BRANDEIS UNIVERSITY
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ROSENSTIEL BASIC MEDICAL
SCIENCES RESEARCH CENTER
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December 6, 1979

Mr. Robert McClintock
United States Regulatory Commission
Region 1
631 Park Avenue
King of Prussia, PA 19406

Reference License No. 20-01958-05

Dear Mr. McClintock

Following our phone conversation of December 3, 1979, it seems prudent for me to describe two accidental releases to the environment which have occurred at Brandeis in the last three months. Neither release was determined to be reportable under Part 20 Title 10 CFR Section 20.403. I have requested an interpretation of Section 20.405(a)(5) from the Office of the General Council because of confusion regarding that reporting requirement.

On September 26, 1979 approximately five hundred microcuries of volatile iodine-125 were spilled in a fume hood located in room 109-520 during a routine dilution operation being performed by a senior graduate student. The spill resulted from a procedure error by the student who unfortunately was not operating the air sampling apparatus due to his belief that it was only required during actual iodination. No internal contamination occurred. The hood has a common discharge with other hoods and building ventilation which would allow a total annual discharge of 15.56 curies of iodine-125. The most possible acute release was then about twelve days maximum permissible.

On October 18, 1979 a five milliliter round bottom flask containing 500 millicuries of tritium exploded in a hood in room 70-215. This hood has a separate discharge to the unrestricted roof area which was measured after the accident and conservatively estimated at three hundred cubic feet of air per minute. A total annual discharge of 892 millicuries of tritium per year is thus permitted according to section 20.106. In this instance one graduate student received a whole body internal exposure of 212 millirem due to his efforts to contain the release.

In both instances, the worst potential release had been used for the effluent calculations. Appropriate controls have been initiated to prevent recurrence of these releases. My opinion and also that of our consultant, Mr. Murray Bolton of the Massachusetts Institute of Technology, is that neither release is reportable.

Sincerely,

Andrew H. Mattox

Andrew H. Mattox
Radiation Safety Officer

AHM/efh