

March 15, 2000

Dr. Nolan Hertel, Director  
Neely Nuclear Research Center  
Georgia Institute of Technology  
900 Atlantic Drive  
Atlanta, GA 30332-0425

SUBJECT: NRC INSPECTION REPORT NO. 50-160/00-201

Dear Dr. Hertel:

On January 10 & 13, and February 11, 18 & 24, 2000, the NRC conducted an inspection of your Georgia Institute of Technology Research Reactor facility. The enclosed report presents the results of that inspection.

Various aspects of your organization and proposed decommissioning activities were reviewed and inspected. This inspection included interviews with personnel and observation of activities in progress. No problems were noted during the inspection.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room (PDR).

If there are any questions concerning this letter, please contact Mr. Craig Bassett at 404-562-4712.

Sincerely,

*/RA/*

Ledyard B. Marsh, Chief  
Events Assessment, Generic Communications  
and Non-Power Reactors Branch  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Docket No.: 50-160

License No.: R-97

Enclosure: NRC Inspection Report  
No. 50-160/00-201

cc w/enclosure: Please see next page

Georgia

Docket No. 50-160

cc:

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U. S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR REACTOR REGULATION

Docket No: 50-160

License No: R-97

Report No: 50-160/00-201

Licensee: Georgia Institute of Technology

Facility: Georgia Institute of Technology Research Reactor (GTRR)

Location: 900 Atlantic Drive  
Atlanta, GA 30332

Dates: January 10 & 13, and February 11, 18 & 24, 2000

Inspector: C. H. Bassett, Non-Power Reactor (NPR) Inspector

Approved by: Ledyard B. Marsh, Chief  
Events Assessment, Generic Communications  
and Non-Power Reactors Branch  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

## EXECUTIVE SUMMARY

Georgia Institute of Technology  
Report No: 50-160/00-201

The primary focus of this routine, announced inspection was the on-site review of selected programs of this Class III non-power reactor including licensee and contractor organization, ongoing decommissioning activities, and transportation of radioactive material.

### Organization and Staffing

- The licensee's organization and staffing level were in compliance with the requirements specified in the Technical Specifications and the Decommissioning Plan.
- The staffing level was acceptable for current activities.

### Proposed Decommissioning Activities

- The Decommissioning Contractor was generally following the schedule which indicates that the decommissioning will be completed by the middle of the year.
- Surveys were being completed and documented acceptably to permit evaluation of the radiation hazards that might exist.
- Postings satisfied regulatory requirements.
- Personnel dosimetry was being worn as required and doses were well within the licensee's specified procedural action levels and regulatory limits.
- Radiation monitoring equipment was being maintained and calibrated as required.
- The respiratory protection program and the bioassay program satisfy regulatory requirements.
- The program for monitoring radioactive effluents was acceptable.

### Transportation

- The program for shipping radioactive material was consistent with regulatory requirements.

## REPORT DETAILS

### Summary of Plant Status

From 1964 through 1995, the licensee operated a heavy water moderated and cooled research reactor at the Neely Nuclear Research Center (NNRC). The reactor was shut down on November 17, 1995, in preparation for the Olympic Games. All reactor fuel was removed from the site in 1996 and no fuel has been returned to the facility since that time. The reactor has remained permanently shut down since November 1995. On July 22, 1999, following a request by the licensee and a review by the NRC, Amendment No. 14 to Facility License No. R-97 was issued which authorized decommissioning of the GTRR pursuant to 10 CFR 50.82(b).

#### **1. Organization and Staffing (40755)**

##### a. Inspection Scope

The inspector reviewed the following regarding the licensee's organization and staffing to ensure that the requirements of Sections 5.1.a and 5.1.b of the Technical Specification (TS) and Section 2.4 of the Decommissioning Plan (DP) were being met:

- the licensee and contractor organizational structure
- management responsibilities
- staffing for decommissioning of the GTRR
- resources being committed to the work

##### b. Observations and Findings

Through discussions with licensee representatives and contractor personnel, the inspector determined that management responsibilities and the organization at the facility meet the requirements specified in the TS and the DP. The inspector determined that the Director of the NNRC retains overall responsibility for direction of the decommissioning of the facility and the Radiation Safety Officer advises the Director and the Technical Safety Review Committee (TSRC) in matters pertaining to radiological safety. An Executive Engineer has been hired and was on site serving as the decommissioning consultant for the licensee and providing overall contractual direction to the decommissioning contractor.

Roles and responsibilities of the Decommissioning Contractor (DC) were also discussed. The DC has the responsibility of performing engineering, decommissioning work, waste packaging and disposal, and completing the final release survey.

The inspector determined that the current licensee and contractor staffing levels were adequate to support the activities being conducted at the facility.

##### c. Conclusions

The licensee's organization was in compliance with the requirements specified in the TS and the DP and the current staffing level was acceptable for ongoing activities.

## 2. Decommissioning Activities (40755)

### a. Inspection Scope

In order to verify that activities at the site were proceeding as outlined in the Decommissioning Schedule and in the DP, the inspector reviewed:

- DC schedule and plans
- safety reviews and audit records
- the Radiation Protection Program
- radiological signs and posting
- routine surveys and monitoring
- dosimetry records
- maintenance and calibration of radiation monitoring equipment
- the environmental monitoring program
- effluent release records

### b. Observations and Findings

DC personnel have been following their general schedule for completion of the decommissioning project. The schedule, with a few approved modifications, was the one that had been outlined in the DP. The schedule indicates that the decommissioning will be completed by the middle of this year.

Records showed that the safety reviews were conducted as required in the Technical Specification and the Decommissioning Plan. Topics of these reviews were also consistent with TS requirements to provide guidance, direction, and oversight. Audits were conducted and the audit records show that audits have been completed in those areas outlined in the TS and at the required frequency.

Copies of NRC Form 3, "Notice to Employees," were posted in accordance with 10 CFR 19.11. Caution signs, postings and controls to radiation areas were as required in 10 CFR 20, Subpart J. The inspector noted licensee and DC personnel following the indicated precautions for access the radiation areas.

Use of dosimeters and exit frisking practices were in accordance with radiation protection requirements. The licensee and the contractor were using a National Voluntary Laboratory Accreditation Program (NVLAP)-accredited vendor to process dosimetry. Radiological exposure records showed that occupational doses and doses to the public were within 10 CFR Part 20 limitations. Training records showed that personnel were acceptably trained in radiation protection practices.

Radiation monitoring and survey activities were as required. Equipment used for these activities was maintained, calibrated, and used acceptably.

The licensee's respiratory protection program and bioassay program were in compliance with the regulations.

The program for the monitoring and storage of radioactive liquid, gases, and solids was acceptable. Radioactive effluents were monitored and released when below acceptable limits or as outlined in licensee procedures and the regulations. The principles of As Low As Reasonably Achievable were acceptably implemented to minimize radioactive

releases. Monitoring equipment was acceptably maintained and calibrated. Records were current and acceptably maintained.

c. Conclusions

The Decommissioning Contractor was generally following the schedule and was using sufficient personnel to complete the job as projected. Surveys were completed and documented acceptably to permit evaluation of the radiation hazards that might exist. Postings satisfy regulatory requirements. Personnel dosimetry was worn as required and doses were well within the licensee's specified procedural action levels and regulatory limits. Radiation monitoring equipment was being maintained and calibrated as required. The respiratory protection program and bioassay program were in compliance with the regulations. The program for monitoring radioactive effluents was acceptable.

**3. Transportation of Radioactive Materials (86740)**

a. Inspection Scope

In order to verify that transportation activities were proceeding as outlined in the Decommissioning Plan, the inspector reviewed:

- radioactive materials shipping procedures
- radioactive materials transportation and transfer records

b. Observations and Findings

Records showed that the radioactive waste material for disposal was shipped in accordance with the applicable regulations. This program for radioactive material transport was consistent with license requirements.

c. Conclusions

The program for shipping radioactive material was consistent with regulatory requirements.

**4. Exit Meeting Summary**

The inspection scope and results were summarized on February 24, 2000, with licensee representatives. NRC personnel discussed the findings for the areas reviewed. The licensee did not identify any of the materials provided during the inspection as proprietary.



## PARTIAL LIST OF PERSONS CONTACTED

### Licensee Personnel

N. Davidson, Associate Dean, College of Engineering  
E. Guida, Director, Environmental Health and Safety  
N. Hertel, Director, Neely Nuclear Research Center  
R. Ice, Manager, Office of Radiation Safety  
E. Jawdeh, Research Scientist  
W. Miller, Project Manager and Using Agent's Representative  
F. Strydom, Research Scientist

### Contractor Personnel

J. Bell, Project Manager - Energy and Nuclear, IT Corporation  
R. Eby, Executive Engineer, (Vice President Energy, Environment, and Systems)  
CH2M HILL  
P. Jones, Decommissioning Technician, GTS Duratek  
G. Kalinauskas, Senior Project Engineer, IT Corporation  
P. Mann, Project Manager, GTS Duratek  
S. Marske, Project Manager, CH2M HILL

## INSPECTION PROCEDURE USED

IP 40755 Class III Non-Power Reactors  
IP 86740 Inspection of Transportation Activities

## ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

None

### Closed

None

## LIST OF ACRONYMS USED

CFR	Code of Federal Regulations
DC	Decommissioning Contractor
DP	Decommissioning Plan
GTRR	Georgia Institute of Technology Research Reactor
NNRC	Neely Nuclear Research Center
NPR	Non-Power Reactor
NRC	Nuclear Regulatory Commission
NVLAP	National Voluntary Laboratory Accreditation Program
TS	Technical Specifications
TSRC	Technical Safety Review Committee