



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

NOV 14 1989

Report No.: 70-1113/89-13

Licensee: General Electric Company  
Wilmington, NC 28401

Docket No.: 70-1113

License No.: SNM-1097

Facility Name: General Electric Company

Inspection Conducted: October 19-20, 1989

Inspector:

James L. Kreh  
J. L. Kreh

11-8-89

Date Signed

Approved by:

William H. Rankin  
W. H. Rankin, Chief

11-8-89

Date Signed

Emergency Preparedness Section  
Emergency Preparedness and Radiological  
Protection Branch  
Division of Radiation Safety and Safeguards

SUMMARY

Scope:

This routine, unannounced inspection was conducted in order to re-evaluate the adequacy of the licensee's emergency response capability through observation of the remedial emergency drill on October 19, 1989. The annual drill conducted on June 7, 1989 was an unsuccessful demonstration of the licensee's emergency response capability because several important drill objectives were not met. Licensee management decided at that time to conduct a remedial drill before January 1, 1990.

Results:

In the area inspected, no violations or deviations were identified. The licensee demonstrated on this occasion a capability to adequately respond to an emergency involving a major fire (simulated) within the controlled area. All drill objectives were met, and the licensee's critique was thorough.

## REPORT DETAILS

### 1. Licensee Employees Contacted

- \*B. Bentley, Manager, Fuel Production
- \*J. Bradberry, Senior Program Manager, Emergency Preparedness and Security
- \*A. Dada, Manager, Chemical Manufacturing Engineering
- \*R. Foleck, Senior Specialist, Licensing Engineering
- \*J. Harmon, Manager, Technology and Automation
- \*R. McIver, Manager, Plant Engineering and Maintenance
- \*W. McMahon, Manager, Fuel Manufacturing Engineering (served as Emergency Director during the drill)
- \*S. Murray, Senior Engineer, Nuclear Safety
- \*P. Sick, Manager, Quality Assurance (representing General Manager)
- \*H. Strickler, Senior Program Manager, Environmental Protection and Industrial Safety
- \*C. Vaughan, Manager, Regulatory Compliance

Other licensee employees contacted during this inspection included engineers, security force members, technicians, and administrative personnel.

\*Attended exit interview

### 2. Remedial Emergency Response Drill (88050)

The Radiological Contingency and Emergency Plan (RCEP) required that periodic tests and drills be performed to maintain proficiency in emergency response, to include an annual drill integrating the onsite and offsite components of the emergency response organization. The drill on June 7, 1989 was conducted by the licensee in an effort to fulfill the requirement for an annual integrated drill. However, because of several serious communications deficiencies which significantly reduced the effectiveness of the licensee's response to the scenario, licensee management informed the NRC on June 8, 1989 that a remedial drill would be conducted prior to January 1, 1990. In addition, the NRC evaluation concluded that the scenario for the June 7 drill did not serve to effectively test the overall response capability of the emergency organization. Details regarding these matters are contained in Paragraph 5 of NRC Inspection Report No. 70-1113/89-06.

The remedial drill was staged on October 19, 1989, commencing at 1:00 p.m. and terminating at 2:10 p.m. The scenario involved a major fire within the controlled-access area. Complicating factors included a criticality alarm, an injured Emergency Response Team (ERT) member, and potential loss of integrity (because of fire damage) of the air-handling system for

several airborne-contamination areas. All of the listed accident conditions were simulated except the criticality alarm, which was manually tripped. The Castle Hayne Volunteer Fire Department and New Hanover County Emergency Medical Services responded in real time to the site and participated in the fire and medical aspects of the drill. The attachment to this report documents the licensee's drill objectives and scenario details as established in advance.

The inspector observed selected aspects of the drill, including the initial response at the fire scene, activation of the onsite emergency organization, management of the response effort by the Emergency Director and his staff at the Emergency Control Center (ECC), plant evacuation/accountability, and support efforts at the accident scene by offsite fire and medical personnel. The onsite emergency organization and offsite support groups responded capably to the conditions postulated by the scenario. A high level of realism was imparted to the accident scene through the controllers' use of a smoke generator and smoke bombs. In accordance with the RCEP implementing procedures, the Emergency Director promptly declared a Notification of Unusual Event. Later (at 1:40 p.m.), an Alert was declared because of the need for offsite fire and medical support.

The inspector attended the postdrill critique, which included observations and findings by controllers, evaluators, and principal players. The problems identified during the critique were relatively minor and should be readily correctable. The critique was considered thorough, and corrective actions implemented in response to the substantive findings will be reviewed during future inspections.

No violations or deviations were identified.

### 3. Onsite Follow-up of October 4, 1989 Incident (88050)

On October 4, 1989, a licensee employee suffered an accident in which two fingers of her left hand were partially severed. The wound areas were contaminated at a level of approximately 1,000 dpm, and the employee was transported to the hospital for treatment.

The inspector reviewed the licensee's handling of this event with respect to the requirements of the RCEP. According to the discussion of the scope of the Unusual Event class in Section 3.1 of the RCEP, an injury such as the one described above appeared to fall within the definition of an Unusual Event. However, the licensee categorized the accident as a Class 3 Unusual Incident in accordance with Section 2.9 and Table 2.1 of the license. Licensee management representatives stated that the RCEP was not intended to encompass accidents such as the one in question (and, in



fact, the RECP implementing procedures did not), but they acknowledged the validity of the inspector's interpretation as delineated above. The licensee agreed to revise the RCEP to eliminate the cited overlap between the Unusual Event and Unusual Incident categories.

Inspector Follow-up Item (IFI) 70-1113/89-13-01: Revising the RCEP to eliminate redundancy with the license in the area of incident classification.

#### 4. Action on Previous Inspection Findings (92701)

- a. (Closed) IFI 70-1113/88-09-01: Clarifying the implementing procedures to reflect all personnel with the authority for requesting Security to activate the Autocall system.

Authority for activation of the Autocall system was specified in the Security Instruction for each of the Emergency Procedures.

- b. (Closed) IFI 70-1113/89-06-01: Periodically demonstrating the capability to contact designated personnel to staff the ECC during off-hours.

Tests of off-hour staff availability were conducted on Saturday, July 22 at 11:00 a.m. and on Wednesday, October 4 at 6:00 p.m. The results were acceptable. The licensee issued an instruction to Security personnel to perform such a test on a quarterly basis henceforth.

- c. (Closed) Drill Weakness 70-1113/89-06-02: Failure of the licensee's personnel and equipment to communicate necessary information in an accurate and timely manner.

Minor communications problems were identified during the critique, but none resulted in critical impediments to the licensee's response efforts.

- d. (Closed) Drill Weakness 70-1113/89-06-03: Failure of the scenario to effectively test the overall capability of the emergency response organization.

The scenario for the October 19 drill was unquestionably challenging for the emergency organization, particularly as it included the unexpected complicating factor of the criticality alarm.

#### 5. Exit Interview (30703)

The inspection scope and results were summarized on October 20, 1989, with those persons indicated in Paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results listed below. Although proprietary information was reviewed during this inspection, none

is contained in this report. Dissenting comments were not received from the licensee.

Item No.

70-1113/89-13-01

Description and Reference

IFI: Revising the RCEP to eliminate redundancy with the license in the area of incident classification (Paragraph 3).

Attachment:  
Scenario and Objectives  
for October 1989 Drill

SITE EMERGENCY DRILL  
SCHEDULED FOR  
OCTOBER 1989

**GOAL:**

TO DEMONSTRATE CAPABILITIES OF GE WILMINGTON'S EMERGENCY RESPONSE PROCEDURES, PERSONNEL SKILLS, AND INTERACTION OF THE EMERGENCY ORGANIZATION, RESPONSE TEAMS AND OFFSITE AGENCIES IN RESPONDING TO A SITE EMERGENCY.

**PURPOSE OF THE DRILL:**

- o PROVIDE AN EMERGENCY RESPONSE TRAINING EXERCISE CONSISTING OF AN INCIDENT IN THE CONTROL ACCESS AREA.
- o DEMONSTRATE BUILDING EVACUATION AND PERSONNEL ACCOUNTABILITY PROCEDURES.
- o PROVIDE SUFFICIENT CHALLENGES TO THE EMERGENCY ORGANIZATION TO DEMONSTRATE THEIR STATE OF RESPONSE AND READINESS.
- o PROVIDE INTERACTION OPPORTUNITIES BETWEEN OFFSITE SUPPORT AGENCIES AND SITE PERSONNEL.
- o PROVIDE FOR THE TRANSFER OF INJURED PERSONNEL BY AN OFFSITE AGENCY.
- o DEMONSTRATE OFFSITE NOTIFICATION BY GE SECURITY.
- o PROVIDE FOR MEDIA NOTIFICATION AND RESPONSE.

JHB  
AUGUST 1989



**SITE EMERGENCY DRILL  
SCHEDULED FOR  
OCTOBER 1989**

**SCENARIO:** A FIRE BREAKS OUT IN THE FMO CHILLER ROOM. THE FIRE RESULTS FROM A LEAKING TRANSFORMER SPRAYING OIL ACROSS A MOTOR WHICH BURST INTO FLAMES. RUPTURE OF ADDITIONAL COOLING TUBES RESULTS IN SHORT CIRCUITING ADJACENT POWER LINES RESULTING IN A NUMBER OF EVENTS. AN EMPLOYEE SOUNDS THE AUTOCALL FIRE ALARM. THE FIRE WILL BE OF SUFFICIENT MAGNITUDE TO REQUIRE THE RESPONSE OF THE OFFSITE VOLUNTEER FIRE DEPARTMENT. WHILE ATTEMPTING TO EXTINGUISH THE FIRE, THE CRITICALITY ALARM WILL GO OFF REQUIRING IMMEDIATE EVACUATION AND ASSEMBLY OF THE EMERGENCY RESPONSE ORGANIZATION. ADDITIONALLY THE FIRE WILL CAUSE A LOSS OF POWER WHICH WILL AFFECT THE EXHAUST BLOWER SYSTEMS FROM THE GADOLINIA SHOP AND THE UO2 SHOP FURNACE ROOM, AND GRINDER ROOM. THERE WILL BE AT LEAST ONE EMPLOYEE OVERCOME BY SMOKE REQUIRING TRANSPORTATION BY THE OFFSITE AMBULANCE SERVICE.

**ANTICIPATED ACTIONS**

AN EMPLOYEE GOING INTO THE AREA TO PERFORM MAINTENANCE ACTIVITIES WILL SEE THE SMOKE AND ACTIVATE A FIRE BOX.

THE EMERGENCY RESPONSE TEAM WILL RESPOND ALONG WITH SECURITY

SECURITY WILL BE REQUESTED TO NOTIFY 911 FOR OUTSIDE FIRE FIGHTING SUPPORT AND SOUND THE 4-1s.

THE FIRE DEPARTMENT WILL ARRIVE ON SCENE EXPECTING TO FIGHT THE FIRE.

THE CRITICALITY ALARM WILL SOUND.

EVACUATION OF THE EMERGENCY RESPONSE TEAM AND BUILDING PERSONNEL WILL OCCUR.

THE SITE WILL BE CLOSED AND PERSONNEL ACCOUNTABILITY PROCEDURES WILL COMMENCE.

THE ERT LEADER WILL RELATE TO THE EMERGENCY DIRECTOR THAT THE FIRE IS IN THE FMO CHILLER ROOM.

THERE WILL BE A LOSS OF POWER AFFECTING THE GAD SHOP, UO2 FURNACE ROOM, AND UO2 GRINDER AREA.

THE ENTRY TEAM WILL BE DISPATCHED TO DETERMINE IF THE CRITICALITY ALARM IS VALID.

RAD PROTECTION PERSONNEL WILL BE DISPATCHED TO THE STAGING AREA TO DETERMINE IF THERE ARE ANY RADIATION EXPOSURES RESULTING FROM THE "CRITICALITY".

THERE WILL BE NO RADIATION READINGS ABOVE BACKGROUND.

INITIAL AIR SAMPLER RESULTS WILL BE ABOVE BACKGROUND (DUE TO RADON). THE ORIGINAL ACTIVITY WILL DECAY RATHER RAPIDLY.

THE FIRE DEPARTMENT WILL BE AUTHORIZED INTO THE CONTROL ACCESS COMPLEX TO FIGHT THE FIRE.

ONE OF THE ERT MEMBERS WILL BE OVERCOME BY SMOKE.

THE MEDIA WILL RESPOND TO THE SITE TO MAKE INQUIRIES AS A RESULT OF 911 DISPATCHING BOTH THE VOLUNTEER FIRE DEPARTMENT AND THE OFF SITE AMBULANCE SERVICE.

THE FIRE WILL BE CONTROLLED, THE CRITICALITY ALARM WAS CAUSED BY THE FIRE, AND THE LOSS OF VENTILATION DID NOT RESULT IN A SPREAD OF CONTAMINATION.

AN ALTERNATE POWER SUPPLY OR SYSTEM REPAIR WILL BE REQUIRED BEFORE RESTARTING THE EXHAUST BLOWERS AND ALLOWING THE WORKERS TO RETURN TO AFFECTED WORK AREAS.