



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

DEC 10 1992

Report No.: 50-160/92-04

Licensee: Georgia Institute of Technology
225 North Avenue
Atlanta, GA

Docket No.: 50-160

License No.: R-97

Facility Name: Neely Nuclear Research Center

Inspection Conducted: November 9-10, 1992

Inspector:

J. L. Kreh
J. L. Kreh, Radiation Specialist

12/8/92
Date Signed

Accompanying Personnel: C. H. Bassett, NRC Region II
M. M. Mendonca, NRC Headquarters

Approved by:

K. P. Barr
K. P. Barr, Chief
Emergency Preparedness Section
Radiological Protection and Emergency Preparedness Branch
Division of Radiation Safety and Safeguards

12/8/92
Date Signed

SUMMARY

Scope:

This routine, announced inspection was conducted to assess the operational readiness of the licensee's emergency preparedness program and to evaluate the annual emergency preparedness drill conducted on November 9, 1992.

Results:

In the areas inspected, one repeat violation was identified for failure to have certain emergency plan notification requirements in written procedures (Paragraph 2). No deviations were identified. The licensee's emergency response capability was maintained in an overall adequate state of readiness. Emergency response personnel performed well during the drill.

REPORT DETAILS

1. Licensee Employees Contacted

W. Downs, Senior Reactor Operator
*R. Ice, Manager, Office of Radiation Safety
*R. Karam, Director, Veely Nuclear Research Center
B. Statham, Manager of Operations

Other licensee employees contacted during this inspection included operators, technicians, and administrative personnel.

*Attended exit interview

2. Emergency Preparedness Plan and Implementing Procedures (82745)

The Emergency Preparedness Plan (EPP) and associated implementing procedures (known as the Emergency Procedures) were reviewed to note changes made since the last inspection in this area (September 1991) and to assess the impact of any such changes on the overall state of emergency preparedness. No changes were made to the EPP (currently Revision No. 2, approved by the NRC on June 8, 1989), since the last inspection.

One of the licensee's ten Emergency Procedures was new Procedure 6080, "Accidental Release of High Levels of Gaseous Activity to the Atmosphere," Revision 00, approved August 13, 1992. Two of the licensee's Emergency Procedures had been revised since the September 1991 inspection. The changes in these revisions, which involved Procedures 6090 and 6100, were reviewed to determine their consistency with the EPP. Of particular interest were the changes made in Procedure 6100, "Emergency Notification" (Revision 03, approved September 26, 1991), in response to a previous noncited violation (50-160/91-04-02) for an inadequate notification procedure. The referenced violation was based upon the licensee's failure to specify in the Emergency Procedures that the State of Georgia and the Atlanta/Fulton County Emergency Management Agency (EMA) will be notified for all incidents classified as Notification of Unusual Event (NOUE) through General Emergency, in accordance with the explicit requirement in Section 3.2 of the EPP. At the time of this finding (September 1991), the violation was not cited because the licensee's proposed corrective actions and the minor nature of the violation appeared to satisfy the applicable criteria in the NRC Enforcement Policy. However, the inspector's review of Revision 03 to Procedure 6100 disclosed that the licensee's corrective actions did not completely address the subject violation. Procedure 6100 specified notification of the State of Georgia (specifically, the Department of Natural Resources) for most initiating events classified as NOUE and for all events classified as Alert or higher, but the subject procedure did not specify notification of the Atlanta/Fulton County EMA for any of the classifiable events listed in Sections 5.9, 5.10, and 5.11.

Discussions with the Director of the facility disclosed that corrective actions for the violation were undertaken immediately after the September 17-19, 1991 inspection (as indicated by the revision approval date of September 26, 1991), but were based upon the licensee's apparent misunderstanding of the issue as discussed during the exit interview for that inspection. The facility Director stated that he had not perused the details of this matter in NRC Inspection Report 50-160/91-04, which was issued on November 5, 1991. Section 6.4.b(8) of the licensee's Technical Specifications stated that written procedures shall be provided and utilized for a site emergency plan. Licensee management was informed that Procedure 6100 governing emergency notifications did not adequately implement Section 3.2 of the EPP.

Violation 50-160/92-04-01: Failure to have certain EPP notification requirements in written procedures.

Section 8.5 of the EPP required a quarterly update and verification of the Emergency Notification Roster, a one-page call list/organizational chart posted at various locations throughout the facility. The current version of this roster was Revision 28, dated September 18, 1992. The inspector reviewed documentation showing that the Emergency Notification Roster was updated during each calendar quarter since the last inspection, and that copies of each revision were distributed to specified campus and offsite locations. The inspector noted that the roster included a 24-hour telephone number for the Atlanta/Fulton County EMA, although, as discussed above, Procedure 6100 did not specify notification of this agency in the event of an emergency declaration.

One violation and no deviations were identified.

3. Emergency Response Training (82745)

Pursuant to Section 10.1 of the EPP, this area was inspected to determine whether the licensee had provided training to the onsite emergency organization.

Licensee records documented 1992 emergency response training of seven facility personnel listed on the Emergency Notification Roster. In addition, training for the role of Emergency Director (ED) was provided to the individual serving as Manager, Office of Radiation Safety. This individual, who began his employment at the facility on October 1, 1992, functioned as ED during the current drill, and will be designated in the near future as an alternate for the ED position. Although no written lesson plans or training outlines were used and no examinations were given, interviews with facility staff and performance of licensee personnel during the drill indicated that emergency response training was effective.

No violations or deviations were identified.

4. Emergency Facilities, Equipment, and Supplies (82745)

This area was reviewed to determine whether the licensee's Emergency Command Center (ECC) and other equipment, instruments, and supplies were maintained in a state of operational readiness as required by Section 10.5 of the EPP.

The license had designated two kits for emergency use. One was located in the vestibule of the Reactor Building and contained anticontamination clothing, decontamination supplies, barrier ropes, etc. The second kit, located in the ECC, contained portable survey instruments, anticontamination clothing, sampling material, dosimetry devices, etc. In addition, two self-contained breathing apparatus (SCBA) units were available in the ECC. Selective inspection of these emergency kits disclosed no inventorial discrepancies or inoperable equipment. The inspector reviewed documentation which showed that quarterly inventories of these kits were performed as required during the period July 1991 through October 1992. These records indicated that identified problems were corrected expeditiously.

The inspector reviewed records of the monthly test of the facility's fire detection/alarm system for the period October 1991 through October 1992. Also reviewed were records of the monthly test of the criticality alarm system for the period January - October 1992. According to the records, no problems or discrepancies were noted during these tests.

No violations or deviations were identified.

5. Coordination with Offsite Support Organizations (82745)

Section 8.3 of the EPP required biennial updating of agreement letters with respect to arrangements for hospital, medical, and other emergency services. The only such agreement currently being maintained was with Grady Memorial Hospital, and had been renewed on September 15, 1992.

Section 10.1 of the EPP specified biennial training of the Georgia Tech. Police and the Atlanta Fire Department in radiation safety and the licensee's Emergency Procedures. As documented in NRC Inspection Report No. 50-160/91-04 (Paragraph 5), such training was provided during 1991 and will therefore be due again in 1993.

No violations or deviations were identified.

6. Emergency Response Drill (82745)

The EPP required the conduct of an onsite emergency drill annually to test the adequacy of Emergency Procedures and to ensure that emergency organization personnel are familiar with their duties; also, at least biennially, a drill must contain provisions for testing communications and notification procedures with offsite support groups.

On November 9, 1992, the licensee conducted the annual emergency drill, which included participation by the Georgia Tech. Police, the Atlanta Fire Department, and Grady Memorial Hospital. The scope, objectives, and scenario for the drill are delineated in the attachment to this report. The drill commenced at 1:58 p.m. and terminated at 2:55 p.m.

The scenario involved a fire in the Storage Barn, a building separate from the main facility structure. A smoke generator was used to simulate combustion products, although this unit had ceased functioning by the time the inspector arrived at the Storage Barn just prior to the start of the drill, and only a slight trace of smoke was present. A licensee staff member used a source of heat to actuate the fire detector in the Barn at 1:58 p.m. The fire alarm sounded throughout the facility, resulting in an evacuation of personnel to the parking lot, where an accountability was conducted and quickly identified one person as missing. The Georgia Tech. Police arrived promptly (by 2:00 p.m.), since their headquarters was located near the Neely Nuclear Research Center and received direct indication of any fire alarm occurring at the licensee's facility.

The activation and operation of the ECC by the ED and staff were evaluated by the inspector and determined to be effective in accident investigation and mitigation. The inspector also observed the response by Health Physics personnel in surveying the incident area for abnormal radiation levels and/or contamination. Their response was prompt, and they demonstrated good survey techniques in accordance with standard Health Physics practices.

The ED declared an Operational Event at 2:21 p.m. based upon the criterion, "Minor fire or explosion non-specific to the reactor or its control systems" (EPP Table I, "Emergency Classification Guide"). The licensee and the inspector had anticipated that the event would probably be classified as a NOUE based upon the classification criterion, "Prolonged fire or minor explosion within facility but non-specific to the reactor or its control systems." However, because of the failure of the smoke generator, the players had no indication that a "prolonged fire" was occurring as intended by the scenario. Since the drill was being allowed by the licensee to simply run its course without anyone actually serving to control the scenario events, there was no established mechanism for informing players that the fire was supposed to be continuing and generating substantial quantities of smoke. After the drill, the inspector discussed with licensee management the desirability of instituting the standard practice of using at least one person as drill controller. The function of a controller is to insure that the scenario stays "on track" in the event of equipment failures or other unforeseen circumstances. In this drill, a designated controller could have informed licensee staff arriving at the Storage Barn that the building was filled with smoke

and that the visibility inside was poor in order to communicate the continuing "existence" of a fire. Licensee management agreed during the exit interview to consider the use of a controller for future drills. This issue will be tracked as an Inspector Follow-up Item (IFI).

IFI 50-160/92-04-02: Consideration of the use of a drill controller.

As required by the EPP, a critique was conducted after the drill and was observed by the inspector. The critique was determined to be thorough, with pertinent input from drill participants as well as evaluators. The licensee's follow-up of critique findings will be reviewed during a future inspection.

No violations or deviations were identified.

7. Action on Previous NRC Inspection Findings

- a. (Closed) Exercise Weakness 50-160/91-04-01: Excessive prompting prevented a true demonstration of the alternate ED's capabilities.

No prompting of player responses was observed during the current drill.

- b. (Closed) IFI 50-160/91-04-03: Review and identify a backup ECC.

The licensee had tentatively identified the nearby Georgia Tech. Police Department headquarters as a backup ECC, although this arrangement was not yet formalized or incorporated into the EPP. The licensee planned to pursue this development to an appropriate conclusion.

- c. (Open) IFI 50-160/91-04-05: Review the notification procedure for NRC notification time limits to ensure consistency with 10 CFR 50.72.

Licensee management stated that they had planned to review this matter but had not yet done so. They agreed to give near-term consideration to this item.

8. Exit Interview

The inspection scope and results were summarized on November 10, 1992 with those persons indicated in Paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results listed below. Proprietary information is not contained in this report. The facility Director expressed disagreement with the characterization of the violation as a repeat violation, although he

stated that he had taken corrective action for the previous (noncited) violation strictly on the basis of the exit interview rather than the discussion in the inspection report.

<u>Item Number</u>	<u>Category, Description, and Reference</u>
50-160/92-04-01	Repeat Violation - Failure to have an adequate procedure for implementing certain EPP notification requirements (Paragraph 2).
50-160/92-04-02	IFI - Consideration of the use of a drill controller (Paragraph 6).

Attachment (1 page):
Scope, Objectives, and
Scenario for 1' .2 Drill