

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.

Licensee		302382
1. Technical Construction Services, Inc.	3. License Number	21-26788-01
2. 3803 Gembrit Circle Kalamazoo, MI 49001	4. Expiration Date	April 30, 2007
	5. Docket or Reference No.	030-34409
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. Cesium-137	A. Sealed Source (Troxler Dwg. No. A-102112)	A. 30 sources not to exceed 9 millicuries each
B. Americium-241	B. Sealed Source (Troxler Dwg. No. A-102451)	B. 30 sources not to exceed 44 millicuries each
C. Americium-241	C. Sealed Source (Troxler Dwg. No. A-10037)	C. 3 sources not to exceed 300 millicuries each
D. Americium-241	D. Sealed Source (Troxler Dwg. No. A-100608)	D. 3 sources not to exceed 100 millicuries each
E. Californium-252	E. Sealed Source (Troxler Dwg. Nos. A-105162 or A-105862)	E. No single source to exceed 100 microcuries
F. Cesium-137	F. Sealed Source (HSI Dwg. No. 2200064)	F. 10 sources not to exceed 11 millicuries each
G. Americium-241	G. Sealed Source (HSI Dwg. No. 2200067)	G. 10 sources not to exceed 44 millicuries each
H. Cesium-137	H. Sealed Source (Boart Longyear Company CPN Products, Model CPN-131)	H. 10 sources not to exceed 10 millicuries

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MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number

21-26788-01

Docket or Reference Number

030-34409

- | | | |
|---|--|--|
| 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 |
| I. Americium-241 | I. Sealed Source
(Boart Longyear Company CPN Products, Model CPN-131) | I. 10 sources not to exceed 50 millicuries |

9. Authorized Use:

- A. and B. To be used in Troxler Model 3400 Series moisture/density gauges.
- C. or D. To be used in Troxler Model 3241 Series asphalt content gauge.
- E. To be used in Troxler Model 3242 laboratory asphalt content system.
- F. and G. To be used in Humbolt Scientific, Inc. Model 5001 moisture/density gauges.
- H. and I. To be used in Boart Longyear Company CPN Products MC Series moisture/density gauges.

CONDITIONS

- 10. Licensed material may be stored at the licensee's facilities located at 3803 Gembrit Circle, Kalamazoo, Michigan and may be used at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.
- 11. The Radiation Safety Officer for this license is Erroll F. Gilbert.
- 12. Licensed material shall only be used by, or under the supervision and in the physical presence of, Erroll F. Gilbert or individuals who have successfully completed the manufacturer's training program for gauge users, have been instructed in the licensee's routine and emergency operating procedures and who have been designated by the Radiation Safety Officer.
- 13. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified by the certificate of registration referred to in 10 CFR 32.210.

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MATERIALS LICENSE
SUPPLEMENTARY SHEET

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- B. 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 leak test has been made within 6 months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.
- D. Sealed sources need not be leak tested if:
- (i) they contain only hydrogen-3; or
 - (ii) they contain only a radioactive gas; 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 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 or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.
- E. The leak test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. 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 in accordance with 10 CFR 30.50(b)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region III, ATTN: Chief, Nuclear Materials Safety Branch, 801 Warrenville Road, Lisle, Illinois 60532-4351. The report shall specify the source involved, the test results, and corrective action taken.
- F. The licensee is authorized to collect leak test samples for analysis by Stan Huber Consultants, Inc. 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.

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14. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
15. When performing tests at temporary job sites, the authorized user shall not leave the moisture/density gauge unattended. Upon completion of tests the device shall be locked in the licensee's vehicle or a secure building to prevent unauthorized use, loss, or theft.
16. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license.
17. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
18. Each portable nuclear gauge shall have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked when in transport, storage, or when not under the direct surveillance of an authorized user.
19. Any cleaning, maintenance, or repair of the gauge(s) that requires removal of the source rod shall be performed only by the manufacturer or by other persons specifically licensed by the Commission or an Agreement State to perform such services.
20. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d) for establishing decommissioning financial assurance.
21. The licensee may not possess and use materials authorized in Items 6, 7, and 8 until:
 - A. The licensee has constructed the facilities and obtained the equipment described in the application and supporting documentation; and
 - B. The U. S. Nuclear Regulatory Commission, Region III, ATTN: Chief, Materials Licensing Branch, 801 Warrenville Road, Lisle, IL 60532-4351 has been notified that activities authorized by the license will be initiated.
22. Within 30 days of the date of a decision not to complete the facility, acquire equipment, or possess and use authorized material, the licensee must notify the Commission in writing, of the decision.

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23. 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 March 21, 1997; and
 - B. Letter dated April 3, 1997.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date

APR 11 1997

By

William P. Smith
Materials Licensing Branch, Region III

COPY

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

(FOR LFMS USE)
INFORMATION FROM LTS

Program Code: _____
Status Code: 3
Fee Category: _____
Exp. Date: 0
Fee Comments: _____
Decom Fin Assur Req'd: _____

57

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: TECHNICAL CONSTRUCTION SERV., INC.
Received Date: 970303
Docket No: 3034409
Control No.: 302382
License No.:
Action Type: New Licensee

2. FEE ATTACHED

Amount: 300
Check No.: 7013

3. COMMENTS

Signed
Date

D. Hersey
3-5-97

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered /)

1. Fee Category and Amount:

3P \$550

2. Correct Fee Paid. Application may be processed for:

Amendment
Renewal
License

3. OTHER

Signed
Date

SC 3/12/97

MAR 17 1997

Log	MAR 3 III
Remitter	
Check No.	1073 / 1017
Amount	\$300 / \$250
Fee Category	3P
Type of Fee	APP
Date Check Rec'd	3/10/97
Date Completed	3/12/97
By:	SC

1997 MAR -7 AM 9:07

(6-93)
10 CFR 30, 32, 33
34, 35, 36, 39 and 40

APPLICATION FOR MATERIAL LICENSE

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 9 HOURS. SUBMITTAL OF THE APPLICATION IS NECESSARY TO DETERMINE THAT THE APPLICANT IS QUALIFIED AND THAT ADEQUATE PROCEDURES EXIST TO PROTECT THE PUBLIC HEALTH AND SAFETY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0120), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND,
MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA,
RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION
NUCLEAR MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO
RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA,
SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION II
101 MARIETTA STREET, NW, SUITE 2900
ATLANTA, GA 30323-0199

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN,
SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U. S. NUCLEAR REGULATORY COMMISSION
REGION III
801 WARRENVILLE ROAD
LITSLIE, IL 60532-4351

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW
MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING,
SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
811 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 75011-8064

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S.
TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

RADIOACTIVE MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION V
1450 MARIA LANE
WALNUT CREEK, CA 94596-5368

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR (Check appropriate item)

- ☒ A. NEW LICENSE
☐ B. AMENDMENT TO LICENSE NUMBER _____
☐ C. RENEWAL OF LICENSE NUMBER _____

2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip code)

Technical Construction Services, Inc.
3803 Gembrit Circle
Kalamazoo, Michigan 49001

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Licensed material will be stored at Technical Construction Services, Inc.; 3803 Gembrit Circle; Kalamazoo, MI 49001 and will be used at temporary jobsites within the United States where the U.S.NRC maintains jurisdiction for regulating the use of licensed material.

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Gregory S. Bills

TELEPHONE (616) 375-3000

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL. a. Element and mass number; b. chemical and/or physical form; and c. max. num amount which will be possessed at any one time.	6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.
7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE. Errol F. Gilbert, RSO	8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.
9. FACILITIES AND EQUIPMENT.	10. RADIATION SAFETY PROGRAM.
11. WASTE MANAGEMENT.	12. LICENSEE FEES (See 10 CFR 170 and Section 170.31) FEE CATEGORY 3P AMOUNT ENCLOSED \$ 300.00
13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39 AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF. WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 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.	

CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE

Gregory S. Bills, President

SIGNATURE

DATE

2-28-97

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	

RECEIVED

MAR 03 1997

REGION III

PRINTED ON RECYCLED PAPER

Am: 2-28-97

302382



Technical Construction Services, Inc.

3803 Gembrit Circle • Kalamazoo, MI 49001

Phone (616) 373-5500 • Fax (616) 373-5594

GEOTECHNICAL & CONSTRUCTION MATERIALS ENGINEERS

February 28, 1997

Mr. Charles Gill
US Nuclear Regulatory Commission - Region III
801 Warrenville Road
Lisle, Illinois 60532

**Re: Application for Material License
NRC Form 313**

Dear Mr. Gill:

This letter is to transmit our completed Application for Material License (NRC Form 313), and the additional information required for its submittal. As we discussed by telephone, Technical Construction Services, Inc. is a new company formed by the former employees of the Kalamazoo branch of CTI and Associates, Inc. If there are any questions regarding this letter or the attached materials, please contact me at the above telephone number.

Sincerely,

TECHNICAL CONSTRUCTION SERVICES, INC.

A handwritten signature in dark ink, appearing to read 'Greg S. Bills', is written over a horizontal line.

Gregory S. Bills, P.E.
President

Enc) NRC Form 313
Additional Information for Form 313
Facilities Diagram
Radiation Safety Plan
Resume & Certificate for Errol F. Gilbert
NRC Form 577 and Check #1013

RECEIVED

MAR 03 1997

REGION III

MAR 03 1997

TECHNICAL CONSTRUCTION SERVICES, INC.
Additional Information for Form 313
February 28, 1997

Items 1 - 4: Refer to Form 313

Item 5:

Product, Source, and/or Special Nuclear Material	Chemical and/or Physical Form	Maximum Amount that Licensee May Possess at Any One Time
A. Cesium-137	A. Sealed Source (Troxler Electronic Labs, Inc., Drawing A-102112)	A. 30 sources not to exceed 9 millicuries each
B. Americium-241	B. Sealed Source (Troxler Electronic Labs, Inc., Drawing A-102451)	B. 30 sources not to exceed 44 millicuries each
C. Cesium-137	C. Sealed Source (Humboldt Scientific, Inc., Drawing 2200064)	C. 10 sources not to exceed 11 millicuries each
D. Americium-241	D. Sealed Source (Humboldt Scientific, Inc., Drawing 2200067)	D. 10 sources not to exceed 44 millicuries each
E. Cesium-137	E. Sealed Source (CPN Co., Drawing CPN- No.131)	E. 10 sources not to exceed 10 millicuries each
F. Americium-241	F. Sealed Source (CPN Co., Drawing CPN- No.131)	F. 10 sources not to exceed 50 millicuries each
G. Americium-241	G. Sealed Source (Troxler Electronic Labs, Inc., Drawing A-100337 or A-100608)	G. 3 sources not to exceed 300 millicuries each
H. Californium-252	H. Sealed Source (Troxler Electronic Labs, Inc., Drawing A-105162 or A-105862)	H. No single source to exceed 100 millicuries



Item 6:

- A. and B.: To be used in Troxler Model 3400 Series moisture/density gauges for measuring moisture and density of construction materials.
- C. and D.: To be used in Humboldt Scientific, Inc. 5001 Series moisture/ density gauges for measuring moisture and density of construction materials.
- E. and F.: To be used in Campbell Pacific Nuclear (CPN) Model MC Series moisture/ density gauges for measuring moisture and density of construction materials.
- A.: To be used in Troxler Model 4640 Series density gauges for measuring density of construction materials.
- G.: To be used in Troxler Model 3241 Series asphalt content gauges for determining asphalt content of bituminous mixtures.
- H.: To be used in Troxler Model 3242 Series asphalt content gauges for determining asphalt content in construction materials.

Item 7: The Radiation Safety Officer for the activities authorized by this license is Errol F. Gilbert, see attached certificate and resume. His duties and responsibilities will be those listed in appendix C of Draft Regulatory Guide DG-008. Management will do everything in its power to ensure Mr. Gilbert has the time and information necessary to perform his RSO duties to the best of his abilities.

Item 8: All personnel who will be using devices under this license will be required to do so in the physical presence of Errol F. Gilbert or to have successfully completed the manufacturer's or other qualified organization's device operation and radiation safety course. All users of devices under this license will be designated by the Radiation Safety Officer and will have been instructed in the TCS routine and emergency operating procedures. In-house refresher courses will be provided on an annual basis to update personnel on the TCS safety program and inform them of any changes.

Item 9: The facility named in item 3 is in a commercially zoned area. There are no residential areas within ½ mile of the facility. The storage locker for



the devices under this license is shown on the attached Facility Diagram at the location designated in Item 3. The storage locker is to be padlocked at all times and is situated away from usual work spaces and in an area which cannot be readily accessed by the general public to prevent access by unauthorized persons. Warning signs are posted on the storage locker and on the outside door to the locker area to notify the general public. Keys to the storage locker are given only to authorized personnel designated by the RSO. Gauges are to be returned to the storage locker when they are not in use.

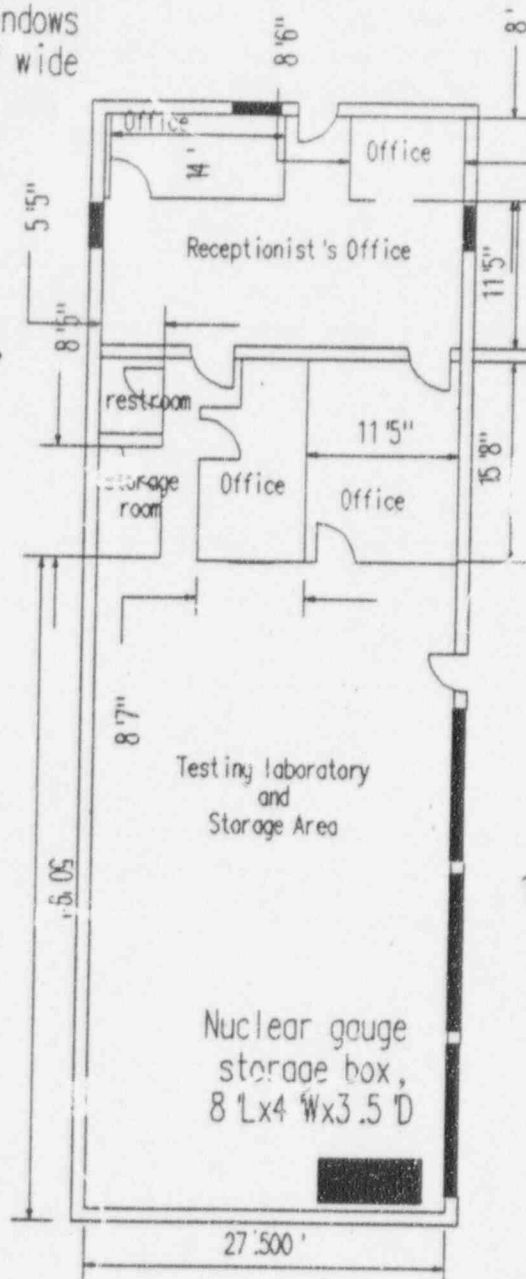
Item 10: See attached Radiation Safety Program

Item 11: Disposal will be performed by a specifically authorized licensee of the NRC. In most cases, disposal will be performed by the original supplier.



Three windows
are 3' 6" wide

Double lines indicate
masonry block walls,
Single lines indicate
drywall interior walls,



Doorways are
3' 4" wide,

Garage doors are
12.0' wide, separated
by approx. 1.0'

OFFICE LAYOUT
TECHNICAL CONSTRUCTION SERVICES, INC.
3803 GEMBRIT CIRCLE
KALAMAZOO, MICHIGAN

TCS Technical
Construction
Services, Inc.

3803 GEMBRIT CIRCLE • KALAMAZOO, MI 49001

PROJ#:

DATE:

2/28/97

PLATE:

I

TECHNICAL CONSTRUCTION SERVICES, INC.
RADIATION SAFETY PROGRAM

February 28, 1997

1. A copy of this Radiation Safety Program is to be provided to each person designated by the Radiation Safety Officer (RSO) to use Nuclear Density Gauges.

2. Personnel Monitoring Equipment:

Each employee engaged with the use and care of the Nuclear Density Gauges is required to wear a TLD badge to monitor emissions from the devices. These badges are provided by Landauer, Inc. and are issued every quarter (3 months). Landauer reports will be posted for one quarter, then filed as part of the companies permanent record.

3. Radiation Detection Equipment:

TCS owns and operates a Troxler Survey Meter to verify the source integrity and check emissions of a gauge after an incident, or anytime the source integrity is questioned.

4. Leak Testing:

Leak testing of the gauges will be performed by the RSO or a qualified person he designates to perform the leak test. Leak testing is to be performed every 6 months. A commercial leak test kit is provided by Stan Huber Consultants, Inc.; 200 N. Cedar Rd., New Lenox, IL 60451; NRC License No. 12-17503-01; Illinois Dept. of Nuclear Safety No. IL-00317-01. Test results will be kept on file as part of the gauges maintenance record.

5. Maintenance:

Routine maintenance, such as cleaning or minor repairs are performed with the source rod in the safe/shielded position. Major repairs requiring removal of the source rod are sent to the licensed manufacturer or other organization specifically licensed for such work.

6. Transportation of Devices to Temporary Jobsites:

Transportation of devices to field locations is done in accordance with the applicable requirements of the DOT and Michigan DOT. The required labels on the container of the devices are displayed as per DOT and MDOT requirements. Proper transport papers are also carried by the technicians in charge of the device, including a Bill of Lading, Shipping Manifest, and Operating and Emergency Procedures.



Technical Construction Services, Inc.
GEOTECHNICAL & CONSTRUCTION MATERIALS ENGINEERS

7. Operating Procedures for Nuclear Gauging Devices

A. Personnel Monitoring

Personnel authorized in handling devices are required to wear TLD badges at all times. Badges are not to be stored near devices or left in direct sunlight. Badge reports are a part of the companies permanent record.

B. Use of Nuclear Gauges

Each person authorized to use a device will be trained in its operation by an experienced operator. Instruction Manuals will be available for review of step-by-step procedures. Each person must use only the gauge assigned to them on the daily schedule. Utilization logs located in the traveling papers must be filled out on a daily basis.

C. Storage of Devices

When not in use, the devices will be kept in the designated storage locker. The locker will be kept padlocked at all times and access restricted to authorized personnel only. While on temporary jobsites the devices will be under constant physical surveillance by the authorized operator or be stored securely in a non-hazardous, safe area, secured in the technicians transport vehicle with the source rod locked in the safe position. Under no circumstances is the gauge to be left unattended without the proper safety/security steps taken.

D. Transportation

Transportation of devices from laboratory to work site and back must be done under the guidance of the RSO. Proper labeling and paperwork must accompany each devise when in transit. Both the DOT and MDOT rules and regulations for transport of devices will be adhered to. At no time will a devise be permitted to ride next to a passenger and/or driver.

E. Leak Testing for Gauging Devices

Leak tests are normally to be performed by the RSO using Leak Test Kits supplied by a qualified consultant. However, he may train a designee to perform leak tests for him from time to time.

F. Emergency Procedures

See attached, "Troxler Nuclear Gauge Emergency Response Information"



1. **PROPER SHIPPING NAME**

RADIOACTIVE MATERIAL, SPECIAL FORM, NOS.7, UN2974

POTENTIAL HAZARDS

2. **HEALTH HAZARDS**

- a. Radiation presents minimal risk to lives of persons during transportation accidents.
- b. Undamaged packages are safe; damaged packages or materials released from packages can cause external radiation hazards. Contamination is not suspected.
- c. Packages (cartons, boxes, drums, articles, etc.) identified as "Type A" by marking on packages or by shipping papers contain non-life endangering amounts. Radioactive sources may be released if packages are damaged in moderately severe accidents.
- d. Packages (large and small, usually metal) identified as "Type B" by marking on packages or by shipping papers contain potentially life endangering amounts. Because of design, evaluation, and testing of packages, life endangering releases are not expected in accidents except those of utmost severity.
- e. Commonly available instruments can detect most of these materials.
- f. Water from cargo fire control is not expected to cause pollution.

3. **FIRE OR EXPLOSION**

- a. Packaging can be consumed without content loss from sealed source capsule.
- b. Radioactive source capsules and Type B packages are designed to withstand temperatures of 1475°F(800°C).

EMERGENCY ACTION PLAN

4. **IMMEDIATE PRECAUTIONS**

- a. Priority response actions may be performed before taking radiation measurements.
- b. Priorities are live-saving, control of fire and other hazards, and first aid.
- c. Isolate hazard area and deny entry. (This should be minimum of a 15 foot radius)
- d. Notify Radiation Authority of accident conditions.
- e. Retain uninjured persons, isolate equipment with suspected contamination, and delay final cleanup until instruction or advise of Radiation Authority.
- f. Positive pressure self-contained breathing apparatus (SCBA) and structural firefighter's protective clothing will provide adequate protection against internal radiation exposure, but not external radiation exposure.
- g. **EMERGENCY ASSISTANCE CONTACTS AND PHONE NUMBERS:**

- I. Technical Construction Services, Inc., Mr. Errol F. Gilbert, Radiation Safety Officer, (616) 373-5500 (office), or [REDACTED] (home).
- II. Troxler Electronic Laboratories, Inc. (24hr.) Emergency Assistance, (919) 839-2676.
- III. United States Nuclear Regulatory Commission, Region III, Illinois (630) 829-9500; NRC Operation Center (24hr) (310) 816-5100, back-up (301) 951-0550, fax (301) 816-5151.

5. **FIRE**

- a. Do not move damaged packages; move undamaged packages out of fire zone.
- b. **Small Fires:** Use a Dry Chemical, CO₂ water spray or regular foam.
- c. **Large Fires:** Water spray, fog (flooding amounts)

6. **SPILL OR LEAK**

- a. **Do not touch damaged packages or spilled material.**
- b. Slight damage or damp outer surfaces seldom indicate failure of inner container.
- c. If source is identified as being out of package, stay away and await advise from Radiation Authority.

7. **FIRST AID**

- a. Use first aid treatment according to the nature of injury.
- b. Persons exposed to special form sources are not likely to be contaminated with radioactive material.

PROFESSIONAL RESUME

NAME: Errol Gilbert

POSITION: Operations Manager

**PROFESSIONAL
EXPERIENCE:**

Errol has ten years of progressive experience in a responsible position monitoring and supervising construction activities for commercial and industrial buildings, power plants, and highways. Various tasks have included inspection of concrete, mortar, grout, soils, and asphalt materials, the installation of foundations including piles, as well as fireproofing, reinforcing steel, and large scale land balancing supervision. Errol has worked as a team leader on large projects supervising other technicians, and coordinating schedules between the testing agency and multiple contractors and fabricators.

**EDUCATION/
CERTIFICATION/
REGISTRATION:**

Western Michigan University-Engineering Metallurgy 1988-1989
Henry Ford Comm. College - Manufacturing Engineering 1987
Western Michigan University - Engineering Technology 1983-1986
NICET Level II Asphalt
Masonry Inst. of Mich. Certified Masonry Inspector
MDOT Certified Bituminous Plant Technician
MDOT Certified Aggregate Technician
MCA Certified Level I Concrete Technician
Certified Windsor Probe Operator
Certified Nuclear Gauge Operator
State of MI DNR Storm Water Management-Construction Site
FCI Certified Level I Technician/Inspector
American Society of Certified Engineering Technicians

**REPRESENTATIVE
PROJECTS:**

Western Michigan University - Kalamazoo, MI
Recreation System

Performed testing and inspection of auger cast piles for deep foundations, bearing capacity for shallow foundations, soil compaction, EPDM roofing, metal decking, concrete, waterproofing and floor flatness profiles using F system, and performed C780 tests for unit masonry components.

Upjohn Building 335 - Kalamazoo, MI

Performed load tests and inspection of auger cast piles for deep foundations. Bearing capacity evaluations for shallow foundations, soil compaction, and concrete testing.



Technical Construction Services, Inc.
GEOTECHNICAL & CONSTRUCTION MATERIALS ENGINEERS

TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

ERROL F. GILBERT, JR.

of

TESTING ENGINEERS AND CONSULTANTS, INC.

HAS SUCCESSFULLY COMPLETED THE TROXLER ELECTRONIC LABORATORIES, INC.
TRAINING COURSE FOR THE USE OF NUCLEAR TESTING EQUIPMENT.

SUBJECTS INCLUDED IN THIS COURSE WERE AS FOLLOWS:

Radiological Safety

- | | |
|--|---|
| 1. Principles and practices of radiation protection. | 5. Radioactivity measurement standardization and monitoring techniques and instruments. |
| 2. Leak testing procedures. | 6. Accident and incident procedures. |
| 3. Mathematics and calculations basic to the use and measurement of radioactivity. | 7. Procedures for nuclear gauge storage and transportation. |
| 4. Biological effects of radiation. | 8. General safety precautions. |

Gauge Operation

- | | |
|-------------------------|----------------------|
| 1. Instrument theory | 4. Field application |
| 2. Operating procedures | 5. Gauge calibration |
| 3. Maintenance | |


INSTRUCTOR

JULY 12, 1988

DATE

Nº 27067

W.F. TROXLER

PRESIDENT

APR 11 1997

Gregory S. Bills, P.E.
President
Technical Construction
Services, Inc.
3803 Gembrit Circle
Kalamazoo, MI 49001

Dear Mr. Bills:

Enclosed is your NRC Material License Number 21-26788-01 in accordance with your request.

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region III office at (630) 829-9887 so that we can provide appropriate corrections and answers.

Please be advised that your license expires at the end of the day, in the month, and year stated in the license. Unless your license has been terminated, you must conduct your program involving byproduct materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers; Inspections," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Not possess and use materials authorized in Items 6, 7, and 8, on the license until:
 - a. You have constructed the facilities and obtained the equipment described in the license application and supporting documentation; and
 - b. You have notified the U. S. Nuclear Regulatory Commission, Region III, ATTN: Chief, Nuclear Materials Licensing Branch, in writing, that activities authorized by the license will be initiated.
3. Notify NRC, in writing, within 30 days:
 - a. When the Radiation Safety Officer permanently discontinues performance of duties under the license or has a name change; or

302382

- b. When the mailing address listed on the license changes. (No fee is required if the location of byproduct material remains the same.)
- 4. In accordance with 10 CFR 30.36(b) and/or license condition, notify NRC, promptly, in writing, and request termination of the license:
 - a. When you decide to terminate all activities involving materials authorized under the license; or
 - b. If you decide not to complete the facility, acquire equipment, or possess and use authorized material.
- 5. Request and obtain a license amendment before you:
 - a. Change Radiation Safety Officers;
 - b. Order byproduct material in excess of the amount, or radionuclide, or form different than authorized on the license;
 - c. Add or change the areas of use or address or addresses of use identified in the license application or on the license; or
 - d. Change ownership of your organization.
- 6. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date of your license. You will receive a reminder notice approximately 30 days before the expiration date. Possession of byproduct material after your license expires is a violation of NRC regulations. A license will not normally be renewed, except on a case-by-case basis, in instances where licensed material has never been possessed or used.

In addition, please note that NRC Form 313 requires the applicant, by his/her signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signatory for the application should be the licensee or certifying official rather than a consultant.

You will be periodically inspected by NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a notice of violation, or imposition of a civil penalty, or an order suspending, modifying or revoking your license as specified in the General Statement of Policy and Procedure for NRC Enforcement Actions. Since serious consequences to employees and the public can result from failure to comply with NRC

requirements, prompt and vigorous enforcement action will be taken when dealing with licensees who do not achieve the necessary meticulous attention to detail and the high standard of compliance which NRC expects of its licensees.

Sincerely,

Original Signed By
W. P. Reichhold
Nuclear Materials Licensing Branch

License No.: 21-26788-01

Docket No.: 030-34409

Enclosure: New License Package

DOCUMENT NAME: M:\03034409.CL7

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	DNMS/RIII <i>WPR</i>								
NAME	WREICHOLD:jaw								
DATE	04/11/97								

OFFICIAL RECORD COPY



Technical Construction Services, Inc.

3803 Gembrit Circle • Kalamazoo, MI 49001

Phone (616) 373-5500 • Fax (616) 373-5594

GEOTECHNICAL & CONSTRUCTION MATERIALS ENGINEERS

April 3, 1997

Mr. Bill Reichhold
US Nuclear Regulatory Commission; Region III
801 Warrenville Road
Lisle, Illinois 60532-4351

**Re: Application for Material License
Additional Requested Information
Mail Control #302382**

Dear Mr. Reichhold:

This letter is in response to our telephone conversation and the communication you faxed to our office this morning regarding additional information required for our material license application. The specific questions included on your communication are addressed below in similar format to your communication.

Duties and Responsibilities of the Radiation Safety Officer (RSO)

1. Management will supply the RSO with all applicable regulations received and all revisions or new regulations as it receives them. The RSO will be required to review the new material and inform management that there are no procedural changes required on our part, or that he will be changing our procedures to comply with new or revised regulations.
2. TCSs organization presently consists of myself as President, a secretary, and Errol F. Gilbert as RSO and Operations Manager. We have a varying sized staff of field technicians who work directly under Mr. Gilbert's supervision. At this time we have 1 part-time technician, but have plans to hire 2 full-time technicians and 1 or 2 additional part-time technicians.

Training

New employees will be required to complete the manufacturers radiation safety course or another course which meets the criteria in Part I of Appendix D of Regulatory Guide DG-0008 and is taught by an instructor which meets the criteria of Part II of Appendix D of Regulatory Guide DG-0008.

Security

During transport to and from temporary job sites density gauges shall be secured in the safe position with a padlock, inside a locked case which is locked in the trunk of

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REGION III

Mr. Bill Reichhold
Additional Requested Information for Material License
April 3, 1997
Page Two

the technicians automobile, or chained and locked to the bed of the technicians pick-up truck.

Survey Meter

1. The radiation survey meter which TCS owns is a Geiger-Mueller (G-M) type meter with three ranges of operation: 0-1 mr/hr, 0-10 mr/hr, and 0-100 mr/hr.
2. The radiation survey meter will be calibrated every 12 months.

Leak Test

Anyone who is to perform leak tests on the devices must have received the manufacturers radiation safety training, and have been instructed in leak testing by the RSO. Leak testing will be performed through the top of the gauge and at the bottom of the gauge with the source in the shielded position. Only the swabs supplied by our leak testing consultant will be used. At no time will the source container be exposed or handled. Prior to shipment to our consultant, the swabs will be scanned with the survey meter to detect any activity above background levels.

Operating Procedures

1. The TCS operating and emergency procedures will be included with the shipping papers for each gauge so they will be available at each jobsite.
2. The gauges will be stored and transported while locked in the safe position. Each technician will check that his assigned gauge is locked in the safe position prior to removal from storage.
3. Operators will use only the density gauges assigned to them on the daily work schedule. This schedule is posted on the wall of the laboratory near the offices. If for some reason a technician needs to use another device, he will so note on the daily work schedule. In addition, utilization logs will be kept in the traveling papers for each gauge. Technicians are required to fill out the utilization log for each days use. This log indicates the date out, operator, project name and location, and date returned. At the end of each month the logs will be removed from the traveling papers and be replaced with new ones. The logs are kept as part of the gauges permanent record.
4. No employee will ever touch a source rod with any part of their body. Source rods are to be kept in the shielded position at all times except when taking



Technical Construction Services, Inc.
GEOTECHNICAL & CONSTRUCTION MATERIALS ENGINEERS

Mr. Bill Reichhold
Additional Requested Information for Material License
April 3, 1997
Page Three

measurements. Employees will be trained to lower the source rod only when the gauge is set on the ground over a test hole, and to raise the source rod into the safe position prior to moving the gauge from off the ground.

5. Technicians are required to keep unauthorized people away from the test area while the gauge is in use.
6. When heavy equipment is in operation at a jobsite gauges will be staked and flagged in such a way that they will be seen by equipment operators.
7. Technicians will not look under gauges when the source rod is being lowered into the ground.
8. Source rods will be returned to the shielded position after each measurement, and will be locked in the shielded position whenever a series of measurements in one location is completed.
9. Return of a gauge to the storage facility will be noted in the utilization log.

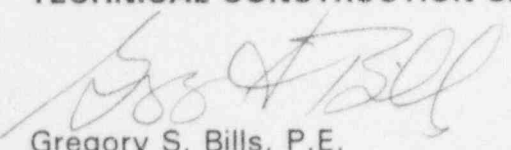
Audits

Audits will be performed each 12 months.

We hope this additional information helps you with processing our application. If you have any further questions or concerns, please do not hesitate to call me at (616) 373-5500.

Sincerely,

TECHNICAL CONSTRUCTION SERVICES, INC.



Gregory S. Bills, P.E.
President



Technical Construction Services, Inc.
GEOTECHNICAL & CONSTRUCTION MATERIALS ENGINEERS



Technical Construction Services, Inc.

3803 Gembrit Circle • Kalamazoo, MI 49001

Phone (616) 373-5500 • Fax (616) 373-5594

GEOTECHNICAL & CONSTRUCTION MATERIALS ENGINEERS

March 20, 1997

Mr. Bill Reichald
US Nuclear Regulatory Commission - Region III
801 Warrenville Road
Lisle, Illinois 60532

**Re: Application for Material License
NRC Form 313
Mail Control #302382**

Dear Mr. Reichald:

This letter is to transmit our completed Application for Material License (NRC Form 313), and the additional information required for its submittal. This is a re-submittal of the previous application sent to Mr. Charles Gill on February 28, 1997. We would appreciate your most expeditious attention, as we would like to have density gauges during the upcoming construction season which is fast approaching. If there are any questions regarding this letter or the attached materials, please contact me at the above telephone number.

Sincerely,

TECHNICAL CONSTRUCTION SERVICES, INC.

A handwritten signature in dark ink, appearing to read 'Greg S. Bills', is written over the company name.

Gregory S. Bills, P.E.
President

Enc) NRC Form 313
Additional Information for Form 313
Facilities Diagram
Radiation Safety Plan
Resume & Certificate for Errol F. Gilbert

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MAR 24 1997
REGION III**

MAR 24 1997

(7-96)
10 CFR 30, 32, 33
34, 35, 36, 39 and 40

APPLICATION FOR MATERIAL LICENSE

Estimated burden per response to comply with this information collection request: 7 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Forward comments regarding burden estimate to the Information and Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0120), Office of Management and Budget, Washington, DC 20503. NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND,
MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA,
RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION
NUCLEAR MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO
RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA,
SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION II
101 MARIETTA STREET, NW, SUITE 2900
ATLANTA, GA 30323-0199

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN,
SEND APPLICATIONS TO:

MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
801 WARRENVILLE RD.
LISLE, IL 60532-4351

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS,
LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA,
OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH,
WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-8064

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR (Check appropriate item)

☒

A. NEW LICENSE

☐

B. AMENDMENT TO LICENSE NUMBER _____

☐

C. RENEWAL OF LICENSE NUMBER _____

2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip code)

Technical Construction Services, Inc.
3803 Gambrit Circle
Kalamazoo, Michigan 49001

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Licensed material will be stored at Technical Construction Services, Inc.; 3803 Gambrit Circle; Kalamazoo, MI 49001 and will be used at temporary job sites within the United States where the U.S.NRC maintains jurisdiction for regulating the use of licensed material.

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Gregory S. Bills, P.E.

TELEPHONE NUMBER
(616) 373-5500

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL.

a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE

Erroll F. Gilbert, RSO

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSEE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY 3P

AMOUNT
ENCLOSED \$ 0

13. CERTIFICATION (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39 AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 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.

CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE

Gregory S. Bills, P.E., President

SIGNATURE

Gregory S. Bills

DATE

3/21/97

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	

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MAR 24 1997

REGION III

PRINTED ON RECYCLED PAPER

TECHNICAL CONSTRUCTION SERVICES, INC.
Additional Information for Form 313
March 20, 1997

Items 1 - 4: Refer to Form 313

Item 5:

Product, Source, and/or Special Nuclear Material	Chemical and/or Physical Form	Maximum Amount that Licensee May Possess at Any One Time
✓ A. Cesium-137	A. Sealed Source (Troxler Electronic Labs, Inc., Drawing A-102112) -ok	A. 30 sources not to exceed 9 millicuries each -ok
✓ B. Americium-241	B. Sealed Source (Troxler Electronic Labs, Inc., Drawing A-102451) -ok	B. 30 sources not to exceed 44 millicuries each -ok
C. Cesium-137	C. Sealed Source (Humboldt Scientific, Inc., Drawing 2200064) -ok	C. 10 sources not to exceed 11 millicuries each -ok
D. Americium-241	D. Sealed Source (Humboldt Scientific, Inc., Drawing 2200067) -ok	D. 10 sources not to exceed 44 millicuries each -ok
E. Cesium-137	E. Sealed Source (CPN Co., Drawing CPN-No.131) -ok	E. 10 sources not to exceed 10 millicuries each -ok
F. Americium-241	F. Sealed Source (CPN Co., Drawing CPN-No.131) -ok	F. 10 sources not to exceed 50 millicuries each -ok
✓ G. Americium-241	G. Sealed Source (Troxler Electronic Labs, Inc., Drawing A-100337 or A-100608) -ok 100mCi	G. 3 sources not to exceed 300 millicuries each A-100337 100 mCi → A-100608 How many?
✓ H. Californium-252	H. Sealed Source (Troxler Electronic Labs, Inc., Drawing A-105162 or A-105862) -	H. No single source to exceed 100 microcuries



Item 6:

The sources listed in Item 5 will be used in the gauges listed below. The sources will not be extended below the testing surface greater than a distance of 3 feet.

- A. and B.: To be used in Troxler Model 3400 Series moisture/density gauges for measuring moisture and density of construction materials.
- C. and D.: To be used in Humboldt Scientific, Inc. 5001 Series moisture/ density gauges for measuring moisture and density of construction materials.
- E. and F.: To be used in Campbell Pacific Nuclear (CPN) Model MC Series moisture/ density gauges for measuring moisture and density of construction materials.
- G.: To be used in Troxler Model 3241 Series asphalt content gauges for determining asphalt content of bituminous mixtures.
- H.: To be used in Troxler Model 3242 Series asphalt content gauges for determining asphalt content in construction materials.

Item 7:

The Radiation Safety Officer for the activities authorized by this license is Errol F. Gilbert (see attached certificate and resume). Management has authorized Mr. Gilbert to oversee storage, transportation and usage of the regulated materials, and to stop and correct any unsafe operations or procedures. His duties and responsibilities will be those listed in appendix C of Draft Regulatory Guide DG-008. Mr. Gilbert has completed high school as well as the college and certification schooling indicated on the attached resume. Management will do everything in its power to ensure Mr. Gilbert has the time and information necessary to perform his RSO duties to the best of his abilities.

Item 8:

All personnel who will be using devices under this license will be required to do so in the physical presence of Errol F. Gilbert or to have successfully completed the manufacturer's or other qualified organization's device operation and radiation safety course. All users of devices under this license will be designated by the Radiation Safety Officer and will have been instructed in the TCS routine and emergency operating procedures.



TECHNICAL CONSTRUCTION SERVICES, INC.

Additional Information for Form 313

March 20, 1997

Page Three

An in-house refresher course will be provided by the RSO on an annual basis to update personnel on the TCS safety program and inform them of any changes. The refresher will include a dry run of our emergency procedures and review of our operating and emergency procedures, DOT requirements, changes in regulations and licensing conditions, and any deficiencies identified in auditing our radiation safety program.

Item 9: The facility named in item 3 is in a commercially zoned area. There are no residential areas within ½ mile of the facility. The storage locker for the devices under this license is shown on the attached Facility Diagram at the location designated in Item 3. The storage locker is to be padlocked at all times and is situated away from usual work spaces and in an area which cannot be readily accessed by the general public to prevent access by unauthorized persons. Warning signs are posted on the storage locker and on the outside door to the locker area to notify the general public. Keys to the storage locker are given only to authorized personnel designated by the RSO. Gauges are to be returned to the storage locker when they are not in use.

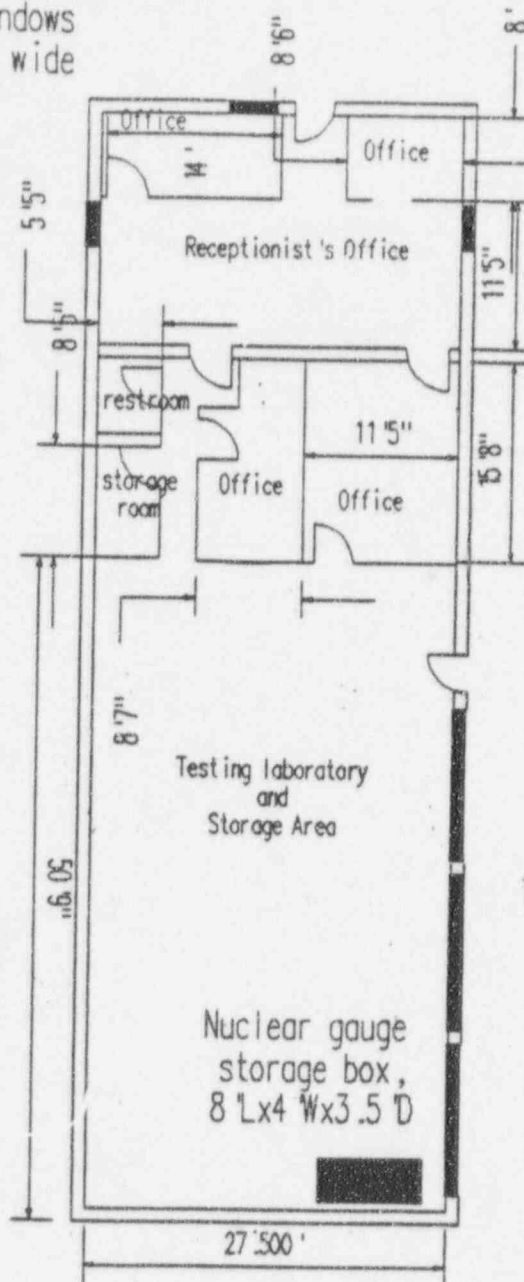
Item 10: See attached Radiation Safety Program. We do not plan to possess quantities of licensed materials above the minimum level specified in 10 CFR 30.35 (d).

Item 11: Disposal will be performed by a specifically authorized licensee of the NRC. In most cases, disposal will be performed by the original supplier.



Three windows
are 3'6" wide

Double lines indicate
masonry block walls,
Single lines indicate
drywall interior walls,



Doorways are
3'4" wide,

Garage doors are
12.0' wide, separated
by approx. 1.0'

OFFICE LAYOUT
TECHNICAL CONSTRUCTION SERVICES, INC.
3803 GEMBRIT CIRCLE
KALAMAZOO, MICHIGAN

TCS Technical
Construction
Services, Inc.

3803 GEMBRIT CIRCLE • KALAMAZOO, MI 49001

PROJ#:

DATE:

2/28/97

PLATE:

I

TECHNICAL CONSTRUCTION SERVICES, INC.
RADIATION SAFETY PROGRAM
March 20, 1997

1. A copy of this Radiation Safety Program is to be provided to each person designated by the Radiation Safety Officer (RSO) to use Nuclear Density Gauges.

2. Personnel Monitoring Equipment:

Each employee engaged with the use and care of the Nuclear Density Gauges is required to wear a TLD badge to monitor emissions from the devices. These badges are provided by Landauer, Inc. and are issued every quarter (3 months). Landauer reports will be posted for one quarter, then filed as part of the companies permanent record.

3. Radiation Detection Equipment:

TCS owns and operates a Troxler Laboratories "Troxalert" Survey Meter to verify the source integrity and check emissions of a gauge after an incident, or anytime the source integrity is questioned. The survey meter will be calibrated by the manufacturer on a yearly basis. The survey meter is kept at the TCS office and can be delivered to a job site immediately, if an incident occurs which requires its use.

4. Leak Testing:

Leak testing of the gauges will be performed by the RSO or a qualified person he designates to perform the leak test. Leak testing is to be performed every 6 months. A commercial leak test kit is provided by Stan Huber Consultants, Inc.; 200 N. Cedar Rd., New Lenox, IL 60451; NRC License No. 12-17503-01; Illinois Dept. of Nuclear Safety No. IL-00317-01. Test results will be kept on file as part of the gauges maintenance record.

5. Inventories:

Inventories will be performed on all devices at 6 month intervals. Inventories will include the information provided in the Draft Regulatory Guide DG-0008. Copies of inventories will be kept on file for a period of not less than three years.

6. Maintenance:

Routine maintenance, such as cleaning or minor repairs are performed with the source rod in the safe/shielded position. Major repairs requiring removal of the source rod are sent to the licensed manufacturer or other organization specifically licensed for such work.



7. Transportation of Devices to Temporary Job sites:

TCS will keep current copies of DOT and Michigan DOT regulations concerning transportation of nuclear density gauges. Transportation of devices to field locations will be performed in accordance with the applicable requirements of the DOT and Michigan DOT. The required labels on the container of the devices are displayed as per DOT and MDOT requirements. Proper transport papers are also carried by the technicians in charge of the device, including a Bill of Lading, Shipping Manifest, and Operating and Emergency Procedures.

8. Operating Procedures for Nuclear Gauging Devices

A. Personnel Monitoring

Personnel authorized in handling devices are required to wear TLD badges at all times. Badges are not to be stored near devices or left in direct sunlight. Badge reports are a part of the companies permanent record. No one is to use a badge which has not been assigned to them.

B. Use of Nuclear Gauges

Each person authorized to use a device will be trained in its operation by an experienced operator. Instruction Manuals will be available for review of step-by-step procedures. Each person must use only the gauge assigned to them on the daily schedule. Utilization logs located in the traveling papers must be filled out on a daily basis.

C. Storage of Devices

When not in use, the devices will be kept in the designated storage locker. The locker will be kept padlocked at all times and access restricted to authorized personnel only. While on temporary job sites the devices will be under constant physical surveillance by the authorized operator or be stored securely in a non-hazardous, safe area, secured in the technicians transport vehicle with the source rod locked in the safe position. Under no circumstances is the gauge to be left unattended without the proper safety/security steps taken.

D. Transportation

Transportation of devices from laboratory to work site and back must be done under the guidance of the RSO. Proper labeling and paperwork must accompany each device when in transit. Both the DOT and MDOT rules and regulations for transport of devices will be adhered to. At no time will a device be permitted to ride next to a passenger and/or driver.



E. Leak Testing for Gauging Devices

Leak tests are normally to be performed by the RSO using Leak Test Kits supplied by a qualified consultant. However, he may train an assistant to perform leak tests for him from time to time.

F. Emergency Procedures

See attached, "Troxler Nuclear Gauge Emergency Response Information". This document will be included in the shipping papers for each gauge and provided to each user .

G. Annual Audit

Annual audits of the Radiation Safety Program will be performed by Errol F. Gilbert, RSO. The audits will be performed in general compliance with Appendix "I" of the Draft Regulatory Guide DG-0008. Management will review audit results promptly and make corrective actions on any deficiencies noted. Audits will be kept on file for a minimum of three years.



1. **PROPER SHIPPING NAME**
RADIOACTIVE MATERIAL, SPECIAL FORM, NOS.7, UN2974

POTENTIAL HAZARDS

2. **HEALTH HAZARDS**

- a. Radiation presents minimal risk to lives of persons during transportation accidents.
- b. Undamaged packages are safe; damaged packages or materials released from packages can cause external radiation hazards. Contamination is not suspected.
- c. Packages (cartons, boxes, drums, articles, etc.) identified as "Type A" by marking on packages or by shipping papers contain non-life endangering amounts. Radioactive sources may be released if packages are damaged in moderately severe accidents.
- d. Packages (large and small, usually metal) identified as "Type B" by marking on packages or by shipping papers contain potentially life endangering amounts. Because of design, evaluation, and testing of packages, life endangering releases are not expected in accidents except those of utmost severity.
- e. Commonly available instruments can detect most of these materials.
- f. Water from cargo fire control is not expected to cause pollution.

3. **FIRE OR EXPLOSION**

- a. Packaging can be consumed without content loss from sealed source capsule.
- b. Radioactive source capsules and Type B packages are designed to withstand temperatures of 1475°F(800°C).

EMERGENCY ACTION PLAN

4. **IMMEDIATE PRECAUTIONS**

- a. Priority response actions may be performed before taking radiation measurements.
- b. Priorities are live-saving, control of fire and other hazards, and first aid.
- c. Isolate hazard area and deny entry. (This should be minimum of a 15 foot radius)
- d. Notify Radiation Authority of accident conditions.
- e. Retain uninjured persons, isolate equipment with suspected contamination, and delay final cleanup until instruction or advise of Radiation Authority.
- f. Positive pressure self-contained breathing apparatus (SCBA) and structural firefighter's protective clothing will provide adequate protection against internal radiation exposure, but not external radiation exposure.
- g. **EMERGENCY ASSISTANCE CONTACTS AND PHONE NUMBERS:**

- I. Technical Construction Services, Inc., Mr. Errol F. Gilbert, Radiation Safety Officer, (616) 373-5500 (office), or [REDACTED] (home).
- II. Troxler Electronic Laboratories, Inc. (24hr.) Emergency Assistance, (919) 839-2676.
- III. United States Nuclear Regulatory Commission, Region III, Illinois (630) 829-9500; NRC Operation Center (24hr) (310) 816-5100, back-up (301) 951-0550, fax (301) 816-5151.

5. **FIRE**

- a. Do not move damaged packages; move undamaged packages out of fire zone.
- b. **Small Fires:** Use a Dry Chemical, CO₂ water spray or regular foam.
- c. **Large Fires:** Water spray, fog (flooding amounts)

6. **SPILL OR LEAK**

- a. **Do not touch damaged packages or spilled material.**
- b. Slight damage or damp outer surfaces seldom indicate failure of inner container.
- c. If source is identified as being out of package, stay away and await advise from Radiation Authority.

7. **FIRST AID**

- a. Use first aid treatment according to the nature of injury.
- b. Persons exposed to special form sources are not likely to be contaminated with radioactive material.

PROFESSIONAL RESUME

NAME: Errol Gilbert

POSITION: Operations Manager

**PROFESSIONAL
EXPERIENCE:**

Errol has ten years of progressive experience in a responsible position monitoring and supervising construction activities for commercial and industrial buildings, power plants, and highways. Various tasks have included inspection of concrete, mortar, grout, soils, and asphalt materials, the installation of foundations including piles, as well as fireproofing, reinforcing steel, and large scale land balancing supervision. Errol has worked as a team leader on large projects supervising other technicians, and coordinating schedules between the testing agency and multiple contractors and fabricators.

**EDUCATION/
CERTIFICATION/
REGISTRATION:**

Western Michigan University-Engineering Metallurgy 1988-1989
Henry Ford Comm. College - Manufacturing Engineering 1987
Western Michigan University - Engineering Technology 1983-1986
NICET Level II Asphalt
Masonry Inst. of Mich. Certified Masonry Inspector
MDOT Certified Bituminous Plant Technician
MDOT Certified Aggregate Technician
MCA Certified Level I Concrete Technician
Certified Windsor Probe Operator
Certified Nuclear Gauge Operator
State of MI DNR Storm Water Management-Construction Site
PCI Certified Level I Technician/Inspector
American Society of Certified Engineering Technicians

**REPRESENTATIVE
PROJECTS:**

Western Michigan University - Kalamazoo, MI
Recreation System

Performed testing and inspection of auger cast piles for deep foundations, bearing capacity for shallow foundations, soil compaction, EPDM roofing, metal decking, concrete, waterproofing and floor flatness profiles using F system, and performed C780 tests for unit masonry components.

Upjohn Building 335 - Kalamazoo, MI

Performed load tests and inspection of auger cast piles for deep foundations. Bearing capacity evaluations for shallow foundations, soil compaction, and concrete testing.



Technical Construction Services, Inc.
GEOTECHNICAL & CONSTRUCTION MATERIALS ENGINEERS

TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

ERROL F. GILBERT, JR.

of

TESTING ENGINEERS AND CONSULTANTS, INC.

HAS SUCCESSFULLY COMPLETED THE TROXLER ELECTRONIC LABORATORIES, INC.
TRAINING COURSE FOR THE USE OF NUCLEAR TESTING EQUIPMENT.

SUBJECTS INCLUDED IN THIS COURSE WERE AS FOLLOWS:

Radiological Safety

- | | |
|--|---|
| 1. Principles and practices of radiation protection. | 5. Radioactivity measurement standardization and monitoring techniques and instruments. |
| 2. Leak testing procedures. | 6. Accident and incident procedures. |
| 3. Mathematics and calculations basic to the use and measurement of radioactivity. | 7. Procedures for nuclear gauge storage and transportation. |
| 4. Biological effects of radiation. | 8. General safety precautions. |

Gauge Operation

- | | |
|-------------------------|----------------------|
| 1. Instrument theory | 4. Field application |
| 2. Operating procedures | 5. Gauge calibration |
| 3. Maintenance | |


INSTRUCTOR

JULY 12, 1988

DATE

Nº 27067

W.F. TROXLER

PRESIDENT



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
801 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

March 5, 1997

Errol F. Gilbert
Radiation Safety Officer
Technical Construction Services, Inc.
3803 Gembrit Circle
Kalamazoo, MI 49001

SUBJECT: ACKNOWLEDGEMENT OF CORRESPONDENCE
(Letter & Application Dated 02/28/97)

Dear Licensee:

In response to your request, we have completed the initial processing, which is an administrative review of your application for a(n):

☒ New License ☐ Amendment ☐ Renewal
☐ Termination ☐ Auth User (Amendment not required)
☐ Other _____

No administrative deficiencies were identified during this initial review. However, it should be noted that a technical review may identify omissions in the submitted information.

It appears that your request is routine (see 1-3 below, as applicable).

1. New and amendment actions are normally processed within 90 days, unless we find major deficiencies, or policy issues requiring central program office assistance.
2. Renewal actions are normally processed within 180 days, however, under timely filing (before expiration), you may continue to operate under your existing license.
3. Termination actions are normally processed within 90 days, unless confirmatory surveys following decontamination/decommissioning activities are involved.

A copy of your correspondence has been forwarded to our Licensing Fee and Debt Collection Branch (301/415-6097) for approval of the fee category and amount, if required.

If you have a compelling safety or business-related reason for requesting expedited review, please contact the Materials Licensing Branch at (630) 829-9887. We will try to complete your request as soon as practicable. Any correspondence about this request should reference the control number.

Nuclear Materials Support Branch

Mail Control No. 302382
License No. 21-26788-01