DEPARTMENT OF THE AIR FORCE
USAF MEDICAL CENTER, KEESLER (ATC)
KEESLER AIR FORCE BASE, MS 39534-5300

REPLY TO ATTN OF SGHRT (Major Boston) 5 July 1985

SUBJECT USNRC Byproduct Material License No. 23-01002-02
Control No. 18012.

TO U.S. Nuclear Regulatory Commission
Material Licensing Branch
Division of Fuel Cycle and Material Safety
Washington, D.C. 20555

1. The information presented within this submission is in response to the nine questions posed in your letter of 7 May 85 concerning our renewal application.

a. Physician users are authorized to use radioisotopes in or on humans provided, as a minimum, they meet the minimum criteria specified in Appendix A, "Cuide for the Preparation of Applications for Medical Program", Regulatory Guide 10.8 (Revision 1) and as revised Dec 2, 1982. Appendix B paragraph 2 under Duties of the license renewal package will be changed to comply with Appendix A of Regulatory Guide 10.8.

b. In vitro and laboratory users will be approved by the Radiation Safety Committee provided that as a minimum their training and experience will be to the level specified in 10CFR33.15(b). Appendix B paragraph 2 under Duties of the license renewal package will be changed to comply with 10CFR33.15(b).

c. Radiation safety training is the heart of an ALARA program. As such, all radiation workers receive instruction in accordance with 10CFR19. Training is provided to all personnel who work with, or in the vicinity of radioactive materials. The instruction is given before assuming duty and during annual refresher training thereafter. If there is a change in work conditions or regulations affecting ALARA, then the personnel are retrained. NUREG-1134, "Radiation Protection Training for Personnel Employed in Medical Facilities", May 1985 is used as a model for lecture outline for each worker category.

d. Please delete the request to increase possession limits from 3 to 100 mCi for studies listed in 10CFR31.11. We will retain the current possession limit of 3 mCi.

e. Animal study procedures to be followed when radioisotopes are used are listed under Item 22 of our license renewal package.

f. Nuclear Medicine Operating Instructions require the wear of gloves when handling vials of solution containing I-131. The vials are vented in an approved fume hood with an air flow velocity of 450 cubic feet per minute. The hood is vented to the restricted roof area.

g. Iodine-125, iodine-131 and tritium are used in our facility. Attached is a copy of the Bioassay program.

h. Written results of ordering, accepting, and opening packages containing radioactive materials will be maintained by the user for a period of no less then 2 years after received.

i. Please change Paragraph F of Appendix I under Item 17 of our renewal package to read: "Area will be cleaned if the removable contamination exceeds levels specified in Table 2 of USNRC Regulatory Guide 8.23, "Radiation Safety Surveys at Medical Institutions", dated January 1981." This change incorporates your suggested guidance.

2. If any additional material is needed to complete our license renewal, please let us known your requirements.

JAMES E. PAYNE, JR., Colonel, USAF, MC
Commander

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Bioassay program.

7-3. PERSONNEL MONITORING.

a. Criteria for Routine Thermoluminescent Dosimeter (TLD) Badge Monitoring. The Bioenvironmental Engineering Section supplies personnel monitoring equipment to personnel authorized by the RSO. The RSO requires whole body TLD badges to be worn by:

(1) Each individual, 18 years of age or over, who enters a controlled area under such circumstances that he/she is likely to receive in any calendar quarter a dose exceeding 125 millirems to the whole body; or 2.5 rems to the hands and forearms, or feet and ankles; or 1 rem to the skin of the whole body.

(2) Each individual under 18 years of age who enters a controlled area under such circumstances that he/she is likely to receive in any calendar quarter a dose exceeding 30 millirems to the whole body; or 500 millirems to the hands and forearms, or feet and ankles; or 100 millirems to the skin of the whole body.

(3) Each individual who enters a high radiation area: Where the hand dose may exceed 10 per cent of the hand extremity limit, ring TLD badges must be worn in addition to whole body TLD badges.

(4) Each individual working around fluoroscopic or portable radiographic equipment will wear a collar TLD badge in addition to a whole body badge. The collar TLD badge will be worn outside lead aprons. If leaded glasses and thyroid shields are worn, the collar TLD badge will be worn under the thyroid collar. If leaded glasses or thyroid shields are not worn, the collar TLD badge will be worn outside lead apron. In unusual levels of exposure, personnel dosimeters of the ionizing type will be worn and readings recorded daily.

b. Criteria for Routine Bio-Assay. Bio-assay may include urinalysis, blood analysis, and other tests (decided by a qualified physician) may be required under certain conditions. The RSO will investigate positive bio-assay results and report results to person concerned and their supervisor.

(1) Schedule quarterly bio-assay for persons working with open radioisotopes of greater than 500 times maximum permissible body burdens at any one time, or in any combination of radionuclides and working times equivalent in a period of one year to the above amount, or at the discretion of the RSO.

(2) Personnel working with Iodine-125 or Iodine-131 will do the following:

(a) Perform routine bio-assay when an individual handles, in a three month period, unsealed quantities of radioactive iodine greater than 0.1 mCi in volatile state and 1 mCi in nonvolatile state.

(b) All workers handling radioactive iodine or sufficiently close to the process that intake is possible will take part in bioassay programs.

(c) Perform baseline assay prior to beginning work with radioactive iodine in any quantity.

(d) Perform initial routine assay no sooner than 6 hours and not later than 72 hours following entry of an individual into an area where bio-assay is required.

(e) Perform routine assay every two weeks thereafter for as long as the condition requiring assay exists.

(f) Perform emergency assay as soon as possible after any incident that might cause the thyroid uptake to exceed burdens of 0.5 uCi of I-125 or 0.14 uCi of I-131.

(g) Perform postoperational assay within 2 weeks of the last possible exposure to radioactive iodine when operations are being stopped or worker is ending activities with potential exposure.

(h) Assay consists of a 1 minute count over the thyroid with the scintillation probe and a 1 minute count over the knee for background determination. Thyroid counts of greater than three times background are positive for radioiodine uptake and thyroid burden will be found. Contact the RSO for assistance.

(i) Send a quarterly bio-assay report to the RSO when Iodine-125 or Iodine-131 is being used.

(j) The RSO will make reports or notifications as required by 10 CFR 20, paragraphs 20.405, 20.408, 20.409.

(3) Personnel working with Tritium will do the following:

(a) Perform routine bio-assay when an individual handles at any one time, or total amount processed per month, exceeds 10% of those quantities of Tritium specified in Table 1, USNRC Regulatory Guide - Tritium.

(b) All workers handling Tritium or sufficiently close to the process that intake is possible will take part in bio-assay programs.

(c) Perform baseline assay prior to beginning work with Tritium in any quantity.

(d) Perform initial routine assay within 48 hours following entry of an individual into an area where operations require bioassay.

(e) Perform routine assay every two weeks thereafter for as long as the condition requiring assay exists.

(f) Perform post-operational assay within 2 weeks of the last possible exposure to Tritium when operations are being stopped or worker is ending activities with potential exposure.

(g) Assay consists of counting a known volume of urine in a liquid scintillation counter or gas flow planchette counter. Sample count three times background are positive uptake and Tritium burden will be found. Contact the RSO for assistance.

(h) Send a quarterly bioassay report to the RSO when Tritium is being used.

(4) Provide Bio-assay following an incident where there is the possibility of ingestion or inhalation of radioactive material or exposure to large amounts of external radiation.