



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

June 10, 2008

Docket No. 03029879  
Control No. 142070

License No. 29-28005-01

Carolana J. Churins  
Vice President, Administration  
The Sarnoff Corporation  
CN 5300  
Princeton, NJ 08543-5300

SUBJECT: THE SARNOFF CORPORATION, LICENSE AMENDMENT, CONTROL NO.  
142070

Dear Ms. Churins:

This refers to your license amendment request. Enclosed with this letter is the amended license.

Please review the enclosed document carefully and be sure that you understand and fully implement all the conditions incorporated into the amended license. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5239, so that we can provide appropriate corrections and answers.

An environmental assessment for this action is not required, since this action is categorically excluded under 10 CFR 51.22(c)(14).

Current NRC regulations and guidance are included on the NRC's website at [www.nrc.gov](http://www.nrc.gov); select **Nuclear Materials; Medical, Academic, and Industrial Uses of Nuclear Material; Regulations, Guidance, and Communications**. You may also obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-866-512-1800. The GPO is open from 7:00 a.m. to 8:00 p.m. EST, Monday through Friday (except Federal holidays).

Thank you for your cooperation.

Sincerely,

***Original signed by Thomas K. Thompson***

Thomas K. Thompson  
Senior Health Physicist  
Commercial and R&D Branch  
Division of Nuclear Materials Safety

Enclosure:  
Amendment No. 15

C. Churins  
The Sarnoff Corporation

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cc:  
Wesley R. Van Pelt, Ph.D., Radiation Safety Officer

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**SUNSI Review Complete: TThompson**

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NAME	TThompson/TKT						
DATE	6/10/2008						

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**MATERIALS LICENSE**

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

<p style="text-align: center;">Licensee</p> <p>1. The Sarnoff Corporation</p> <p>2. CN 5300 Princeton, New Jersey 08543-5300</p>	<p>In accordance with the letter dated May 27, 2008,</p> <p>3. License number 29-28005-01 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration date July 31, 2005 (extended)</p> <hr/> <p>5. Docket No. 030-29879 Reference No.</p>
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6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Hydrogen 3	A. Any	A. 100 millicuries
B. Carbon 14	B. Any	B. 30 millicuries
C. Phosphorus 32	C. Any	C. 100 millicuries
D. Phosphorus 33	D. Any	D. 100 millicuries
E. Sulfur 35	E. Any	E. 100 millicuries
F. Calcium 45	F. Any	F. 5 millicuries
G. Iodine 125	G. Bound to nonvolatile compounds	G. 10 millicuries
H. Iodine 131	H. Bound to nonvolatile compounds	H. 10 millicuries
I. Hydrogen 3	I. Sealed sources (Saunders-Roe or SRB Technologies Type Glass Capsules)	I. Not to exceed 10 curies per source and 100 curies total
J. Manganese 54	J. Sealed sources	J. Not to exceed 25 microcuries per source and 50 microcuries total

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6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
K. Iron 55	K. Sealed sources (NEN Model NER9041)	K. Not to exceed 10 millicuries per source and 20 millicuries total
L. Cobalt 60	L. Sealed sources	L. Not to exceed 25 microcuries per source and 50 microcuries total
M. Barium 133	M. Sealed sources	M. Not to exceed 25 microcuries per source and 50 microcuries total
N. Cesium 137	N. Sealed sources	N. Not to exceed 25 microcuries per source and 50 microcuries total
O. Cesium 137	O. Sealed source (Amersham Model CDC-803)	O. 3 millicuries
P. Mercury 203	P. Sealed sources	P. Not to exceed 25 microcuries per source and 50 microcuries total
Q. Americium 241	Q. Sealed sources	Q. Not to exceed 25 microcuries per source and 50 microcuries total
R. Americium 241	R. Sealed sources (Amersham Models AMC-21 and AMC-2084)	R. Not to exceed 10 millicuries per source and 12 millicuries total
S. Iron 55	S. Sealed Sources (Isotope Products Model XFB Series)	S. 100 millicuries per source and 200 millicuries total

9. Authorized use:

A. through S. Research and development as defined in 10 CFR 30.4.

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## CONDITIONS

10. Licensed material may be used or stored only at the licensee's facilities located at 201 Washington Road, Princeton, New Jersey.
11. Licensed material shall be used by, or under the supervision of James R. Matey, Ph.D. or Wesley R. Van Pelt, Ph.D. Material listed in Items 6.I. through 6.S. may also be used by or under the supervision of Michael Reale or Mark Grygon.
12. The Radiation Safety Officer for this license is Wesley R. Van Pelt, Ph.D., CHP.
13. Licensed material shall not be used in or on human beings.
14. The licensee shall not use licensed material in field applications where activity is released except as provided otherwise by specific condition of this license.
15. The licensee shall not acquire licensed material in a sealed source or device unless the source or device has been registered with the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or equivalent regulations of an Agreement State.
16.
  - A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State.
  - B. Notwithstanding Paragraph A of this Condition, sealed sources designed to primarily emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.
  - C. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to any use or transfer as a sealed source.
  - D. In the absence of a certificate from a transferor indicating that a leak test has been made within the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State, prior to the transfer, a sealed source received from another person shall not be put into use until tested and the test results received.

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- E. Sealed sources need not be tested if they contain only hydrogen-3; or they contain only a radioactive gas; or the half-life of the isotope is 30 days or less; or they contain not more than 100 microcuries of beta- and/or gamma-emitting material or not more than 10 microcuries of alpha-emitting material.
- F. Sealed sources need not be tested if they are in storage and are not being used; however, when they are removed from storage for use or transferred to another person and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.
- G. The leak test shall be capable of detecting the presence of 0.005 microcurie (185 becquerels) of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie (185 becquerels) or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(c)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations.
- H. Tests for leakage and/or contamination, including leak test sample collection and analysis, shall be performed by the licensee or by other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
- I. Records of leak test results shall be kept in units of microcuries and shall be maintained for 5 years.
17. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
18. The licensee shall conduct a physical inventory every six months, or at other intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 5 years from the date of each inventory and shall include the radionuclides, quantities, manufacturer's name and model numbers, and the date of the inventory.
19. The licensee is authorized to hold radioactive material with a physical half-life of less than or equal to 120 days for decay-in-storage before disposal in ordinary trash, provided:
- A. Waste to be disposed of in this manner shall be held for decay a minimum of ten half-lives.
- B. Before disposal as ordinary trash, the waste shall be surveyed at the container surface with the appropriate survey instrument set on its most sensitive scale and with no interposed shielding to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.

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- C. A record of each such disposal permitted under this License Condition shall be retained for three years. The record must include the date of disposal, the date on which the byproduct material was placed in storage, the radionuclides disposed, the survey instrument used, the background dose rate, the dose rate measured at the surface of each waste container, and the name of the individual who performed the disposal.
20. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
21. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Application dated April 26, 1995
  - B. Letter dated July 10, 1995
  - C. Letter dated July 21, 1995
  - D. Letter dated September 21, 1995
  - E. Letter dated November 13, 1997
  - F. Letter dated November 23, 1998
  - G. Letter dated May 5, 2000
  - H. Facsimile dated January 7, 2002
  - I. Letter dated September 25, 2003

For the U.S. Nuclear Regulatory Commission

Date June 10, 2008

By Original signed by Thomas K. Thompson  
Thomas K. Thompson  
Commercial and R&D Branch  
Division of Nuclear Materials Safety  
Region I  
King of Prussia, Pennsylvania 19406