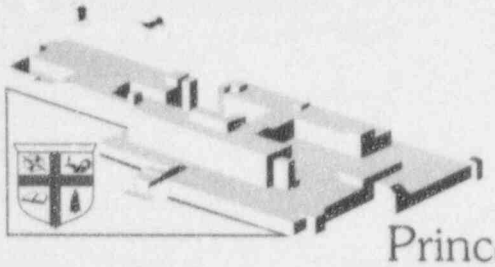

Prince George Regional Hospital

July 9, 1996

Mr. David Collins
U.S. Nuclear Regulatory Commission - Region 2
101 Marietta St., - Suite 2900,
Atlanta, Ga.
30323 -0199

Dear Mr. Collins:

With reference to your inquiring regarding Dr. Colin Rose, Radiologist and his previous experience of I^{131} Therapy.

Dr. Rose attended St. Pauls Hospital, Vancouver, B.C. for post graduate training in I^{131} Therapy. The course lasted for one week. Subsequently Dr. Rose performed in excess of ten I^{131} therapies under my supervision at the Prince George Regional Hospital, Prince George, B.C.

The majority of treatments given in this institution are for hyperthyroidism using a dose range from 4 millicuries to 12 millicuries depending on the patients physiology and condition. We are able to use up to 30 millicuries for ablation.

I trust this answers your questions. I will be pleased to provide any further information you might require and I have enclosed a copy of our current Nuclear Medicine License.

Yours faithfully,

C.W. Lim, MD, FRCP(C)
Director, Medical Imaging

CWL/jc

2000 Fifteenth Avenue, Prince George, British Columbia V2M 1S2 - Telephone (604) 565-2000 - Fax (604) 563-6850

MLD1

Atomic Energy Control Board | Commission de contrôle de l'énergie atomique

09-02892-97A

RADIOISOTOPE LICENCE | PERMIS DE RADIO-ISOTOPE

Licence Number
Numéro de permis

I) LICENCE

The Atomic Energy Control Board issues this licence to:

Prince George Regional Hospital
2000 - 15th Avenue
Prince George, BC
V2M 1P2

hereinafter «the licensee».

II) PERIOD

This licence is valid from: May 1 1995 to April 30 1997.

III) LICENSED ACTIVITY

This licence is issued for the POSSESSION, IMPORTATION and USE of the radioactive prescribed substance or the device containing the radioactive prescribed substance described in Section IV for:

diagnostic nuclear medicine procedures (862)

IV) RADIOACTIVE PRESCRIBED SUBSTANCE

ITEM	DESCRIPTION	POSSESSION LIMIT UNSEALED SOURCES	MAXIMUM ACTIVITY SEALED SOURCES	TYPE OF DEVICE
1	Molybdenum 99/ Technetium 99m	250 GBq	n/a	n/a
2	Iodine 131	1 GBq	n/a	n/a
3	Iodine 123	1 GBq	n/a	n/a
4	Gallium 67	4 GBq	n/a	n/a
5	Thallium 201	1 GBq	n/a	n/a
6	Xenon 133	40 GBq	n/a	n/a
7	Chromium 51	100 MBq	n/a	n/a
8	Indium 111	400 MBq	n/a	n/a
9	Cesium 137	n/a	4 MBq	n/a
10	Cobalt 57	n/a	400 MBq	n/a
11	Americium 241	n/a	500 MBq	n/a

Bq = becquerel kBq = kilobecquerel MBq = megabecquerel
GBq = gigabecquerel TBq = terabecquerel PBq = petabecquerel

The amount of radioactivity for the radioactive prescribed substance or substances referred to in each item, shall not exceed the possession limit for unsealed sources, or the maximum activity per sealed source or device in accordance with the provisions of the above table.

«Sealed Source» means a radioactive prescribed substance in a capsule that is sealed or in a cover to which the substance is bonded, where the capsule or cover is strong enough to prevent contact with and dispersion of the radioactive prescribed substance under the conditions of use for which the capsule or cover is designed.

When a device is listed opposite a radioactive prescribed substance, the said substance is to be used only in that device.

V) LOCATION

Subject to the conditions of this licence, the radioactive prescribed substance(s) may be

used or stored at:
Prince George Regional Hospital
2000 - 15th Avenue
Prince George, BC

VI) CONDITIONS

In addition to the Atomic Energy Control Regulations and the Transport Packaging of Radioactive Materials Regulations, the

AECB 53 Rev. 1979/CCEA 53 Rev. 1979

licensee shall comply with the following conditions:

1. Radiation safety shall be under the control of Dr. C.W. Lim.

2. The licensee shall not transfer any radioactive prescribed substances procured under the authority of this licence to any person who is prohibited pursuant to the Atomic Energy Control Regulations from possessing such radioactive prescribed substances. (412 - 94/11/01)

3. The licensee shall ensure that in vivo procedures are under the supervision of a medical practitioner appropriately qualified to use radioactive prescribed substances in or on humans. (911 - 94/11/01)

4. The licensee shall ensure that only persons properly trained in work with radioactive prescribed substances and informed of the hazards involved are allowed to handle radioactive prescribed substances. (343 - 94/11/01)

5. This licence, or a copy thereof, shall be conspicuously posted at all specific locations listed in Section V and shall be available at all other locations where the radioactive prescribed substances listed in Section IV are used or stored. (341 - 94/11/01)

6. Subject to any other condition of this licence respecting the disposal of specific radioactive prescribed substances, all radioactive prescribed substances shall be disposed of by being:
   (a) returned to the supplier after making prior arrangements or
   (b) sent to Atomic Energy of Canada Limited after making prior arrangements or
   (c) sent, after making prior arrangements, to a facility possessing an appropriate Waste Facility Operating Licence issued by the Atomic Energy Control Board or
   (d) released through the municipal garbage system provided the radioactive prescribed substance(s) is in the solid form and that the concentration is less than 1 scheduled quantity per kilogram of waste material and is uniformly distributed or
   (e) released through the municipal sewage system provided the radioactive prescribed substance(s) is water soluble and that the concentration in the sewer at the property line for the facility is less than 0.01 scheduled quantity per litre of effluent based upon a yearly average or
   (f) released to the atmosphere provided the radioactive prescribed substance(s) is in the form of a vapour or gas and that the concentration at the point of release is less than 0.001 scheduled quantity per cubic metre of air when averaged over a 1 week period.

   Any other waste disposal method will require specific written approval of the Atomic Energy Control Board. (161 - 94/11/01)

7. When not being used, the radioactive prescribed substance shall be stored in an area, room, enclosure or vehicle that:
   (a) is accessible only to personnel authorized by the licensee,
   (b) has affixed to its exterior a clearly visible and legible radiation warning sign, and the name or job title and phone number of a person to contact in case of emergency. For vehicles, the name and address of the licensee shall also be posted, and
   (c) does not have, at any occupied location outside the area, room, enclosure or vehicle, a dose rate that exceeds 2.5 microsieverts per hour, or the licensee shall demonstrate to the AECB that the requirements of section 24(1)(a) of the Atomic Energy Control Regulations are being met. (273 - 94/11/01)

8. Where the licensee becomes aware of a dosimetry result for a person exceeding the limits in Schedule II of the Atomic Energy Control Regulations for that person the licensee shall inform the AECB and the person of the result within 48 hours, shall investigate the cause and circumstances contributing to that dosimetry result and shall report the results of the investigation to the AECB within 10 days. (414 - 94/11/01)

9. Except for gaseous sources or sources of tritium, leak tests shall be performed on all sealed sources containing more than 50 megabecquerels of a radioactive prescribed substance.
   The frequency for leak testing shall be,
   (a) every 24 months for each sealed source continuously in storage,

(b) every 12 months for each sealed source in use in a device listed in section IV,
(c) every 6 months for any other sealed source.
If static eliminators are replaced annually they do not require leak testing, providing they are returned to the supplier within 3 months of the replacement date.
If leakage in excess of 200 becquerels of a radioactive prescribed substance, or a leakage rate in excess of 50 becquerels of radon in 24 hours, is detected, the sealed source shall remain out of service, and the Atomic Energy Control Board shall be notified within 48 hours.
Records of results of leak tests shall be retained for 3 years. (209 - 94/11/01)

10. The licensee shall ensure that persons are monitored for radiation exposure from the licensee's possession or use of radioactive prescribed substances in accordance with the AECB Regulatory Document R-91 "Monitoring and Dose Recording for the Individual".
Specifically, if monitoring is required it shall be performed as follows:
(a) Measurement of external doses of radiation shall be by means of a thermoluminescent or neutron dosimeter as appropriate, that is worn in such a way that the dose recorded is indicative of the external dose received by the wearer. Dosimeters shall be supplied by an agency approved by the AECB, and shall be returned to that agency for measurements on the date specified by the agency.
(b) Determination of the internal dose received from Iodine-125 and Iodine-131 shall be in accordance with the AECB Regulatory Guide R-58 "Bioassay Requirements for Iodine-125 and Iodine-131 in Medical, Teaching and Research Institutions."
(c) Determination of internal doses of radiation from other radionuclides shall be by means of bioassay methods approved by the AECB. (64 - 94/11/01)

11. Except for gaseous sources or sources of tritium, the licensee shall not transfer any sealed source containing more than 50 megabecquerels of a radioactive prescribed substance to another licensee unless a valid leak test certificate for that source is provided at the time of transfer. (403 - 94/11/01)

12. A list of all designated radioisotope laboratories shall be maintained including the designation level of each laboratory as defined in table 1 of the Regulatory Document R-52 (rev. 1). All laboratories shall be decommissioned in accordance with criteria set out in this licence prior to removal from the list. (101 - 94/11/01)

13. The licensee shall ensure that:
(a) on all normally accessible working surfaces in any location where a radioactive prescribed substance is used or stored, non-fixed contamination does not exceed 0.5 becquerel per square centimetre of alpha activity or 5 becquerels per square centimetre of beta or gamma activity, averaged over an area not exceeding 100 square centimetres;
(b) on all other surfaces, and prior to decommissioning any location where a radioactive prescribed substance has been used or stored, non-fixed contamination does not exceed 0.05 becquerel per square centimetre of alpha activity or 0.5 becquerel per square centimetre of beta or gamma activity, averaged over an area not exceeding 100 square centimetres;
(c) the dose rate due to fixed contamination does not exceed 0.5 microsievert per hour at 0.5 metre from any surface; and,
(d) records of all contamination measurements shall be maintained for at least three years. (38 - 94/11/01)

14. Each laboratory constructed or renovated after January 1, 1986, in which more than one scheduled quantity of an unsealed radioactive prescribed substance is used,
(a) shall conform to the requirements of AECB Regulatory Document R-52 (Rev. 1) "Design Guide for Basic and Intermediate Level Radioisotope Laboratories";
(b) shall be approved in writing by the AECB prior to commencing use with radioactive prescribed substances;
When any location is decommissioned, the AECB shall be notified by the licensee within seven days. (108 - 94/11/01)

15. Handling procedures in each designated radioisotope laboratory shall be in accordance with the appropriate safety poster (Basic INFO-0142-1/Rev.2 or Intermediate INFO-0142-2/Rev.2 or a version approved in writing by the AECB). In all cases, this poster shall be prominently posted in the radioactive work area. (104 - 95/04/18)

Designated Officer pursuant to subsection 7(1) of the Atomic Energy Control Regulations

Licensee's Copy - Original