



NRC EQUIPMENT CORPORATION

A SUBSIDIARY OF NATIONAL RESEARCH CORPORATION

CABLE ADDRESS NARESCO

160 CHARLEMONT STREET, NEWTON HIGHLANDS 61, MASSACHUSETTS

TELEPHONE
DECATUR 2-5800

November 17, 1961

Director, Division of Licensing and Regulation
United States Atomic Energy Commission
Washington 25, D. C.

Re: By-Product Material License #20-3439-1(E62)
NRC Equipment Corporation, Newton, Mass. Tritium, ³H

Gentlemen:

In May of this year, one of our customers (Massachusetts Institute of Technology) discovered that the tritium-titanium foil source employed as an ionizing agent in our Model 0716 Alphasatron Pressure purchased by them had leaked measurable amounts of tritium gas. The by-product material in these devices was originally transferred to M.I.T. under their license #20-1537-2(Amend.5). This leakage was duly reported to your office by letter dated 31 May, 1961 from:

Massachusetts Institute of Technology
Radiological Safety Office
by: Mr. Frank Masse, Ass't. Radiological Safety Officer

The details of the discovery of leakage and subsequent action on the part of M.I.T. are covered by this letter.

Immediately after the discovery of this leakage NRC took the following steps:

1. All past customers were informed of the leakage and were requested to take action as their license required.
2. All sales of this device were stopped until further notice pending a check of the source material.
3. The manufacturer of the source material was notified and the defective foils were returned by M.I.T. to the foil manufacturer (Radiation Research Corp., Westbury, Long Island, N.Y.) for their examination and disposal.
4. A survey of our premises and handling techniques was made by Industrial Hygiene Associates, Newton, Mass. No contaminant above permissible limits was detected.

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The sales requests for this unit have not been great during this period and we have not requested any modifications or amendments to our license since we have stopped selling this unit. The entire sales of the instrument has been dormant.

By letter of June 12, 1961 Radiation Research has informed us of the following:

- a.) These sources cannot be classed as "sealed" (our license application describes them as sealed).
- b.) RRC does leak test each source before shipment by a wipe test method.
- c.) RRC claims a leak detection sensitivity of 0.001 microcuries/sq.in. using their method.
- d.) They believe leak rate (maximum) of a source ready to ship is 0.01 microcuries/sq.in.
- e.) They do not believe our handling of the source requires any special precautions to avoid subsequent leakage in excess of their maximum allowable limit of .01 microcuries/sq.in.
- f.) They do not believe the source will deteriorate with time due to radiation damage of the foil.
- g.) They have described the appearance of foils which might leak H^3 so that we may be forewarned before installation in our transducer.

Since our application for license describes the RRC type TT-1 source as "sealed" and it is not according to RRC, we request that our license be amended so that we may continue to sell the pressure transducers (Model 0716) to licensed users.

If you require further information not covered in this letter or would like copies of our correspondence with the source manufacturer, we would be pleased to comply with your requests.

Very truly yours,



Franklin L. Torney, Jr.
Radiological Safety Officer
NRC Equipment Corporation
160 Charlemont Street
Newton 61, Massachusetts