UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

AUG 19 1985

License No. 31-02892-03
Docket No. 030-02623
Control No. 04026

V.A. Medical Center
ATTN: James J. Farsetta
Director
800 Poly Place
Brooklyn, NY 11209

Gentlemen:

This is in reference to your letter received July 1,1985 to amend License No. 31-02892-03. In order to continue our review, we need the following additional information:

1. Describe your protocol for preparation and use of the Si-31 dioxide.

2. In support of your request for 50 millicuries of silicon-31 in silicon dioxide form, you should develop and submit special safety instructions to be provided to individuals using millicurie quantities of Si-31. We recommend that your procedures include, but not be limited to, the following:

   a) The use of low density shielding (such as plexiglass) in order to keep Bremsstrahlung radiation at a minimum.

   b) A mandatory radiation survey and wipe test procedure after each use.

   c) The use of finger-type extremity monitors for procedures that involve 1 millicurie or more.

   d) The use of eye protection for procedures involving 10 millicuries or more of Si-31.

   e) The use of a dry run prior to the performance of unfamiliar procedures in order to correct unexpected complications and to possibly shorten the length of time required to manipulate the Si-31 with the fingers to reduce the substantial radiation dose that can result from the high energy beta-particles emitted. In addition, it is recommended that the radiation protection officer be present during new procedures.

3. For experiments where the Si-31 dioxide will be in a dispersible form, please provide the following information:

   a) Describe how you will monitor the breathing zone concentrations in the areas where the Si-31 dioxide is

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prepared and used. Describe the air sampling equipment used (include the name of the manufacturers and model numbers of the air filter and air pump used) as well as the measured airflow rate of the air pump. State the frequency at which you will evaluate the air samples and a sample calculation showing how you arrive at air concentration values derived from the samples taken with the equipment used.

b) Describe your ventilation system for exhausting airborn Si-31 dust out of the lab area into the environment. Submit calculations (as well as measured exhaust rates of your fume hood or exhaust vents) to demonstrate that air concentration levels for airborne silicon-31 are at (or below) the levels specified in Table II of Appendix B.

c) Submit your bioassay procedures for determining the amount of Si-31 ingested or inhaled, or explain why bioassays will not be necessaary.

We will continue our review of your application upon receipt of the above information. Please reply in duplicate, referencing Control No. 04026.

Sincerely,

John E. Glenn, Ph.D., Chief
Nuclear Materials Safety Section B
Division of Radiation Safety and
Safeguards

cc: James J. Smith, M.D. (115)
Director, Nuclear Medicine Service
VA Central Office
Washington, DC 20420

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