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J-6
MS-16

July 16, 2009

Dennis R. Lawyer
Health Physicist
Commercial and R&D Branch
Division of Nuclear Materials Safety
U.S. Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19406-1415

SUBJECT: THE SARNOFF CORPORATION, SECOND REQUEST FOR
ADDITIONAL INFORMATION CONCERNING APPLICATION FOR
AMENDMENT TO LICENSE, CONTROL NO. 143652

NRC License Number: 29-28005-01

03029879

Dear Mr. Lawyer:

This is in response to your phone call and email of 6 July 2009 requesting further information related to our recent radioactive material license amendment request.

- 1) The latest leak test report for sealed sources requiring leak tests is attached. The report, dated 21 April 2009, shows no leakage. Historically, there has been no leakage in any of our sealed sources requiring periodic leak testing.
- 2) Room EN-116 was used to handle unsealed P-33 whose half life is 25.4 days. The last usage of P-33 was February 1999. Room EN-317 was used to handle I-125 whose half life is 60 days. The last usage of I-125 was September 2001.
- 3) To accommodate your request, a contamination survey for tritium for room EN-310 has been done in the past few days. The wipe samples have been sent to a licensed lab for analysis by liquid scintillation counting. We expect the lab results within 7 days and we will promptly forward the report of survey.
- 4) The survey for room EN-310 which were previously submitted and marked as company private are replaced by the attached survey with no declaration of privacy.



REC'D IN LAT 7/15/09
PCC LTR dated 7/16/09

143652
NRC/RGNI MATER. ALS-002

5) To our knowledge we have never acquired, stored or used carbon-14 under our specific byproduct material license. The carbon-14 material that we stored in the Pond Building as radioactive waste was discovered in our building, recognized as radioactive and properly disposed as radioactive waste. To the best of our knowledge this material was acquired prior to licensing requirements or acquired as license exempt material.

Very truly yours,
Sarnoff Corporation



James P. Rust
Director, Facilities

cc: Wesley R. Van Pelt, PhD, CIH, CHP, Radiation Safety Officer

Attachments:

- 1) Sealed source leak test report dated 21 April 2009
- 2) Contamination survey of room EN-310, dated 4/2/99

WESLEY R. VAN PELT ASSOCIATES, INCORPORATED

WESLEY R. VAN PELT, PH.D.
President
CERTIFIED HEALTH PHYSICIST
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21 April 2009

Mr. James Rust
Director of Facilities
Acting Manager of Safety and Industrial Hygiene
Sarnoff Corporation
201 Washington Road
Princeton, NJ 08543-5300

Subject: **Report of Sealed Source Leak Testing - April 2009**

Dear Mr Rust:

I have completed the routine sealed source leak test. Sarnoff has five radioactive sealed sources that require periodic leak testing. Only the Isotope Products model XFB/3204 sealed source originally containing 50 mCi of Fe-55 has been used in the past several years. In fact, it is my understanding that all but this source have been unused for about 10 years or more.

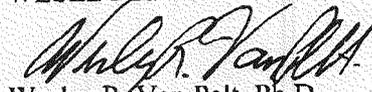
All sealed sources are stored in a locked storage cabinet in room SW040 which is also locked. This sealed source leak test also serves as the inventory of sealed sources.

Each sealed source was swiped on 15 April 2009. The swipes (cotton swabs) were assayed on Sarnoff's Ludlum model 2200 scaler with a shielded pancake GM thin window detector. Counting efficiencies were determined for each radionuclide using calibration standards.

Attached is a summary of the calculations and the results. As you can see, all sealed sources requiring leak testing had removable activity below 0.005 microcuries. As such, no reporting to NRC is required.

Recommended action: None.

Very truly yours,
WESLEY R. VAN PELT ASSOCIATES, Inc.


Wesley R. Van Pelt, Ph.D.
President

Report of Sealed Source Leak Testing - April 2009
Sarnoff Corporation

Sealed Source Leak Test Summary of Results

A	B	C	D	E	F	G	H	I	J
96	Activity on Leak Test Swipes								
97				Orig. Activity mCi	Calib. Date	Half Life years	Current Activity mCi	Activity On Swipe uCi	Leak Test Required?
98	# Source	Mfr.	Model						
99	1 Am-241	Amersham	AM C-2084	10	31-May-80	433	9.54844	-0.00051	Yes
100	2 Am-241	Amersham	AM C-21 SN 997	2	1-Feb-80	433	1.93868	-0.00051	Yes
101	3 Cs-137	Amersham	CDC-803	3	10-Mar-81	30	1.56786	-0.00002	Yes
102	4 Fe-56	Isotope Products	XF B/3204	50	1-Sep-02	2.7	9.14781	-0.00046	Yes
103									
104	5 Boxed Set of Standards:								
105	Am-241	Amersham	QR C-2	0.0118	1-Apr-85	433	0.01135	-0.00051	Yes
106	Ba-133	Amersham	QR C-2	0.0116	1-Apr-85	10.8	0.00248		
107	Cs-137	Amersham	QR C-2	0.012	1-Apr-85	30	0.00689		
108	Co-60	Amersham	QR C-2	0.0113	1-Apr-85	5.27	0.00048		
109	Na-22	Amersham	QR C-2	0.0108	1-Apr-85	2.6	0.00002		
110									
111	Needle sources:								
112	6 Fe-55	NEN (in plastic)	NER-0941	10	1-Sep-82	2.7	0.01079	0.00237	No
113	7 Fe-55	NEN (in lead holder)	NER-0941	10	1-Jun-82	2.7	0.01011	0.00237	No

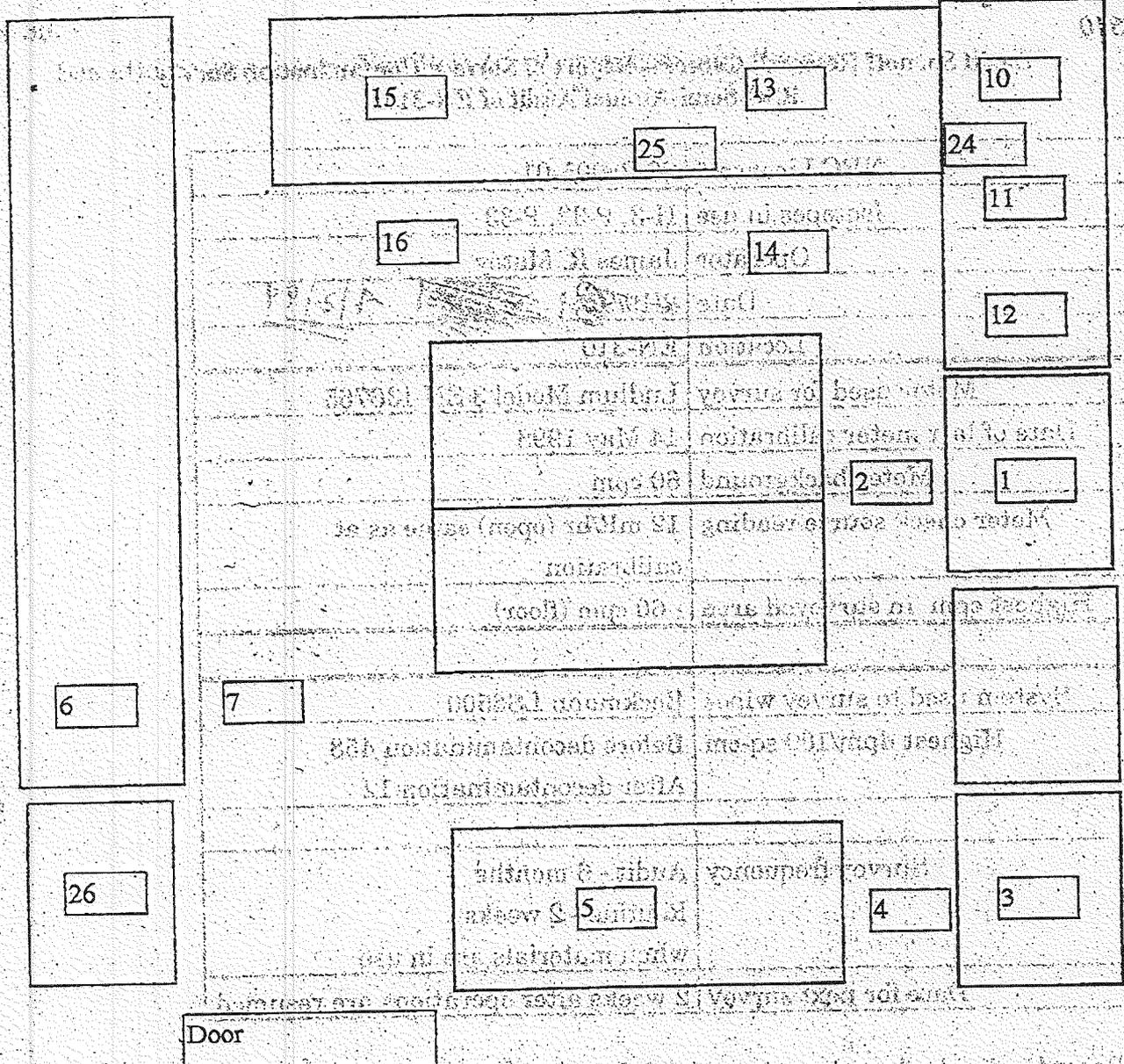
EN-310

David Sarnoff Research Center - Report of Surface Contamination Survey
RSO Semi-Annual Audit of EN-310

NRC License #	29-28005-01
Isotopes in use	H-3, P-32, P-33
Operator	James R. Matey
Date	2/19/99 5/11/99 4/2/99
Location	EN-310
Meter used for survey	Ludlum Model 3 SN 136765
Date of last meter calibration	14 May 1998
Meter background	60 cpm
Meter check source reading	12 mR/hr (open) same as at calibration
Highest cpm in surveyed area	~60 cpm (floor)
System used to survey wipes	Beckmann LS6500
Highest dpm/100 sq-cm	Before decontamination 458 After decontamination 12
Survey frequency	Audit - 6 months Routine - 2 weeks when materials are in use
Date for next survey	2 weeks after operations are resumed

- 1.) Record individual readings in table with a sketch of the area surveyed. You may want to keep a partly filled out form on hand to duplicate for future surveys.
- 2.) Note any special conditions below
- 3.) If contamination levels require a decontamination to be done (200 dpm or higher/100 cm²), repeat the survey after decontamination, recording the results in the table, with appropriate annotation.

Notes: Hot spots on tools, the electrophoresis unit and on the floor in front of the hot bench have been cleaned and retested. All cleaned up except for a pipette which will be done.



#	Description	Survey (fixed/removable CPM)	Isotope	Swipe Counts (removable dpm)
1	Work surface	60	P33	8
2	Floor	60	P33	109 before cleaning; 0 after
3	-80 freezer	60	P33	13
4	Floor	60	P33	111 before cleaning; 5 after
5	LSC	60	P33	1
6	Sink	60	P33	0
7	Floor	60	P33	32
8	None	60	P33	0
9	Waste container	60	P33	2
10	Gel dryer	60	P33	458 before cleaning; 0 after
11	Thermocycler	60	P33	9
12	Centrifuge	60	P33	3
13	Gel bench	60	P33	107 before cleaning; 8 after
14	Floor	60	P33	0
15	Microscale bench	60	P33	39
16	Floor	60	P33	7
17	Gel rack #1	60	P33	2
18	Gel rack #2	60	P33	1
19	Shield & tray	60	P33	6
20	Pipette carousel	60	P33	17
21	Smart Power 4000	60	P33	9
22	Universal Vacuum System	60	P33	25
23	Small centrifuge	60	P33	0
24	Bench	60	P33	3
25	Drawer	60	P33	0
26	Desk	60	P33	0
27	Door handles	60	P33	0
28	Background	60	P33	4

NOTE: Swipes below background are listed as 0.