

JAN 19 1995

James A. Slock, Ph.D.
Radiation Safety Officer
Department of Biology
King's College
Wilkes-Barre, PA 18711

SUBJECT: ROUTINE INSPECTION NO. 030-31628/94-001

Dear Dr. Slock:

This letter refers to your December 13, 1994 correspondence, in response to our November 21, 1994 letter.

Thank you for informing us of the corrective and preventive actions documented in your letter. These actions will be examined during a future inspection of your licensed program.

No reply to this letter is required. Thank you for your cooperation in this matter.

Sincerely,

Original Signed By:
Walter J. Pasciak

Walter J. Pasciak, Chief
Industrial Applications Section
Division of Radiation Safety
and Safeguards

Docket No. 030-31628
License No. 37-28499-01

cc:
Commonwealth of Pennsylvania

Distribution: 9501270037 950119
PDR ADOCK 0303162B
PUBLIC w/encl C PCR
Nuclear Safety Information Center (NSIC) w/encl
Region I Docket Room (w/concurrences) w/encl

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OFFICE	DRSS/RI	DRSS/RI	DRSS/RI	DRSS/RI
NAME	Ladun/gxc	Pasciak		
DATE	01/10/95	01/19/95	01/ /95	01/ /95

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RETURN ORIGINAL TO
REGION I

IE 07



December 13, 1994

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Dear NRC:

Docket No. 030-31628

This letter is in response to Walter J. Pasciak's (Chief, Industrial Applications Section, Division of Radiation Safety and Safeguards, Region I) letter dated 21 November 1994. Mr. Pasciak's letter states that my letter of 11 October 1994 "does not address the reasons for the violations or the corrective steps that will be taken to prevent further violations." This letter will address these 2 issues. This letter and my 11 October 1994 letter are in response to ROUTINE INSPECTION NO. 030-31628/94-001.

In the violation letter (copy enclosed), two violations were listed:

Response to Violation A

1. Reason for the violation--The reason for the violation was that our survey meter (Model GSM-15) was not sent for calibration. This was an oversight on my part.
2. Corrective steps taken--The Biology Department of King's College has purchased a second survey meter/probe (RAD-Monitor 9000, Model GM2; Research Products International, INC.). This survey instrument has been calibrated and a copy of the calibration document is enclosed.
3. Corrective steps to avoid further violations--King's Biology Department has two survey instruments. A schedule for calibration for each instrument is enclosed. One instrument will be sent for calibration every six months, thus ensuring that a calibrated instrument is always available.
4. Date of full compliance--Compliance for violation A was achieved on July 20, 1994 when our calibrated RAD-Monitor 9000 was received.

DEC 14 1994

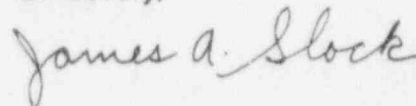
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Response to Violation B

1. Reason for the violation--The reason for the violation was that "wipe" tests were not performed. The Department has a liquid scintillation counter but I was not trained in it's use.
2. Corrective steps taken--The Biology Department of King's College has a Liquid Scintillation Counter (Beckman Model LS 6000IC) and it is functional. I was trained on use of the LSC, October 6, 1994. A wipes test of our radiation laboratory (Room S-339) was conducted October 7, 1994. A copy of the LS counter results of the wipes test is enclosed. The results showed that there was no contamination of the facility.
3. Corrective steps to avoid further violations--The King's Biology Department moved into a new building during the summer of 1994. A single room (S-339) has been designated as our radiation laboratory. All work with radionuclides will be performed in this room. This room also houses our LSC. After each set of experiments, a "wipes" test will be performed and analyzed on our LSC. The results will be filed in our "Wipes" Test Log Book.
4. Date of full compliance--Compliance for violation B was achieved on October 7, 1994 when a "wipes" test of Room S-339 was performed.

Thank you for your consideration.

Sincerely,



James A. Slock, Ph.D.
Radiation Protection Officer
King's License No. 37-28499-01



MEMO

TO: Valerie Musto, Lab Manager
Biology Department
FROM: Jim Slock, Radiation Protection Officer
DATE: December 12, 1994
RE: Calibration of Survey Instruments

The following is a schedule for calibration of the Department's survey instruments.

<u>Instrument</u>	<u>Date for Calibration</u>
GSM-15	Jan. 95
RAD-Monitor 9000	July 95
GSM-15	Jan. 96
RAD-Monitor 9000	July 96
GSM-15	Jan. 97
RAD-Monitor 9000	July 97
GSM-15	Jan. 98
RAD-Monitor 9000	July 98

APPENDIX A

NOTICE OF VIOLATION

King's College
Wilkes-Barre, Pennsylvania 18711

Docket No. 030-31628
License No. 37-28499-01

During an NRC inspection conducted on June 23 and July 29, 1994, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violations are listed below:

- A. License Condition 14 of NRC License No. 37-28499-01 requires that the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in a letter dated September 10, 1990.

Item I of the letter dated September 10, 1990 states that the survey meter/probe (Model GSM-15) will be calibrated annually.

Contrary to the above, as of July 29, 1994, the licensee's meter/probe (Model GSM-15), Serial No. 1228, had not been calibrated since purchase (October 1991), a time period greater than annually.

This is a Severity Level IV violation (Supplement VI).

- B. License Condition 14 of NRC License No. 37-28499-01 requires that the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in a letter dated December 4, 1990.

The letter dated December 4, 1990 states that the licensee will have access to or will purchase a liquid scintillation counter for monitoring wipe tests.

Contrary to the above, as of July 29, 1994, the licensee does not have access to nor has purchased a liquid scintillation counter for analyzing wipe tests.

This is a Severity Level IV violation (Supplement VI).

Pursuant to the provisions of 10 CFR 2.201, King's College is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555, with a copy to the Regional Administrator, Region I, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken

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and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued to show cause why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

10:35 S

14 OCT 1994 11:51

USER: 7
 PRESET TIME : 2.00
 DATA CALC : CPM H# : YES SAMPLE REPEATS: 1 PRINTER : STD
 COUNT SCALE : NO IC# : NO REPLICATES : 1 RS232 : OFF
 SWG PHASE : NO AGC : NO CYCLE REPEATS : 1
 SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0
 LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 35S %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

SAM NO	POS	TIME MIN	H#	35S		LUMEX %	ELAPSED TIME
				CPM	%ERROR		
1	**1	2.00	57.4	32.00	25.00	1.05	2.93
2	**2	2.00	53.0	44.00	21.32	0.55	5.45
3	**3	2.00	51.7	24.00	28.87	0.83	7.98
4	**4	2.00	63.5	30.00	25.82	7.76	10.54
5	**5	2.00	57.0	24.00	28.87	1.10	13.10
6	**6	2.00	52.0	25.00	28.28	0.89	15.62
7	**7	2.00	50.7	22.50	29.81	0.71	18.17
8	**8	2.00	53.2	24.50	28.57	0.83	20.70
9	**9	2.00	51.8	31.00	25.40	0.68	23.24
10	**10	2.00	51.2	24.00	28.87	0.70	25.77

→ 10 "wipes" samples from radioisotope lab - shows no contamination

SAM NO	POS	TIME MIN	H#	3H		14C		WIDE		LUMEX %	ELAPSED TIME
				CPM	%ERROR	CPM	%ERROR	CPM	%ERROR		
1	**1	3.00	-0.1	18856.33	0.84	82483.00	0.40	101934.3	0.36	0.00	3.64
2	**2	3.00	0.0	53080.67	0.50	613.67	4.66	53714.33	0.50	0.00	7.29
3	**3	3.00	9.2	15.33	29.49	8.67	39.22	38.67	18.57	1.27	10.89

INSTRUMENT CALIBRATION: Max 14 OCT 1994 11:36
 Calibration successful

Calibrating Auto DPM
 Counting Standard for 14C
 Calibration Complete
 Counting Standard for 3H
 Calibration Complete
 Calibration Successful

} LS 6000 IC calibration



Research
Products
International
Corp.

410 N. Business Center Drive
Mt. Prospect, Illinois 60056-2190
Phone: 708-635-7330
Telex: 28-2595 Fax: 708-635-1177

CERTIFICATE OF CALIBRATION

FACILITY: KINGS COLLEGE
BIOLOGY DEPT.
WILKES-BARR, PA. 18711

P.O.# 14835

RAD-MONITOR MODEL: 9000-GM2 SERIAL NO.: 1276

ELECTRONIC CALIBRATION			
INPUT (pps)	EXPECTED READING per Mfr. (cps)	ACTUAL READING (cps)	% ERROR
5.0	5.0	5.0	0.0
50.0	50.0	51	+ 2.0
500.0	500	510	+ 2.0

METER CALIBRATION ACCURACY RESULTS WITHIN 10% LIMITS []
OVERLOAD TEST PASSED []

* DIRECTOR LINEARITY EVALUATION		
METER READING (cps)	Mr/hr. Exposure	Distance (Cm.)
200	3.10	90TVL
50	0.77	180TVL

LINEARITY RESULTS WITHIN ACCEPTABLE LIMITS []

GEOMETRY: Radiation beam into window, cap on.

By: *Jim K. Varada*
J.R. Peterson & Assoc.

CERTIFICATE NO. 2106

Date: July 14, 1994

NEXT CALIBRATION DUE: July 14, 1995

(Or per your license requirements)