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Cathryn M. Calia, D.V.M.
Cardiopet Veterinary Associates, PA
48 Notch Road
Little Falls, NJ 07424

Docket No. 030-34385
Control No. 124231

October 2, 1997 mal

James M. Bondick
US NRC Region I
Division of Nuclear Materials Safety
475 Allendale Road
King of Prussia, Pa. 19406-1415

Dear Mr. Bondick:

In reference to letter's dated June 19, 1997 and September 11, 1997, we submit the following information so that you may continue your review of our license request.

1. Maximum Possession Limit- 100 milliCuries of iodine 131.

2. Radiation Safety Officer- John C. Ramsey (attachments).

3. Radiation Monitors and Calibration Service Companies-

   a. We submit for your review a revised equipment list. We will possess two Ludlum model 14 C's. Range extends from 0.1 mR/hr to 2000 mR/hr. This model will come with an energy compensating probe model 44-38.

   b. Bio Med Associates, Inc. will provide annual calibration services. They operate under NRC License No. 29-14967-01.

4. MDA of Measurement Devices-

   a. The expected MDA of the NaI well detector is less than 0.005 uCi. And the expected MDA of the thyroid uptake probe is less than 0.04 uCi for iodine-131.

5. Bioassay Program-

   We will routinely evaluate the thyroid burden of each individual who participates in the treatment and handling of the therapy patient. A thyroid uptake measurement will be made following each two therapy cases.

   A bioassay measurement will consist of a 5 minute background count. Each participant will be measured for 5 minutes. The background count will be subtracted from the participant count and divided by 5 to provide net counts per minute. The net counts per minute will then be divided by the uptake probe sensitivity which is uCi per counts per minute. Measurements must be less than 0.04 uCi. If at anytime an individual's thyroid burden exceeds

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0.04 uCi of iodine-131 that person will cease to participate in the treatment and handling of therapy patients until subsequent measurements prove the thyroid content is below the 0.04 uCi level.

6. ALARA Levels (Extremity Exposure)-

A= 2.2 R/mCi-hr @ 1 cm (Exposure rate of I-131)
B= 4 mCi (Typical patient dose)
t= 0.5 minute (Administration time for the anesthetized pt.)
P= 12 patients monthly

A X B X t X 1hr/60min X P = 0.88 R/month

0.88 R/month X 3 month/qtr = 2.63 R/qtr

The Syringe Shield model 56-262 described in the Prism Technology Catalog 21 reduces the dose rate of I-131 by four fold.

2.63 R/qtr X 0.25 = 0.66 R/quarter

ALARA Level I = 660mR quarterly

ALARA Level II = 2200mR (30% increase over Level I)

7 Patient Release Criteria-

We are going to require the pet owner(s) to confine the patient for two weeks following release from our facility. This will limit exposure to the general public so as not to exceed 0.1 rem annually.

Release instructions will therefore require additional confinement which will ensure that a distance of one meter will be maintained at all times. The facility copy of the release instructions will be signed by the owner and made part of the patient record.

We request our proposed release criteria of **0.36 mR/hr** at one meter be accepted as a license condition. With the requirement of additional confinement we feel 10 CFR 20.1301 will be maintained.

Thank you for reviewing this information. Please call our consultant John Ramsey at 908-788-9440 if you have any additional questions.

Sincerely,

Cathryn Calia, D.V.M.

CURRICULUM VITAE

John C. Ramsey

[redacted]

Born : [redacted]
Marital Status:
Height:
Weight:

Work Experience: 6/1980 to present; Health Physicist, Bio-Med Associates, Inc. Flemington, New Jersey.

One of 18 staff Health and Radiological Physicists. Provide guidance for the quality assurance programs in Diagnostic Radiology and Nuclear Medicine Departments for various hospitals and clinics.

Develop, implement, perform and review quality control testing. Diagnostic x-ray equipment tested includes Mammography (American College of Radiology accreditation), Computed Axial Tomography (Food and Drug Administration Standards), Radiographic/Fluoroscopy Systems (AAPM and NCRP Standards), Magnetic Resonance Imaging (AAPM Standards). Nuclear Medicine equipment tested includes Dose Calibrator (Nuclear Regulator Commission Guide 10.8 Model Procedures), Radiation Detection and Radiation Measurement Survey Meters (ibid), Gamma Camera Planar Imaging, Gamma Camera Single Head Spect Imagine (Manufacturer's and NEMA Performance Standards).

Provide guidance regarding licensing rules and regulations pertaining to radiological health for various hospitals and clinics in New Jersey and Pennsylvania (X-rays In The Healing Arts and Human Use of Radioactive Material).

9/1978 to 6/1980; Student technician performing routine radiography, assisting in fluorography and clerical duties at Florida Health Care Plan, Daytona Beach, Florida.

9/1975 to 5/1977; Assistant x-ray technician. In the beginning performed routine clerical duties, functions in x-ray department, assisted technician and radiologist in darkroom and diagnostic procedures. As I advanced in knowledge, I performed routine diagnostic procedures and worked payed call back.

9/1973 to 4/1974; Merchandise and sales technician in Germany, under the Department of Defense (NAFs). Was responsible for supply and distribution of records and tapes to post and base exchange's in central and eastern West Germany.

John C. Ramsey

Education:

University of Central Florida, Orlando, Florida
B.S. Radiologic Science, June 1980
- Quality Assurance
- Management
- Clinical radiography and special procedures at Halifax Hospital Medical Center

Okaloosa-Walton Junior College, Niceville, Florida
Associate of Arts Degree, 1978
- Biologic Science
- Psychology

Military:

United States Air Force. Enlisted 8/1970, served at the USAFE Hospital, Wiesbaden, West Germany as a Medical Admin. Specialist, condition of discharge, honorable, December 1972.

Societies:

American Registry of Radiologic Technologists
New Jersey Medical Physics Society
American Association of Physicists in Medicine

References:

Available upon request.