NRC Form 313 I (12-81) 10 CFR 30	1. APPLICATION FOR: (Check and/or complete as appropriate)				
APPLICATION FC	R BYPRODUCT MATERI INDUSTRIAL	IAL LICENSE	X a. NEW LICENSE		
See attached instructions for detail	I.		6. AMENDMENT TO:		
Completed applications are filed in Office of Nuclear Material Safety, Washington, DC 20555 or applicat 1717 H Street, NW, Washington, 1	n duplicate with the Division of F and Safeguards, U.S. Nuclear Reg ions may be filed in person a: th D. C. or 7915 Eastern Avenue, Sil	uel Cycle and Material Safety, gulatory Commission, e Commission's office at lver Spring, Maryland.	C. RENEWAL OF: LICENSE NUMBER		
2. APPLICANT'S NAME (Institution	n, firm, person, etc.)	3. NAME AND TITLE OF PE REGARDING THIS APPLI	RSON TO BE CONTACTED		
ASARCO Incorporated		Manfred B. Parker, Personal & Safety Direc TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION 314-689-2911			
TELEPHONE NUMBER: AREA C 314-689-2911	ODE - NUMBER EXTENSION				
APPLICANT'S MAILING ADDRI (Address to which NRC correspon	ESS (Include Zip Code) dence, notices, bulletins, etc.,	5. STREET ADDRESS WHERE LICENSED MATERIAL WILL SE USE (Include Zip Code)			
should be sent.) P.O. Box 116, Bunker	, Missouri 63629	Route KK and Black River Crossing Reynolds County, Missouri			
UE MORE SPACE	IS NEEDED FOR ANY ITEM	USE ADDITIONAL PROPE	RLY KEYED PAGES.)		
6. INDIVIDUAL (S) WHO WILL	USE OR DIRECTLY SUPER	VISE THE USE OF LICENSE	DMATERIAL		
(See Items 16 and 17 for required	I training and experience of each in NAME		TITLE		
John D. Lepo	TT	Electrical Super	intendent (See Attached)		
Appli	cant. 1.1. 0.5. 12. 13				
Chec	KNO. J.C.C.C. DP				
Manfred B. Parker Type	TCER APP 5/3	Artach's resume of person's tra boand 17 and describe his resp Personnel & Safety	aining and experience as outlined in Items onsibilities under Item 15. Director (See Attached)		
Dan	B. LICENSE	D.MATERIAL			
L ELEMENT REC AND N MASS NUMBER E	EIVER CY CHEMICAL AND/OR PHYSICAL FORM	NAME OF MANUFACTURE AND MODEL NUMBER (If Sealed Source) C	ER MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTI- VITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME D		
NO. A	Coaled Source	Ohmart Corporatio	n 100		
" Cesium - 157	Seared Source	Model # Densart 34	100		
2)					
3)					
4) .	DESCRIBE USE OF	LICENSED MATERIAL			
	E				
To be used in an Of gauge. Gauge to me pipe. Rubber linin	mart Model SR-IA sources asure ore concentrate ig is 3/8" thick. SE	rce holder as part o <u>e slurry in a 10" C.</u> E CONDITIONS ATTACHE	f model # Densart 3460 S. SCH. 40 Rubber-lined D.		
2)					
3)					
REG3 LIC30 24-24503-01 PDR		CONTROL NO	0. 7 8 9 2 1		

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		9.	STORAGE OF	SEALED SOU'RC	ES	
L-ZWO.	CONTAINER AND/OR DEVICE IN WHICH EAC SOURCE WILL BE STORED OR USED. A.		ACH SEALED	NAME OF MANUFACTURER B.		MODEL NUMBER
(1)	Source	Housing		Ohmart		SR-1A
(2)						
(3)						
(4)				,		
		10. RAI	DIATION DETE	CTION INSTRUM	ENTS	
. 1	TYPE	MANUFACTURER'S	MODEL	NUMBER	RADIATION	SENSITIVITY
I-NEO.	OF	NAME	NUMBER	AVAILABLE	DETECTED (alpha, beta, gamma, neutron)	RANGE (milliroentgens/hour or counts/minute)
-	A Dental la Dadia	В	С	D	E	F
1)	tion Meter	Victoreen	#493	One (1)	Gamma	0.5-50 MR/HR
2)						
3)						
4)						
-		11. CALIBRA	TION OF INST	RUMENTS LISTER	D IN ITEM 10	
a.	CALIBRATED BY SEP	VICECOMPANY		DE CALIBRATE	D BY APPLICANT	
	UALIDHATED DT SEP	TVICE COMPANY		CO. CALIBRATE	D BT APPLICANT	
	NAME, ADDRESS, AN	ID FREQUENCY		Attach a separate	e sheet describing meti	hod, frequency and standards
	Victoreen		Annually		tessiiqq.4	
		12. PER	SONNEL MONI	TORING DEVICE	S	
ICheck and/or complete as appropriate.]			- 1.	SUPPLIER (Service Company) EXCHANGE FREQUEN		
(1) FILM BADGE N/A (2) THERMOLUMINESCENCE DOSIMETER (TLD)			1	··· · · · · · · · · · · · · · · · · ·	23 Mars uso	MONTHLY
		· · · · N√A			OUARTERLY	
					OTHER (Specify)	
						COTTEN (Specify).
-						
	13. FACILITIES A	ND EQUIPMENT (Che	ck were ap rop	iate and attach and	notated sketch(es) a	and description(s).
) a.	LABORATORY FACI	LITIES, PLANT FACILIT	TES, FUME HOO	DS (Include filtratio)	n, if anyl, ETC.	and the second
) b.	STORAGE FACILITIE	S, CONTAINERS, SPECI	AL SHIELDING (fixed and/or tempora	ry), ETC.	N/A
C.	REMOTE HANDLING	TOOLS OR EQUIPMEN	T, ETC.			in/n
d.	RESPIRATORY PROT	ECTIVE EQUIPMENT, E	14 WAS E	DISPOSAL		
NA	ME OF COMMERCIAL	WASTE DISPOSAL SER	VICE EMPLOYED	DISFUSAL		
				N/A		
IF (BE THI	COMMERCIAL WASTE USED FOR DISPOSING E APPLICATION IS FO	DISPOSAL SERVICE IS 3 OF RADIOACTIVE WA R SEALED SOURCES AN	NOT EMPLOYED STES AND ESTIN ND DEVICES AND	SUBMIT A DETAIL MATES OF THE TYP THEY WILL BE RE	ED DESCRIPTION OF E AND AMOUNT OF ETURNED TO THE M	F METHODS WHICH WILL ACTIVITY INVOLVED. IF ANUFACTURER, SO STAT
Se	aled source wil	11 be returned t	o the Ohmar	t Corporation	n, Cincinnati,	Ohio, when its
us	e is no longer	necessary.				
AC F	ORM 313 I (12-81)			and the spin of the second	New Address of the state of the second state of the second state of the second state of the second state of the	
IC F	ORM 313 I (12-81)					

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INFORMATION REQUIRED FOR ITEMS 15, 16 AND 17

Describe in detail the information required for Items 15, 16 and 17. Begin each item on a separate page and key to the application is follows:

- 15. RADIATION PROTECTION PROGRAM. Describe the radiation protection program as appropriate for the material to be used including the duties and responsibilities of the Radiation Protection Officer, control measures, bipassay procedures (if needed), day co-day general safety instruction to be followed, etc. If the application is for scales over e's also submit leak testing procedures, or if leak testing will be performed using a lead test kit, specily manufacturer and model number of the leak test kit.
- 16. FORMAL TRAINING IN RADIATION SAFET . Attach a resume for each individual named in Items 6 and 7. Describe individuar's formal training in the following areas where applicable. Include the name of person or institution providing the training, duration of training, when training was received etc.
 - a. Principles and practices of radiation protection.
 - b. Radioactivity measurement stands dization and monitoring techniques and instruments.
 - c. Mathematics and calculations basic to the use and measurement of radioactivity.
 - d. Biological effects of radiation.
- 17. EXPERIENCE. Attach a resume for each individual named in Items 6 and 7. Describe individual's work experience with radiation, including where experience was obtained. Work experience or onthe job training should be commensurate with the proposed use. Include list of radioisotopes and maximum activity of each used

and an other an and a second	18. CE	RTIFICATE	
	(This item must b	e completed by a	pplicant)
			it of the environment in them 2
The applic	ant and any official executing this of	certificate on bena	or or the applicant named in Rem 2,
certify tha	this application is prepared in con	formity with fille	e TU, Code of Federal Regulations,
Part 30, a	nd that all information contained he	erein, including any	y supplements attached hereto, is true
and correc	t to the best of our knowledge and	belief.	
ARNING18 U.S.C., Se	tion 1001; Act of Juna 25, 1948: 62	Stat. 749; makes it	t a criminal offense to make a willfully false statement
presentation to any depart	tment or agoncy of the United States	as to any matter w	within its jurisdiction.
			RECEIVED
ICENSE FEE REQUIR	ED	b. CERTIEN	(ING OFFICIAL (Signature)
See Section 170.31, 10	CFR 170)	1 0	1 1 Jaw MAY 091985
	\$230.00	C NAME (7	Type or printl
			John D. INWERON IT
	A CONTRACTOR OF THE OWNER OWNER OF THE OWNER	d TITLE	ngorut ur
LICENSE FEE CATEG	ORY: 3P		Manager
	+	e DATE	
LICENSE FEE ENCLO	SED: \$ \$230.00		May 3, 1985
CODM 313 1/15 011		GPO 888-426	Time No 17 8 9 2
AC FORM 313 I (12-81)		GPO 886-426	CONTROL NO. 7 8

NAC FORM 313 I (12-81)

CONDITIONS

- Licensed material shall be used only at the licensee's address in Item 5 in application.
- The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 19, "Notices, Instructions and Reports to Workers; Inspections. Part 20, "Standards for Protection Against Radiation."
- 3. Licensed material shall be used by, or under the supervision of John D. Lepo and Manfred B. Parker.
- 4. A.(1) Each scaled source shall be tested for leakage and/or contamination at intervals not to exceed three years. In the absence of a certificate from a transferer indicating that a test has been made within six months prior to the transfer, a sealed source received from another person shall not be put into use until tested.
 - (2) The periodic leak test required by this condition does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another person unless they have been leak tested within six months prior to the date of use or transfer.
 - B. The test shall be capable of detecting the presence of 0.005 microcurie or radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device in which the scaled source is permanently mounted or stored on which one might expect contamination to accumulate. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.
 - C. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed within 5 days of the test with the U. S. Nuclear Regulatory Commission, 799 Roosevelt Road, Building #4, Glen Ellyn, Illinois, 60137.
 - D. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically authorized by the Commission or an Agreement State to perform such services.
- 5. Sealed sources containing licensed material shall not be opened or removed from their respective source holders by the licensee.
- 6. Installation and periodic relocation of devices containing licensed material may be performed by John D. Lepo and/or Manfred B. Parker or by persons under the direct supervision of John D. Lepo and/or Manfred B. Parker. Initial radiation survey of the device or devices containing licensed material shall be performed by Manfred B. Parker, Radiation Protection Officer.

- 7. Maintenance and repair of devices containing licensed material and installation, replacement, and disposal of sealed sources containing licensed material shall be performed only by the manufacturer or by other persons specifically authorized by the Commission or an Agreement State to perform such services.
- 8. The licensee shall possess and use licensed material described in this application according to statements, representations, and procedures contained therein and dated May 03, 1985.

INDUSTRIAL DEVICE INSTALLATIONS

By definition "installation" of Industrial Devices containing radioactive material means the removal of the source housing (containing the source) from its original shipping box or container and placing, or supervising the placement of, the source housing in a position of use. Each separate placement or relocation is to be construed as a new installation.

Installation of these Industrial Devices may be conducted only by those persons who have a specific license condition authorizing them to perform this work, or by persons under direct supervision of those named in the specific application.

At the time of installation, the individual will be equipped with an appropriate survey meter for the type of source and calibrated leak test standards.

Inspection and Installation Procedure:

- 1. The shipping box or crate will be surveyed at the storage location to determine if damage has been done in shipping.
- The outer cover of the box or shipping crate will be removed but the unit will not be removed from the base skid. An inspection will be made to the unit for transportation damage to the locking mechanism and correctness of labeling.
- 3. A brief radiation survey to insure the security of the source and shutter will be made.
- 4. If visible damage is evident, the unit will be leak tested for contamination. Damage or any degree of contamination precludes installation and the appropriate manufacturer will be notified immediately. Following inspection and survey, the device will be transported to the mounting location.
- 5. A radiation survey will be made by Manfred B. Parker in accordance with the appropriate survey pattern sheet and the original will be kept as a permanent record.
- 6. Manfred B. Parker will conduct a leak test and send the leak test kit to the Ohmart Corporation for proper testing. When the leak test certificate is received, it will be kept as a permanent record.

INDUSTRIAL DEVICE SAFETY PROGRAM

- 1. Installation, relocation, maintenance, repair and radiation surveys will only take place when the Radiation Safety Officer Manfred B. Parker gives permission to proceed.
- 2. Permission by the Radiation Safety Officer Manfred B. Parker will include closing of the source shutter head and locking the device closed.
- 3. The key to the lock will only be in the hands of the Radiation Safety Officer Manfred B. Parker and John D. Lepo, Electrical Superintendent.
- 4. If the job in question can not be completed in a normal eight hour shift, the gauge will be crated within the department where it is located and security arranged so unauthorized personnel will be kept away.
- 5. A radiation survey and leak test will be made by Manfred B. Parker prior to any sealed source being installed, relocated, maintained, repaired or whenever deemed necessary. See Industrial Device Installations format.
- 6. All leak tests will be performed using the test material as outlined by the Ohmart Corporation, Leak Test Kit.
- 7. If any damage or leakage is found to a device, the appropriate manufacturer, the U. S. Nuclear Regulatory Commission, will be notified in writing immediately. All precautions will be taken to protect personnel and the environment from contamination.

FORMAL TRAINING IN RADIATION SAFETY

Mr. Manfred B. Parker attended the Ohmart Factory Training School, Cincinnati, Ohio in 1974, covering Principles of Nuclear Gaging. The following areas were covered:

- I. PRINCIPLES OF NUCLEAR GAGING:
 - A. Basic Concept
 - B. Typical Process Applications
 - (Level, Density, Thickness)
 - C. Gage Configuration
 - D. Safety Features of OHMART Nuclear Gages

II. RADIATION SAFETY:

- A. Types of Radiation Uses
- B. Detector Types
- C. Transmission vs. Thickness/Density
- D. Shielding Methods
- E. Doseage and Effects
- F. Exposure Calculations
- G. Source Holder & Mechanism (Demonstration of Disassembled Holder)
- H. Leak Test Demonstration

III. NRC REQUIREMENTS:

- A. General License Definitions & Limitations
- B. Specific License Definitions & Limitations
- C. License Application/Modification Procedures
- D. Responsibility of Licensee
- E. Source Identification Tags
- F. Posting of Areas & Personnel Monitoring
- G. Leak Testing Requirements
- H. Emergency Measures
- 1. Storage, or Disposal of Sources

Mr. Parker received practical experience with Asarco Incorporated at the Manchester Unit, Lakehurst, New Jersey from 1974 through September 1981 under NRC number 29-15724.

During those seven (7) years he performed numerous leak tests and radiation surveys as per the above numbered license number, NRC regulations, manufacturer's recommendations and the Industrial Device Safety Program. Maximum millicuries in use and/or storage at any given time under prior license number 29-15724 was 4700 mci, all of which was with the radioisotope, cesium 137.

As the Radiation Protection Officer Mr. Manfred B. Parker will be performing the same general work at the West Fork Unit of Asarco Incorporated. The use of the Ohmart Density Gauge #3460 will be similar to the uses Mr. Manfred B. Parker experienced at the Manchester Unit under NRC license 29-15724. (Measurement of a slurry in a pipe.)

FORMAL TRAINING IN RADIATION SAFETY

Mr. John Lepo, Electrical Superintendent, received four (4) hours of on the job training by an Ohmart field representative in 1973. Those areas of training covered the following.

- I. PRINCIPLES OF NUCLEAR GAGING:
 - A. Basic Concept
 - B. Gage Configuration
 - C. Safety Features of OHMART Nuclear Gages

II. RADIATION SAFETY:

- A. Types of Radiation Uses
- B. Transmission vs Thickness/Density
- C. Shielding Methods
- D. Doseage and Effects
- E. Exposure Calculations

III. NRC REQUIREMENTS:

- A. Specific License Definitions & Limitations
- B. Responsibility of Licensee
- C. Source Identification Tags
- D. Posting of Areas & Personnel Monitoring
- E. Leak Testing Requirements
- F. Emergency Measures
- G. Storage, or Disposal of Sources

Mr. John D. Lepo received practical experience with ASARCO Incorporated at the Manchester Unit, Lakehurst, New Jersey, from 1973 through December 1981 under NRC License Number 29-15724.

Mr. John D. Lepo's experience during the above period of time was more in line with the electronics and calibration of the gauge. He did supervise removal of the source head and measurement devices when the pipe needed changing necessitating locking the gauge in the closed position. Any leak tests and radiation surveys were performed by Mr. Manfred B. Parker whose training and experience have been previously listed.

Mr. John D. Lepo will be performing primarily the same function at the West Fork Unit of ASARCO Incorporated, as listed under previous NRC LICENSE NUMBER 29-15724. Mr. Lepo's past experience was with a maximum of 4700 mci of cesium 137.

CONTROL NO. 78921