30-06502

DIVISION OF OCCUPATIONAL
AND RADIOLOGICAL HEALTH
ADMINISTRATION BUILDING
10 BALDWIN STREET
MONTPELIER, VERMONT 05602
828-2886

STATE OF VERMONT
AGENCY OF HUMAN SERVICES
DEPARTMENT OF HEALTH

June 20, 1985

Claude Rowe
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Reference: My letter of May 31, 1985 to you.

In item #8 of the referenced letter I spoke of evaluations done by a consultant.

We recently received a written report from consultant Louis M. Izzo which is enclosed for your information.

Raymond N. McCandless
Director

RNM/gg

UNIVERSITY OF VERMONT
RADIATION SAFETY OFFICE

June 6, 1985

Roberta Coffin, M.D.
Vermont State Commissioner of Health
Colchester Avenue
Burlington, VT 05401

Dear Dr. Coffin;

This is a report on my May 28, 1985 inspection of the basement of the State Radiological Laboratory on Baldwin Street in Montpelier.

The inspection focused on the large room, the small room, and the waste storage room in the basement.

No abnormal radiation levels or radiation contamination was found in any of the rooms.

RADIATION LEVELS

The basement was checked to determine if there was any detectable radiation above the normal "background" levels in the ambient environment. I used a Technical Associates TBM-3 Geiger-Muller Counter which is sensitive to beta particles above 150 Kiloelectron volts (KEV) and to gamma rays with energies above 50 KEV. Readings were also taken with a Health Physics Instrumentation Gamma Meter which is very sensitive to gamma rays.

No radiation levels above background were detected in the large room in the basement which contains the water samples in the one-gallon plastic containers.

No radiation levels above background were detected in the smaller room.

The following radiation exposure rates were detected in and around the radioactive waste storage room:

	R/hour
a. at entrance to room with door closed:	< 0.00016
b. bottom left hand corner of outside wall	< 0.00020
c. inside storage room outside the barrels	< 0.00100

The radiation levels in the waste storage room are considered minimal. To put it in perspective, a person would have to be sitting on top of the barrels in the waste storage area for 5000 hours in order to receive 5 Rems, the annual limit for radiation workers established by the Nuclear Regulatory Commission.

RADIATION CONTAMINATION

I also checked the following areas of the basement to determine if any removable contamination could be detected:

#1. the lock hasp of the door to the storage area
#2. the wooden pallet in the waste storage room
#3. the waste storage barrel in waste storage room
#4. the tops of two storage cabinets in waste storage room
#5. the tops of the containers in the waste storage barrel
#6. floor in front of plastic container storage rack
#7. floor in back of the plastic container storage rack
#8. entrance area between the two larger rooms
#9. the bottom of the staircase
#10. floor in front of the waste storage room

I used a standard "wipe testing" technique with Q-tips. The Q-tips were placed in plastic vials containing liquid scintillation media and subsequently counted in the Beckman Liquid Scintillation Detector in the University Radiation Safety Office in the Rowell Building. The results of the tests are attached.

No removable contamination was found.

RADIATION SIGN

The door to the waste storage room did have the proper radiation warning sign affixed as indicated in the Nuclear Regulatory Commission regulations from 10CFR20.

SUMMARY

No abnormal radiation levels or radiation contamination was found.

I am pleased to have been able to assist you in this matter. Please feel free to contact me if youhave any questions or if I can be of further assistance.

Sincerely,

Louis M Izzo

Louis M. Izzo, M.S.
Director, Radiation Safety Office

USER: 4 ID:013 PRESET TIME: 1.00 TUE 28 MAY 1985 16:25
SAMPLE REPEAT: 1 CYCLE REPEAT: 1 SCR:N RS232:N
H#: 1 ADC:N DCF:N
CHANNEL 1-LL: 0 UL: 400 2SIGMA: 2.00 BKG SUB: 0.00 BKG 2SIG: 0.00 LSR:
CHANNEL 2-LL:400 UL: 670 2SIGMA: 2.00 BKG SUB: 0.00 BKG 2SIG: 0.00 LSR:
CHANNEL 3-LL: 0 UL:1000 2SIGMA: 2.00 BKG SUB: 0.00 BKG 2SIG: 0.00 LSR:
DATA CALC: CPM, UNKNOWN REPLICATES: 1 NORM FACTOR:0 1.00000
HALF LIFE(DAYS):N

SAM	POS	CH	CPM	2SIG%	TIME	EL TIME	AVG H#	ERI
1	7- 1	1	22.00	42.64	1.00	1.45	43.0	
		2	5.00	89.44				
		3	36.00	33.33				
2	7- 2	1	22.00	42.64	1.00	3.01	54.0	
		2	7.00	75.59				
		3	38.00	32.44				
3	7- 3	1	19.00	45.88	1.00	4.58	52.0	
		2	6.00	81.65				
		3	35.00	33.81				
4	7- 4	1	20.00	44.72	1.00	6.14	47.0	
		2	8.00	70.71				
		3	37.00	32.88				
5	7- 5	1	15.00	51.64	1.00	7.70	52.0	
		2	8.00	70.71				
		3	31.00	35.92				
6	7- 6	1	14.00	53.45	1.00	9.27	57.0	
		2	4.00	100.0				
		3	29.00	37.14				
7	7- 7	1	14.00	53.45	1.00	10.83	62.0	
		2	8.00	70.71				
		3	34.00	34.30				
8	7- 8	1	17.00	48.51	1.00	12.39	70.0	
		2	22.00	42.64				
		3	52.00	27.74				
9	7- 9	1	19.00	45.88	1.00	13.96	69.0	
		2	11.00	60.30				
		3	45.00	29.81				
10	7-10	1	19.00	45.88	1.00	15.53	61.0	
		2	9.00	66.67				
		3	33.00	34.82				
11	7-11	1	13.00	55.47	1.00	17.09	44.0	
		2	9.00	66.67				
		3	27.00	38.49				