

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: STN 50-482/84-47 Construction Permit: CPPR-147

Docket: STN 50-482 Category: A2

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

Facility Name: Wolf Creek Generating Station

Inspection At: Wolf Creek Generating Station, Burlington, Kansas

Inspection Conducted: November 5-9, 1984

NRC Team Leader: Charles G. Hackney 1-18-85
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Inspection Summary

Inspection Conducted November 5-9, 1984 (Report STN 50-482/84-47)

Areas Inspected: Routine, announced inspection of KG&E's performance and capabilities during an exercise of the emergency plan and its implementing procedures. The inspection involved 268 inspector-hours onsite by eight NRC inspectors.

Results: Within the emergency response areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

Selected KG&E Personnel

- *G. L. Koester, Vice President-Nuclear
- *M. G. Williams, Superintendent, Regulatory Quality Administrator
- *G. Rathbun, Manager, Licensing
- *H. Davis, Health Physics/Chemistry Supervisor
- *C. C. Mason, Director, Nuclear Operations
- *P. E. Turner, Manager, Nuclear Training
- *R. C. Hagan, Manager, Nuclear Services

Non-KG&E Personnel

L. H. Mannell, Administrator of Radiological Systems, Kansas Department
Emergency Preparedness

Other KG&E, state and local officials, and the FEMA inspection team were
also contacted during the inspection.

*Denotes those present at the exit interview.

2. Exercise Scenario

The NRC inspectors reviewed the scenario prior to the exercise and
identified several concerns, most of which were addressed by KG&E prior to
the exercise. During the exercise problems related to the scenario were
also observed, however, the problems were corrected by the controllers.

In reviewing the scenario, the NRC inspectors noted that the scenario
package was approximately 3 inches thick and appeared to contain more
information than necessary to maintain the accident scenario. It was also
noted that some of the scenario messages followed too close together to
allow proper decisionmaking. Further, there were no provisions for
downgrading from the general emergency such that a safe, steady state for
the reactor existed prior to terminating the emergency. All of these
observations were considered to represent weakness in scenario
development.

No violations or deviations were identified.

3. Control Room

The exercise began at 8:11 a.m. on November 7, 1984, with a report to the
shift supervisor (SS) that a tractor had backed into the refueling water
storage tank (RWST). The operations personnel, conducting the exercise
from the simulator, responded by consulting their Technical Specifications
and procedures.

Following the RWST rupture, the scenario called for a contaminated personnel injury that required sending the person to the hospital for treatment. The exercise scenario provided a series of events which eventually put the station in a general emergency class.

During the exercise, the SS maintained control of and managed the emergency response effort. Further, the SS kept the operators informed of onsite and offsite events.

Following the automatic trip without scram (ATWS) the control room requested "trip PG2001." There did not appear to be any direct contact with the individual responsible for tripping the breaker or confirmation that the breaker was to be tripped by an authorized person. Important functions involving plant safety should have been by direct communication with authorized personnel.

At one point in the exercise, the NRC inspector noted that the control room operators incorrectly advised the technical support center not to run the containment spray pump without component cooling water. The pump is air cooled.

The control room personnel actively participated in the exercise until the exercise was terminated by the duty emergency manager (DEM).

No violations or deviations were identified.

4. Technical Support Center (TSC)

The TSC was activated following the declaration of an alert emergency class. Essential personnel reported to the TSC and signed their name to the TSC personnel status board. The duty emergency director (DED) announced that each group was to establish communications with their counterpart and report back to him when they were operational. During the exercise the DED kept the TSC personnel apprised of events both onsite and offsite. The DED utilized his team managers for problem solving and recommendations. However, the NRC inspector noted that the team managers usually gave options for solving problems and did not make recommendations.

During the exercise, it was difficult for the NRC inspectors to determine if and when the TSC was in a fully operational mode, because the DED announced different levels of TSC activation which were not in the TSC procedures.

The NRC inspectors noted that the TSC habitability was determined by radiological surveys conducted by a health physics technician. The technician was observed conducting radiological surveys throughout the exercise.

The emergency classifications were made promptly and reported in a timely manner.

The NRC inspectors noted that the communication procedure referenced the NRC Region III office for reporting items rather than the NRC Region IV office. Further, the NRC inspectors observed a communicator attempting to get an outside line. It took four attempts to get an outside line and something happened that prevented making a connection. The call was finally completed. Due to the potential for a KG&E switchboard overload the offsite communicators should have direct outside lines for making offsite notifications.

The NRC inspectors determined that TSC accountability was assigned to the security manager. It was noted that the security manager was located away from the TSC access and exit area. Further, due to the logistics of coordinating the onsite and offsite security response, it appeared that personnel accountability in the TSC was on an honor system.

Based on the TSC observations, the following are listed as open items to be evaluated during the next emergency preparedness exercise:

(Open) Open Item (482/8447-01): Establish and maintain TSC personnel accountability.

(Open) Open Item (482/8447-02): Review capability to perform offsite notifications in a timely manner.

No violations or deviations were identified.

5. Operational Support Center (OSC)

The OSC was staffed in a timely manner. The OSC was the dispatch center for the offsite monitoring teams, repair and corrective actions, and emergency first aid. The NRC inspectors observed that no formal personnel accountability was being maintained.

During the exercise a nonexercise participant in the chemistry laboratory received a message to obtain a postaccident sample. The technician made an entry into the log and did not pass on the request to the exercise participants. The PASS data was not available upon request due to the request not being passed on to the exercise players.

The NRC inspectors observed repair teams being briefed on radiological conditions, plant locations, and job assignments prior to being dispatched from the OSC to the plant. In regard to protective equipment, the NRC inspectors noted that respiratory protection masks did not have eyeglass adapters for persons requiring eyeglasses.

No violations or deviations were identified.

6. Offsite Monitoring

The offsite monitoring teams assembled in the OSC and promptly checked out their radiological monitoring equipment. The offsite monitoring vehicles and radios were available for departure from the protected area. The NRC inspectors observed that the team exercised good health physics technique in contamination control. The offsite monitoring teams had good communications with the TSC and the emergency operations facility (EOF). The teams were able to locate the plume and follow the instructions given to them from the EOF. Further, it was noted that there was very little simulation and the teams continuously monitored the vehicle and themselves for contamination and external radiation.

The NRC inspectors observed that state and county personnel were dispatched from the EOF to the offsite monitoring team in their own vehicles. The county and state vehicles did not have radios or radiological monitoring equipment. Further, it was observed that one KG&E team split up and that left one KG&E person per vehicle. The remaining KG&E technician had to perform additional work which inhibited the offsite monitoring effort. According to EPP 01-8.2, there are to be two KG&E persons in each offsite monitoring vehicle. At least one will be a health physics technician trained in offsite monitoring.

Based on the offsite monitoring observations, the following are listed as open items to be evaluated during the next emergency preparedness exercise:

(Open) Open Item (482/8447-03): Review and correct depth chart for offsite monitoring teams to assure sufficient personnel for initial and long term offsite monitoring.

(Open) Open Item (482/8447-04): Review procedures and make corrections to preclude sending persons out in the field to meet KG&E offsite monitoring teams without radiological monitoring equipment.

No violations or deviations were identified.

7. Rescue/First Aid

The maintenance person injury was reported to the control room and the first aid team responded in a timely manner. The injured person was given immediate attention and care was taken by the team to preclude additional injury due to moving or turning the victim. The ambulance personnel responded after having been misdirected to the pickup site. The ambulance attendants appeared to be well trained and utilized contamination control techniques.

The hospital staff members were prepared to receive the injured maintenance person in a timely manner. The NRC inspector noted that during the decontamination of the victim the liquid contamination storage

vessel overflowed and created a minor clean up problem due to the lack of a level indicator in the receptacle.

No violations or deviations were identified.

8. Emergency Operations Facility (EOF)

The EOF was placed in an operational mode in a timely manner. The NRC inspectors noted that dose assessment systems, communication equipment, technical support information, and visual aids were installed and appeared adequate for emergency response.

The emergency response personnel in the EOF were involved in the initial phase of the exercise and participated until the exercise terminated. The DEM maintained control over the functional groups and utilized each group for their technical support. The noise level in the EOF was maintained at a low level throughout the exercise. The DEM held management meetings to discuss safety questions, and to request technical input from the different functional areas. The DEM also kept the EOF personnel apprised of reactor events and offsite events. There appeared to be excellent coordination between the KG&E personnel and the state of Kansas representatives.

The NRC inspector noted that the EOF personnel maintained contact with the offsite monitoring teams and kept them aware of onsite activities and monitored team members' radiological external exposures.

The home office and general office personnel were prepositioned near their facilities, thus, the KG&E personnel did not demonstrate that the EOF could be activated and staffed within the limit specified in the Emergency Plan and EPP 1-4, "EOF Activation," Revision 1. Neither the Emergency Plan or EPPs identified, by title and/or emergency function, the state and county representatives who were expected to arrive at the EOF. There appeared to be an initial vacuum of leadership before the arrival of the DEM. An experienced senior member of the staff assumed the role of "Interim DEM" although no such position existed in the KG&E emergency organization.

The following additional weaknesses were observed by the NRC inspectors:

- The graphic display of the plume on the wall map in the field monitoring team area was difficult to see and would make plume tracking cumbersome if a wind shift occurred.
- The radiological status board did not clearly identify whether the release data and calculated dose rates were based on default or real-time monitoring values.
- The manner in which the new data replaced the old data on the sequence of events status board made following the sequence of events difficult.

- A critical subsector (D1) was missed for about 10 minutes in the protective action recommendation regarding evacuation due primarily to a sector map that was difficult to read. The subsector in question (D1) is an unwieldy area stretching over seven compass sectors including Burlington, Kansas, and should be revised.
- The EOF conference room used by the DEM for his staff meetings was small and as it was normally used as an office with desks did not have sufficient room for a conference table which would have permitted better interaction between and among the DEM and his staff.
- Feedback was lacking on the activation of the alert and notification system and the status of the implementation by the state and county of the recommended protective action recommendations. A status board with this information would be helpful. Consideration should also be given to having a KG&E representative in the state and county emergency operation center.
- The Radiological Release Information System (RRIS) used to determine offsite doses did not have a printout/hard copy capability. Consequently, radiological dose information had to be manually transcribed onto forms. A printout capability would allow more rapid assessment especially in rapidly changing situations and would provide a ready record of past calculations. The picture taking capability of the RRIS appeared to be too slow to be effective.
- The followup message issued after the general emergency was declared was slow in getting disseminated (about 1 hour).
- The recommendation given to the DEM in a staff meeting concerning protective actions for cattle beyond 10 miles did not appear to have a technical basis nor was any reference made to protective action guides (PAGs) in this case. (In the exit meeting, the statement was made that consideration had been given to technical factors in the development of the PAG but this may have been after the fact.) No consideration appeared to be given to other agricultural matters other than cattle on stored feed.
- Although the EOF coordinator, an HP supervisor, did ascertain the habitability of the EOF during the activation phase, there was no procedure addressing EOF habitability. Thus, there was no assurance that EOF habitability would be periodically checked during EOF operation.
- The transition to the recovery and reentry phase did not follow procedure (EPIP 1-12.1, "Re-entry and Recovery Operations," Revision 1), was adversely influenced by the scenario and did not fully demonstrate an organized and systematic approach to entering this phase of an emergency. KG&E recognized in the critiques that more effort in this regard was required.

Based on observations in the emergency operations facility, the following are listed as open items to be evaluated during the next emergency preparedness exercise:

(Open) Open Item (482/8447-05): Review and revise maps and status boards to correct weaknesses identified during the exercise.

(Open) Open Item (482/8447-06): Develop and implement a procedure for determining the habitability upon activating the EOF and during the period when radiological airborne contamination condition potentially exists.

(Open) Open Item (482/8447-07): Demonstrate the capability to respond to the emergency operations facility by offsite personnel without repositioning personnel.

(Open) Open Item (482/8447-08): Demonstrate the capability to downgrade the incident and enter into a recovery operation mode according to EPP 1-12.1, "Re-entry and Recovery Operations," Revision 1.

No violations or deviations were identified.

9. Media

The general office, home office, and the state media center were located in Topeka, Kansas. The NRC inspectors noted that each facility was activated in a timely manner. The media representatives appeared to conduct their tasks in a professional manner during the exercise. There were times when the information flow from one facility to the next appeared to be slow and not kept up to current events. The status boards in the general office were not kept up-to-date during the early stages of the exercise, however, after the declaration of a site area emergency, there appeared to be an effort to keep the status boards current.

The media information flow from the EOF to the state media center appeared to be slow. The procedure for sending the information from the EOF to the state media center, back to the EOF for confirmation, and then again back to the state appeared to create undue delay for getting timely information to the media.

Based on the media center observations, the following is listed as an open item to be evaluated during the next emergency preparedness exercise:

(Open) Open Item (482/8447-09): Review the current procedure for transmitting information from the EOF to the state media center

No violations or deviations were identified.

10. Exit Interview

The exit interview was conducted with G. L. Koester, Vice President-Nuclear, and his staff on November 8, 1984. A list of key

attendees is shown in paragraph 1 of this report. There were 44 additional KG&E representatives at the exit interview. The NRC Region IV Chief, Emergency Preparedness and Radiological Protection Branch and the NRC senior resident inspector also attended the exit meeting. Other NRC attendees included staff personnel from the NRC Wolf Creek Task Force and a representative from the state of Kansas. The NRC team leader summarized the team comments and observations in the subject areas of exercise scenario, control room, TSC, OSC, EOF, medical care, offsite monitoring, and the news media centers.