

July 17, 2003

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

Dear Dr. Hertel:

SUBJECT: CORRECTION TO NRC INSPECTION REPORT NO. 50-160/2002-201

This letter refers to Inspection Report No. 50-160/2002-201 dated June 24, 2003, ADAMS Accession Number ML031490485.

Due to a word processing error, the exposure rate units, referred to in Section 7.b.4 of the report, were incorrect. The correct units are  $\mu\text{R/h}$ , rather than R/h as shown in the report.

For your convenience we have enclosed a corrected report page.

We apologize for any inconvenience this may have caused. Should you have any questions concerning this letter, please contact Mr. Stephen Holmes at 301-415-8583.

Sincerely,

***/RA by Paul Doyle, Acting for/***

Patrick M. Madden, Section Chief  
Research and Test Reactors Section  
New, Research and Test Reactors Program (RNRP)  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

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

cc w/enclosure: Please see next page

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ADAMS ACCESSION NO.: ML031980548

TEMPLATE #: NRR-106

OFFICE	RNRP:LA	RNRP:RI	RNRP:SC
NAME	EHylton:rdr	SHolmes	PMadden
DATE	07/ 17 /2003	07/ 17 /2003	07/ 17 /2003

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were collected at each direct measurement location for determining removable gross alpha and gross beta activity. Wet smears were collected from areas adjacent to direct measurement locations to determine the H-3 and C-14 activity. Direct measurements were performed using gas proportional detectors coupled to ratemeter-scalers.

ESSAP identified an activity of 9,700 dpm/100 cm<sup>2</sup> over approximately 0.5 m<sup>2</sup> in the elevated area identified in the Bismuth Leak area, with an average activity of 1700 dpm/100 cm<sup>2</sup> over the contiguous one square meter area. The elevated area identified in the process equipment room was limited to approximately 100 cm<sup>2</sup> with an activity of 4,100 dpm/100 cm<sup>2</sup>. An activity range of 2,700 to 5,100 dpm/100 cm<sup>2</sup> was determined for the concrete block in the air compressor room, which GIT claimed resulted from naturally occurring radioactive material in the blocks. Confirmatory scans on the interior and exterior of the room found the radiation levels to be evenly distributed throughout the blocks, confirming the activity was from the material used to make them. Removable activity levels ranged from 0 to 3 dpm/100 cm<sup>2</sup> for gross alpha and from -5 to 45 dpm/100 cm<sup>2</sup> for gross beta. H-3 removable activity levels ranged from 3 to 466 dpm/100 cm<sup>2</sup>. C-14 removable activity levels ranged from -2 to 86 dpm/100 cm<sup>2</sup>.

#### (4) Exposure Rate Measurements

ESSAP obtained background exposure rate measurements from various locations within the NNRC, having similar construction as the GTRR. The NNRC has a site history of radiological material usage; however, there are no other buildings similar in construction to the GTRR and NNRC on the GIT campus. Exposure rate measurements, using a microrem meter at one meter above the floor, were performed in the center of selected areas or rooms within the GTRR.

Average interior building exposure rates ranged from 9 to 25  $\mu$ R/h. Background exposure rates performed in the NNRC ranged from 18 to 20  $\mu$ R/h.

Exterior exposure rate measurements, using a microrem meter at one meter above the surface, were performed at five random locations from the reactor yard area surrounding the GTRR.

Average exterior exposure rates ranged from 14 to 18  $\mu$ R/h. Background exposure rates performed at various intersections on the GIT campus ranged from 12 to 20  $\mu$ R/h.

#### (5) Sampling

ESSAP collected surface soil (0-15 cm) samples at each exposure rate measurement location.

Analysis of the soil samples by gamma spectroscopy for gamma-emitting mixed fission and activation products identified Cs-137 at typical fall out concentrations. Radionuclide concentrations for Co-60 and Cs-137, which are the predominant radionuclides of concern at research reactor facilities ranged from -0.02 to 0.03