for/C. A. Hackney, NRC (Team Leader) — Date 12/21/84

Other
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Approved: J B Baird
J. B. Baird, Chief, Emergency Preparedness Section — Date 12/21/84

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FOR L. E. Martin, Chief, Reactor Project Section A — Date 12/21/84

Inspection Summary

Inspection Conducted September 17-28, 1984 (Report 50-482/84-25)

Areas Inspected: This special, announced inspection involved 640 inspector-hours in the performance of an emergency and implementation inspection, including administration, emergency organization, training and retraining, emergency facilities and equipment, procedures, coordination with offsite groups, exercises and drills, and walk-throughs.

Results: In the areas inspected, no violations or deviations were identified.

INTRODUCTION

The purpose of this special inspection was to perform a comprehensive evaluation of the KG&E Emergency Preparedness Program. This inspection included an evaluation of the adequacy and effectiveness of areas for which explicit regulatory requirements may not currently exist. The inspection effort was directed towards evaluating KG&E capability and performance rather than the identification of specific violations of NRC requirements.

The inspection scope and findings were summarized on September 28, 1984, with those persons indicated in Section 9.0 of this report. See Section 8.0 of this report for details of the exit meeting.

SUMMARY

The inspectors reviewed the KG&E Emergency Plan and emergency plan implementing procedures and conducted interviews with general office, home office, station, and offsite personnel. The purpose of this inspection was to determine the adequacy of KG&E's emergency response capabilities. There were seven major functional areas inspected: administration; emergency organization; training; emergency facilities and equipment; procedures; coordination with offsite groups; and drills, exercises, and walk-throughs.

Administration

The KG&E emergency preparedness effort was supported offsite by the emergency planning coordinator (EPC) who reported to the manager, licensing. The EPC was responsible for emergency offsite planning, training, state and local government coordination, and coordinating with the onsite emergency planning administrator (EPA).

The EPA reported to the superintendent of regulatory quality and administrative services. The EPA was responsible for onsite emergency planning, training coordination with the onsite groups, and coordination with the EPC.

Emergency Organization

The emergency organization was defined for upper management personnel. There did not appear to be a defined organization for the lower level or working level team members. The inspectors determined that there was not a conflict as to the transfer of authorities from the duty emergency director (DED) to the duty emergency manager (DEM); however, delegateable authorities were not specifically outlined for the DED.

Training

The NRC inspectors determined that initial training had been conducted for most of the emergency response personnel. Review of the licensee emergency response personnel training records indicated that approximately half of the shift supervisors and operators had not received their emergency training. Further, the NRC inspectors determined that both primary and secondary members of the onsite and offsite response team had not received initial emergency training.

Emergency Facilities and Equipment

The NRC inspectors noted that the licensee had obtained much of the equipment necessary for emergency response. The NRC inspectors also noted that some equipment was not in place due to construction. It was noted that some equipment was not calibrated or dedicated for emergency response. Also, the level of detail for assuring that vital equipment would be available was not adequate; e.g., the offsite monitoring vehicles did not have radios and they may be routinely offsite. The NRC inspectors conducted a test of the station public address system and concluded that most of the site personnel would not be able to hear emergency messages or directions.

Procedures

The NRC inspectors determined that procedures had not been written for equipment or systems not installed; also, procedures were not performed for some equipment which had been installed; e.g., media, prompt public notification system, accountability, and health physics emergency procedures.

Coordination with Offsite Groups

The NRC inspectors determined that some offsite training had been conducted. There had not been a media meeting held and the public information brochure had not been distributed. The licensee had conducted training for the Ransom Hospital staff. Radiological training for the Burlington Volunteer Fire Department and other local agencies had not yet been conducted.

Drills, Exercises, and Walk-Throughs

The licensee had conducted drills for onsite personnel and selected offsite personnel had joined them in several drills.

Conclusion

The licensee has generally addressed the major emergency response functions; however, they have not yet been addressed in sufficient detail to determine how their emergency team will function, who the team members will be, and what each member will be responsible for during an emergency. Further, the licensee had not completed their prompt public notification system, distributed the public information brochure, or conducted their media training.

Until these areas are addressed, the status of the licensee's emergency preparedness cannot be determined to be adequate.

1.0 ADMINISTRATION

1.1-1.4 Responsibility Assigned, Authority, Coordination, Selection, and Qualification

The administration of the licensee's emergency program was reviewed with respect to the requirements in 10 CFR 50.47(b)(c); 10 CFR 50, Appendix E, Paragraph IV.E; and criteria in NUREG-0654, Section II.A and P.

The NRC inspector reviewed Administrative Procedure 01-056 and Sections 0.1, 5.0 and 5.3 of the Wolf Creek Generating Station Emergency Plan (hereafter called the Plan) concerning emergency organization and control, and discussed administration of the overall emergency preparedness program with KG&E representatives. KG&E had a full time EPA at the plant. The EPA was to report to the Superintendent of Regulatory Quality and Administrative Services (SRQA) who was to report directly to the Plant Manager. According to Administrative Procedure 01-056 Section 3.0, the EPA was responsible for preparation, review, and revision of the station emergency plan implementing procedures (EPIP). Furthermore, the EPA was to initiate corrective actions for identified deficiencies in the Plan, implementing procedures, and other related emergency functions.

Section 5.0 of the Plan stated that the EPC was responsible for maintaining the Plan and EPIPs in a constant state of readiness and was in charge of the offsite activities should they be needed. The site EPA was to coordinate with the EPC who was responsible for onsite emergency activities. Section 0.1 of the Plan contained the Radiological Emergency Response Policy statement. The policy statement said that the vice president-nuclear had delegated the authority and responsibility for the preparation of the WCGS Radiological Emergency Plan, including the coordination of emergency planning activities and the liaison with county and state emergency response agencies to the KG&E EPC. The policy statement further said that the EPA had as his responsibilities and authorities, the onsite emergency planning activities.

The EPC was located at the home office in Wichita, Kansas. The EPC was to report to the manager licensing, who was to report to the manager nuclear services. The NRC inspector discussed the EPC's duties, responsibilities, and authorities with selected key KG&E personnel. It appeared that the EPC was responsible for all offsite emergency response and the EPA was responsible for all onsite emergency response.

The NRC inspector held discussions with the EPA and EPC and reviewed each individual job description. The job descriptions and the duties of both the EPA and EPC appeared to be consistent. There were selection criteria for both positions and both individuals appeared to meet their respective criteria. The NRC inspector determined by interview that training has been provided for each individual by their attending seminars and other utility emergency exercises.

Based on the above findings, this portion of the licensee's program appeared adequate.

2.0 EMERGENCY ORGANIZATION

2.1-2.2 Onsite Organization and Augmentation Organization

The onsite and augmentation organizations were reviewed with respect to requirements of 10 CFR 50.47(b)(1) and 10 CFR 50, Appendix E, paragraph IV.A; and criteria in NUREG-0654, Sections II.A and B.

The WCGS emergency organization and augmentation organization was described in the Plan, Section 1.0, and in the Emergency Plan Implementing Procedures, EPIP 01-1.0 (series). These procedures also described the duties and responsibilities of emergency organization team members.

The NRC inspectors interviewed the vice president of nuclear operations, supervisor of radiological projects, manager of electrical systems engineering, EPC, EPA, and other selected personnel both in their normal and emergency organizational roles to determine understanding and adequacy of the emergency and augmented emergency organizations. Reviews and interviews conducted at the home office indicated procedures appeared to be adequate and those personnel interviewed appeared to understand their roles and duties in the organization with the following exceptions:

> A formal procedure for assigning individuals to the emergency organization was not evident.
>
> An unsigned, undated list showing emergency organizations and people assigned was reviewed. The list reflected primary, alternate, and candidate personnel for emergency positions but did not distinguish between qualified and nonqualified personnel. KG&E was in the process of implementing a more formal program for assigning individuals by name to emergency positions.
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> Attachment 2.0 to EPP 01-1.1, Revision 0 indicated that some emergency response positions for emergency facilities would be assigned from available or administrative personnel rather than naming specific normal positions or titles of personnel to fill those positions. This method of assignment would require personnel adjustment to be made by responsible emergency facility managers at the critical time when they were in the process of activating their emergency facilities, being briefed by facility staff, determining plant status, and reviewing procedures applicable to the specific emergency.

Inconsistencies appeared to exist between the Plan and the EPIPs with regard to the duties and responsibilities of key emergency response personnel.

The licensee was in the process of revising the Plan and appropriate EPIPs to improve the consistency between the two.

The Plan, Revision 13, Section 1.2.1, "Duty Emergency Manager," (DEM) listed four responsibilities which cannot be delegated. They were:

1. Classifying of emergency event;

2. Deciding to notify offsite emergency authorities;

3. Making protective action recommendations, as necessary, to offsite emergency authorities; and

4. Authorizing emergency workers to exceed 10 CFR 20 radiation exposure limits.

The Plan stated that the responsibilities were to be passed on from the DED to the DEM upon his assumption of control of the overall emergency effort. The nondelegatable responsibilities above did not appear to be directly addressed in the EPIP, EPP 01-1.1, Revision 0, "WCGS Organization," under duties and responsibilities of the DED. Section 4.3.1.1 of EPP 01-1.1 stated, in part, that the DED shall assume all responsibilities and authorities of the DEM; however, the nondelegatable items appeared not to be completely addressed under nondelegatable items listed in EPP-01-1.2, Revision 0, "Responsibilities Not To Be Delegated." Specifically missing were notification and authorization to exceed exposure limits. Notification was not to be delegatable under NUREG-0654 guidance.

Based on the above findings, the following deficiencies must be corrected in order to achieve an acceptable program:

-- Establish a procedure for assignment of individuals to positions in the emergency organization. (482/8425-01)

-- Revise the EPIP, EPP 01-1.1, Revision 0, and EPP 01-1.2, Revision 0, to be consistent with the Plan and incorporate the guidance of NUREG-0654 concerning authorities and responsibilities which cannot be delegated; revise the Plan and EPIP's as necessary to insure consistency between the two in the duties and responsibilities of key personnel in the emergency response organization. (482/8425-02)

3.0 TRAINING

3.1 Program Establishment

The area of training was reviewed with respect to the requirements of 10 CFR 50.47(b)(15) and (16); 10 CFR 50, Appendix E, paragraph IV.F; and the criteria in NUREG-0654, Sections II.G and II.O.

The onsite emergency preparedness training program is described in EPP 02-1.2, "Emergency Preparedness Training Program," Revision 0, and in Section 5.0 of the Plan. The training program described by the Plan and procedures required that emergency response training be conducted and refresher training be given on an annual basis. Procedures provided for training of KG&E personnel and WCGS personnel having radiological emergency response duties and presented detailed matrices assigning each specific group/category of personnel to be trained in modules related to that particular group. Group assignments, module content, and periodicities appeared to satisfy the requirements of regulatory documents. The procedures required that detailed lesson plans be used and that drills and exercises be included in the training program. Drills and exercises are addressed in Section 5.5.2 of this report.

The Plan did not appear to address the organization(s) that are responsible for conducting emergency response training in Section 5.1, "Training." In the Plan, it stated in part that training was to be conducted by responsible organizations but did not list those organizations.

Section 5.1 in the Plan appeared to be written as an interim rather than a final document in that it stated "training programs are established as plans and procedures are finalized. Annual retraining programs are prepared . . ." rather than addressing final program in existence. In addition, it stated that "a public information program is being developed by KG&E," which appeared to imply that a public information program was not implemented. A review of a draft revision of the Plan (Revision 14) contained several statements of a similar nature.

Except for drills and exercises, the EPIP's and the Plan did not appear to address the conduct of formal critiques for training in order to identify weak areas that need correction as required by 10 CFR 50, Appendix E, paragraph IV.F.3. The Plan and procedures did not address a system for correction of training deficiencies.

Section 5.1 in the Plan stated, "for local services and support organizations that enter the site, the training programs include site access procedures and the position and title of the individual in the onsite emergency organization who controls organizations' support activities." The EPIP that addressed emergency response training did not appear to address contractors, consultants, vendor representatives or other non-KG&E personnel who may enter the site unescorted. A draft revision to the Plan (Revision 14) addressed emergency response training for non-KG&E employees in the Plan Summary but did not address this subject in the Plan (Section 5.0).

Based on the above findings the following deficiencies must be corrected in order to achieve an acceptable program:

-- Revise the Plan to reflect which organization is responsible for and which organization(s) conduct emergency plan training for emergency response personnel. (482/8425-03)

-- Revise the Plan to describe or reference the actual training programs in existence. Consistency should be maintained between the Plan and EPIPs. (482/8425-04)

-- Revise the Plan to describe the actual public information program in existence. Consistency should be maintained between the Plan and EPIPs. (482/8425-05)

Based on the above findings, improvement in the following areas should be considered:

-- Revise EPP 02-1.2, Revision 0, to include the method which will be used to insure non-KG&E employees (consultants, support personnel, vendor representatives, etc.) understand their emergency responsibilities. (482/8425-06)

-- Review the Plan and Plan summary and make revisions necessary to insure that they are in agreement. (482/8425-07)

3.2 Program Implementation

The area of program implementation was reviewed with respect to the requirements of 10 CFR 50.47(b)(15) and (16); 10 CFR 50, Appendix E, Paragraph IV.F; and the criteria in NUREG-0654, Sections II.G and II.O.

The NRC inspector reviewed documentation of training for selected members of the Emergency Response Organization. Training records reviewed included the DEM (Vice President of Nuclear Operations), DED (Plant Manager), the security supervisor, a security guard, and two shift supervisors. A computerized summary was audited against the requirements of EPP 02-1.2, Revision 0. Records examined appeared to be consistent with the requirements of the instruction. The computerized record was balanced against a hard copy records of attendance. The records did not indicate any discrepancies. Tests for training conducted were reviewed and appeared to be adequate in-depth and coverage when balanced against lesson plants for selected training modules.

The lesson plan for module 4, "Communications," page 34 of 37, referred to the NRC Emergency Notification System (ENS) telephones being connected to Region III in Glen Ellyn, Illinois, when the ENS is actually connected to the NRC Operations Center in Bethesda, Maryland.

The student outline for Emergency Action Level/Protective Action Recommendations appeared to use the term "emergency action level" incorrectly

in that it confused emergency action levels (EAL) with classification as discussed in 10 CFR 50, Appendix E, paragraph IV.C.

Selection criteria for personnel assignments to emergency response positions were in the developmental stage and near completion. Selection criteria for normal organization positions were being used as a basis with an equivalency from normal to emergency organization being developed to yield selection criteria for emergency response positions. Selection criteria had not yet been formally promulgated. Approximately one half of the control room personnel slated as candidates for licensing were trained in emergency response duties.

The licensee stated that eight alternates assigned to emergency response positions on an emergency organization assignment memorandum dated September 21, 1984, had not yet completed qualifications. This left only one individual qualified for those positions.

The NRC inspectors interviewed and conducted walk-throughs with the emergency organization that would be required to perform detection, mitigation, classification, notification, and recommendation of protective actions should an emergency occur. Personnel contacted included the vice president of nuclear operations in his role as DEM (EOF Manager), plant manager as DED (TSC Manager), radiological emergency coordinator, resources manager, advisory resources manager, technical resources manager, shift supervisors, shift technical assistants, reactor operators, EPC, OSC director, and others. They were questioned to determine their knowledge of duties and responsibilities within the emergency organization, notification and recall procedures, and organization of functions under their cognizance. Notification is covered in Section 5.4.1 of this report. Key facility managers and control room personnel were given situational walk-throughs to determine technical knowledge in their respective areas. Situational walk-throughs are covered in Section 7.0 of this report.

Emergency response personnel interviewed appeared to have adequate knowledge of their duties, responsibilities and the organizational structure. Several personnel were unsure of station recall procedures and conflicting information was presented on the intended final program. This included whether pagers or an automatic dial system would be the primary system, what would be the backup system, whether the station operator with a manual call list would be a second backup, how corporate personnel that were assigned key emergency facility positions would travel to the site (auto, airplane, or helicopter) and when the program would be implemented.

Based on the above findings, the following deficiencies must be corrected to achieve an acceptable program:

-- Revise the lesson plan for module #4 to reflect that the ENS phone is connected to the NRC Headquarters Operations Center, Bethesda, Maryland, rather than Region III, Glen Ellyn, Illinois. (482/8425-08)

-- Revise the lesson plan for EAL/Protective Action Recommendation to reflect the correct meaning of EAL as indicated in 10 CFR 50, Appendix E, paragraph IV.C. (482/8425-09)

-- Formally promulgate selection criteria for assignment of personnel to emergency response positions and complete personnel training. (482/8425-10)

-- Train emergency response personnel in station recall procedures when equipment is in place and a program is implemented. (482/8425-11)

4.0 EMERGENCY FACILITIES AND EQUIPMENT

4.1 Emergency Facilities

4.1.1 Assessment Facilities

4.1.1.1 Control Room

The control room was inspected with respect to the requirements of 10 CFR 50.47(b)(8); 10 CFR 50, Appendix E, paragraph IV.E; and the criteria in NUREG-0654, Section II.H.

The NRC inspector toured the control room and reviewed the Plan and the following EPIPs: EPP 01-1.1, "WCGS Emergency Organization"; EPP 01-2.1, "Determination of EALS"; EPP 01-2.2, "Activation of Emergency Pan/Organization"; EPP 01-2.3, "Accident Assessment/Mitigation"; EPP 01-3.1, "Immediate Notifications"; EPP 01-3.2, "Followup Notifications"; EPP 01-3.3, "Offsite Support Notification"; EPP 01-10.1, "Protection Action Recommendations."

The NRC inspector determined that a supply of emergency plan implementation forms (e.g. notification, protective action and similar forms) were not available in the control room. The critical safety function trees (CSFSTs) available to the operators were those promulgated by the Westinghouse Owners Group (WOG); they had not been made specific to either the Standardized Nuclear Unit Power Plant System (SNUPPS) or to the WCGS plant. The inspector realized that some data must await downstream testing; however, some of the missing data was available. The trees were not priority marked although they must be used in priority order.

EPP 01-10.1, paragraph 4.1.3.1 appeared to conflict with paragraphs 1.4.1.1.1 and 1.4.1.2 of the Plan. The former assigned the final decisionmaking authority regarding protective actions to the county authorities while the Plan assigned the county responsibility for protective action recommendations and deferred the decision process and ordering of evacuations to the state.

Attachment 1.0 of the same procedure was formatted such that the subzones which overlap the 5 mile radius were excluded from consideration in the 5-10 mile recommendation section of paragraph 7. The resulting problem is illustrated if it is assumed that WCGS desired to shelter 0-10 miles in the northerly direction. The first part of the form would recommend shelter A0 and A1 to 5 miles; the 5-10 mile portion of the form would recommend shelter A2 5-10 miles. No action would be recommended for that portion of A1 which is south of A2 but north of the 5 mile radius.

In view of the frequent inclement winter weather and the 45 minute minimum driving time between Emporia, the nearest large town, and the plant, the NRC inspector concluded that it would be appropriate for EPP 01-3.1, attachment 3.0 to be expanded to recall additional operations and management personnel who live close to the plant and who have no current emergency worker assignment. These persons would be invaluable to the shift supervisor in the control room

pending TSC activation. They could be released to return home when the TSC was operational.

As to equipment condition, the NRC inspector found the control room installation to be incomplete, as was expected considering that the plant was still in construction and test phase. For example, not all of the Regulatory Guide 1.97 instrumentation was functional under KG&E control nor had cable trays been closed out in every case. However, the inspector noted that startup testing and turnover was in process and identified no deficiencies which were not programmed for completion in time to support licensing. With regard to the critical path in emergency preparedness matters, the Emergency Response Facility Information System (ERFIS), a component of the Safety Parameter Display System (SPDS), appeared to be controlling since the TSC and EOF relied almost exclusively on the ERFIS for plant status information. The complete SPDS system was scheduled to be operational prior to startup following the first refueling outage.

Based on the above findings, the following deficiency must be corrected in order to achieve an acceptable program:

-- Modify paragraph 7 of attachment 1 to EPP 01-10.1 to ensure no recommendation discontinuity exists in the case of subzones which overlap the 5 mile radius. Review the apparent conflict between EPP 01-10.1, paragraph 4.1.3.1 and paragraphs 1.4.1.1.1 and 1.4.1.2 of the Plan concerning authority and responsibility for recommendations and evacuations; promulgate necessary revisions. (482/8425-12)

Based on the above findings, improvement in the following areas should be considered:

-- Stock the control room and other emergency response facilities with necessary emergency plan implementation forms; e.g. notification and protective action forms, etc. Update the CSFST trees to be plant specific to the extent that is possible, given test and Technical Specifications data currently available. Mark the CSFST trees as to priority for use. (482/8425-13)

-- As an alternative to the ERFIS, develop a method of transmitting plant status information from the control room to the TSC/EOF. Prepare and distribute supporting forms and status boards. (482/8425-14)

-- Add additional licensed operators and managerial personnel living close to the plant and not currently assigned emergency worker recall responsibilities to the recall list; require them to report to the shift supervisor to augment his assets, pending activation of the TSC. (482/8425-15)

4.1.1.2 Technical Support Center (TSC)

The TSC was inspected with respect to the requirements of 10 CFR 50.47(b)(8); 10 CFR 50, Appendix E, paragraph IV.E; criteria in NUREG-0654, Section II.A; and guidance of NUREG-0696.

The NRC inspector reviewed Section 40 of the Plan (Revision 13); EPP 01-4.1 (Revision 0) "TSC Activation"; EPP 01-1.1 (Revision 0) "WCGS Emergency Organization"; ADM 07-101, "WCGS Procedures, Content and Format"; and Chapters 6 and 12 of the FSAR (concerning radiation and facility habitability). In addition, the facility and TSC equipment were inspected.

The TSC was a sheet metal clad, single story concrete structure located at grade between the administration and maintenance buildings, east of the power block. Neglecting such spaces as the diesel generator room, the mechanical room, and common areas, the facility contained approximately 3500 square feet of net usable area. Application of the 75 square feet per person guidance from NUREG-0696 led to the conclusion that the space appeared to be adequate for a 45 person staffing level and that the facility appeared to be adequately sized.

Paragraph 2.6 of NUREG-0696 guidance states that the TSC offer the same protection from direct radiation as the control room. The NRC inspector found that control room shield walls consisted of 3 feet of concrete on the reactor side and 2 feet elsewhere while the TSC shielding resulted primarily from the 10.5 inch concrete walls. Because no shielding design study could be located, the inspector was unable to verify the adequacy of TSC protection from direct radiation. This item will be verified during the Emergency Response Facility Appraisal to be conducted at a later date.

TSC radiation monitoring equipment consisted of one permanently installed Eberline R-1 portable area monitor, one general atomic ventilation air monitor (with both iodine and particulate capability), and portable equipment contained in TSC lockers. Installation of the general atomics monitor unit was incomplete as several mechanical and electrical hookups remained to be connected; thus, the instrument had not been tested. It was located within an unmanned space; no remote alarms were installed or planned. When installed, only the iodine monitoring capability would be exploited. Since procedures did not require periodic air sampling with portable equipment, it appeared that the planners were assuming that the general atomics unit particulate capability was to be connected.

The mechanical room installation appeared to be incomplete. Several lights were inoperative; 11 motor and manually operated dampers were unlabeled and 1 damper had no operator. One fuse panel (energized and fused) contained several construction QA hold tags dated October 31, 1983. No differential pressure meters were installed to measure filter bed pressure drop.

The voltage adjustment control on the TSC diesel generator had no permanent label plate; temporary embossed tape had been installed but should be expected to drop free due to harsh environmental conditions in the space. Although the voltage control was located on the unit, the closest voltmeter was on the diesel control panel located in the mechanical room.

Under accident conditions, the TSC ventilation system was designed to maintain a slight internal positive pressure within the facility. To assist in maintenance of this differential, the external doors were gasketed. The exterior door from the mechanical room was sprung and would not close or latch. Approximately 30 percent of the gasketing on TSC exterior doors was either missing or unserviceable.

No facsimile equipment was installed in the TSC. The health physics network (HPN) and ENS telephone installations were incomplete and awaiting NRC/AT&T long lines action. The desk binders for the TSC staff contained "Information Only" copies of the procedures; the licensee intended to replace these with controlled copies at a later date. The table of contents for the administrative (ADM) procedures incorrectly listed EPIPs as ADM 12 Series procedures; ADM 07-101 (Revision 11) paragraph 1.2 stated that "EPIPs will be ADM procedures." Both procedures should be revised to acknowledge the EPP family of procedures.

In reviewing EPP 01-4.1, the NRC inspector determined that paragraph 4.2.2.1 failed to define activation; e.g. completion of attachment 2. The term operational used in 4.2.2.2 was undefined as to what constituted the TSC being operational; e.g., minimum staff present to be operational. Verification of operability of the portable area monitor should be added to paragraph 4.2.4.2. Diesel start requires load shedding at the TSC load center; since that panel was locked, the key location should be specified in paragraph 4.2.5.1. Paragraph 4.3.3 should be revised to require the TSC administrative coordinator to take custody of all completed records and files (for training use or permanent retention depending upon whether the records were generated during a drill or actual accident). Attachment 1.0 should specify the NRC conference room location. A new attachment should be provided to show the communication equipment layout.

Based on the above findings, the following deficiencies must be corrected in order to achieve an acceptable program:

-- Complete the installation, testing, and turnover of equipment in the mechanical room including the general atomics radiological air monitor and the high efficiency air filters. Install a remote air monitor alarm within the habitable TSC spaces. Inspect and repair TSC exterior doors and door gaskets. (482/8425-16)

-- Provide for particulate air monitoring of the TSC atmosphere by either a procedural requirement for periodic portable sampling or, alternately, use of the particulate monitoring capability of the general atomics unit. (482/8425-17)

-- Provide controlled copies (rather than information copies) of the Plan and the EPIPs; revise the ADM procedures to delete reference to the ADM 12 Series procedures and to reflect the existence of the EPP family of procedures. (482/8425-18)

Based on the above findings, improvement in the following areas should be considered:

-- Install a permanent label plate for the diesel generator voltage adjustment control and a voltmeter at the unit visible to an operator located at the voltage control knob. Add a facsimile unit in the TSC. (482/8425-19)

-- Modify procedure EPP 01-4.1 as follows (482/8425-20):

-4.2.2.1- Define activation as completion of attachment 2

-4.2.2.2- Define operational

-4.2.4.2- Add verify operation of the portable area monitor

-4.2.5.1- Specify location of the key for the load distribution center

-4.3.3- Add a requirement to take custody of records generated during the drill, exercise, or actual accident

-In attachment 1, indicate the location of the NRC conference room.

-Add new attachment 2 indicating communication equipment location.

4.1.1.3 Operations Support Center (OSC)

The OSC was reviewed with respect to the requirements in 10 CFR 50.47(b)(c); 10 CFR 50, Appendix E, paragraph IV.E; and criteria in NUREG-0654, Section II.H.

The NRC inspector reviewed the Plan, Section 4.1.1.3 and procedures EPP 01-1.1, "WCGS Emergency Organization," EPP 01-4.2, "Operational Support Center Activation," EPP 01-8.1, "Onsite Radiological Monitoring," EPP 01-8.2, "Offsite Radiological Monitoring," EPP 01-11.1, "Communications," EPP 01-11.3, "Logs and Record Keeping."

The NRC inspectors conducted an OSC facility review and interviewed selected key personnel. The OSC was located inside the protected area at ground level in the main locker area of the maintenance shop building. This building was considered a sheltered building in the plans but did not provide personnel protection from direct radiation nor from radiological airborne contaminants. Interviews were conducted with related individuals whose emergency preparedness responsibilities include the OSC supervisor, onsite survey teams director, onsite radiological team member, and offsite radiological team member.

As a result of the facility review and personnel interviews, the following observations were noted by the NRC inspectors. The OSC was located as stated in the plan and procedures. The OSC appeared to be adequate to accommodate the number of personnel assigned to the facility. The NRC inspectors determined that some provisions had been made for OSC backup operations from the basement of the securities building including blackboards and two telephones. This backup location was not identified in the Plan or EPIPs. The NRC inspectors determined that there were no procedures for relocating to the proposed OSC. The procedures did not include a list of equipment and essential documents to be transferred to the backup OSC. A test of the OSC backup communications equipment and portable radios, indicated the this equipment may operate adequately from the basement of the securities building.

The review of the OSC facility indicated that the decontamination shower appeared inadequate. The shower stall had no provisions for containing the spray from the shower. There were no provisions for directing the water which could be contaminated to the drain. Consequently, the shower, without a curtain and floor basin, could result in the contamination of the laboratory.

The interview with the OSC supervisor indicated that the individual was not aware of what backup communications equipment existed for the OSC as listed in EPP 01-11-1. Furthermore, the individual was not familiar with provisions for storing any backup equipment. No backup communications equipment was available for the OSC, although portable radios had been designated in EPP 01-11.1.

The procedure EPP 01-4.2 and Plan did not indicate adequately that the onsite survey teams director was responsible for the initial and continuous habitability monitoring of the OAC. The list of responsibilities for the OSC listed in EPP 01-1.1 did not include the aforementioned duty. When the NRC inspectors held discussions with an OSTD, the OSTD was familiar with his responsibilities regarding his duty and the procedures relevant to the initial habitability check.

The EPP 01-4.2 procedure did not indicate that the OSC would be monitored periodically to determine background and radiological airborne radiation levels. Furthermore, there were no procedures describing the radiological limits for direct radiation and radiological airborne contaminants in the OSC which may necessitate relocation of the OSC personnel.

The NRC inspectors noted that during a station power blackout the decontamination shower area and the offsite team kit storage area were without lighting. Backup lighting would be needed to ensure that OSC personnel may perform their duties properly in the event of an onsite power blackout.

Based upon the above findings, the following deficiencies must be corrected in order to achieve an acceptable program:

-- Establish in procedures the limits for direct radiation and radiological airborne contaminants which would necessitate evacuation of the OSC. (482/8425-21)

-- Identify the backup OSC in the Plan and procedures and develop and implement relocation procedures for a transfer of essential documents, equipment and personnel from the OSC to the backup OSC. Provide training for emergency response team personnel in this area. (482/8425-22)

-- Revise EPP 01-4.2 to include provisions for periodic monitoring the habitability of the OSC. This duty should be identified as a responsibility of the OSTD in EPP 01-1.1. (482/8425-23)

Based upon the above findings, improvement in the following areas should be considered in order to achieve an acceptable program:

-- Provide backup communications equipment in the OSC as stated in EPP 01-4.2, EPP 01-8.1, and EPP 01-8.2. (482/8425-24)

-- Provide emergency lighting in the OSC decontamination shower area and the offsite team kit and SCBA storage area. (482/8425-25)

4.1.1.4 Emergency Operations Facility (EOF)

The EOF was inspected with respect to the requirements of 10 CFR 50.47(b)(8); 10 CFR 50, Appendix E, paragraph IV.E; and the criteria in NUREG-0654, Section II.H.

The NRC inspectors toured the facility and reviewed the Plan and the following EPIPs: EPP 01-1.2, "EOF Organization"; EPP 01-1.3, "HOEC Organization"; EPP 01-1.4, "Public Information Organization"; EPP 01-2.2, "Activitation of Emergency Plan/Organization"; EPP 01-4.3, "EOF Activation."

The backup EOF was designated as the Beto Inn 13 miles north of the site while the primary EOF is located within the education center approximately 3 miles north of the plant. The NRC inspectors determined that both the primary and alternate EOFs lay along almost identical lines bearing from the site. The primary EOF was to be a multi-purpose unit, also serving as a training and simulator center, visitors center, and WCGS environmental monitoring headquarters. Physically, the facility was separated into two units with one, the EOF, designed to the habitability criteria of Table 2 of NUREG-0696.

The NRC inspectors identified habitability deficiencies at the EOF. There was a general atomics air monitor (capable of air particulate and iodine monitoring service) located in the mechanical room. The installation was incomplete; there were no plans to connect the particulate capability nor were there any procedural requirements for periodic air monitoring with portable equipment. The unit was to alarm locally in an unmanned space. When questioned about air particulate monitoring and the need for a remote alarm on the iodine detector, the staff indicated that the EOF area monitor alarm was set low enough such that iodine and particulate activity would be recognized on the area monitor before allowable thresholds were exceeded. Although this may be a valid theory, the argument failed in the presence of noble gases which should be expected to be present in sufficient quantity to alarm the area monitor and

provide no capability to identify levels of iodine or air particulate activity. More significantly, air monitoring is specified in the guidance of ANSI/ANS-3.7.2, paragraph 3.1.3(4) and NUREG-0696, paragraph 4.5. It was also noted that the exterior door facing the "B" building had a disconnected door closure mechanism.

The status board installation was incomplete none of the boards had been installed; one board intended for the state EOC was mislabeled with the southeast compass rose point shown as southwest, none of the 10 mile EPZ boards show zoning consistent with that shown in EPP 01-3.3 or EPP 01-10.1, many 10 mile EPZ boards had no zoning display although zoning display was required on all 10 mile EPZ boards by the guidance of ANSI/ANS-3.7.2, paragraph 3.3.

The EOF was to be staffed primarily by home office personnel, persons who might be assumed to have no TLDs or pocket dosimeters. There were no TLDs available for issue at the EOF. Three ranges of pocket dosimeters were available for issue from the kits; however, the maximum number for any range was 15; this would be insufficient for the staff of 35 persons anticipated.

The emergency kits located in the document room had broken seals. One controlled copy of the ADM 12 Series procedures was present in the library locker (EPIPs were originally issued as ADM 12 Series procedures; however, that family of procedures had been cancelled and should have been removed or destroyed). The micro-fiche library was incomplete.

Based on the above findings, the following deficiencies must be corrected in order to achieve an acceptable program:

-- Complete the installation and turnover of general atomics air monitor; establish a method for periodic monitoring of EOF atmosphere radiological for air activity. Provide TLDs and pocket dosimeters for all EOF staff. (482/8425-26)

-- Complete the status board installation as described above; replace missing emergency kit seals; remove the cancelled ADM 12 Series procedures volume from the EOF; complete outfitting of the EOF micro-fiche library. Repair the door closure device on the exterior door facing the B building. (482/8425-27)

Based on the above findings, improvement in the following area should be considered:

-- Provide a general atomics air monitor remote alarm indicator located within the manned space envelope of the EOF. (482/8425-28)

4.1.1.8 Liquid Effluent Sampling and Analysis

The area of post-accident sampling of liquid effluents was reviewed against the requirements in 10 CFR (b)(8); 10 CFR 50, Appendix E, paragraph IV.E; and criteria in NUREG-0654, Section II.I.

The licensee's liquid waste process system was designed to monitor, record, and control the release of radioactive liquid waste generated during normal operational and to insure that the quantities of liquid effluent radioactive release to the environment meet the requirements specified in 10 CFR Part 20 during normal and anticipated unusual operation occurrences. In the event of a post-accident occurrence, provisions would be initiated to hold, sample, and analyze the liquid effluent and determine actions to be taken.

It appeared that the location of the effluent liquid sampling area and chemistry laboratory, which were located in the radwaste building would be accessible during accident conditions. This was confirmed in Volume 9 of the FSAR, Sections 11 and 12, which provided source term data used to determine shielding requirements based on 0.25 percent fuel failure for various facilities including the radwaste building.

An inspection of the radwaste building's liquid effluent sampling station and chemistry laboratory was conducted by the NRC inspectors in company with a site chemist to determine the location of equipment and its accessibility. The liquid effluent sampling station was not monitored by an area radiation monitor (ARM); however, there was an ARM in the radwaste chemistry laboratory located adjacent to the sampling station. In the event that a high level radioactive liquid sample was requested, entry to the sampling area would be directed by the use of a radiation work permit (RWP) in accordance with Procedure ADM 03-101, "Radiation Work Permit Program," and/or by continuous health physics monitoring while collecting radioactive samples.

Remote handling tools for handling highly radioactive samples were available, shielded liquid sample containers were not available; however, both were on order. Counting and analytical equipment had not been installed in the radwaste laboratory, however, the equipment was on site and available for installation.

Preoperational testing was in progress; the radwaste liquid effluent sampling system and chemical laboratory had not been released to WCGS at the time of this inspection.

Based on the above findings, improvement in the following area should be considered:

-- The radwaste laboratory and sampling system for collecting, counting, and analyzing effluent liquid waste samples should be completed and functional. (482/8425-29)

4.1.2 Protective Facilities

4.1.2.1 Assembly/Reassembly Areas

The area of assembly/reassembly areas was reviewed with respect to the requirements of 10 CFR 50.47(b); 10 CFR 50, Appendix E, paragraph IV.E; and criteria in NUREG-0654, Section II.J.

The NRC inspector reviewed the Plan, Section 4.1 and procedures EPP 01-5.1, "Exclusion Area Evacuation," and EPP 01-6.1, "Personnel Accountability." In addition, a review of the security building was performed.

According to procedures EPP 01-5.1 and EPP 01-6.1, upon declaration of an alert condition or upon an exclusion area evacuation, all nonessential personnel were to proceed to the security building. Under alert conditions, personnel accountability was to be performed in the Security Processing Center and personnel were to assemble in the parking lot. Under exclusion area evacuation conditions, personnel accountability was to be performed at the security building and personnel evacuate the exclusion area. There were no provisions for reassembly at another location outside the exclusion area.

The NRC inspector noted that the security building was located as specified in the plan and procedures. The security building appeared to contain adequate equipment for use as the OSC backup facility.

The Plan and procedure EPP 01-6.1 did not identify specifically the parking lot intended for personnel assembly. The NRC inspectors noted that there were several parking lots in the exclusion area.

Based upon the above findings, improvement in the following areas should be considered:

-- Identify an offsite reassembly area. (482/8425-30)

-- Develop and implement procedures which identify the parking lot intended for personnel assembly. (482/8425-31)

4.1.3 Expanded Support Facilities

The provisions for expanded support facilities were reviewed with respect to the requirements of 10 CFR 50.47(b)(13); 10 CFR 50, Appendix E, paragraph IV.E; and criteria in NUREG-0654, Section II.C.

The licensee had designated work facilities/resources available for expanded support personnel. In the event that a nuclear plant site area emergency was declared, the Home Office Emergency Center (HOEC) would be activated at the KG&E home office in Wichita, Kansas. The HOEC would be staffed by management, operations, technical and communication personnel. A commercial telephone and microwave channel was available for corporate personnel to communicate with KG&E senior management, the plant, and the EOF. In addition, the EOF provided designated work facilities for corporate, contract and nonlicensee augmentation personnel. Commercial telephones, radios, and limited work area space was available.

The NRC inspectors conducted walk-throughs of the HOEC and EOF to determine that the facilities/resources were available for a limited number of expanded support personnel.

Based on the above findings, this portion of the licensee's program appeared adequate.

4.1.4 News Center

The news center was reviewed with respect to the requirements of 10 CFR 50.47(b)(7); 10 CFR 50, Appendix E, paragraph IV.E; and criteria in NUREG-0654, Section II.G.

The NRC inspectors reviewed Section 4.1.2.2 of the Plan and toured the KG&E media release center (MRC) with a designated Wolf Creek public information officer and a KG&E licensing emergency planner responsible for planning the MRC. The NRC inspector also discussed the news media work area, telephone requirements, and other space available for providing information to representatives from local, state, and federal governments. The KG&E MRC was located in the Nickell Memorial Armory located at 2722 Topeka Ave., in Topeka, Kansas. The MRC was located approximately 50 highway miles north of the Wolf Creek site. The driving time to the Wolf Creek site was approximately 1 hour. The KG&E general office was located in downtown Wichita, Kansas, and approximately 120 miles from the MRC in Topeka, Kansas. In the event of an emergency at the Wolf Creek facility, it may take KG&E personnel approximately 3 hours driving time to staff the MRC. The MRC appeared to be adequate to accommodate more than 300 news media personnel and their working staff members.

Six electrical outlets and twenty telephone jacks were available for immediate use of the news media representatives. Telephone sets were available at the MRC. The six electrical outlets were not adequate for the expected number of media representatives in the event of a major emergency at the Wolf Creek facility. The 20 telephone lines may be adequate in the early stages of an emergency, but not for the duration of a major event. The availability of additional telephone service and provisions for acquiring additional telephone service had not been determined or accomplished by KG&E. The availability of additional electrical outlets had not been determined by KG&E.

The public address system, copying services, and security arrangements appeared adequate. The visual aids had been made, or were in the process of being prepared, but were not at the MRC.

The dissemination of emergency information to be provided to transients had not been conducted. The licensee was in the process of providing emergency information on two pages of local telephone books, posting permanent all weather emergency information, and providing printed handouts of emergency information and protective action for immediate distribution in all public recreation use areas in the 10-mile EPZ. Telephone book covers with an inside jacket for placement of the emergency information brochure was to be distributed to all residents within the 10-mile EPZ.

From discussions with the licensee, the NRC inspectors determined that the prompt public notification system had not been installed and was not fully operable within the 10-mile EPZ. The prompt public notification system will consist of 9 sirens and approximately 500 tone alert radios. The 10-mile EPZ

was contained entirely within Coffey County. In addition to the nine sirens, the licensee was in the process of distributing tone alert radios to approximately 500 area residents within the 10-mile EPZ. Approximately one-half of the tone alert radios had been distributed at the beginning of this inspection.

Based on the above findings, the following deficiencies must be corrected in order to achieve an acceptable program:

-- Distribute the public information brochure and other emergency informational material to residents and the transient population within the 10-mile EPZ and include the toll free rumor control number in the brochure. (482/8425-32)

-- Revise the Plan, Section 4.1.2.2 to reflect the actual location of the MRC. (482/8425-33)

Based on the above findings, improvement in the following areas should be considered:

-- Incorporate information in document "WCGS Public Information Organization" in an EPIP. (482/8425-34)

-- Determine the availability of additional telephone lines to the MRC if needed during major emergencies. (482/8425-35)

-- Make provisions for additional electrical outlets in MRC. (482/8425-36)

4.2 Emergency Equipment

4.2.1 Assessment Equipment

4.2.1.3 Nonradiation Process Monitors

The nonradiation process monitors were reviewed with respect to the requirements of 10 CFR 50.47(b)(9); 10 CFR 50, Appendix E, paragraph IV.E; and the criteria in NUREG-0654, Section II.H.

The NRC inspectors reviewed the Plan, Section 4.3, "Equipment for Emergency Assessment and Response," and control room instrumentation panels. The seismic monitoring system was based upon a digital cassette accelerograph and included three annunciators which sound in the control room at different signal ranges. Strong motion accelerometers were linked to orange incandescent lamps on the seismic warning panel in the control room.

The Plan stated that hydrologic monitoring was not required as the plant site was located above design basis flood level. Governing guidance existed in Regulatory Guide 1.102.

The nonradiation process monitors described in the Plan were in place and appeared operable. The readouts were located in the control room and were readily observable.

Based upon the above findings, this portion of the licensee's program appeared adequate.

4.2.3 Communications

The area of communications was evaluated against the requirements of 10 CFR 50.47(b); 10 CFR 50, Appendix E, paragraph IV.E; and the criteria in NUREG-0654, Section 11.F.

The NRC inspectors reviewed Section 4.2 of the Plan and Revision 0 of procedures EPP 01-3.1, "Immediate Notifications"; EPP 01-3.2, "Followup Notifications"; EPP 01-3.3, "Offsite Support Notification"; EPP 01-8.2, "Offsite Radiological Monitoring"; and EPP 01.11.1, "Communications." Communications equipment was inspected, verified, and discussed with KG&E representative.

Emergency communications included a computerized branch exchange system consisting of approximately 450 telephones powered by its own 48 volt DC charger and battery. In the event of a loss of AC power, the battery could supply power for approximately 8 hours. Other equipment included a plant public address system (Gaitronics), an automatic dialing system for notifying plant personnel, microwave telecommunications, commercial telephone lines, dedicated phone lines, and a radio system. The radio system included 32 hand held radios and 4 base stations. A second base station was to be installed in the TSC due to communications inadequacies identified in a previous WCGS emergency drill.

Due to plant startup activities, hand held radios that were part of the emergency preparedness plan were not in place. The radios were to provide primary communications for the onsite and offsite radiological teams dispatched from the OSC, primary communications for offsite radiological teams dispatched from the EOF, and backup communications for the OSC.

The NRC inspectors noted that the communications system for the offsite radiological monitoring teams, including the second base station planned in the TSC, were to result in four offsite teams using the same radio frequency. With only one base station in the TSC, seven offsite teams were to use the same frequency.

Persons responsible for communicator duties were interviewed. The NRC inspectors noted that these individuals had received general training in communications. Individuals appeared to be familiar with basic radio communications protocol. These individuals had not, however, received training for interrupting communications to broadcast an important message.

There were no established procedures or definitions for different emergency siren tones to alarm a warning for radiation emergency, fire emergency,

evacuation, or general emergency. Furthermore, there were no established procedures or provisions for routinely checking the operability of emergency communications devices and equipment.

During interviews and equipment checks, the NRC inspector noted that the telephone number for contacting the state emergency radiological coordinator on a 24-hour basis was incorrect. There were no lights on telephones in any of the emergency facilities to identify quickly a ringing phone and to reduce the overall noise level in a facility.

The NRC inspectors determined that some communications equipment specified in the emergency plan or procedures was not located as stated. The ENS and the HPN to notify the NRC was not installed and operable. The automatic dialing system was not operable. There were no alarms with specified meaning at the plant. Of the alarms and communications devices tested, all were operable with the exception of hand held radios in areas of the power block. In these cases, the backup communications system (Gaitronics) was located conveniently and appeared to work adequately.

Based upon the selected reviews conducted, there did not appear to be any problems with aural or visual alarms in high noise or restricted view areas. However, some onsite personnel work areas were not connected to the plant public address system. For example, personnel at the warehouse, the exclusion area, and in trailers were without general plant communications. Such individuals may not be notified by current emergency alarm provisions. Key communications systems and networks appeared to have an operable backup.

Based upon the above finding, the following deficiencies must be corrected in order to achieve an acceptable program:

-- Implement procedures for periodic inspection checks of emergency communications equipment. Locate all onsite and offsite emergency communications equipment as specified in the emergency plan. (482/8425-37)

-- Define audible alarm signals for emergency alarms and provide training for all exclusion area and site personnel. (482/8425-38)

-- Install and verify the NRC ENS and the NRC HPN. (482/8425-39)

Based upon the above findings, improvement in the following areas should be considered in order to achieve an acceptable program:

-- Install lights on telephones in the emergency response facilities. (482/8425-40)

-- Install and verify the automatic dialing system. (482/8425-41)

-- Install a second radio base station in the TSC. (482/8425-42)

-- Include radio procedure and circuit discipline training in existing training modules (e.g. offsite monitoring team training). (482/8425-43)

4.2.4 Damage Control/Corrective Action and Maintenance Equipment

The area of corrective action and maintenance equipment and supplies was reviewed with respect to the requirements of 10 CFR 50.47(b)(8); 10 CFR 50, Appendix E, paragraph IV.E; and criteria in NUREG-0654, Section II.H.

The NRC inspectors reviewed EPP 01-4.2, "Operational Support Center Activation," and EPP 01-9.4, "Emergency Team Formation," and discussed corrective action, maintenance supplies, and equipment available for emergency use with the OSC emergency coordinator. The NRC inspectors and OSC emergency coordinator also conducted a walk-through of the OSC and determined that there was a controlled and stocked maintenance tool room located in the OSC. In addition, the maintenance, electrical, and instrument technicians had personal tool boxes with tools located in the OSC. Additional equipment was available in the WCGS warehouse and, if required, extra specialized equipment and supplies may be obtained through the KG&E transmission and distribution center.

There were dedicated radiological emergency supplies and equipment located in sealed metal cabinets in the OSC. There were no dedicated maintenance, electrical, or instrument emergency equipment kits located in the OSC; however, it appeared that the main tool room contained an adequate supply of tools and equipment to provide the damage control teams with the necessary materials for making initial re-entry to problem areas in the plant in the event of an emergency.

Based on the above findings, this portion of the licensee's program appeared adequate.

4.2.5 Reserve Emergency Supplies and Equipment

The area of reserve emergency supplies and equipment was reviewed with respect to the requirements of 10 CFR 50.47(b)(8); 10 CFR 50, Appendix E, paragraph IV.E; and criteria in NUREG-0654, Section II.H.

The NRC inspectors reviewed selected sections of the Plan and interviewed KG&E, state, local and support personnel to determine if KG&E relied upon equipment and instruments from other offsite sources and whether this equipment was to be the same or equivalent in their operational characteristics to KG&E's equipment.

Of the equipment supplied by offsite groups, none appeared to be incompatible with the licensee's equipment. Radiological monitoring equipment brought by outside groups was to be consistent with the methods and equipment supplied by KG&E. Offsite fire fighting equipment which may be used by the City of Burlington Fire Department was compatible with KG&E's onsite equipment

according to representatives of KG&E and the City of Burlington Fire Department.

Based upon the above findings, this portion of KG&E's program appeared adequate.

4.2.6 Transportation

The area of transportation available for emergency response was reviewed with respect to the requirements of 10 CFR 50.47(b); 10 CFR 50, Appendix E, paragraph IV.E; and criteria in NUREG-0654, Section II.H.

The NRC inspectors determined that KG&E had not addressed dedicated emergency transportation in the emergency plan. Transportation for offsite radiological monitoring teams was addressed in EPP 01-8.2, "Offsite Radiological Monitoring."

KG&E had purchased three vehicles for seven radiological monitoring teams. These vehicles were four-wheel-drives and equipped with winches. They appeared to be the proper size necessary for the offsite radiological monitoring teams. The vehicles did not have electrical inverters or communications equipment. Communications equipment in the vehicle could facilitate control of the vehicles and additional communication links with the offsite radiological monitoring teams. There were no procedures or policy statements defining the nonemergency planning use of the vehicles. There were no provisions for acquiring or distributing the keys to these vehicles for offsite radiological team members. The licensee expected to use three additional vehicles supplied by the state for offsite radiological monitoring teams dispatched from the EOF. There did not exist any agreement with the state indicating that this provision would be met.

The NRC inspectors noted that there were no procedures governing the offsite utilization and control of offsite radiological monitoring vehicles. These procedures should ensure communication with a security or control point prior to the vehicle leaving the site, provisions for continuous communications capability with the security or control point and provide for the expeditious return of the vehicles to the site in the event of an emergency. In addition, no procedures or provisions existed that ensured the readiness of offsite radiological monitoring vehicles. This program should assign responsibility and make provisions for vehicle equipment maintenance and testing as well as refueling.

Ambulance service would be supplied according to agreement with Coffey County Ambulance Service. The letter of agreement was current.

Based upon the above findings, the following deficiency must be corrected in order to achieve an acceptable program:

-- Make provisions for a vehicle for each offsite radiological monitoring team which is adequate to their needs and develop and

implement procedures and provisions for offsite radiological monitoring teams acquiring and utilizing a vehicle. (482/8425-44)

Based upon the above findings, improvement in the following areas should be considered:

-- Install and maintain a radio in each offsite radiological monitoring vehicle. (482/8425-45)

-- Install and maintain an inverter or make other provisions for operating offsite radiological air sampling and equipment. (482/8425-46)

-- Develop and implement procedures for nonemergency utilization and control of the offsite radiological monitoring vehicles. These procedures should ensure communication with the control room prior to the vehicle leaving the site, provisions for continuous communications capability with the control room, and provide for expeditious return of the vehicles should an emergency arise. Develop and implement procedures to ensure that offsite radiological monitoring vehicles are always in readiness. (482/8425-47)

5.0 PROCEDURES

This area was reviewed with respect to the requirements of 10 CFR 50.47(b)(5) and (6); 10 CFR 50, Appendix E, paragraph IV.D; and the criteria in NUREG-0654, Sections II.E, F, H and J.

5.1 General Content and Format

KG&E had developed EPIPs to implement the Plan. Some discrepancies, errors, and omissions were noted which made the implementing procedures and the Plan inconsistent with each other.

In Section 2.0 of the Plan summary "Notification of Unusual Event" was listed as "Unusual Event" which is inconsistent with the requirements of 10 CFR 50, Appendix E.

The word "offsite" appeared to have been inadvertently omitted in the first sentence of the last paragraph of Section 3.0 in the Plan Summary which altered the meaning to imply state and local governments are responsible for protective action recommendations onsite.

The duties and responsibilities of the site planning administrator and site planning coordinator listed in Section 5.0 of the Plan Summary appeared to be consistent with duties and responsibilities listed in their respective job descriptions in the EPIPs. The Plan provided for a review of the "Emergency Plan" annually by the Nuclear Safety Review Committee. It did not appear to provide for an independent review of the emergency preparedness program every 12 months as required by 10 CFR 50.54 (t) or the Technical Specifications, which stated every 12 months.

The duties and responsibilities of the DED in Section 1.2 of the Plan appeared to be inconsistent with the duties and responsibilities listed in EPP 01-1.1, Revision 0, page 2, paragraph 4.3.

The EOF activation and staffing times listed in Section 1.2.5 of the Plan appear to be confusing in that the Plan did not appear to describe the normal plant organization as required by 10 CFR 50, Appendix E, paragraph IV.A.

The NRC inspectors noted that a revision of the Plan and EPIPs was in progress.

Based on the above findings, the following deficiency must be corrected in order to achieve an acceptable program:

-- Complete revisions to the Plan and EPIPs to eliminate inconsistencies and meet the applicable requirements of 10 CFR 50. (482/8425-48)

5.2 Emergency, Alarm, and Abnormal Occurrence Procedures

The NRC inspectors reviewed the plant alarm, "off-normal," and emergency operating procedures to determine if the alarm procedures would lead to off-normal or emergency operating procedures and require evaluation of

initiating conditions relative to classification of the emergency. The emergency operating procedures reference the EPIPs and the evaluation of critical flow trees to establish barrier status.

The emergency operating procedures referenced the ADM 12 Series EPIP which have been superceded and replaced by the EPP Series Procedures.

Based on the above findings, the following deficiency must be corrected in order to achieve an acceptable program:

-- Revise the Emergency Operating Procedures Manual to reference EPP series procedures. (482/8425-49)

5.3 Implementing Instructions

The NRC inspectors reviewed the implementing instructions to determine if they adequately implement the Plan. KG&E had prepared implementing instructions for the different emergency classes. The implementing instructions described the specific emergency action levels and the planned response to each class of emergency.

Based on the above findings, this portion of the licensee's program appeared acceptable.

5.4 Implementing Procedures

5.4.1 Notifications

Notification is addressed in EPP 01-3.1, Revision 0, "Immediate Notifications," EPP 01-3.2, Revision 0, "Followup Notifications," EPP 01-3.3, Revision 0, "Offsite Support Notifications," and included notification procedures for the KG&E organization and support organizations needed for augmentation of the on-site emergency organization and for notification of state and local authorities and the NRC.

EPP 01-3.1, "Immediate Notifications" described the primary means of notification for shift augmentation using radio pagers during both normal working hours and off-hour periods. Plant management personnel indicated during interviews that it was not intended to issue pagers to all emergency response personnel. During normal working hours, individuals not carrying pagers would be notified by commercial telephone. During off-hour periods, the Automatic Dial System (ADS) would be used for personnel not carrying pagers. The commercial telephone was described as the backup means of notification for augmentation.

Home office personnel notification was to be by commercial telephone or by a pager. Procedures reviewed did not contain adequate description of a system to implement a manual callup should the means fail.

The ADS system was not installed and tested and procedures were not prepared for its use.

Interviews conducted with selected key personnel in the plant and home office personnel indicated decisions on some aspects of notification and augmentation had not been finalized. These included how home office personnel would be transported to site, whether it would be necessary to implement an interim manual recall system until the ADS system is installed and tested and who would receive pagers. The system described in the EPP 01-3.1, Revision 0, "Immediate Notifications" did not appear to be implemented at the time of the inspection. Attachment 1.0, "WCGS Immediate Notification" form did not have the KG&E personnel telephone numbers filled in. Attachment 4.0, "WCGS Emergency Organization" call list did not have primary and alternate personnel filled in for all positions no telephone numbers were listed. EPP 01-3.3, Revision 0, "Offsite Support Notification" call list was missing some telephone numbers.

The prompt public notification system consisted of nine sirens situated at population centers throughout the 10-mile EPZ, which will be supplemented by the distribution of about 560 tone alert radios to alert the remaining sparsely populated areas. Sirens have been installed and tested by the vendor. The acceptance test report had not been received and was not available for review. One problem with the deactivation signal to the Waverly siren was reported by KG&E personnel. This problem was to be solved by an antenna height adjustment. Five sirens serving population centers are dual tone sirens and would double as fire alarms for those towns. About 410 of the 560 tone alert radios had been picked up by residents. Instructions for use and recall were handed out with the radios. Siren coverage testing was performed by Wiley Laboratories. At the time of the inspection, test results had not been received.

Sirens are activated from the Coffey County Courthouse in Burlington. Tone alert radios are activated from WIBW FM 97.0 MHZ by a call from Coffey County or the Kansas Office of Emergency Preparedness.

Based on the above findings, the following deficiencies must be corrected in order to achieve an acceptable program:

-- Develop and implement an emergency response personnel call out program for normal and off normal and holiday hours, e.g., home office, general office, and plant staff. (482/8425-50)

-- Complete distribution of tone alert radios. (482/8425-51)

-- Install the prompt public notification, develop and implement a surveillance program for siren and tone alert radio maintenance. (482/8425-53)

In addition, the following open item was identified:

-- Demonstrate full augmentation by conducting an unannounced, off hours augmentation of the emergency organization, to include control room, TSC, EOF, and OSC prior to exceeding 5 percent full power. (482/8425-52)

5.4.2 Assessment Actions

The area of assessment actions was reviewed with respect to the requirements of 10 CFR 50.47 (b); 10 CFR 50, Appendix E, paragraph IV.B and E; and criteria in NUREG-0654, Sections II.H, I, J, and K.

The NRC inspector reviewed the Plan, Section 3.1, and procedures: EPP 01-2.1, "Determination of Emergency Action Levels"; EPP 01-2.3, "Accident, Assessment, and Mitigation"; EPP 01-7.2, "Manual Determination of Release Rate"; EPP 01-7.3, "Manual Dose Projection Determination"; EPP 01-8.1, Onsite Radiological Monitoring"; EPP 01-8.2, Offsite Radiological Monitoring"; EPP 01-10.1, "Protective Action Recommendations." In addition, the NRC inspectors interviewed licensee personnel to discuss these procedures.

The procedure to describe the capabilities and operation of the Radioactive Release Information System (RRIS) was not available (EPP 01-7.1). Some procedures did not reflect an adequate state of completion. For example, where procedures indicated a telephone number should be included, no procedures listed these telephone numbers (EX: EPP 01-7.3, EPP 01-8.1, EPP 01-8.2).

There existed numerous inconsistencies and incompletions in the procedures. For example, in EPP 01-7.3 on page 10 of 27, both the delta T and atmospheric stability class references reflected significant errors. The delta T listing did not include the discrete heights for determining the delta T or indicate the proper temperature units. The atmospheric stability class listing referred incorrectly to Attachment 3 rather than Attachment 5.

Procedures EPP 01-7.2 and EPP 01-7.3 did not include cross-references within the procedures. Because both of these procedures would need to be used to project radiological doses, cross-referencing between the procedures should be indicated to identify where parameter information would be calculated or obtained. Any calculations including parameter or variable formation not presented on that page should indicate the EPIP procedure and page on which the parameter or variable information was to be calculated or obtained.

Procedure EPP 01-7.3 did not present accurate information to perform a manual dose projection determination using the calculator method. The procedure did not include identification of calculator keys used in the manual program. Furthermore, there did not exist a procedure or provisions for verifying the operability of the calculator method. A procedure for operating the calculator with specific parameter values to facilitate verification of the results, often referred to as a benchmark case, should be considered.

The RRIS system had limited capabilities. There did not exist the capability in the TSC or EOF to obtain a hard copy of the system's results. A printer for the RRIS in the TSC and EOF should be considered.

Procedure EPP 01-7.3, page 25 of 28, stated that an anemometer may be used to determine the stability class if delta T sensors were not working. There were no anemometers available to the emergency response staff. The anemometers were to be in the TSC.

The manual dose projection procedure for the calculator method did not adequately explain the calculation of the integrated and projected integrated doses in reference to multiple calculations. The NRC inspectors noted that the integrated doses calculated were to be stored in the calculator memory and added to the next calculation to determine a new value for the integrated and projected integrated doses. As the procedure existed, it did not include an explanation of this additive approach. Furthermore, the procedure did not include guidance on when this approach would not be reasonable. For example, the source term information could change completely due to new information. Consequently, the integrated and projected integrated doses calculated previously would be incorrect and, therefore, the calculations should begin anew. The procedures should have provided complete guidance on this matter.

Procedure EPP 01-7.2 and EPP 01-7.3 did not identify means for calculating a release of radioactivity from the steam drive auxiliary feedwater pump vent. This release path should be identified and procedures developed for its evaluation.

The flow chart in EPP 01-10.1 for general emergency protective decisionmaking (Attachment 1) was inadequate and did not facilitate protective action decisionmaking. The flow chart should reflect the emergency action level barrier criteria classification scheme and present a coherent and comprehensive decisionmaking tree.

The safety parameter display system which was designed to provide continuous information on plant parameters and derived variables was not operable.

There were no procedures which integrated the implementation of the accident assessment scheme from the radiological standpoint. The operational aspects of the accident assessment scheme was covered by the emergency procedures (EMG).

There were no procedures available which directed the individual responsible for the radiological assessment program to perform their duties.

The procedures appeared to identify adequately the sources of information available for gathering data on process radiation monitors, meteorological instruments, inplant radiation survey teams, offsite radiation survey teams, plant chemistry and plant operating procedures. The procedure to be developed on the integration of the radiological aspects of the accident assessment scheme should specify a priority for these sources of radiological impact information.

The RRIS model included a capability for trend analysis of assessment data. The system was operable, however, the RRIS procedure had not been completed.

Based upon the above findings, the following deficiencies must be corrected in order to achieve an acceptable program:

-- Complete and revise EPP 01-7.1, EPP 01-7.2, and EPP 01-7.3 to describe the RRIS and adequately cross-reference these procedures and the calculations, parameters, and variables. Identify the procedure

and page reference for calculating or obtaining applicable parameter or variable included in a calculation if the parameter or variable value is not presented in the attachment. (482/8425-54)

-- Modify and revise the calculator method procedure for manual dose projection and the associated documentation in procedure EPP 01-7.3 to address and correct the potential for inaccurate integrated and projected integrated dose calculations. (482/8425-55)

-- Revise procedures EPP 01-7.2 and EPP 01-7.3 to provide a means to calculating the radiological release of radioactivity from the steam drive auxiliary feedwater pump vent. (482/8425-56)

-- Provide in EPP 01-10.1 a flow chart for general emergency decisionmaking which reflects the emergency action level barrier (flow chart) criteria classification scheme. (482/8425-57)

-- Develop and implement a procedure which directs the individual responsible for radiological assessment. This procedure should specify sources of information for radiological assessment. (482/8425-58)

Based on the above findings, improvement in the following areas should be considered:

-- Develop and implement a procedure and provisions for verifying the operability of the calculator method for manual dose projection. (482/8425-59)

-- Install and verify provisions for providing a hard copy output of the RRIS results in the TSC and EOF. (482/8425-60)

-- Provide anemometers as specified in procedure EPP 01-7.3. (482/8425-61)

-- Install and verify the SPDS system as described in procedure EPP 01-2.3. (482/8425-62)

5.4.2.1 Offsite Radiological Surveys

The area of offsite radiological surveys was reviewed with respect to requirements of 10 CFR 50.47 (b)(8), (9) and (11); 10 CFR 50, Appendix E, paragraphs IV.B and E; and criteria in NUREG-0654, Sections II.H, I and K.

The NRC inspectors reviewed the Plan, Section 4.3.2.2, and procedures EPP 01-8.2, "Offsite Radiological Monitoring." In addition, the NRC inspectors inspected radiological monitoring equipment and interviewed licensee personnel responsible for offsite radiological surveys.

Members of an offsite radiological monitoring team interviewed appeared to be well trained to perform offsite radiological surveys. Personnel were

knowledgeable of equipment and procedures governing their responsibilities. The teams had participated in numerous licensee conducted drills.

The procedure, EPP 01-8.2, instructing the persons responsible for managing offsite teams and staffing the offsite teams appeared to be adequate. The procedures were written for the person performing the task. There were prepositioned survey points identified on the offsite team maps. The system was consistent with state and local requirements. The field maps appeared to be adequate. Both beta-gamma and gamma monitoring capabilities (open and closed window) existed. The procedures included guidance for radiation protection of the offsite teams.

The procedure, EPP 01-8.2, should be revised to provide guidance, instruction and identification of equipment in several areas. The procedures appeared to describe adequately the methods for using equipment, but did not state explicitly the equipment that may be used to perform that monitoring task. The air sampling procedure did not state a range of acceptable flow rates for specific equipment. A central collection point was not designated for collection of the environmental samples. Inadequate provisions for supplying equipment for communications and transportation according to the procedures is addressed in Sections 4.2.3 and 4.2.6 of this report.

Based on the above findings, improvements in the following areas should be considered:

-- Revise and implement procedure EPP 01-8.2 to state a range of acceptable flow rates for specific air sampling equipment. (482/8425-63)

-- Revise and implement procedure EPP 01-8.2 to include designation of a central collection point for collection of environmental samples. (482/8425-64)

5.4.3 Protective Actions

5.4.3.2 Evacuation of Owner-Controlled Area

The area of owner-controlled area personnel evacuation was reviewed with respect to the requirements in 10 CFR 50.47(b) and criteria in NUREG-0654.

The NRC inspectors reviewed the Plan, Section 5.4.3, and procedures EPP 01-2.2, "Activation of Emergency Plan/Activation"; EPP 01-5.1, "Exclusion Area Evacuation"; and EPP 01-9.1, "Exposure Conctrol and Personnel Protection."

The NRC inspectors noted that nonessential personnel were to be evacuated at the site area emergency classification. There was no reference to action levels that required evacuation of specified buildings. According to procedure EPP 01-2.2, instructions to stand clear of affected areas would be issued at the notification of unusual event classification. There did not exist any additional protective measures to reflect when personnel may evacuate specified

areas or buildings. There were no primary or secondary evacuation routes marked.

The locations included as assembly areas were the security building for personnel accountability, monitoring and decontamination procedures, and a parking lot for personnel assembly. The personnel assembly parking lot was not adequately identified (refer to section 4.1.2.1). Emergency teams were to report to their preassigned areas. The specified locations were not consistent with the actual locations and the locations described in the plan.

The NRC inspectors noted that there were provisions for announcements over the facility public address system to describe the immediate actions of nonessential personnel. There existed areas at the plant that were without benefit of the facility public address system. For example, the warehouse, exclusion area, and most trailers were without the facility public address system. In the TSC, the speaker broadcasting the facility public address system had been turned off.

The procedures included a reference to the accountability and personnel monitoring and decontamination procedures. In addition, the procedures included a means of verifying that all individuals onsite and in the owner-controlled area had been warned of the emergency conditions and had followed instructions regarding their actions.

Based upon the above findings, the following deficiency must be corrected in order to achieve an acceptable program:

-- Develop and implement procedures to maintain and verify the readiness of the facility public address system such that all personnel within the owner controlled area can be given verbal instructions as reflected in the Plan and procedures. (482/8425-65)

Based on the above findings, improvement in the following area should be considered:

-- Post markings for the primary and secondary evacuation routes. (482/8425-66)

5.4.3.3 Personnel Accountability

The area of personnel accountability was reviewed with respect to the requirements of 10 CFR 50.47(b)(10) and criteria in NUREG-0654, Section J.5.

The NRC inspectors reviewed EPP 01-5.1, "Exclusion Area Evacuation," and EPP 01-6.1, "Personnel Accountability," to determine if the procedures provided adequate instructions for personnel accountability.

EPP 01-6.1, Section 4.1.3, stated that personnel accountability must be accomplished in 30 minutes from the time the accountability process was initiated. Section 4.3.1 stated that on completion of the initial accountability, the security emergency coordinator would ensure that personnel

accountability would be maintained throughout the duration of the emergency condition. However, the procedure did not specifically state that the personnel accountability process would continue throughout the duration of the emergency in the control room, TSC, and OSC.

EPP 01-6.1, Section 4.2 specified the positions in the emergency organization to whom reports of accountability were to be made. The DED, on determining the need for initiating the accountability process, would notify the security emergency coordinator who would conduct a personnel accountability assembly. The security emergency coordinator would initiate the automatic accountability method; however, the security card reader computer system was not operable. EPP 01-6.1 provided a backup manual personnel accountability method described in Section 4.2.2.7. Personnel accountability reports from the Control Room, TSC, and OSC would be reported to the security emergency coordinator and all unaccounted personnel would be reported to the administrative emergency coordinator or the DED.

EPP 01-9.4, "Emergency Team Formation," Section 4.2.3 and 4.3, provided a means to ascertain the location of individuals reported as missing and provided instructions for search and rescue activities. EPP 01-6.1 should reference EPP 01-9.4 to provide a means to quickly ascertain the location of individuals reported as missing and appropriate instructions for search and rescue.

EPP 01-5.1 provided instructions for evacuating nonessential personnel within the exclusion area which surrounded the reactor containment building to a distance of 1200 meters. EPP 01-5.1, Section 4.2 addressed the personnel accountability process for nonessential exclusion area personnel working in the protected area. This section of the procedure was not clearly identified and had a tendency to confuse the accountability process for all exclusion area personnel. EPP 01-5.1, Section 4.2 should be revised to clearly identify where exclusion area personnel were located (in the protected area or exclusion area) and clarify how personnel accountability would be conducted and where exclusion area personnel would be sent offsite.

Based on the above findings, improvement in the following areas should be considered:

-- Verify through a drill or exercise that personnel accountability which included identification of all personnel missing can be accomplished in 30 minutes. (482/8425-67)

-- A section such as 4.2.6.2 should be added to EPP 01-6.1 to clearly identify that the control room, TSC and OSC personnel accountability process should be continued throughout the duration of the emergency. (482/8425-68)

-- EPP 01-6.1 should reference EPP 01-9.4 which provided a means to quickly ascertain the location of individuals reported as missing and appropriate instructions for search and rescue activities. (482/8425-69)

-- EPP 01-5.1, Section 4.2 should be revised to clear identify where exclusion area personnel were located (either protected or exclusion area), how personnel accountability would be initiated and where exclusion area personnel would be sent offsite. (482/8425-70)

5.4.4 Security During Emergencies

The area of security during emergencies was reviewed with respect to 10 CFR 73, Appendix C.

The NRC inspectors toured the security building, the central alarm station (CAS) and the secondary alarm station (SAS), and reviewed the Plan and the following procedures: EPP 01-2.2, "Activation of Emergency Plan/Organization"; EPP 01-6.1, "Personnel Accountability"; EPP 01-5.1, "Exclusion Area Evacuation"; EPP 01-3.1, "Immediate Notification."

The NRC inspectors discussed security during emergencies with members of the WCGS security force. There are other NRC inspection programs which address the safeguards aspects of the licensee's security program. The NRC inspectors did not review the WCGS security plan.

Neither the card reader system nor protected area access control measures were implemented at the time of the inspection. The badge racks which form an integral part of the manual accountability system were not in place. Although General Employee Training included the security requirements for access to the protected area, none of the WCGS or construction employees were experienced in use of the system.

No habitability requirements were to be imposed upon the primary access control station (PACS). Although the facility had its own diesel generator located within the protected area and could, therefore, be expected to survive and function during a power outage, the absence of any special habitability features meant that provisions must be made for the continuation of the access control function in the event that relocation was required because of a radiological accident. In such an event, the alarm station functions would be assumed by the CAS . However, no provisions were made for the continuation of the personnel access processing function at a relocation site along the protected area perimeter. Since the gatehouse also serves as the personnel accountability station for nonessential workers during a full scale exclusion area evacuation, an alternate accountability station must be identified.

EPP 01-3.1, Attachment 4 failed to provide an alternate for every position; e.g. J. Zell was listed as primary operations emergency coordinator; no alternate was shown.

Based on the above findings, the following deficiency must be corrected in order to achieve an acceptable program:

-- Establish a capability to control personnel access to the protected area at an alternate location in the event that evacuation of the PACS is necessary. (482/8425-71)

-- Provide an alternate personnel accountability station for nonessential workers required to evacuate during a full scale exclusion area evacuation in the event that PACS evacuation is necessary. (482/8425-72)

Based on the above findings, improvement in the following area should be considered:

-- Provide respiratory equipment at the gate house to increase the surviveability of the PACS function under airborne radiation accident conditions. (482/8525-73)

5.4.5 Repair/Corrective Actions

The area of repair/corrective actions was reviewed with respect to the requirements of 10 CFR 50.47(b)(13); 10 CFR, Appendix E, paragraph IV.H; and criteria in NUREG-0654, Section II.K.

The NRC inspectors reviewed EPP 01-9.4, "Emergency Team Formation." The procedure described repair/corrective actions to be initiated in the event of an emergency. The NRC inspectors determined that the procedure appeared to provide adequate guidelines for re-entry into the plan for repair/corrective actions.

The maintenance emergency coordinator reporting to the OSC was responsible to determine the scope of emergency and damage control activities to be performed and to brief the OSC Supervisor, and to assemble the appropriate damage control team(s). The OSC Supervisor was responsible for briefing the damage repair team(s) on current and projected emergency conditions and the team objectives. The OSTD was responsible for briefing the damage repair team(s) on radiation/contamination levels expected, route(s) for entry; protective clothing; respiratory protection; dosimetry; allowable exposure; and/or stay times, communications, etc. The EPP 01-9.4 did not address debriefing or damage control team(s) on completion of repair/corrective assignments.

EPP 01-9.1, "Exposure Control and Personnel Protection," addressed 10 CFR 20 exposure limits and that the limits were not to be exceeded except for a lifesaving or an urgent plant emergency situation. The DEM may authorize such planned exposures and followed guidelines described in Attachment 1.0 and 2.0 of EPP 01-9.1.

Based on the above findings, improvement in the following area should be considered:

-- A statement should be added to EPP 01-9.4, "Emergency Team Formation," to address followup debriefing of the damage control team(s) on completion of repair/corrective assignments. (482/8425-74

5.4.6 Recovery

This area of the licensee's program was reviewed with respect to the requirement of 10 CFR 50.47(b)(13); 10 CFR 50, Appendix E. paragraph IV.H; and the criteria in NUREG-0654, Section II.M.

The NRC inspectors reviewed Section 6.3, "Recovery Organization of the Plan"; EPP 01-1.1, "WCGS Emergency Organization"; EPP 01-1.2, "EOF Organization"; EPP 01-12.1, "Re-entry and Recovery Operations"; EPP 01-2.1, "Determination of Emergency Action Levels"; and EPP 01-2.2, "Activation of Emergency Plan/Organization."

The NRC inspectors determined that EPP 01-2.1 was incorrectly titled; the procedure provided for the determinacion of classification rather than emergency action levels.

Guidelines for de-escalation, re-entry and recovery were provided in EPP 01-12.1. However, these guidelines were not included in or referenced in EPP 01-2.1 or EPP 01-2.2, the classification and emergency organization procedures.

Based on the above findings, the following deficiency must be corrected in order to achieve an acceptable program:

-- Change the title of EPP 01-2.1 to "Determination of Emergency Classification"; throughout the EPP procedure family, make the proper distinguishment between emergency classification and emergency action levels; include the EPP 01-12.1, paragraph 4.1.1 de-escalation guidelines in EPP 01-2.1 and 01-2.2, either by reference or inclusion. (482/8425-75)

5.4.7 Public Information

The area of public information procedures was reviewed with respect to the requirements of 10 CFR 50.47 (b)(7); 10 CFR 50, Appendix E, paragraph IV.D; and criteria in NUREG-0654; FEMA-REP-1, Revision 1.

The NRC inspectors reviewed Sections 1.3.2, 4.1.2.2, 5.4, and 6.3.7 of the Plan, and EPP 01-1.4, "Public Information Organization"; EPP 01-4.5, "General Office Activation"; EPP 01-4.6, "Information Clearinghouse/Media Release Center Activation"; EPP 01-10.2, "Preparation of News Releases"; EPP 01-10.3, "Release of Emergency-Related Information to the Public"; and EPP 02-1.4, Public Information Maintenance Program."

The EPIPs identified the organizations responsible for news dissemination. The news media personnel telephone numbers and other pertinent information were provided. However, there were no documented provisions for MRC persons being on call or a pager system for contacting initial key personnel. The method for coordinating the internal dissemination of information to the various locations and individuals had been clearly specified. Interim provisions for initial dissemination of information to news media prior to establishment of the KG&E news center had been provided. Section 1.3.2 of the Plan indicated that the Public Information Officer (PIO) was the "Official Corporate Spokesman," but

this was inconsistent with the EPIPs. A separate document entitled "WCGS Public Information Organization" lists Kent R. Brown, Group Vice President, as the Wolf Creek Spokesperson, Technical Services. Sec-Section 4.1.2.2 and Figure 4.1.1 of the Plan indicated that the old school building in New Strawn was the Media Release Center (MRC). EPIP 01-1.4 shows that the MRC was to be located in Topeka, Kansas. The sources of information were specified, and coordination of information among various organizations and groups was arranged. Provisions for rumor control appeared adequate, however, the rumor control number had not been distributed (refer to Section 4.1.4).

Based on the above findings, improvement in the following areas should be considered:

-- Section 1.3.2 of the Plan must be corrected to reflect that there is a spokesperson other than the PIO. (482/8425-76)

-- Develop and implement personnel call out procedures and methods to assure that emergency team members may be contacted in the event of an incident. (482/8425-77)

5.5 Supplementary Procedures

5.5.1 Inventory, Operational Check, and Calibration of Emergency Facilities and Equipment

The following procedures were reviewed with respect to the requirements of 10 CFR 50.47(b)(8); 10 CFR 50, Appendix E, paragraph IV.E, and the criteria in NUREG-0654, Section II.H.

The NRC inspector reviewed EPP 02-1.5, "Maintenance of Emergency Facilities and Equipment." It was determined that this procedure provided a specific inventory listing of equipment reserved for use during emergencies and specified the location of the designated emergency equipment. Designated locations of the emergency equipment and supplies were identified in EPP 02-1.5, Section 4.2 and the emergency equipment and supplies checklist were included in Attachment 1.0 through 12.0 of EPP 02-1.5. However, the checklists for attachments 1.0, "Radiological Emergency Response Vehicles," 3.0, "Radiological Emergency Response Facilities and Cabinet Key List," 11.0, "Ambulance Radiological Emergency Kit/Cabinet Supplies," 12.0, Ransom Memorial Hospital Radiological Emergency Equipment and Supplies," were incomplete and designated to be completed later.

In accordance with Section 4.1.3 (which should be listed as 4.1.4) of EPP 02-1.5, the emergency planning coordinator and/or emergency planning administrator was responsible for verifying the results of inspections/inventories and correcting deficiencies, and providing additional equipment and supplies as appropriate.

Section 4.1.3 of EPP 02-1.5 designated the health physics supervisor the responsibility for assuring that quarterly inventories were conducted on emergency kits and lockers listed in the attachments of this procedure and that

monthly inventories of portable radiological survey instruments contained in emergency lockers were completed and that calibrations and testing of radiation monitoring equipment be conducted in accordance with ADM 03-500, "Calibration of Health Physics Equipment."

Based on the above findings, improvement in the following areas should be considered:

-- EPP 01-1.5, Rev. 0, Page 2 of 28, Section 4.1.3 was used twice, labeling two paragraphs. The second paragraph should be designated as Section 4.1.4. (482/8425-78)

-- EPP 02-1.5, Attachments 1.0, 3.0, 11.0 and 12.0 should be completed as the medical supplies and equipment are stocked in the emergency cabinet and the emergency response vehicles are assigned. (482/8425-79)

5.5.2 Drills and Exercises

The area of drills and exercises was reviewed with respect to the requirements of 10 CFR 50, Appendix E, paragraphs IV.D.3, E,F, and H; and the criteria of Section II N of NUREG-0654.

The NRC inspectors reviewed Section 5.2 of the Plan and EPP 02-1.3, "Drills and Exercises."

The Plan and EPP 02-1.3 often assigned responsibility for specific components of drills or exercises to both the emergency planning coordinator and site emergency planning administrator. Responsibility should be assigned to specific individuals. The NRC inspectors recommended that dual assignments of responsibility be eliminated, incident to the next revision of Section 5.2 of the Plan and EPP 02-1.3. Paragraph 5.2.4 of the Plan should be revised to include the NUREG-0654 Section II.N., 2, e, 2 guidance that PASS samples shall be included in health physics (HP) drills.

Based on the above findings, improvement in the following area should be considered:

-- Eliminate instances of dual assignment of responsibility which appear in Section 5.2 of the Plan and in EPP 02-1.3; revise paragraph 5.2.4 of the Plan to include the NUREG-0654 Section II.N, 2, e, 2 guidance that PASS samples shall be included in HP drills. (482/8425-80)

5.5.3 Review, Revision, and Distribution of Emergency Plan and Procedures

The areas of review, revision, and distribution of the Plan were reviewed with respect to the requirements of 10 CFR 50.47 (b)(16);10 CFR 50.54 (q) and (t); 10 CFR 50, Appendix E, paragraph IV.G and V; and criteria in NUREG-0654.

The NRC inspectors reviewed section 5.3, "Review of Plan and Procedures," of the Plan, EPP 02-1.1, "Emergency Preparedness Program Maintenance," and other related procedures and discussed the content of the procedures with the emergency planning coordinator and the emergency planning administrator.

EPP 02-1.1, Section 4.3.1.1, stated that EPP 01-3.1, "Immediate Notification," and EPP 01-3.3, "Offsite Support Notification," would be reviewed and updated, as required, by the emergency planning coordinator at least every 3 months. However, EPP 02-1.1 did not identify a method for documenting the quarterly review. EPP 01-3.1, attachments 4.0 and 5.0 for KG&E Corporate Emergency Organization Notification Call List included title and personnel assigned, but did not list their home or work telephone numbers.

EPP 02-1.1, Sections 4.3.1 and 4.3.1.1 stated that the emergency planning coordinator would conduct annual reviews and incorporate changes to insure continued applicability considering equipment and facility capabilities and experience gained during training, drill and exercise programs. An annual review had not been conducted, however, specific Plan and EPPs had been reviewed, revised, approved, and updated. The NRC inspectors determined that the process for procedure distribution was in accordance with the approved distribution lists and followed the instructions provided in EPP 02-1.1.

The emergency planning coordinator was responsible for establishing and maintaining a current EPP distribution list. These lists were maintained by the appropriate distribution centers, however,the distribution lists were not documented in a procedure.

A selected number of names, titles, and telephone numbers of offsite agencies were checked and it was determined that the notification checklists contained in the procedures EPP 01-3.1, 01-3.2, and 01-3.3 appeared current. Telephone numbers for KG&E home office and general office emergency organization personnel were not available for review.

Based on the above findings, improvement in the following areas should be considered:

-- EPP 02-1.1, Section 6.0, should be revised to include the method for documenting the quarterly checklist review of notification telephone numbers. (482/8425-81)

-- Home and work area telephone notification numbers should be included for KG&E home office and general office emergency organization personnel listed in EPP 01-3.1, attachments 4.0 and 5.0. (482/8425-82)

-- Current distribution lists for the Plan and EPPs should be included as attachments to EPP 02-1.1. (482/8425-83)

5.5.4 Audits of Emergency Preparedness

The area of audits was reviewed with respect to the requirements of 10 CFR 50.54(q) and (t) and criteria in NUREG-0654, Section II.P.9.

The NRC inspector reviewed the Plan, Section 5.3, and EPP 02-1.1, "Emergency Preparedness Program Maintenance," and EPP 02-1.3, "Drills and Exercises," and discussed these procedures with the emergency planning coordinator and the emergency planning administrator.

Section 5.3, "Review of Plan and Procedures," of the Plan stated that KG&E would arrange for review of the Emergency Preparedness Program at least once every year (this should read at least every 12 months). This Plan stated that the review would be conducted under the auspices of the Nuclear Safety Review Committee (NSRC) and that the NSRC had no direct responsibility for the Plan's implementation.

The NRC inspectors determined by interview with licensee staff that some members of the NSRC had direct responsibility for the Plan's implementation and, therefore, the NSRC should not serve as an independent review committee. The licensee should provide for independent review of the emergency preparedness program in accordance with the requirements of 10 CFR 50.54(t).

The Plan or EPP 02-1.1 did not direct the audit team to address the need for an audit to include observation of emergency drills, inspection of equipment and discussions with personnel rather than to just perform a paper review.

Based on the above findings, improvement in the following area should be considered:

-- EPP 02-1.1, Section 3.2 should be revised to correspond with the changes suggested to be implemented into Section 5.3 of the plan. (482/8425-84)

-- EPP 02-1.1 should address the need for an audit to include the observation of emergency drills, inspection of equipment, and discussions with personnel rather than to just perform a paper review. (482/8425-85)

Based on the above findings, the following open item was identified:

-- Develop and implement an independent emergency program review to meet the requirements in 10 CFR 50.54(t) and NUREG-0654, II.P.9. (482/8425-86)

6.0 COORDINATION WITH OFFSITE GROUPS

6.1 Offsite Agencies

The area of offsite agencies was reviewed with respect to the requirements of 10 CFR 50.47(b)(3) and criteria in NUREG-0654, Section II.A, B, E and L.

The NRC inspector reviewed the Plan, Section 1.4. In addition, personnel from several offsite organizations were interviewed.

The NRC inspectors interviewed selected personnel at the Ransom Memorial Hospital and they expressed their satisfaction with the training and support provided by the licensee. The provisions being made at the hospital appeared to be adequate for handling a medical emergency involving an injured contaminated patient. The program, training and procedure could be improved in several areas. The procedures were not in final form and some information, such as the "List of Supplies," was missing. The procedures were not controlled copies. The emergency kit did not contain all of the specified equipment. The kit lacked equipment for monitoring radiation and dosimetry equipment. The NRC inspectors noted that there were no provisions, procedures, or schedule for maintaining the kit.

The hospital's procedures did not describe or assign responsibility for collecting, securing, and labeling the patient's dosimetry. The procedures did not state the location where the emergency kit or cart were to be stored. Finally, the procedures and hospital staff had not discussed the potential for handling more than one patient.

Personnel from the Coffey County Emergency Preparedness Office expressed satisfaction with the training provided by the licensee. This included the Coffey County Ambulance Service and the Coffey County Sheriff's Office. Personnel contacted stated that the county was willing to assist the licensee according to their agreements. In the past, there had been a request by the ambulance service personnel to participate in more drills and exercises.

The University of Kansas Medical Center had agreed to provide the licensee with medical support. Personnel contacted indicated satisfaction with their interaction with the licensee. The medical center had not received any training from the licensee although medical center representatives believe that their staff was already adequately qualified. The medical center had participated in a drill involving toxic chemicals but not one involving radioactively contaminated patients. The medical center representative stated that the medical center had provisions for handling radioactively contaminated patients.

Volunteers of the City of Burlington Fire Department had participated in an onsite fire drill. These volunteers had not received any training, including radiological, from the licensee. The dosimetry for offsite fire fighters had not been procured.

Based on the above findings, the following deficiency must be corrected in order to achieve an acceptable program:

-- Develop and implement procedures, conduct training, and complete equipment inventories for all offsite support agencies, including radiological monitoring devices and protective equipment. (482/8425-87)

6.2 General Public

This area of the licensee's program was reviewed with respect to the requirements of 10 CFR 50.47(b)(7) and criteria in NUREG-0654, Section II.G.

The NRC inspector reviewed the Plan, Section 5.4, and procedure EPP 02-1.4, "Public Education." In addition, this area of the licensee's program was discussed with selected licensee personnel.

KG&E had plans for disseminating information on emergency planning to the general public and transient population within the plume exposure EPZ. KG&E was initiating production of their public information brochure and had arranged for information similar to that appearing in the brochure to be included in the two telephone books serving the general public in their EPZ. Telephone books with this information were scheduled to be distributed prior to January 1, 1985. KG&E had arranged for the production of telephone book covers designed to supply information and to hold their public information brochure. In addition, licensee representatives stated that KG&E had erected 20 public information signs around the John Redmond Reservoir.

The licensee had committed to update and disseminate information on an annual basis.

The NRC inspectors did not review the KG&E's public information brochure.

Based upon the above findings, the following deficiency must be corrected in order to achieve an acceptable program:

-- Disseminate the brochure and telephone directory information to members of the general public in the EPZ. (482/8425-88)

6.3 News Media

The area of news media training was reviewed with respect to the requirements of 10 CFR 50.47(b)(7) and criteria in NUREG-0654, Section II.

The NRC inspector discussed the KG&E plans to familiarize the news media in accordance with the Plan and the EPIPs with the Manager of Corporate Communications. The KG&E plans in this area appeared to be complete and adequate as stated. However, there had been no attempt to conduct media seminars. The first media seminar was scheduled to be held in Topeka and at

the site on October 24, 1984. KG&E expected the media seminar to occur annually.

Based on the above findings, the following deficiency must be corrected in order to achieve an acceptable program:

-- Implement an annual media seminar (initiate prior to fuel load) program in accordance with Section 5.4.1 of the Plan. (482/8425-89)

7.0 DRILLS, EXERCISES, AND WALK-THROUGHS

7.2 Walk Through Observations

7.2.1-7.2.3 Emergency Detection, Classification, and Notification

The NRC inspector conducted walk-throughs with three WCGS control room shifts. In preparation for the walk-throughs, the NRC inspectors drafted three generic scenarios for the 4 loop Westinghouse PWR plant. After conversion to WCGS specific scenarios, they were reviewed for site specifics by operations department management.

One STA, the shift supervisor, the supervising operator, and one additional licensed operator were required to participate for a minimum total of three persons per shift. Augmentation above this level was encouraged but was left to the discretion of KG&E so as to minimize schedule disruptions.

The walk-throughs were held in the control room, they averaged 2.5 hours. Operators were encouraged to refer to any equipment, instrumentation, and documentation available. In order to compare results, each shift was given the same scenario and asked not to discuss it with others until the end of this inspection. The scenario consisted of a progressive steam generator tube rupture with a stuck open secondary code safety valve on the leaking generator. The situation was complicated by a sequential loss of AC power and eventual loss of feedwater flow. All three fission product barriers were simulated to have failed during the last 2 hours of the compressed scenario.

Emphasis was placed upon the Plan and its implementation, particularly classification, notification, recall of emergency workers, and protective action decisionmaking. Since operators were trained on the WCGS Plan and EPIP's, success or failure was measured with respect to KG&E/WCGS requirements, not with respect to NUREGS. Where station documentation differed from the NUREGS, exceptions were noted and included in this report.

There were 39 requirements to classify accident conditions. Four mistakes were made, for an error rate of approximately 10 percent. The NRC inspectors found that the WCGS classification procedure, EPP 01-2.1, Revision 0, was inconsistent with the guidance in Appendix I to NUREG-0654, for example:

- Loss of offsite power did not result in a Notification of Unusual Event (NOUE).

- A fire potentially affecting safety systems was classed as an NOUE; it should have been an Alert.

- Loss of onsite and offsite AC power was classed as a NOUE; it should have been an Alert or a Site Area Emergency for outages greater than 15 minutes.

No controlled supply of prepositioned emergency forms was available in the control room. In performing state and local notification, one shift used an

unauthorized form marked EPP 01-3.1.1, Revision 8/84. The latest revision to that procedure was Revision 0. The inspector concluded that the form had probably been obtained during training, and that configuration control of materials used by nuclear training was questionable. Although all three shifts recognized the applicable time requirements, notification of state and local agencies generally required more than 15 minutes; this may have resulted from the pressures of only three players emulating a full shift complement. Several items of notification equipment were not operational. For instance, the backup microwave communications link required operator intervention to exit the KG&E/WCGS telephone network because no operator was assigned on back shifts.

The scenario was designed to proceed without TSC or EOF assistance. That limitation was imposed by severe weather conditions. Although the operators were unable to accomplish all of the required actions as the scenario became more demanding, not one of the shifts attempted to prioritize actions or simulate additional recall of specific offshift operators known to live close to the plant. It was pointed out that recall of five persons from New Strawn (7 miles away) would expand the personnel available to the DED by 50 percent.

Although there were variations in the initial protective action recommendations, the variations were a direct function of shift supervisor judgment; all of the procedural requirements were met. Consistently, the operators demonstrated proficiency with the Technical Specifications and an aggressive capability to mitigate the incident.

The NRC inspector noted that EPP 01-10.1 was inconsistent with NRC I&E Notice 83-28; e.g., the initial reaction at general emergency failed to recommend shelter in a 2 mile radius and 5 miles downwind. In addition, the 10 mile population by subzones table in attachment 7.0 to the same procedure appeared to neglect populations living in subzones which straddle the 5 mile radius; e.g., there are 71 persons listed as A1, 2-5 miles but no figure is provided for the population of A1 outside the 5 mile arc.

Based on the above findings, the following deficiencies must be corrected in order to achieve an acceptable program:

-- Prior to receipt of a license to load the core, recycle all licensed operators through emergency classification training. (482/8425-90)

-- Revise EPP 01-10.1 to conform to the guidance of NRC I&E Information Notice 83-28; verify population data displayed by subzone in the same procedure. (482/8425-91)

Based on the above findings, improvement in the following area should be considered:

-- Ensure that all of the applicable initiating conditions specified in Appendix I of NUREG-0654 are included in EPP 01-2.1. (482/8425-92)

7.2.5 Post-Accident Sampling and Analysis

The NRC inspectors reviewed and discussed, with the site chemist, specific sections of the Post Accident Gaseous, Particulate and Liquid Effluent Sampling and Analysis System. It was determined that preoperational tests were being performed and that the equipment had not been released to the licensee. No walk-throughs were performed on this system.

7.2.7 Offsite Radiological Surveys

The NRC inspectors performed a walk-through of offsite radiological surveys with selected KG&E health physics technicians. The technicians explained adequately the purpose and use of radiological monitoring equipment in the emergency kits. Furthermore, the technicians described or performed adequately all steps necessary to obtain noble gas, radioiodine, and particulate monitoring results.

Equipment for communication and transportation of the offsite radiological teams was not in place. Inverters for the vehicle necessary for obtaining air samples were not in place. These concerns area addressed in Sections 4.2.3, 4.2.6 and 5.4.2.1 of this report.

8.0 Exit Interview

On September 28, 1984, at the conclusion of the preoperational inspection, the NRC inspection team, Mr. H. Bundy, resident inspector, and Mr. R. Denise, Director, Division of Reactor Safety and Projects, met with Mr. G. Rathbun, Manager Licensing, and the KG&E staff. Mr. C. A. Hackney, the NRC team leader, discussed the status of the Appendix A and Appendix B inspection findings. The seven major inspection functional areas were discussed with the KG&E personnel.

It should be noted that Mr. G. Koester, Vice President Nuclear requested a briefing on the preoperational inspection results prior to the September 28, 1984, exit due to Mr. Koester having to be out of town. On September 26, 1984, Mr. C. A. Hackney, the NRC team leader, Mr. R. Denise, Director, Division of Reactor Safety, met with Mr. G. Koester, Mr. C. Mason, Director Nuclear Operations, Mr. F. Rhodes, Plant Manager, and Mr. R. Hagan, Manager Nuclear Services, and discussed the critical areas of the inspection.

9.0 PERSONS CONTACTED

KG&E Employees

Name	Title
G. L. Koester	Vice President Nuclear
*K. J. Moles	Emergency Planning Coordinator
W. J. Razlaff	Emergency Planning Coordinator
*R. Hoyt	Site Emergency Planning Administrator
R. Thorsen	Emergency Plan Contractor
*J. Blair	Engineer I
*L. Breshears	Health Physicist/Chemistry Supervisor
H. Nichols	Health Physics Technician III
*M. Nichols	Site Health Physicist
A. Annillo	Health Physics Technician I
D. Anderson	Health Physics Technician
D. Mitchell	Health Physics Consultant
A. Scott	Maintenance Support Supervisor
C. Mason	Director of Nuclear Operations
D. Fehr	Simulator Supervisor Training
J. Burns	Training Consultant
J. Houghton	Lead Shift Supervisor
*P. Turner	Manager Nuclear Training
J. Hawthorne	Chemistry Technician III
T. Morrill	Chemistry Coordinator
R. Logsdon	Chemistry Coordinator
J. Johnson	Chief of Security
P. Turner	Manager of Training
A. Dalton	Training Contractor
T. Gleue	Training Records Clerk
D. Young	Emergency Plan Contractor
J. Zell	Operations Superintendent
C. Swartzendruber	Supervisor of Radiological Projects
E. Tarver	Manager Electrical Systems Engineering
W. Nelson	Manager Administrative Services
D. Mosebey	Shift Supervisor
W. Erbe	Supervising Operator
J. Gilmore	Reactor Operator
D. Neufeld	Shift Supervisor
P. Martin	Supervising Operator
D. Wiltse	Reactor Operator
S. Austin	Shift Supervisor
R. Miller	Supervising Operator
R. Hubbard	Reactor Operator
M. Schreiber	Engineering Specialist II
*M. Williams	Superintendent Regulatory Quality Administration
G. Rathbun	Manager, Licensing
D. Colwell	QA Technologist

Other Organizations

Name	Title
L. Mannell	Administrator Radiological System, State of Kansas
P. Redding	Secretary of Carroll Wilcox, Coffey County, Emergency Preparedness Office
R. Wester	IMPELL, Drill Program
C. Agee	IMPELL, Drill Program
D. Bell	Assistant Hospital Administrator, University of Kansas Medical Center
J. Smith	Administrator, Ransom Memorial Hospital
J. Clark	Maintenance Supervisor, Ransom Memorial Hospital
J. Stover	Assistant Director of Nursing, Ransom Memorial Hospital
K. Stine	Head Nurse - Emergency Room, Ransom Memorial Hospital
S. Staneart	Director of Nursing Service, Ransom Memorial Hospital
L. Mayes	Orienting Relief Supervisor, Ransom Memorial Hospital
W. Allen	KG&E Consultant

NRC

*H. Bundy	Resident Inspector
H. Chaney	Radiation Specialist
*R. Denise	Wolf Creek Task Force Manager

*Denotes those persons attending the exit meeting.