

# RAD/IRID INCORPORATED

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July 2, 1976

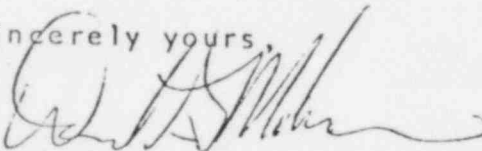
Mr. Nathan Bassin  
Radioisotopes Licensing Branch  
Division of Fuel Cycle and Material Safety  
United States Nuclear Regulatory Commission  
Washington, D.C. 20555

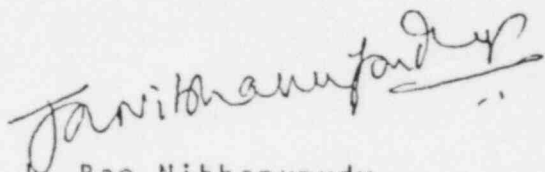
Re: USNRC License #08-14043-01

Dear Mr. Bassin:

Thank you very much for your letter dated June 3rd. 1976. In compliance with your letter, we are submitting the operating and emergency instructions and more detailed description of the facility to supplement our application for renewal of license No. 08-14043-01.

Sincerely yours,

  
Dr. David G. Mahan  
President

  
J. Rao Nibhanupudy  
Radiation Safety Officer

COPIES SENT TO OFF. OF  
INSPECTION AND ENFORCEMENT



8209230100 820805  
PDR FOIA  
COPPELL82-314 PDR

ACCOUNTING: 8421 DUNBAR AVENUE, LANDOVER, MARYLAND 20786

A. GENERAL INSTRUCTIONS:

1. Always wear whole-body and extremity personnel monitoring badges in the active lab.
2. Use G-M Counter to know the radiation level where you work. Keep maximum possible distance from sources to reduce exposure.
3. In case of emergency call
4. Do not eat or drink in the active lab.

B. CALIBRATION OF ACTIVE SEEDS:

1. Place the active seeds to be calibrated in a lead container. This should have at least 1" thick lead wall and covered. Do not place more than 20 seeds at a time in the container.
2. Take the container to capintech calibrator. Have an empty 1" thick lead container available.
3. Check the background activity on the digital readout. This is generally about 0.001 mCi.
4. Using the magnetic seed picker place one seed at a time in the detector well and note the activity. Remove the seed and repeat the procedure. Note down the activity.
5. Remove the calibrated seed with magnetic seed-picker and place it in the empty lead container.
6. Repeat steps 3, 4, and 5 for each of the 20 seeds.
7. Take the container with the calibrated seeds to the storage safe after putting a radio-active material label as to number of seeds, date calibrated, minimum, maximum and average seed strength in mCi of Iridium 192 and exposure rate at the surface of the container.
8. Discard the seeds with activity 10% less or more than the required source strength into the waste container in storage safe.

C. RECEIVING ACTIVE SEEDS:

1. Upon the arrival of the active packages, using a G-M counter survey the dose rates on the surface of the package and note down the reading. It should not be more than 200 mR/hr.
2. Place the container with the active seeds with identification in the storage safe.
3. Enter the reading along with the other information, such as the address from where it was sent, number and activity of Iridium seeds from the label on the box and date in the ledger placed at the receiving desk and sign it.

D. SHIPPING OF ACTIVE SEEDS:

1. Place the ribbons containing calibrated seeds in the appropriate container (R/1, P-1, P-2, or R/1, P-3) following radiation safety precautions.
2. Attach "Caution Radioactive Material" label. Enter batch code number, and mg. Ra. eq. per seed on that date.
3. Place this container in a 12" X 12" X 12" corrugated container for shipping.

D. SHIPPING OF ACTIVE SEEDS:

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4. Affix Class 11 Radioactive label, stating contents, number of milli-curie and transport index.
5. Include before packing, a wipe certificate for the seeds, bill of lading, return address label, Iridium 192 decay sheet, and instructions to customers for safe handling of Iridium 192.
6. Tape shipping certificate to box.
7. Check box for radiation levels. Mark diamond tag accordingly.
8. Remove box to safe.
9. Call shipping agent for pick-up.
10. Put shipping receipt in mail box.
11. Enter the shipping particulars VIZ-no of seeds, surface reading of box, address sent. In the ledger at shipping desk, and sign it with date.

E. PREPARATION OF IRIDIUM RIBBONS:

1. Pull ribbons slowly using 26 gauge wire as diameter gauge.
2. Ascertain that only one pot (one batch of seeds) is on the loading table during the loading of seeds.
3. Discard any ribbon which offers only slight resistance to seed passage.
4. Make radioautograph of each set ensuring that all seeds show up and are easily identifiable on the film. Mark the film with date, customer and shipment number. Leave film on front desk for processing on the following morning. Exposure time for film is 10 min.
5. Upon getting results of radioautographs, take necessary corrective action if needed and pack for shipping.

for interstitial analysis



DETAILED DESCRIPTION OF THE LOCATIONS IN FIG. 1 TITLED  
"SKETCH OF THE RAD/IRID, INC. FACILITY."

1. STORAGE SAFE (ITEM " F " IN FIG. 1)

The storage safe (2' X 5' area) is protected by 5 cm. thick lead bricks. All the active Iridium seeds in lead containers, are stored in this storage area. The active seeds are taken out for the purposes of calibration, loading into ribbons or taking radioautographs. Radiator warning signs are posted.

2. LOADING AREA ( ITEM " G " IN FIG 1)

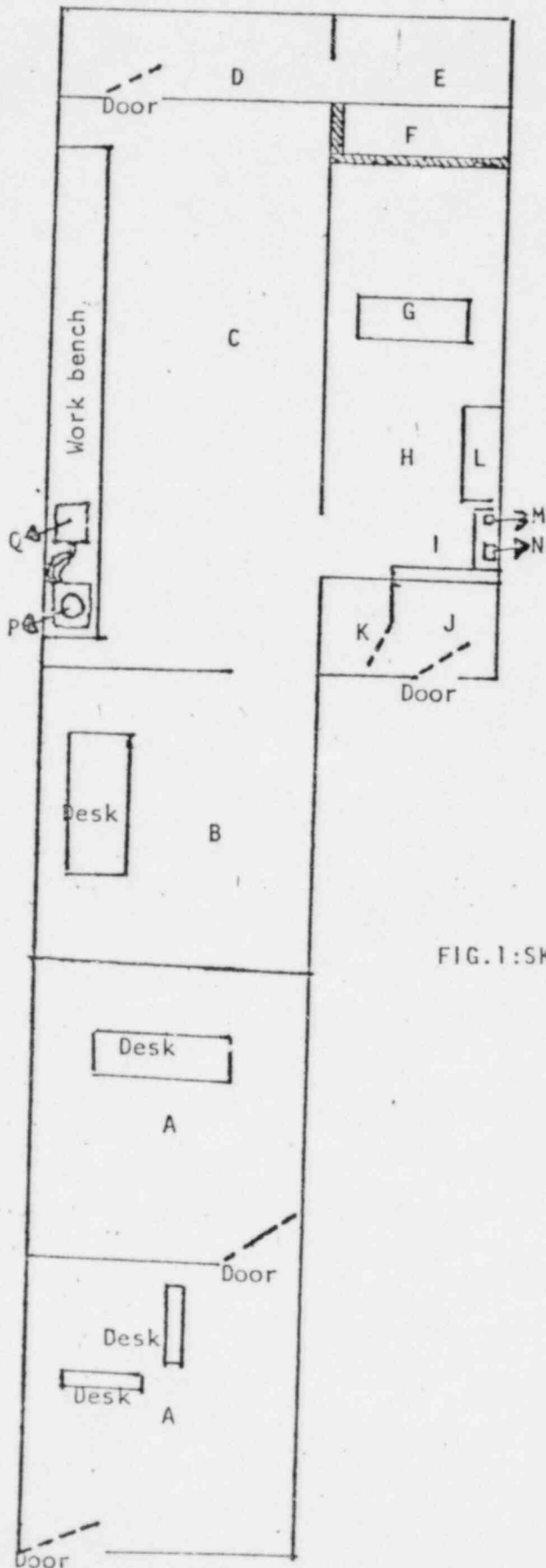
Loading of Iridium 192 seeds into nylon ribbons is done on a loading table. This table has 5 cm. thick lead bricks arranged to protect the operator from radiation from Iridium 192 seeds. This table also is equipped with 5 cm. thick transparent lead glass bricks arranged so that the operator can see the ribbons when desired. This set-up also contains mirrors so that the operator does not have to directly look at the ribbon with active seeds in order to check the accuracy of spacing between the active seeds. After the loading of seeds into nylon ribbons, the ribbons are directly pushed into holes in the lead container.

3. RADIOAUTOGRAPH SET-UP (ITEM " L " IN FIG.1)

During the procedure of taking radioautographs of active Iridium seeds, the operator is protected from radiation by 5 cm. thick, 45 cm. X 30 cm. lead wall (composed of lead bricks).

4. WELL TYPE IONIZATION CHAMBER (ITEM " P " FIG. 1)

The chamber well is shielded on all sides with 5 cm. thick lead bricks.



LEGEND

- A=ADMINISTRATION OFFICE.
- B=ADMINISTRATION OFFICE.
- C=INACTIVE LAB.
- D=INACTIVE STORAGE.
- E=FURNACE.
- F=STORAGE SAFE.
- G=LOADING AREA.
- H=UNPACKING AREA.
- I=RECEIPT COUNTER.
- J=RECEIVING AREA.
- K=TOILET.
- L=RADIOAUTOGRAPH SET-UP.
- M=G.M.COUNTER.
- N=EBERLINE AREA MONITOR.
- P=IONISATION CHAMBER WELL.
- Q=CAPINTECH CALIBRATOR.

FIG.1:SKETCH OF THE RAD/IRID, INC., FACILITY.