

University of Notre Dame

Notre Dame, Indiana 46556

Environmental Health and Safety

July 5, 1979

U.S. Nuclear Regulatory Commission  
Region III  
Office of Inspection and Enforcement  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Re: License No. 13-01983-15  
Condition 13  
University of Notre Dame du Lac

Dear Sir:

On a leak test sample of a Ruthenium 106 source taken July 2, 1979, removable contamination was found to exceed 0.005 microcuries. The following describes the equipment involved, the test results and the corrective action taken.

Equipment involved:

1 millicurie Ruthenium 106 source in a type 312 capsule.  
Physical/chemical form- liquid/ruthenium chloride  
Manufactured by- ICN  
Chemical and Radioisotope Division  
2727 Campus Drive  
Irvine, California 92715

Test results:

See attached Leak Test Record form.

Corrective action taken July 5, 1979:

The source was removed from use and sealed in a lead pig. The lead pig was then sealed in a tin container and placed in a 55 gallon radioactive waste drum located in our waste storage shed off campus. This drum will be picked up for disposal by our radioactive waste disposal vendor, Nuclear Engineering Co., Inc., on their next pick up.

The brass source holding container was decontaminated.

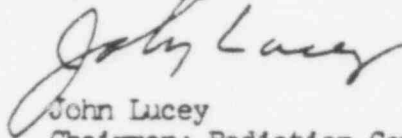
Information regarding the use of the source since its last leak test was obtained from its principle user and area surveys and wipe tests were performed. Results of these tests indicate no further spread of contamination. All personnel that worked with

688 342  
JUL 9 1979  
7908150 617

the source had used remote handling tools and had worn  
disposable gloves.

If additional information is needed or additional corrective action is  
required please notify us.

Sincerely,

A handwritten signature in cursive script that reads "John Lucey". The signature is written in dark ink and is positioned above the typed name and title.

John Lucey  
Chairman: Radiation Control Committee

University of Notre Dame  
Notre Dame, Indiana 46556

Environmental Health and Safety

LEAK TEST RECORD

Date of Test July 2, 1979 Time 3:30 p.m.

Source	Quantity	Particles Emitted	Energy	Percent Emission
$^{106}\text{Ru}$	1 mCi	Beta	0.039 MeV	100 %
		Beta (Rh 106)	3.54 MeV	100 %
		Gamma (Rh 106)	0.512 MeV	21 %

Source Location Room 101 Nieuwland Science Hall

Responsible Investigator Dr. R. Rucht Dept. Physics

Office 410 Phone 7143

Swipe	Location	Bkg.	Sample+Bkg	Net CPM	$\mu\text{Ci}$
1	Source surface	118	610	492	0.00044
2	Brass container which holds source	118	6028	5910	0.00532

Detector Used : Gas Proportional Counter- Baird Atomic

Operating Voltage : 2350 Last Calibration : 6/19/79

Detector Efficiency 50 % for Betas

Notes and Recommendations :  $\mu\text{Ci} = \frac{\text{CPM}}{\text{Eff}} \times 4.505 \times 10^{-7}$

Source removed from use 7/5/79 and placed in radioactive waste. See letter to NRC.

Date of Next Mandatory Test \_\_\_\_\_ By Bob Zear