

30-20772

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

a. NEW LICENSE X

b. AMENDMENT TO
LICENSE NUMBER

03120

c. RENEWAL OF
LICENSE NUMBER

L+L 29-2/430-01

attached instructions for details

Completed applications are filed in duplicate with the Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 or applications may be filed in person at the Commission's office at 1777 H Street, NW, Washington, D. C. or 7816 Eastern Avenue, Silver Spring, Maryland.

2. APPLICANT'S NAME (Institution, firm, person, etc.)

Tabco Piping Inc.

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION

(201) 481-7300

3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION

John Bentivegna - Chief Inspector

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION

(201) 481-7300

4. APPLICANT'S MAILING ADDRESS (Include Zip Code)

(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)

1000 South 4th Street
Harrison, New Jersey 07029

5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED (Include Zip Code)

1000 South 4th Street
Harrison, New Jersey 07029

(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)

6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL (See Items 16 and 17 for required training and experience of each individual named below)

	FULL NAME	TITLE
a	Ronald C. Spangler	President
b	Joe D'athio	Chief Engineer
c	John Bentivegna	Chief Inspector

RECEIVED BY LFMB

Date: 7/29/83
Log: July-13-83
By: [Signature]
Orig. To: [Signature]
Action Compl: 8/3/83

7. RADIATION PROTECTION OFFICER

John Bentivegna

Attach a resume of person's training and experience as outlined in items 16 and 17 and describe his responsibilities under item 15.

8. LICENSED MATERIAL

LINE NO.	ELEMENT AND MASS NUMBER	CHEMICAL AND/OR PHYSICAL FORM	NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source)	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME
(1)	PJ - 230	1000 Millicuries	Texas Nuclear Model #570-57242 B	(1) 30 Millicuries
(2)	GD - 109	1X3 Millicuries	Texas Nuclear Model #696-696782	(1) 3 Millicuries
(3)	FD - 55	1X20 Millicuries	Texas Nuclear Model # 696-696782	(1) 20 Millicuries
(4)	MI - 241	0.5 Microcuries	Texas Nuclear Model # AM.4	(1) 0.5 Microcuries

DESCRIBE USE OF LICENSED MATERIAL

	E
(1)	Applicant: [Signature] Check No. 3167 Amount, Fee Category #110-3 Type of Fee Application Date Check Rec'd 7/21/83 Received By: [Signature]
(2)	SEE ATTACHED SHEET
(3)	9406170129 930728 PDR FOIA THOMAS93-199 PDR

15360
15335

9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED	NAME OF MANUFACTURER	MODEL NUMBER
	A	E	C
1	1 ea. MODEL 9256 FI-237	TEXAS INCLER	9200
2	1 ea. MODEL 9251 CI-109	TEXAS INCLER	9200
3	1 ea. MODEL 9256 FI-55	TEXAS INCLER	9200
4	TO BE USED FOR INTERNAL STABILIZATION	TEXAS INCLER	9200

10. RADIATION DETECTION INSTRUMENTS

LINE NO.	TYPE OF INSTRUMENT	MANUFACTURER'S NAME	MODEL NUMBER	NUMBER AVAILABLE	RADIATION DETECTED (alpha, beta, gamma, neutron)	SENSITIVITY RANGE (milliroentgens/hour or counts/minute)
	A	B	C	D	E	F
(1)						
(2)				N/A		
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

a. CALIBRATED BY SERVICE COMPANY
 NAME, ADDRESS, AND FREQUENCY
 TEXAS INCLER
 BOX 9267
 AUSTIN, TEXAS 78766
 EVERY 6 MONTHS

b. CALIBRATED BY APPLICANT
 Attach a separate sheet describing method, frequency and standards used for calibrating instruments.
 N/A

12. PERSONNEL MONITORING DEVICES

TYPE (Check and/or complete as appropriate.)	SUPPLIER (Service Company)	EXCHANGE FREQUENCY
A	B	C
<input type="checkbox"/> (1) FILM BADGE N/A	NO ADDITIONAL MONITORING OF INSTRUMENTS IS REQUIRED TO OWN OR OPERATE THIS ANALYSER.	<input type="checkbox"/> MONTHLY
<input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD) N/A		<input type="checkbox"/> QUARTERLY
<input type="checkbox"/> (3) OTHER (Specify): N/A		<input type="checkbox"/> OTHER (Specify): N/A

13. FACILITIES AND EQUIPMENT (Check where appropriate and attach annotated sketch(es) and description(s).)

a. LABORATORY FACILITIES, PLANT FACILITIES, FUME HOODS (Include filtration, if any), ETC.

b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING (fixed and/or temporary), ETC.

c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC.

d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC. N/A

14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED N/A

b. IF COMMERCIAL WASTE DISPOSAL SERVICE IS NOT EMPLOYED, SUBMIT A DETAILED DESCRIPTION OF METHODS WHICH WILL BE USED FOR DISPOSING OF RADIOACTIVE WASTES AND ESTIMATES OF THE TYPE AND AMOUNT OF ACTIVITY INVOLVED. IF THE APPLICATION IS FOR SEALED SOURCES AND DEVICES AND THEY WILL BE RETURNED TO THE MANUFACTURER, SO STATE THIS APPLICATION IS FOR SEALED SOURCES AND THEY WILL BE RETURNED TO THE MANUFACTURER FOR DISPOSAL.

15360
~~15360~~

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 as 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, bioassay procedures (if needed), day-to-day general safety instruction to be followed, etc. If the application is for sealed source's also submit leak testing procedures, or if leak testing will be performed using a leak test kit, specify manufacturer and model number of the leak test kit.
16. FORMAL TRAINING IN RADIATION SAFETY. Attach a resume for each individual named in Items 6 and 7. Describe individual'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 standardization 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 on-the-job training should be commensurate with the proposed use. Include list of radioisotopes and maximum activity of each used.

18. CERTIFICATE

(This item must be completed by applicant)

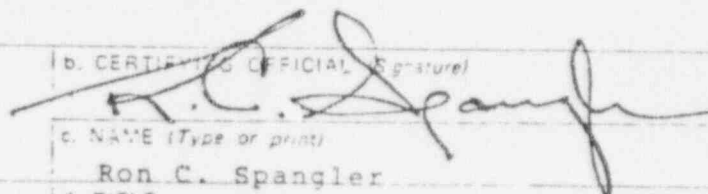
The applicant and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 30, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

WARNING.-18 U.S.C., Section 1001; Act of June 25, 1949, 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

a. LICENSE FEE REQUIRED
See Section 170.31, 10 CFR 170

170.31-I

b. CERTIFYING OFFICIAL (Signature)



c. NAME (Type or print)

Ron C. Spangler

d. TITLE

Chairman & President

(1) LICENSE FEE CATEGORY

\$110.00

e. DATE

July 11, 1983

(2) LICENSE FEE CATEGORY

\$110.00

CONDITIONS

- III: 13 The instrument will be used in shop work, in field work, and will be moved from site to site. The device will be used within the jurisdiction of the NRC. Permanent storage will be at Fabco Piping Inc., 1000 South 4th Street, Harrison, N.J. 07029.
- III: 15 Licensed material shall be used by, or under the supervision of, Ronald C. Spangler, Joseph Swatko and John Bentivegna.
- A. (1) Each sealed source containing licensed material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months. 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 received from another person shall not be put into use until tested.
- (2) Notwithstanding the periodic leak test required by this condition, any licensed sealed source is exempt from such leak tests when the source contains 100 microcuries or less of beta and/or gamma emitting material or 10 microcuries or less of alpha emitting material.
- (3) 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 of 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 sealed 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 Region I, U.S. Nuclear Regulatory Commission, Office of Inspection and Enforcement, 631 Park Avenue, King of Prussia, PA. 19406, describing the equipment involved, the test results, and the corrective action taken.

- 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.
- E. Sealed sources containing licensed material shall not be opened or removed from the Texas Nuclear devices by the licensee.
- F. The licensee may transport licensed material or deliver licensed material to a carrier for transport in accordance with the provisions of Section 71.5, Title 10, Code of Federal Regulations, Part 71, "Packaging of Radioactive Material For Transport."
- G. Except for plutonium contained in a medical device designed for individual human application, no plutonium, regardless of form, shall be delivered to a carrier for shipment by air transport or transported in an aircraft by the licensee.
- H. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Item 3 of this license in accordance with statements, representations, and procedures contained in this application.
- I. The instrument head provides adequate shielding for the contained radioactive source and no additional storage container is necessary. The carrying case affords additional protection for the instrument both in storage and in transport.
- J. No additional personnel monitoring devices are required due to the presence of this instrument. These source housings are designed such that it is unlikely that any person, during normal usage, can receive an exposure in excess of 0.125 rem per year, the surface radiation levels are all less than 1 mr/h.
- K. Adequate protection is provided by the design shielding of the instrument and source holder. The shutter will move automatically into the "CLOSED" position anytime the actuator is not forceably pressed against a measurement surface or depressed by a lab stand holder. The instrument will be secured when not in use to prevent access by unauthorized personnel. The device shall be locked in a secure storage cabinet when not in use, or shall be locked in a vehicle when in the field and not in use.
- L. The radioactive sources used in the Model 9200 Series will be periodically leak tested at intervals not exceeding six months in accordance with Texas Nuclear Procedure QT/2S. The Am-241 stabilizer source will not be leak tested. Maintenance and repair to the source head will be done by Texas Nuclear and will follow Texas Nuclear protection procedures as furnished in the instrument manual.

ITEM 16 Formal training in Radiation Safety, use of, operation of, and application of this equipment was provided by Mr. Stephen F. Riethof of Blake Equipment Corp., 110 Route 4, Box 223, Englewood, N.J. 07631. It was a four hour seminar in October 1982.

~~15335~~
15360

ICM: 17 We will follow the instructions concerning handling and use of the instrument given to us from the manufacturer.

ICM: 18 This application is prepared in conformity with Title 10, code of Federal Regulations, Part 30, and all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.



Radiation Technology, Inc.
Consulting • Licensing • Products • Disposal • Training

W.G. (Jack) Hendrick
Health Physicist

P.O. Box 27637
Austin, Texas 78755

(512) 346-7608
Fax (512) 795-8718

TN Technologies, Inc.
A Baker Hughes company

W.G. HENDRICK
HEALTH PHYSICS CONSULTANT

P.O. BOX 800
(512) 388-9286

ROUND ROCK, TEXAS
FAX (512) 388-9200

79680-0800
TELEX 77-6413

11

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

NATURE AND QUANTITY OF DANGEROUS GOODS				PACKAGE		
CONTENTS	CLASS	FORM	ACTIVITY	CATEGORY	TRANSPORT INDEX	TYPE
PROPER SHIPPING NAME UN NUMBER RADIONUCLIDE	CLASS OR DIVISION	EITHER CHEMICAL FORM PLUS GAS/LIQUID/SOLID or SPECIAL FORM or SPECIAL ENCAPSULATION	NUMBER OF CURIES or MILLI-CURIES	I - WHITE or II - YELLOW or III - YELLOW LABEL	FOR YELLOW LABEL CATEGORIES ONLY	INDUSTRIAL or TYPE A or TYPE B
RADIOACTIVE Material, Device, no. 5, Cd-109, Am-241, Pu-238, Fe-55	7	Solid, Solid Sol, Special Form, Solid	3.0 mCi, 0.5 mCi, 3.0 mCi, 0.3 mCi	White		A

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

ADDITIONAL INFORMATION REQUIRED FOR FISSILE MATERIALS ONLY

EXEMPTED FROM THE ADDITIONAL REQUIREMENTS FOR FISSILE MATERIALS	NOT EXEMPTED
	FISSILE CLASS I <input type="checkbox"/>
	FISSILE CLASS II <input type="checkbox"/>
	FISSILE CLASS III <input type="checkbox"/>
NAMES, PLUS QUANTITY IN GRAMS, OR CONCENTRATION OR ENRICHMENT IN U235	

Additional certificates obtained by the shipper when necessary	
Special Form Encapsulation Certificate(s) <input type="checkbox"/>	Certificate(s) for Large Radioactive Source <input type="checkbox"/>
Type "B" Packaging Certificate(s) <input type="checkbox"/>	Government Approvals/Permits <input type="checkbox"/>
Certificate(s) for Fissile Material <input type="checkbox"/>	

REMARKS: Removed 9200 B441 leak Tested all sources AT/IS Compensation factor

Shipper: of 0.34 Fe-55; 0.52 Cd-109, Pu-238
 TN TECHNOLOGIES, INC.
 2555 N. IH 35
 Round Rock, Texas 78664
 Telephone: (512) 388-9100
 Fax: (512) 388-9200
 Emergency Telephone: (512) 388-9310
 W.G. Hendon
 Authorized Signature Date

GUYON GENERAL PIPING, INC.

Mid-Atlantic Region
ROUTE 130 - NORTH VIRGINIA AVENUE
PENNS GROVE, NEW JERSEY 08068

Distributors
PIPE • VALVES
FITTINGS

(609) 299-5900
(215) 242-4800
(301) 539-4888

- 1) 9256 S/N B 357
30m Ci Pu-238 7/28
- 2) 0.5mCi Am-241
Probe S/N B 395
- 3) 9256 S/N B 358
Fe-55 20mCi 5/98
- 4) 9254 S/N B 249
Cd-109 3mCi 3/18/81
- 5) 9200 Electronics
B 441

GUYON

A/3

Margulis, Wind, Harrington and Katz
Attorneys at Law
ATTN: E. Katz
921 Bergen Avenue
Jersey City, New Jersey 07306

Subject: Missing Radioactive Sources

Dear Council Katz:

The NRC has been advised your firm represents Fabco Piping Inc. and you are the attorney to contact regarding Fabco. The NRC is requesting your assistance to locate four radioactive sources Fabco was licensed to possess and use. Once the source have been located and the NRC has determined safe disposal has been made in keeping with the appropriate requirements of the U. S. Administrative Law Code given at 10 CFR 30.36, the Fabco license will be retired. To do this, the NRC needs to contact a Fabco official knowledgeable in this area or be provided with records enabling us to trace the sources to another organization or individual licensed to possess them.

The following information may help you to respond to our need. The 1980 Fabco license application submitted to the NRC was signed by Norman C. Spangler, President. The license issued (No. 29-21430-01) identified Mr. Spangler as one of three individuals responsible for use of the sources. The sources are radioactive Plutonium-238, Iron-55, Cadium-109 and Americium-241. These sources were provided by Texas Nuclear for use in their model 9200 series Fluorescent X-Ray Analyzer. The Fabco license expired on October 31, 1988 and was not renewed. On April 27, 1989, Mr. Spangler responded, in writing, to a NRC Notice of Violation stating he had been asked to resolve this problem and he would ship the sources and the Analyzer to Texas Nuclear. This was the last communication from Mr. Spangler the NRC received. Texas Nuclear has advised the NRC they have not received either the Analyzer or any one of the four sources.

If you wish to discuss this matter please call Charles Amato of this office at (215)-337-5394. My phone number is (215)-337-5301.

Sincerely,

Karla Smith
Regional Attorney

cc: Docket File 030-20772-01
C. Amato

AK

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

NO.: TX634D113U

DATE: April 1975

PAGE 1 OF 2

DEVICE TYPE: X-Ray Fluorescence Analysis

MODEL: 9200 Series (9256 Source Housing)

MANUFACTURER/DISTRIBUTOR: Texas Nuclear
P.O. Box 9267
Austin, TX 78766

MANUFACTURER/DISTRIBUTOR:

SEALED SOURCE MODEL DESIGNATION: Amer/Searle AMC, CUC, CTC, IEC, GDC, TRX, PHX,
PPC, PPC-X
Tex. Nuc. Dwg. 696-696782, 696-696280,
570-57371B, 570-57242B

ISOTOPE: See Table 1

MAXIMUM ACTIVITY: See Table 1

LEAK TEST FREQUENCY: 6 months

PRINCIPAL USE: X-Ray Fluorescence

CUSTOM DEVICE: ___ YES X NO

A/S

OFFICIAL USE ONLY

DEVICE

MANUFACTURER:

Texas Nuclear Corporation
A Division of Nuclear-Chicago

DISTRIBUTORS:

Same

USE:

X-Ray Fluorescence

ISOTOPES:

Several (See below)

MODEL NO:

465

DESCRIPTION:

The Model 465 "Portable Radioisotope X-Ray Fluorescence Analyzer" consists of two units; the probe, which can be hand-held and contains the source, filters and detector; and the electronic unit, which contains the power supplies, electronic components, controls and output display. The probe weighs about 3 pounds and the electronic unit 12 pounds.

The instrument is designed for "rapid, nondestructive, in-situ elemental analysis in mining, geology, metallurgy, engineering and process control". A radioisotope source is used to excite characteristic x-rays in the sample. The radiation from the sample is detected with a NaI(Tl) scintillation counter. Coarse energy discrimination is afforded by the detector itself and a single channel pulse height analyzer. Individual characteristic x-rays are isolated using balanced x-ray filters in the form of thin foils placed over the detector window. By suitable adjustment of thickness of the filters, x-ray transmissions can be made equal over a wide range of energies, except for the pass band between their two absorption edges, where the transmission will differ greatly.

In operation as a hand-held unit, the probe is pressed against the sample. One of the "feet" on the probe is automatically depressed and this causes the source shutter to open thereby exposing the source to the sample. As soon as the probe and sample are separated, the shutter springs back to cover the source. A second mode of operation is as a bench-mounted instrument, when small samples are placed over the aperture. In this mode, the shutter is actuated when the sample is covered by a cap which depresses the "feet" and provides a shielding.

Sources

The instrument is designed for routine determinations of one or two elements at a time. The radioisotope source is chosen to be the optimum for the application envisaged. Some of the sources most likely to be used are as follows:

A/b

Isotope	Activities (Max in Brackets)	Type & Model No.	Source Holder	Manufacturer and Reference*
Gd 153	1 mCi (3 mCi)	GDC 2 (GDC 3)	X10	RCC (pp 142-3)
Am 241	1 mCi (3 mCi)	AMC 2 (AMC 3)	X10	RCC (pp 142-3)
Am 241	1 mCi	AMC 12	X70	RCC (pp 142-3)
Cd 109	1 mCi (3 mCi)	CUC 2 (CUC 3)	X70	RCC (pp 142-3)
Pb 210	10 mCi	RBC 4	X80	RCC (pp 142-3)
Pb 210	10 mCi	RBC 14	X70	RCC (pp 142-3)
Pm 147/Al	0.5 Ci (1.0 Ci)	PHX 7 (PHS 8)		RCC (pp 140-1)
H3/Zr	4 Ci	TRT 2		RCC (pp 173)
H3/Tl	5 Ci	TRT 8		RCC (pp 173)
Fe 55	5 mCi	IEC 5		RCC (pp 144)

* R.C.C. is The Radiochemical Center, Amersham, England. The page numbers refer to the R.C.C. 1967/68 Radioactive Products Catalog, where more information on the sources is available.

Radiation Levels

The shield in the source shutter is a 0.5 inch diameter by 0.06 inch thick tungsten alloy disc. The manufacturer states that with the shutter closed, the dose rate is less than 0.2 mr/hr. With the shutter open, the dose rate at one foot is about 1 mr/hr. The cap used for measurement of samples in the bench-mounted mode has a thin lead foil lining so that the dose rate at its surface is less than 2.5 mr/hr.

Labels

The device is labeled with the standard radiation warning symbol and the words: CAUTION - RADIOACTIVE MATERIAL. Note: Because more than one isotope may be used in the device, the license applicant should describe how he will label the device as to isotope, quantity and date of measurement.

Changing Sources

Changing sources does not appear to be difficult and probably would be done by most of the licensees. An applicant should submit his proposed procedure for changing sources.