RAYTHEON COMPANY
EXECUTIVE OFFICES

141 SPRING STREET
LEXINGTON, MA 02173

TEL: 617-862-6600
CABLE: RAYTHEONEX
TELEX: 92-3455

April 23, 1985

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P7

Mr. Tom Thompson
U. S. Nuclear Regulatory
Commission - Region I
631 Park Avenue
King of Prussia, PA 19406

Re: Control No. 03510
License No. 06-18105-01
Amendment Request March 6, 1985

Dear Mr. Thompson:

This letter is in response to our phone conversation several weeks ago concerning the training and experience of the new individual users listed in our amendment application to high energy beta radiation.

To give you some background information, the byproduct materials authorized by our license are used for calibrating and testing medical diagnostic equipment. The materials are usually placed in phantoms for imaging purposes. In reviewing the use of beta emitting isotopes, we have not used or had on-site any Cerium 141 or Iodine 131 for the past several years. We do, though, want to retain these materials on our license in the event of a change in product mix or if our research and development activities dictate their need. In such event, we would expect the frequency of their use to be low. In order to assure these materials would be used safely by the new operators, we wish to provide you with the following additional information:

1. The course, Fundamentals of Radiation Protection/ Radiation Worker Training, completed by the individuals listed in our amendment request, did cover the characteristics of beta radiation and associated protective measures. This information was included in the sessions on Types of Radiation and Eye Protection for Beta Radiation (See attached course format). While we would not expect our beta exposure to be at a level which would risk cataract formation, this latter session did cover the special shielding requirements for beta attenuation.

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2. Prior to initiating the use again of Cerium 141 or Iodine 131, we will carefully evaluate the quantities, handling methods, frequency, and operator proximity requirements. Based on this evaluation, we will institute whatever specific procedures, protective equipment and shielding are necessary to minimize beta exposure to lowest practical levels, in addition to the general program procedures described in our application submittal of August 1, 1978. This would likely involve the use of gloves, remote handling tongs, plexiglas shields, aprons, and glasses. Personnel monitoring of beta exposure to the hands will be performed if our evaluation deems it necessary.

While our new operators have not had specific experience handling Cerium 141 or Iodine 131, please be assured they do have an understanding of the different radioactive properties of beta particles and the necessary protective measures. Prior to using these materials, William Nevins, our on-site Radiation Protection Officer, will review the procedures with the operators to make sure they are aware of the radiation protection requirements.

I trust this information satisfies your inquiry concerning our use of beta emitters. Do not hesitate to contact me if you have additional questions with our amendment request.

Sincerely,

John B. Feldman, Manager
Occupational Safety and Health

att

cc: W. Nevins

TRAINING SCHEDULE
MACHLETT LABS January 28, 1985
FUNDAMENTALS OF RADIATION PROTECTION/RADIATION WORKER TRAINING

8:30-9:15	Background Radiation	
9:15-9:45	Atomic Structure	
9:45-10:00	Math Review	
10:00-10:15	Break	
10:15-11:00	Radioactivity and Decay	Includes alpha, beta, & gamma
11:00-11:30	Types of Radiation	
11:30-12:00	Ionization	
12:00-12:30	Lunch	
12:30-1:00	Units of Radiation	
1:00-1:30	Detection, Measurement and Control of Radiation and Contamination	
1:30-2:00	Biological Effects and Exposure Risks	
2:00-2:15	Break	
2:15-3:00	Radiation Protection On The Job	
3:00-3:15	Break	
3:15-3:30	Eye Protection from Beta Radiation	Includes bremsstrahlung effects + shielding requirements (density, thickness)
3:30-4:00	Emergency Actions	

Radiation Safety Associates, Inc.
P.O. BOX 107 • HEBRON, CONNECTICUT 06248 • (203) 228-0487

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February 3, 1985

Mr. Bill Nevins
Machlett Labs
1063 Hope Street
Stamford, Connecticut 06907

Dear Bill:

Enclosed are the following for your records:

- o Course text "Fundamentals of Radiation Protection",
- o Summary Exercises,
- o Training Schedule/Course Outline,
- o Attendance/Grade Sheet,
- o Examination key.

This should be all you need when you're audited.

Also enclosed are the final examinations and diplomas for the three attendees. They were a very interested and positive group and I enjoyed the experience of having them in class.

Please keep me in mind if you are ever in need of more training or health physics services.

Yours truly,

Paul Steinmeyer
President