•	NRC FORM 374
	(10-89)

U.S. NUCLEAR REGULATORY COMMISSION

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MATERIALS LICENSE

Amendment No. 45

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, 39, 40 and 70, and in reliance on statements and representations heretofore

	Licer	rsee		In accordance w	ith application dated
1.	Aluminum Company of A ALCOA Technical Cent			August 29, 1990 3. License number 37	
2.	P.O. Box 2970 Alcoa Center, Pennsy	lvania 1506	59	4. Expiration date Au	gust 31, 1994
		g sage states South	alezi (internetiale internetiale internetia	5. Docket or Reference No. * 03	0-06172
6.	Byproduct, source, and/or special nuclear material	en gel en gegender en gegender	7. Chemical and form	or physical	8. Maximum amount that licensee may possess at any one time under this license
Α.	Cesium 137	Α.	Sealed sour	rces A	. Not to exceed 8 curies
В.	Nickel 63	ر بن این این	Packard Mod or Perkin-E	ined in Hewlett- B del 18713-60520 Elmer Model etector cells	Not to exceed 15 milli- curies per foil and 150 millicuries total
С.	Hydrogen 3) C.	Foil contai		Not to exceed 200 milli- curies per foil and 2 curies total
D.	Promethium 147	D.		(1)	Not to exceed 500 milli- curies per source or 1500 millicuries total
Ε.	Strantium 90		Sealed sour Model S-18	•	Not to exceed 300 millicuries per source
	9101090301 90112 REG1 LIC30 MATLSLICENSING P			in- and and	and 900 millicuries total

- distribution under a license issued by the Nuclear Regulatory Commission or an Agreement State.
- B. and C. For use in gas chromatographs for sample analysis.
- For use in FAG Bearing Corporation Series FH46 gauge source holder series 9850 to measure material density.
- Ε. For possession and use in Accuray Model U-6 beta thickness gauge.

CONDITIONS

- Licensed material shall be used only at ALCOA Technical Center, ALCOA Center, and 10. ALCOA Research Laboratory, New Kensignton, Pennsylvania.
- Licensed material shall be used by, or under the supervision of, 11. Α. Haig G. Sakoian or Mark Jackson.

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		Ε.	Seal	ed sources and de	tector cells nee	ed not	be leak te	sted if	:			
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N.W.W			(ii)	they contain onl	y krypton 85; or			A STATE OF THE STA				
W.W.		((iii)	the half-life of	the isotope is	30 da	ys or less;	or				
N. 701.701.70			(iv)	they contain not material or not								
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CONDITIONS

- Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders or detector cells by the licensee.
- 13. Sealed sources and detector cells shall be tested for leakage and/or Α. contamination at intervals not to exceed 6 months or at such other intervals as are specified by the certificate of registration referred to in 10 CFR 32.210, not to exceed 3 years.
 - В. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.
 - C. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.
 - Each sealed source fabricated by the licensee shall be inspected and tested for D. construction defects, leakage, and contamination prior to any use or transfer as a sealed source.
 - Sealed sources and detector cells need not be leak tested if: Ε.
 - (i) they contain only hydrogen 3; or
 - (ii) they contain only krypton 85; or
 - (iii) the half-life of the isotope is 30 days or less; or
 - (iv) they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material; or
 - (v) they are not designed to emit alpha particles, are in storage, and are not being used. However, when they are removed from storage for use or transfer 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 or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

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	indicator, if any, at no longer than six-month intervals or at such longer intervals as specified by the manufacturer, not to exceed 3 years. Installation, initial radiation survey, relocation, or removal from service of devices containing sealed sources shall be performed by Mark Jackson or Haig G. Sakbian or by persons specifically licensed by the Commission or an Agreement State to perform such services. Maintenance and repair of devices and installation, replacement, and disposal of sealed sources shall be performed only by persons specifically licensed by the Commission or an Agreement State to perform such services. Prior to initial use and after installation, relocation, dismantling, alignment, or any other activity involving the source or removal of the shielding, the licensee shall assure that a radiological survey is performed to determine radiation levels around, above and below the gauge with the shutter open. This survey shall be performed only by persons specifically licensed by the Commission or an Agreement State to install gauges. A record of the results of this survey shall be maintained. The licensee shall conduct a physical inventory every 6 months 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. Detector cells containing titanium tritide foil shall only be used in conjunction with a properly operating temperature control mechanism which prevents foil temperatures from exceeding 225 degrees Centigrade.												
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CONDITIONS

- F. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. Records of leak test results shall be kept in units of microcuries and shall be maintained for inspection by the Commission. If the test reveals the presence of 0.005 microcurie or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission and the source shall be removed from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region I, ATTN: Chief, Nuclear Materials Safety Branch, 475 Allendale Road, King of Prussia, Pennsylvania 19406. The report shall specify the source involved, the test results, and corrective action taken.
- G. The licensee is authorized to collect leak test samples for analysis by the licensee. Alternatively, tests for leakage and/or contamination may be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.
- Each gauge shall be tested for the proper operation of the on-off mechanism and indicator, if any, at no longer than six-month intervals or at such longer intervals as specified by the manufacturer, not to exceed 3 years.
- Installation, initial radiation survey, relocation, or removal from service of devices containing sealed sources shall be performed by Mark Jackson or Haig G. Sakbian or by persons specifically licensed by the Commission or an Agreement State to perform such services. Maintenance and repair of devices and installation, replacement, and disposal of sealed sources shall be performed only by persons specifically licensed by the Commission or an Agreement State to perform such services.
- Prior to initial use and after installation, relocation, dismantling, alignment, or any other activity involving the source or removal of the shielding, the licensee shall assure that a radiological survey is performed to determine radiation levels around, above and below the gauge with the shutter open. This survey shall be performed only by persons specifically licensed by the Commission or an Agreement State to install gauges. A record of the results of this survey shall be maintained.
- 17. The licensee shall conduct a physical inventory every 6 months 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.
- 18. Detector cells containing titanium tritide foil shall only be used in conjunction with a properly operating temperature control mechanism which prevents foil temperatures from exceeding 225 degrees Centigrade.

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	procedu	res contained in t	he documents including	any enclos	ures, liste	d below.	
	The Nuc	lear Regulatory Co	mmission's regulations	shall gover	rn unless t	he	
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- 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 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 January 25, 1989
 - Letter dated March 28, 1989 В.
 - Letter dated July 20, 1989 С.
 - Application dated August 29, 1990 D.