September 9, 1996

Georgia Institute of Technology
ATTN: Dr. Ratib A. Karam, Director
Neely Nuclear Research Center
225 North Avenue
Atlanta, GA 30332

SUBJECT: NRC INSPECTION REPORT NO. 50-160/96-02

Dear Dr. Karam:

Thank you for your response of July 18, 1996, to our Notice of Violation which was issued on July 3, 1996, concerning activities conducted at your Georgia Institute of Technology Research Reactor. We have examined your response and found that it meets the requirements of 10 CFR 2.201.

In your response, you provided corrective actions for both cited violations (A and B). You denied that violation B was committed under your NRC license. After careful consideration of the bases of your denial of the violation, we have concluded, for reasons presented in the enclosure to this letter, that the violation occurred as stated in the Notice of Violation. We also determined that the violation should be modified to make it clear that it was for NRC licensed activities connected with the shipment of unirradiated and irradiated reactor fuel in January and February 1996. No further response regarding this violation is necessary because your July 18, 1996, response described the steps which you plan to take to correct the violation, the results you expect to achieve, the corrective steps which will be taken to avoid further violations, and the date when full compliance will be achieved. You should note, however, that training under your Procedure 9510 alone, does not satisfy the training requirements set forth in 49 CFR 172.704 as indicated in Enclosure 1. A revised Notice of Violation is presented in Enclosure 2.

Your letter requested clear, well-defined boundaries for jurisdictional responsibilities between the NRC and the State of Georgia in this case. In the case of transportation, the boundaries are clear, the transport of materials, defined as licensed materials in 10 CFR 71.4, is subject to NRC jurisdiction.

Your corrective actions associated with the violations and the deviation noted in NRC Inspection Report 50-160/96-02 will be reviewed during future inspections.

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Should you have any questions concerning this letter, please contact us.

Sincerely,

Bruce S. Mallett, Director
Division of Nuclear Materials Safety

Docket No. 50-160
License No. R-97

Enclosures: 1. Evaluation and Conclusion
2. Revised Notice of Violation

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EVALUATION AND CONCLUSION

On July 3, 1996, a Notice of Violation (Notice) was issued for violations identified during a routine NRC inspection. Georgia Institute of Technology (Georgia Tech) responded to the Notice on July 18, 1996. In that response, Georgia Tech denied violation B. The NRC's evaluation and conclusion regarding the licensee's arguments are as follows:

Restatement of the Violation:

10 CFR 71.5 requires each licensee who transports licensed material outside the confines of its plant or other place of use to comply with the applicable requirements of the Department of Transportation (DOT) in 49 CFR Parts 170 through 189.

49 CFR 172.704(a) specifies the general awareness, function specific, and safety training requirements for hazmat employees.

49 CFR 172.704(c) specifies that a hazmat employee employed after July 2, 1993 shall be initially trained prior to October 1, 1993 and at least once every two years thereafter.

49 CFR 172.704(d)(4) requires certification that the hazmat employee has been trained and tested as required by this subpart.

49 CFR 171.8 defines a hazmat employee as an individual employed by a hazmat employer who, during the course of employment, loads or unloads or handles hazardous materials; prepares hazardous material for transportation; is responsible for safety of transporting hazardous materials; or tests, reconditions, modifies, marks, or otherwise represents containers, drums, or packagings as qualified for use in the transportation of hazardous materials.

49 CFR 172.702(d) requires each hazmat employer to ensure that each hazmat employee is tested by appropriate means on the training subjects covered in 49 CFR 172.704.

Contrary to the above, since October 1, 1993, the licensee failed to train and appropriately test all hazmat employees on the subjects covered in 49 CFR 172.704 in that the hazmat employees had not received the specified training with the exception of one employee who was trained on the safety portions of the requirements of 49 CFR 172 in December 1995.

Summary of Licensee's Response:

The licensee admitted that all employees at the Neely Research Center were not trained and appropriately tested for safe handling, packaging, and shipping of hazardous material. The licensee argued that, although only one employee had been trained and tested in compliance with the requirements of 49 CFR 172.704, no shipments of hazardous materials were made under the NRC license until

January 31, 1996. All the other shipments containing radioactive material from Georgia Tech were made under the broad license, which is under the regulatory authority of the State of Georgia. The licensee also argued that training on the material covered in Procedure 9510, Radioactive Material Shipment, met or exceeded the requirements in 49 CFR 172.704. Therefore, the only deficiency was that the licensee did not test the trainees on their proficiency in all relevant materials in Procedure 9510.

NRC Evaluation:

The NRC concludes that the licensee's argument that there were no shipments of material under the NRC jurisdiction is invalid. There was one shipment of unirradiated fuel made on January 31, 1996 and a second shipment of irradiated fuel made on February 18, 1996 under the NRC license. With regard to the other shipments made, during the period an NRC inspector reviewed the shipping documents for radioactive material shipped from August 1994 through April 1996. Because the shipments appeared to be a mixture of NRC and State of Georgia-licensed material, the nature of the material and the license under which the material was shipped were discussed with licensee representatives during the inspection. The Manager, Office of Radiation Safety (MORS) indicated that several of the shipments made during that period had been made under the NRC license. This clarification was accepted by the inspector because the shipping documents appeared to indicate that several shipments were made under the NRC license. The licensee's response counters this by saying, in writing, that the shipments were made under the broad license, which is under the State of Georgia jurisdiction. The NRC accepts this and will modify the violation to state that it only occurred with regard to the shipments made under NRC jurisdiction.

The licensee admitted that only one employee had been trained, tested, and certified in all the requirements of 49 CFR 172.704 at the time the irradiated fuel shipment was made on January 31, 1996. However, the licensee indicated that one staff member was trained in an OSHA course and the health physics staff were trained in the licensee's procedures.

As stated in the Notice, 49 CFR 171.8 defines a hazmat employee as an individual employed by a hazmat employer who, during the course of employment, loads or unloads or handles hazardous materials; prepares hazardous material for transportation; is responsible for the safety of transporting hazardous materials; or tests, reconditions, modifies, marks, or otherwise represents containers, drums, or packagings as qualified for use in the transportation of hazardous materials. As indicated, this requirement applies not only to those who handle hazardous material but to those who represent or certify that the packagings are qualified for use. In the case of Georgia Tech, this definition would apply to those who routinely handle hazardous (radioactive) material, to those who package the material for shipment, and to those who represent or certify that the packaging is qualified for use in transportation of hazardous material such as a person who reviews the shipping papers and signs that the paperwork is in order and the material is ready to be shipped. Specifically, this requirement would apply to health physics personnel and to

the MORS because they routinely prepare the radioactive material for shipment, review the shipping paperwork to ensure that the shipment complies with the regulations, and are responsible for the safety of transporting hazardous materials. Given the fact that employees who handled the material as described above were not trained and tested, the violation should stand as issued.

The licensee also argued that training on the material covered in Procedure 9510, Radioactive Material Shipment, met or exceeded the requirements in 49 CFR 172.704; however, a deficiency existed in that the licensee did not test the trainees on their proficiency in all relevant materials in Procedure 9510. 49 CFR 172.704 specifies that hazmat employee training shall include the following: (1) General awareness/familiarization training; (2) Function-specific training; and (3) Safety training. Although the licensee's procedure appears to provide an acceptable method for packaging and shipping of radioactive materials to ensure that package integrity is maintained during transportation and to ensure compliance with the shipping regulations, it did not satisfy the content, testing and certification requirements of 49 CFR 172.704. Specifically, the following was noted: (1) the procedure did not address how the employee is to recognize and identify hazardous materials consistent with the hazards communications standards as part of the General awareness/familiarization training; (2) the procedure did not include emergency response information required by subpart G of part 172 as part of the Safety training; (3) the procedure did not include the measures for protecting employees from the dangers associated with hazardous materials to which they may be exposed in the work place. This includes specific measures the hazmat employer has implemented to protect employees from exposure and the methods and procedures for avoiding accidents, such as the proper procedures for handling packages containing hazardous materials as part of the Safety training.

NRC Conclusion:

For the above stated reasons, the NRC staff concludes that the violation occurred as stated, but should be modified to indicate it was only for shipments of materials licensed by the NRC.