

NRC-313 I

U.S. NUCLEAR REGULATORY COMMISSION

1. APPLICATION FOR:  
(Check and/or complete as appropriate)APPLICATION FOR BYPRODUCT MATERIAL LICENSE  
INDUSTRIAL

X a. NEW LICENSE

b. AMENDMENT TO:  
LICENSE NUMBER

30 - 19083

c. RENEWAL OF:  
LICENSE NUMBER

L &amp; L 19679

See 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 1717 H Street, NW, Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland.

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

Storch Engineers

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION

203-529-7727

3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION

Joseph F. Merluzzo

03120

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION

203-529-7727

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

161 Main Street  
Wethersfield, Connecticut 061095. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED  
(Include Zip Code)Temporary Job Sites of  
Applicant - Connecticut

Date

Log

Orig. To

Action Compl.

(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. Hermann Hani

Applicant... 3925

Check No. 4110 (3L)

Amount/Fee Category

Type of Fee

Date Check Received

By: Brown

Field Constructors Inspector

7. RADIATION PROTECTION OFFICER

Joseph F. Merluzzo

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

See Exhibits B and C

## 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)	Cesium 137	Sealed Source	New England Nuclear NER - 560A	10 <sup>+</sup> 1 Millicuries
(2)	Americium 241	"	"	55 <sup>+</sup> 5 Millicuries
(3)				
(4)				

DESCRIBE USE OF LICENSED MATERIAL  
E

(1) Used in Soiltest, Inc. NIC-5 Series Model Nuclear Moisture Density Meter

(2)

(3)

(4)

C7005

### 9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED. A.	NAME OF MANUFACTURER B.	MODEL NUMBER C.
(1)	Nuclear Moisture Density Meter	Soiltest, Inc.	NIC-5 Series Unit
(2)			
(3)			
(4)			

### 10. RADIATION DETECTION INSTRUMENTS

LINE NO.	TYPE OF INSTRUMENT A	MANUFACTURER'S NAME B	MODEL NUMBER C	NUMBER AVAILABLE D	RADIATION DETECTED (alpha, beta, gamma, neutron) E	SENSITIVITY RANGE (milliroentgens/hour or counts/minute) F
(1)	"None Required"					
(2)						
(3)						
(4)						

### 11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☐ a. CALIBRATED BY SERVICE COMPANY

NAME, ADDRESS, AND FREQUENCY

"None Required"

☐ b. CALIBRATED BY APPLICANT

Attach a separate sheet describing method, frequency and standards used for calibrating instruments.

"None Required"

### 12. PERSONNEL MONITORING DEVICES

TYPE (Check and/or complete as appropriate.) A	SUPPLIER (Service Company) B	EXCHANGE FREQUENCY C
<input checked="" type="checkbox"/> (1) FILM BADGE	Nuclear Sources and Services, Inc.	<input checked="" type="checkbox"/> MONTHLY
<input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD)		<input type="checkbox"/> QUARTERLY
<input type="checkbox"/> (3) OTHER (Specify): _____		<input type="checkbox"/> OTHER (Specify): _____

### 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. Basement, Concrete, Floor, Walls and Brick Enclosure

☐ c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC.

☐ d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.

### 14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED

See 14b

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

Sealed Source will be returned to the manufacturer.

## 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. See Exhibit A
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. See Attached Certificate and Exhibits B and C
  - 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. See Exhibit B

### 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, 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.

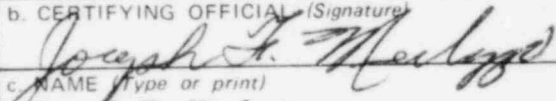
a. LICENSE FEE REQUIRED <small>(See Section 170.31, 10 CFR 170)</small>	b. CERTIFYING OFFICIAL (Signature) 
(1) LICENSE FEE CATEGORY: 3L	c. NAME (Type or print) Joseph F. Merluzzo
(2) LICENSE FEE ENCLOSED: \$ 110.00	d. TITLE Partner
	e. DATE 2/27/81

EXHIBIT A

Item 15:

Using Health Physics Leak Test Kit model HP-C-18, leak test the unit each 6 months. The radiation control officer will oversee the test and ensure that it is performed in accordance with the following procedures:

1. Dissolve the detergent in the packet in a small amount of water.
2. Remove the swab from the plastic container on the left and dip it into the water solution and proceed to wipe the source container according to your license requirements. Replace the swab in the plastic container from which it was removed.
3. Remove the dry swab from the plastic container on the right and repeat the wipe process. DO NOT dip this swab in the detergent. Replace this swap in the plastic container from which it was removed in the kit.

Insure that the swabs are replaced in the plastic containers from which they are removed. The information on the kit cover will be filled in and the test kit mailed to specified address.

The training for the performance of the leak test was obtained from Soiltest, Inc., manufacturer of the meter.

Initial radiation survey performed by manufacturer prior to shipment. All servicing, repair and maintenance of the source to be performed by the manufacturer of the sealed source.

Item 16:

Training at Soiltest, Inc. factory in principles and practices of radiation protection, safe operation, storage and transportation, emergency handling procedures, and leak testing.

Duration of training - one day. On the job training.

EXHIBIT BJOSEPH F. MERLUZZO

Mr. Merluzzo is a Registered Professional Engineer and is a Partner and Supervising Civil and Environmental Systems Engineer with Storch Engineers. He received his Bachelor of Science Degree in Civil Engineering from the University of Rhode Island.

Mr. Merluzzo is directly responsible for the management and technical aspects of all projects undertaken by the Wethersfield, Connecticut office of Storch Engineers. For the Town of East Haven, Connecticut, under Mr. Merluzzo's direction, a townwide traffic study was recently completed. This study involved the analysis and development of preliminary plans for several separate project areas. In order to provide a realistic program of implementation of the traffic modifications, cost estimates were prepared and each project was positioned in a priority list for improvement.

Some of the more recent projects for which Mr. Merluzzo was responsible include traffic impact studies for developments ranging in size from 100-unit apartment/condominium complexes to an 850,000 square foot regional shopping mall in Rocky Hill, Connecticut. In addition to the traffic impact studies, specific designs have been completed for traffic modifications including a 15-intersection signalization program for Longmeadow, Massachusetts; the computerization of 33 signalized intersections in Norwalk, Connecticut; and the design of the signalization of the intersection of Kings Highway North and Main Street in Westport, Connecticut.

Prior to joining Storch Engineers, Mr. Merluzzo's experience involved a variety of major projects throughout Connecticut. These included being Project Engineer on three miles of Interstate 9]; being Project Manager for a

JOSEPH F. MERLUZZO

sewage treatment plant in New Haven, Connecticut; for a water filtration plant in Meriden, Connecticut; for an airport runway design project in Oxford, Connecticut; for a townwide drainage study for South Windsor, Connecticut; and for several sanitary sewer design projects in Glastonbury, Connecticut. For these projects, he was responsible for all design functions which included significant hydraulics and drainage related tasks ranging in magnitude from street collection systems to in-depth analyses and designs of watercourse structures. Also, he was previously employed as an engineer in the Soils and Foundations Division of the Connecticut Department of Transportation.

Mr. Merluzzo has also been a supervising liaison engineer with responsibility for complete review of major highway designs of other consultants for the Connecticut Department of Transportation. In this capacity, he was responsible for all utility, rights-of-way and public hearing coordination. The projects, under his direction, amounted to some 75 million dollars in construction cost.

Prior to joining the Connecticut Department of Transportation, Mr. Merluzzo was employed for two years by the Rhode Island Department of Transportation. During a portion of this period he worked in the Soils and Materials Section calibrating nuclear density gauges and performing field density and field moisture content tests.

He is a member of several organizations including the American Society of Civil Engineers, the National Society of Professional Engineers, The American Water Works Association, the New England Water Pollution Control Association and the American Arbitration Association.



EXHIBIT CHERMANN HANI

Mr. Hani, a surveyor-inspector, has more than 15 years of varied field experience with Storch Engineers. He has been a survey chief of party, inspector of test borings, researcher of land records and a construction inspector.

Recently, Mr. Hani has been in charge of all field survey for the Lakeridge Development, a 236 acre, 670 unit condominium project in Torrington, Connecticut. His survey parties have established all the horizontal and vertical control for building location, roadway construction and sanitary sewer and water line location.

Mr. Hani also supervised survey party activities for the Spring Street to Wilson Avenue Connector in Norwalk, Connecticut and inspected all of the test borings for the project.

Mr. Hani has recently completed a construction-inspection assignment for a \$2,000,000 Union 76 Traveler's Plaza in Southington, Connecticut. This assignment and the following assignments have provided Mr. Hani with substantial experience in this important responsibility for the completion of any project.

- Full-time inspection for ten months for the construction of seven groins at Long Beach in Stratford, Connecticut for the purpose of shore protection; duties included daily and monthly progress reports; construction quantity estimates and approval of monthly invoices from the Contractor.
- Full-time inspection at the Farmington Medical Dental School of all earthwork including compaction testing and concrete testing.

HERMANN HANI

- Full-time inspection of Lighthouse Point Park for the City of New Haven, including sanitary sewer pump stations.
- Full-time inspection of the reconstruction of Bowen Field grandstands in New Haven, Connecticut, including the reconstruction of the playing fields.
- Full-time inspection at the Ellis Technical School in Killingly, Connecticut of athletic fields and parking lot paving including topographic survey and design work.
- Part-time inspection of New London's parks for the City of New London for athletic facilities and playgrounds.
- Full-time soil inspection at Whiting Lane School in West Hartford. Including athletic facilities, party chief for topographic survey, soils inspection and design of running track and tennis courts.
- Survey Party Chief for control and topographic surveys for Hurd State Park. Geometric layout and design of new park roads and part-time construction inspection.
- Part-time construction inspection for Toby May Playgrounds in New London, Connecticut. Party chief for topographic survey of existing facilities before design.





HEREBY CERTIFIES THAT ON

January 30, 1981

MR. HERMANN HANI  
Storch Engineers

HAS SUCCESSFULLY COMPLETED THE FACTORY PRESCRIBED RADIOLOGICAL SAFETY TRAINING COURSE, THEORY, MAINTENANCE, AND OPERATION OF THE SOILTEST NUCLEAR DENSITY AND MOISTURE METERS.

THIS FURTHER ATTESTS THAT THE ABOVE NAMED HAS MET ALL REQUIREMENTS OF PRECISION IN TESTING SOILS, AGGREGATES, CONCRETES AND ASPHALTIC CONCRETES.

IN TESTIMONY WHEREOF, THIS CERTIFICATE HAS BEEN ISSUED BY AUTHORITY OF SOILTEST, INC.

RADIATION SAFETY OFFICER  
K. S. Antony

SOILTEST MANAGEMENT  
S. V. Thompson