National Aeronautics and Space Administration

Goddard Space Flight Center Greenbelt, Maryland 20771

APR 1 8 1996

Reply to Attn of 205.2

U.S. Nuclear Regulatory Commission Region 1 631 Park Avenue King of Prussia, Pennsylvania 19406

SUBJECT: Inspection No. 030-04538/85-01 and 030-06929/85-01

This is in reply to your letter dated April 3, 1986.

Enclosed is a copy of our amendment application to License No. 19-05748-03. Item 6 lists the names of additional users. Item 16 and 17 contain the resumes of these persons. Claude Smith and James Shea will operate irradiators under the supervision of Steven Brown, Sidney Brashears or Robert Nisson.

If you have any questions, contact Robert Nisson at (301) 344-6297.

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Leon Christiansen, Head Health and Safety Branch

Enclosure

FEE EXEMPT

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205.2

Division of Fuel Cycle and Material Safety Office of Nuclear Material Safety & Safeguards U.S. Nuclear Regulatory Commission Washington, D.C. 20555

SUBJECT: Amendment Application to License No. 19-05748-03

This is a request to amend License No. 19-05748-03.

If you have any questions, contact Robert S. Misson at (301) 344-6297.

Leon Christiansen, Head Health and Safety Branch

205/108/RSN/lap:3/20/86

Refer to NRC Form 313 I application for renewal of license no. 19-05748-03, dated January 20, 1984. The following changes are requested:

Item 6 - Individuals who will use or directly supervise the use of licensed material

- Delete: Julius J. Hirschfield Lawrence E. Bromery
- Add: Steve Brown-custodian/operator Sidney Brashears-operator James Shea-operator Claude Smith-operator (resumes attached in Item 16)

Item 10 - Radiation Detection Instruments

Add: Laboratory instruments for measuring radioactivity: Tracor Northern Model TN-7200 Multi-Channel Analyzer One available Detector: NaI(Tl) Scintillation Range: 2x10 counts Use: Detect and measure gamma rays

> Low background Alpha, beta, gamma counter Baird Model 989005 One available Range: 1x10[°] cpm Detector: Phoswich Use: measure alpha, beta, gamma radiation

Add: Portable survey instruments available for providing radiation safety surveys in vicinity of the sources:

Portable ion chamber, Victoreen 471 RF One available Range: 0.02 mR/hr to 300 R/hr Window thickness: 17 mgm/cm2 magnesium Use: measure x and gamma exposure rates

Item 11 - Method, Frequency and Standard used in Calibrating Instruments used above

The frequency of calibrating the instruments is changed from quarterly to at least yearly by the Health, Safety and Security Office personnel. Instruments located at the irradiation facility will be checked for proper operation and be given a response check with a small check source during the weekly survey of the area. Instruments will be calibrated whenever new batteries or repairs are needed.

Item 13 - Facilities and Equipment

The Zinc Bromide window has become very cloudy and visibility into the irradiation room through it is very limited. It is planned to replace the Zinc Bromide with new Zinc Bromide solution in the near future. A television camera is placed in the irradiation room with readout in the control room when clear viewing is needed.

Item 14 - Radiation Protection Program

Entry into the RESTRICTED AREA is controlled by a four digit cipher lock and intercom system. Persons entering the area press a button and state their purpose of entry. Any work to be performed by maintenance persons will be assessed and instruction will be provided to keep their doses as low as reasonably achievable. The area of work will be monitored and appropriate radiation warning signs will be conspicuously displayed. Item 16 and 17

Formal training in Radiation Safety and Experience

Resume for individuals named in Items 6 and 7 are attached.

Steven K. Brown

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Cobalt-60 Irradiators Custodian/Operator

Employer - NASA/GSFC, Office of Flight Assurance

Experience with Radiation

GSFC - 22 years using 2 MEV Van de Graaff Accelerators and x-ray generator for test and calibration of scientific instruments.

22 years using millicurie activity sources in test and calibration of laboratory and flight instruments.

has 5 months experience in using Cobalt-60 irradiators under supervision of former irradiator custodian and operator.

Education and Training

B.S. Physics - Clark University - 4 years of on-the-job and formal training in principles of radiation protection, radioactivity measurements and monitoring techniques and instruments, mathematics and calculations basic to the use and measurement of radioactivity, and biological effects of radiation.

In the transition of responsibilities for the Radiation Effects Facility he received instruction in the safety system and operating procedures of the Cobalt-60 irradiators from J. Hirschfield and L. Bromery.

Mr. Brown is approved by the GSFC Radiation Safety Committee as custodian and operator of the Cobalt-60 irradiators. He has also been appointed as a member to the Radiation Safety Committee.

Co-60 Irradiator Operator

Sidney Brashears

Employer - Sperry

Experience with Radiation

GSFC - 10 years Co-60 irradiator operator experience under supervision of J. Hirschfield and L. Bromery. Approved as operator of irradiators under this provision by Radiation Safety Committee (1982)

Education and Training

B.S. Physics - University of Maryland

Has over 40 hours of training in the principles of radiation protection. Radioactivity measurements and monitoring techniques and instruments, and calculations basic to the use and measurement of radioactivity. He is thoroughly familiar with the safety system and operating procedures of the Cobalt-60 irradiators.

Mr. Brashears was approved by the Radiation Safety Committee as an operator after the transition from Code 750 to Code 300 during a meeting of the Radiation Safety Committee on Sept. 26, 1985.

Cobalt-60 Irradiator Operator

Claude Smith

Employer - Sperry

Radiation Experience

8 years on-the-job experience operating x-ray generators and Van De Graaff particle accelerators. 8 years on-the-job experience using millicurie strength laboratory sources for calibration of radiation measuring instruments for space flight.

Education & Training

8 years on-the-job training and instruction

8 hours formal course instruction at N.I.H. covering Radioactive sources, Lasers and other radiation hazards.

Currently receiving instructions from Goddard personnel on Radiation Effects Facility Safety System, operating procedures, emergency procedures.

Mr. Smith is approved by the Radiation Safety Committee to operate the Cobalt-60 irradiators under supervision of Mr. Brown, Mr. Brashears, and Mr. Nisson.

Cobalt-60 Irradiator Operator

James Shea

Employer - Sperry

Radiation Experience

3 months on-the-job experience operating the 2 Goddard Co^{60} irradiators.

Education

3 months on-the-job training and instruction. Currently receiving instructions by Goddard Radiation Safety personnel and S. Brown and S. Brashears on a regular basis. Instruction includes Facility Safety System, operating procedures, emergency procedures, principles of radiation protection, radioactivity measurements and monitoring techniques and instruments and calculations basic to the use and measurement of radioactivity.

Mr. Shea is approved by the Radiation Safety Committee to operate the Cobalt-60 irradiators under supervision of Mr. Brown, Mr. Brashears, and Mr. Nisson.