APR 2 9 1985

Docket No. : 030-20385
Control No.: 70172

Department of Health & Human Services
Arctic Investigations Laboratory
Center for Infectious Diseases
Centers for Disease Control
225 Eagle Street
Anchorage, Alaska 99501

Attention: Alan J. Parkinson, Ph.D.
Chief Immunologist

Gentlemen:

This is in reference to your application dated March 22, 1985 for a byproduct material license. In order to complete our review, we need the following additional information:

1. A bioassay program should be established for personnel who handle millicurie quantities of iodine 125. Refer to Regulatory Guide 8.20, copy enclosed. Submit a description of the bioassay program which you will use.

2. Finger ring dosimeters should be worn to monitor the personnel extremity exposure for employees who handle iodine 125 or phosphorus 32. You should submit your guidelines for extremity monitoring, stating when the use of finger rings will be required. You should also state the frequency of exchange for the extremity dosimeters.

3. You should submit the name, address, and license number of the firm which will calibrate your radiation survey instruments. You should also specify the calibration frequency.

4. Your radiation survey program should be revised to specify the frequencies of the surveys to be performed. A radiation survey and wipe test should be required after each use of millicurie quantities of P-32 or I-125.

5. You should amend and resubmit your instructions to personnel to include the items described below:

   a. 10 CFR 20.401(c)(3) requires that records be maintained of the disposal of licensed materials to the sanitary sewer system pursuant to 10 CFR 20.303. Your instructions to personnel should include directions on the maintenance of these records.

   b. 10 CFR 20.205(d) requires each licensee to establish and maintain package receipt and opening procedures. Your instructions to personnel should include such procedures.

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c. Your laboratory emergency procedures should be expanded to include:

(i) The immediate actions to be taken ir order to prevent or limit the contamination of personnel and areas.

(ii) The name and telephone number(s) of the Radiation Safety Officer.

(iii) Instructions to notify the Radiation Safety Officer promptly of any accidental spill of licensed materials.

6. Your waste disposal procedures do not specify how long radioactive wastes will be held prior to monitoring and subsequent disposal. You should specify that wastes will be held for decay in storage a minimum of ten (10) half-lives. Also, prior to disposal to normal trash, the radioactive waste will be monitored to determine that it cannot be distinguished from background using a low-level survey instrument. The instrument used for this purpose should be a thin window G-M survey meter. You should amend and resubmit your waste disposal procedures.

7. We are unfamiliar with the equation used in Item 15. of your "Working Rules for Radioactive Compounds". You may prefer to use the following rule-of-thumb:

R/hr at 1 ft. = 6CEn

where: C = source activity in curies
E = gamma energy in Mev
n = fractional yield

This rule-of-thumb gives approximate exposure rates for gamma emitters in the 0.7 to 4.0 Mev range. The inverse square law should be used to calculate dose rates at different distances from the source.

A copy of Regulatory Guide 10.7 is enclosed for your reference.

We will continue the review of your request for a byproduct material license upon receipt of this information. You should submit your response within thirty (30) days from the date of this notice. Please reply in duplicate, and refer to Mail Control No. 70172.

Sincerely,

Beth A. Riedlinger
Health Physicist (Licensing)
Nuclear Materials Safety Section

Enclosures:
Regulatory Guide 8.20
Regulatory Guide 10.7