



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
101 MARIETTA ST., N.W., SUITE 3100  
ATLANTA, GEORGIA 30303

September 8, 1982

Report No. 50-160/82-02

Licensee: Georgia Institute of Technology  
225 North Avenue  
Atlanta, GA 30332

Facility Name: Georgia Tech Research Reactor

Docket No. 50-160

License No. R-97

Inspection at Georgia Institute of Technology site near Atlanta, Georgia

Inspector: W. W. Peery

9/7/82  
Date Signed

Approved by: K. Barr  
K. Barr, Section Chief  
Technical Inspection Branch  
Division of Engineering and Technical Programs

9/7/82  
Date Signed

SUMMARY

Inspection on August 25-26, 1982

Areas Inspected

This routine, unannounced inspection involved 16 inspector-hours on site in the areas of radiation protection.

Results

Of the six areas inspected, no violations or deviations were identified in four areas; two apparent violations were found in two areas.

## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- M. V. Davis, Director, Nuclear Research Center
- \*R. S. Kirkland, Reactor Supervisor
- \*R. M. Boyd, Radiation Safety Officer
- \*S. N. Millspaugh, Safety Engineer

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on August 26, 1982, with those persons indicated in paragraph 1 above.

### 3. Licensee Action on Previous Enforcement Matters

Not inspected.

### 4. Unresolved Items

Unresolved items were not identified during this inspection.

### 5. Radiation Control Procedures

The inspector reviewed licensee procedures as follows:

- Radiation Safety Manual - Georgia Institute of Technology
- Health Physics Procedures - Frank H. Neely Nuclear Research Center
- Radiological Safety Short Course - Georgia Institute of Technology

One change was noted in the Radiation Safety Manual in that requirements for Bioassays had been added. All procedures were satisfactory and the inspector had no further questions.

### 6. Posting, Labeling and Access Control

The inspector observed posting and labeling throughout the GTRR and found no violations. Access control to the restricted area was observed to be effective.

### 7. Protective Clothing

The inspector determined that protective clothing was available for use by individuals working with radioactive materials.

## 8. Personnel Monitoring Devices

The inspector observed that TLDs and pocket dosimeters were available and being used to monitor personnel exposures. No violations were noted.

## 9. Exit Monitoring

The inspector observed that an appropriate and operable frisker instrument for personnel contamination surveys was available and being used at the exit to the controlled area. No violations were noted.

## 10. Training

The Radiation Safety Officer teaches a radiological safety course four times each year and he requires that each investigator using radioactive material furnish documentation of training and experience in the use of radioactive materials. The RSO stated that he has frequent communications with principal investigators. No violations were noted.

## 11. Radiation Survey

A radiation and contamination survey was performed and the results compared well with the results of the licensee's latest survey. No unexpected or unusual readings were found. No violations were detected.

## 12. Instrument Calibration

The inspector determined that the licensee has a properly equipped calibration facility and known strength sources for instrument calibration. Procedures were available and discussions with a licensee representative revealed that the methods employed in calibration of the instruments were satisfactory. All of the instruments observed had up to date calibration stickers. No violations were found.

## 13. Personnel Exposure Records

Personnel exposure records for the years of 1981 and 1982 to the present were reviewed and a maximum monthly exposure of 240 mrem was noted in 1981 and a maximum monthly exposure of 310 mrem thus far in 1982. The majority of the positive readings were in the range of 20-40 mrem/month and all readings were well below 1250 mrem/quarter. No violations were found.

## 14. Radiation and Contamination Surveys

Records of radiation and contamination surveys were reviewed and the inspector determined that routine and special surveys have been adequate. The survey performed at the time of this inspection gave satisfactory comparative results with the results of the licensee's latest survey results. No violations were detected.

## 15. Records Review

Other records reviewed by the inspector were as follows:

Bioassays  
Radiation Work Permits  
Instrument Calibrations  
Dehumidifier Sample Results  
Tritium Trap Results  
Air Sample Results  
Liquid Waste Sample Results

No violations were found.

## 16. Violation of 10 CFR 20

On GTRR, Form RS-37, "Report of Violations of Health Physics Procedures" the licensee identified a violation of 10 CFR 20.203, "Caution Signs, Labels, Signals and Controls" in that the doors to the Process Equipment Room were left open and unattended on May 5, 1980. Radiation levels in excess of 100 mrem per hour exist in the room constituting a high radiation area which is usually maintained locked when unattended. Licensee corrective actions included discussions of the incident with the individual responsible. There has been no known recurrence of the incident. No overexposures resulted from the incident.

## 17. Violation of Licensee Procedure

On Form RS-37, dated May 13, 1982, the licensee identified a violation of licensee procedures in that an individual removed material from a penetration of the biological shield of the reactor without a Health Physics survey. Also, on May 14, 1982, this individual was observed working with radioactive material without gloves. Radiation Work Permit No. 5910, dated May 13, 1982, was issued for the work involving the biological shield and the work permit stated that Health Physics monitoring was required. Technical Specification 6.4 requires that procedures for radiation and radioactive contamination control shall be provided and utilized. Health Physics Procedures - Frank H. Neely Nuclear Research Center, Section 8, states that a Health Physics survey is required during the removal of any material from a penetration of the biological shield of the reactor. The Georgia Institute of Technology Radiation Safety Manual states that gloves shall be required when working with loose radioactive materials. A licensee representative stated that the failures to follow procedures were discussed with the individual involved and he now understands the necessity of complying with procedural requirements. The inspector further discussed the violations during the exit interview and received verification that the corrective action has been effective. There have been no recurrences and no overexposures occurred.