



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

Report No.: 70-1113/93-01

Licensee: General Electric Company
Wilmington, NC 28401

Docket No.: 70-1113

License No.: SNM-1097

Facility Name: Nuclear Fuel and Components Manufacturing

Inspection Conducted: January 11-15, 1993

Inspector:

G. L. Troup
G. L. Troup, Fuel Facility Project Inspector

2/2/93

Date Signed

Approved by:

E. J. McAlpine
E. J. McAlpine, Chief, Chief
Radiation Safety Projects Section
Nuclear Material Safety and Safeguards Branch
Division of Radiation Safety and Safeguards

2/2/93

Date Signed

SUMMARY

Scope:

This routine, unannounced inspection was conducted in the areas of management controls, facility changes, facility operations, and follow-up of previously identified items.

Results:

Within the scope of the inspection, no violations or deviations were identified. One area identified which needs improvement is the control of periodic inspections to implement nuclear safety requirements (Paragraph 3.d).

REPORT DETAILS

1. Persons Contacted

- *S. Babb, Manager, Lagoon Elimination
- W. Becker, Principal Engineer, Reclaim Support Technical Resources
- *G. Bowman, Senior Program Manager, Compliance Improvement
- *T. Brechtlein, Manager, Powder Production
- *D. Brown, Manager, Reclaim and Support
- *M. Chilton, Manager, Fuel Chemical Technical Resources
- T. Flaherty, Manufacturing Engineer
- *T. Hauser, Manager, Environmental Health & Safety and Nuclear Quality Assurance
- *R. Keenan, Program Manager, Compliance Auditing
- O. Ludlow, Manager, Maintenance Strategies
- *D. McCaughey, Nuclear Safety Engineer
- *E. Palmer, Manager, FMO Maintenance
- B. Robinson, Principal Engineer - Nuclear Safety
- H. Shaver, Nuclear Safety Engineer
- *L. Sheely, Senior Program Manager, Fuels
- +*P. Sick, Manager, Quality Assurance
- H. Strickler, Manager, Environmental Protection and Industrial Safety
- *R. Torres, Manager, Radiation Protection
- C. Vaughan, Manager, Regulatory Compliance
- *F. Welfare, Acting Manager, Criticality Safety Engineering
- *T. Winston, Manager, Licensing and Nuclear Materials Management

Other licensee employees contacted during this inspection included area coordinators, operators, planners and technicians.

*Attended exit interview

+Acting Manager, Nuclear Fuel and Components Manufacturing at the exit interview

2. Organization (88005)

On December 1, 1992, the Vice President & General Manager, GE Nuclear Energy announced the creation of a new group within the Nuclear Energy organization. The new organization, Environmental Health & Safety and Nuclear Quality Assurance, incorporates the Regulatory Compliance function from the Nuclear Fuel & Components Manufacturing organization. However, Regulatory Compliance will continue to carry out the responsibilities assigned under the facility license in areas such as nuclear criticality safety, radiation protection, and environmental monitoring. A revision to Part II, Chapter 11 of the license application reflecting this change was submitted to the NRC on December 17, 1992. No licensing action was necessary for the change.

The Manager, Criticality Safety Engineering has been reassigned as a Program Manager in Manufacturing Engineering. An Acting Manager has been appointed pending a management decision on the organization within

Regulatory Compliance. The inspector verified that the Acting Manager met the requirements of Part 1, Section 2.5.3 of the License Application for the position.

No violations or deviations were identified.

3. Surveillance and Inspections (88015, 88025)

- a. Nuclear Safety Instruction (NSI) 0-4.0, Nuclear Safety Instrumentation, Appendix C specifies the requirements for the weekly checks and alarm (horn) tests and for the annual calibration of the criticality monitoring system detectors. Technician Information Document XVI, Part C provides detailed instructions for doing the checks and calibrations by the technicians.

The inspector reviewed the records for the annual calibration of the installed detectors conducted in November 1992. All detectors responded within the specified range for the two points. The inspector also reviewed the records for the weekly source response and horn checks for the months of June and December, 1992. During a test in June, one detector failed to respond within specification. A work order was written to replace the detector. Subsequent checks were within specification. All other checks and tests were within specification.

No violations or deviation were identified

- b. Nuclear Safety Release/Requirements (NSR/R) 02.01.18 incorporates the list of Active Engineered Controls (AECs) for systems in the Uranium Recycle Unit (URU) which must be functionally tested annually per Section 6.7 of the License Application. A total of 102 controls are covered by the NSR/R. The inspector reviewed the memorandum which summarized the testing and selected completed Functional Test Instructions (FTIs). The inspector noted that during the testing in October - December 1992, 30 tests required revision. The inspector reviewed selected procedures and verified that the changes had been properly approved. For tests that failed initially, the inspector reviewed the completed test for five tests after corrective actions had been taken and determined that the results were satisfactory.

No violations or deviations were identified.

- c. Inspector Follow-up Item (IFI) 91-06-13, Implementation of Functional Test Controls, dealt with the need to establish a system to assure that FTIs were identified as becoming due and the status tracked to assure that control is maintained. A pilot program has been instituted using the MIPVAX system to track 12 FTIs. The objective is to eventually be able to track and schedule the tests. While the pilot program is based on URU tests, a control system to assure completion of FTIs will be

required for other portions of the plant (such as URLS and HiE). In conjunction with this activity, the licensee has a review of FTIs on-going to update the tests to reflect operational acceptability as compared to the preoperational or acceptance test, as many FTIs were written. The result of these activities will be reviewed during subsequent inspections. IFI 91-06-13 remains open.

No violations or deviations were identified.

- d. Process Requirement and Operator Documents (PRODs) require that certain process tanks and sumps be periodically inspected for the accumulation of uranium-bearing materials. The frequency of inspection varies between tanks based on the potential for precipitation during the process. The PRODs require the results of the inspections be reported to Nuclear Safety Engineering. The inspection results were reported by various memoranda but there was no single file or computer file that recorded the completion and forecast the next inspection due date. Since the conduct of these inspections require that the tanks be out of service, the use of the MIPVAX or other data base system may be used to document the status. Licensee representatives stated that a mechanism to track these inspections would be investigated.

No violations or deviations were identified.

4. System Modifications (88015)

As part of the licensee's program to upgrade the control of uranium-bearing streams going to unfavorable geometry tanks, modifications were made to the Fluoride Waste (FW) to install automatic measurement instrumentation (in-line uranium monitors) and associated control valves in the discharge line and the recycle line. These modifications are similar to those installed in the Nitrate Waste and Rad Waste systems under Performance Improvement Program, Item 6.

The inspector reviewed the Facility Change Requests (FCRs), updated system drawings, operating procedures, and completed functional tests for the controls. The installations were handled as two separate modifications. The inspector reviewed the completed FCRs and determined that the requirements had been signed off and the modifications released for use. During the inspector period, the inspector observed the operation of part of the system.

No violations or deviations were identified

5. Review of Operational Safety Assessment Findings (99025)

An Operational Safety Assessment (OAS) was conducted by the NRC at the licensee's facility in March 1991. Findings of the assessment were reported in Inspection Report 70-1113/91-02. By letter dated August 23, 1991, the licensee responded to the assessment findings and described the corrective actions being taken on the specific follow-up items.

- a. IFI 91-02-02 addressed ineffective preventive maintenance (PM) for rotating machinery, which was evidenced by discolored oil in the sight glasses of small pumps and other rotating machinery. The licensee's response, dated August 23, 1991, stated that PM requirements would be established using the MIPVAX computer system.
- b. The inspector discussed the PM programs which had been established with maintenance personnel. The PM programs have been established at three levels (planned, preventive and predictive) and are applicable to all rotating machinery (such as centrifuges and defluorinators), not just pumps. The different levels of the PM program are conducted at different frequencies, such as weekly for planned. All activities are scheduled and completion documented in the MIPVAX system. Special repairs are also documented by work order, and entered into the system. The inspector also discussed the methods in use as part of the predictive maintenance program.
- c. Based on the discussions with maintenance personnel and the records from the MIPVAX system, the inspector determined that the licensee had implemented the PM program as committed. IFI 91-02-02 is closed.

6. Audits (88005, 88015)

Part I, Section 2.8.1 of the license application requires that audits of operations be conducted quarterly to determine that criticality safety and radiation safety requirements are being met. P/P 40-6, "Regulatory Compliance Audits" establishes the criteria and framework for the audit program and NSI E-2.0, "Internal Nuclear Safety Audits" specifies the requirements for planning (pre-audit review, audit plan, etc.) and conducting the audit. NSE has prepared audit books for different areas or operations, which include a check list of NSR/R requirements for that area. The check lists are used both as a planning tool to identify those specific topics which should be checked and as a means to document which items have been checked.

Audit findings are documented in reports and are submitted to the Wilmington Safety Review Committee (WSRC) at quarterly meetings. The WSRC reviews classified and reportable incidents, audit finding (especially those categorized as potential noncompliances (PNCs)). The WSRC is also responsible for evaluating trends in audits findings and the root cause for any commonality. The inspector reviewed the audit report for the fourth quarter, 1992 and discussed the audit findings

with an audit coordinator. Based on the changes which had been made during the last year in the scope of audits, and the trend review by the WSRC, two IFIs relating to the audit program are closed:

- IFI 91-03-04
- IFI 91-06-06

No violations or deviations were identified.

7. Review of Previous Inspection Findings (88010, 88025, 88055)

a. (Closed) Violation 92-12-01

The violation involved the failure to conduct quarterly training for Emergency Response Team (ERT) members on all shifts. Corrective actions to assure that training is scheduled and completed are specified in the licensee's response of October 30, 1992. The inspector reviewed the licensee's system which was established to track the status of training and discussed the implementation of the training with cognizant individuals. The inspector also determined that the all shifts of the ERT received the designated training during the fourth quarter of 1992.

b. (Closed) Violation 92-12-02

The violation involved the failure to conduct inspections and test of alarms involving valves in the fire water system. Corrective action to assure that the required tests are conducted are specified in the licensee's response of October 30, 1992. The inspector reviewed the new check lists and methods used to verify that the valves are inspected and tested as required. The inspector also discussed the additional training which had been provided to the personnel who perform the tests. Since monthly tests involve verifying that alarms sound in the emergency center when the valves are closed, a licensee representative advised the inspector that the installation of a separate printer to log the alarms was being considered. This would create a record copy of the alarm tests without disrupting the official alarm recorder.

8. Exit Interview (30703)

The inspection scope and results were summarized on January 15, 1993, with those persons indicated in Paragraph 1. The inspector described these areas inspected and discussed in detail the inspection findings and the inspector's observations.

Although proprietary documents and processes were reviewed during the inspection, proprietary information is not contained in this report.