

FORM NRC-313 I (1-79) 10 CFR 30		U.S. NUCLEAR REGULATORY COMMISSION		1. APPLICATION FOR: <i>(Check and/or complete as appropriate)</i>	
APPLICATION FOR BYPRODUCT MATERIAL LICENSE INDUSTRIAL				<input checked="" type="checkbox"/>	a. NEW LICENSE
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.					b. AMENDMENT TO: LICENSE NUMBER
					c. RENEWAL OF: LICENSE NUMBER
2. APPLICANT'S NAME <i>(Institution, firm, person, etc.)</i> John Mathes & Associates, Inc. TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION 618/281-7173			3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION Dennis J. Schweigert TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION 618/281-7173		
4. APPLICANT'S MAILING ADDRESS <i>(Include Zip Code)</i> 123 Wedgewood Drive P.O. Box 330 Columbia, Illinois 62236			5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED <i>(Include Zip Code)</i> 123 Wedgewood Drive, Columbia, IL 62236 and Temporary job sites of the applicant in Illinois and Missouri		
(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 <i>(See Items 16 and 17 for required training and experience of each individual named below)</i>					
FULL NAME			TITLE		
a. Dennis J. Schweigert			Senior Technician		
b. Cecil D. Harriss			Senior Technician		
c.					
7. RADIATION PROTECTION OFFICER Dennis J. Schweigert			Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.		
B. LICENSED MATERIAL					
LINE NO.	ELEMENT AND MASS NUMBER A	CHEMICAL AND/OR PHYSICAL FORM B	NAME OF MANUFACTURER AND MODEL NUMBER <i>(If Sealed Source)</i> C	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTI- VITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME D	
(1)	Cesium 137	Sealed Source CPN-131	Campbell Pacific Nu- clear MC Series soil gauge.	Not to exceed 10mc/source each gauge. Not to exceed 2 gauges.	
(2)	Americium 241/Be	Sealed Source CPN-131	Campbell Pacific Nu- clear MC Series soil gauge	Not to exceed 50mc/source each gauge. Not to exceed 2 gauges.	
(3)					
(4)					
E DESCRIBE USE OF LICENSED MATERIAL					
(1)	To be used in Campbell Pacific Nuclear Corporation Model MC series soil gauge for the measurement of moisture and density of construction materials at various job sites within license jurisdiction.				
(2)	Same as above				
(3)	8506040421 850514 REG1 LIC30 12-18760-01 PDR				
(4)					

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)	Model MC Series Soil Gauge	Campbell Pacific Nuclear Corporation	MC-2
(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)	NA					
(2)						
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☐ a. CALIBRATED BY SERVICE COMPANY

NAME, ADDRESS, AND FREQUENCY

NA

☐ b. CALIBRATED BY APPLICANT

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

NA

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	Searle Diagnostics, Inc. 2000 Nuclear Drive DesPlaines, Illinois 60018	<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.
- ☐ c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC.
- ☐ d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.

14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED

Campbell Pacific Nuclear

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.

NA

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, 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
(See Section 170.31, 10 CFR 170)

\$110.00

(1) LICENSE FEE CATEGORY: 3L

(2) LICENSE FEE ENCLOSED: \$110.00

b. CERTIFYING OFFICIAL (Signature)

c. NAME (Type in print)
Dennis J. Schweigert

d. TITLE
Senior Technician, Radiation Safety Office

e. DATE
June 14, 1979

7. Training and Experience of Radiation Safety Officer.

Individual: Dennis J. Schweigert

Training and Experience:

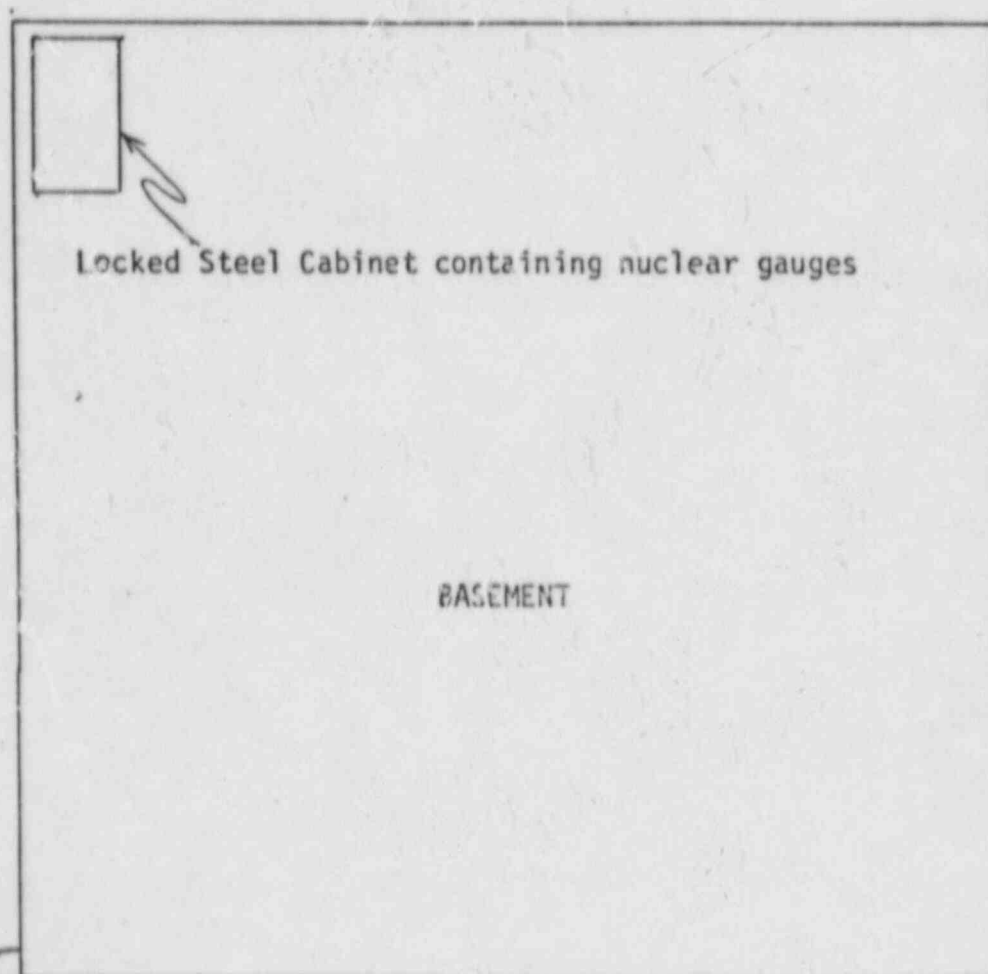
Mr. Schweigert completed one eight hour formal course entitled, "Basic Training Course on Radiation Safety and Use of Nuclear Soil Gauges", offered by Campbell Pacific Nuclear Corporation. He also has nine (9) months on the job experience using a Seaman Model C-75 Nuclear Moisture Density Meter.

Note: See Items 16 and 17 of the application for a more detailed description of training and experience.



PERMANENT STORAGE LOCATION SKETCH

- 13b. The nuclear gauges will be stored in their shipping cases in a locked steel cabinet with key access only by licensed operators. The storage will be located in a basement. The basement has one (1) door and no windows. The basement has no areas of full time work requirement. The nearest area which requires full time personnel attention is a desk upstairs located fourteen feet from the cabinet. The cabinet will be clearly marked with radioactive labels.



location of upstairs entrance door to basement

Scale: 1" = 5'

15.

RADIATION PROTECTION PROGRAM

The radiation protection program will follow the procedures outlined in the attached CPN Tech Data Sheet #11A. The applicable blanks on these data sheets will be filled out and a copy will be given to all persons using the gauges.

The Radiation Safety Officer will be the responsible person to coordinate and supervise all safety instruction and operating procedures. Leak Tests will be performed only by qualified personnel using the kit and procedures as described in the attached CPN Leak Test Kit form. The Radiation Safety Officer will keep records of leak tests performed and all information relating to the monthly exchange of film badges.



1/78

RECOMMENDED RADIATION SAFETY PROGRAM - LICENSING

THE FOLLOWING NUCLEAR SAFETY PROCEDURES WILL BE OBSERVED AT ALL TIMES. A COPY OF THIS PROCEDURE SHEET WILL BE MAINTAINED WITH THE GAUGE IN THE SHIPPING CASE AS WELL AS IN THE LICENSE FILE WITH THE RADIATION SAFETY OFFICER.

1. The Nuclear Gauge will be securely restrained in vehicles at all times to prevent theft while unattended or loss during an accident. Metal clamps, chains, bars, or seatbelts will be used.
2. The Nuclear Gauge and its shipping case will be hidden from view while in an unattended vehicle to minimize attractive nuisance value.
3. All users will wear film badges when using the Nuclear Gauge. Badges will be stored away from gauges when not in use and will be protected from external heat.
4. Radiation labels or placards will be removed from vehicles when not actually transporting the Nuclear Gauge to avoid confusion should an accident occur with the Gauge not in the vehicle.
5. Gauges will be securely locked in storage areas when not in use. Keys will be restricted to authorized users only.
6. In the event of emergency with possible damage to the radioactive source:

- * Freeze site - Stop any involved vehicles.
- * Restrict access to 10' from the gauge, vehicles, or tracks.
- * Call for competent, trained assistance:

RSO: _____

PUBLIC HEALTH OFFICE: _____

CIVIL DEFENSE: _____

CPN FACTORY: _____ 415-687-6472

OTHER: _____

7. The Nuclear Gauge is to be used only by users specifically authorized by the Radiation Safety Officer in writing.

DATE _____ LIC # _____ RSO _____

LICENSEE _____ PHONE _____

Leak Test Kit

CPN LEAK TEST KIT # TD-11B for use with CPN Nuclear Gauges
or with nuclear devices of other manufacture.

GENERAL

This kit is for performing wipe tests on sealed radioactive sources. It includes a cotton swab and plastic container attached hereto, and the analysis and certification of compliance after the swab is returned to our analysis laboratory.

1. Refer to the instructions on the reverse and in your device manual for the specific locations to perform the wipe test.

2. Remove the swab from the plastic container. Wet it in detergent solution and swab the appropriate area per instructions for the device.

3. Return the swab to the plastic container.

It is not necessary to disassemble the source mechanism or to expose the source on any CPN product in order to take a leak test. Read the instructions!

4. Fill in the required device identification data below, including your name and mailing address.

Read your license and check off which leak test period box applies for your next leak test. One month before your next leak test is due, we will mail you the tearoff bottom of this Kit as a reminder to obtain another Test Kit to avoid violation of your license terms. Therefore, we need an accurate name, address, and gauge and license period information.

NUCLEAR ENVIRONMENTAL ENG. CO.
P. O. BOX 58866
HOUSTON, TEX 77058

5. Place the swab and this folder
in a window envelope so this
address shows through the win-
dow.

FILL IN COMPLETELY:

DATE YOU TOOK THE TEST _____

DEVICE NAME _____ MODEL # _____ SERIAL _____

SOURCE TYPE AND SIZE: Radium _____ mc; CS _____ mc; AM _____ mc.

REQUIRED TEST PERIOD ON YOUR LICENSE: _____ 6 Mo; _____ 1 Yr; _____ 3 Yr.

One month prior to your next leak test requirement, you will receive this reminder back in the mail. At that time, if you wish another leak test kit from CPN, fill in the following and return to CPN Corp.:

Please send _____ leak test kit(s). Payment is enclosed _____.

Please bill us. Our PO # is _____.

130 SO. BUCHANAN CIRCLE PACHECO, CA. 94553 PHONE (415) 687-6472.

Control No. 01929

INDIVIDUAL GAUGE LEAK TEST INSTRUCTIONS

(TD-11B2 7/76)

PORTAPROBE MODEL A (Single source)

1. Remove the chassis and heat shield. DO NOT REMOVE THE RED COVER OVER THE SOURCE MECHANISM.
2. Swab around the edges of the red cover, the grommet, and the four mounting screws on the bottom of the gauge under the source mechanism (from outside).

PORTAPROBE MODEL B, BR, AND BRC (Single source)

1. Do NOT remove chassis. Do NOT extend source. Leave in SAFE.
2. Upend the gauge, stand behind it, swab around the cleanout ring on bottom with shutter CLOSED.

PORTAPROBE MODEL MC SERIES (Two sources with same swab)

1. Repeat BR test procedure. This picks up the Cesium density source.
2. Unsnap clips and tilt back electronic chassis. Swab through small hole at top front of battery plate. This picks up the Americium moisture source.

DEPTH GAUGES, MODEL 500 SERIES, ANY FORM

1. Lay gauge on its back, swab around the access hole on the bottom. It is not necessary to swab around the probe itself, although this is permissible.

Be sure to properly annotate the reverse side as to type of depth gauge. 501 has combination CS/AM source, 502 has CS only, 503 has AM only.

OTHER DEVICES

1. This swab kit can be used for any allowed swab test. Refer to the device manufacturer's leak test instructions and use this kit accordingly. Properly identify the device on the front side of this sheet.
2. If not instructions are available, contact the manufacturer, CPN factory, or your local Public Health Office for assistance in effecting a proper test.

CAMPBELL PACIFIC NUCLEAR CORP.

130 BUCHANAN CIRCLE • PACHECO, CALIF. 94553

RADIATION SAFETY OFFICER

CAMP

16. Formal Training in Radiation Safety

Individual: Dennis J. Schweigert

Training: Mr. Schweigert received training in Items a through d, question 16 in a basic training course on radiation safety and use of nuclear soil gauges offered by Campbell Pacific Nuclear Corporation. The course was eight (8) hours long and was held at the Holiday Inn in the City of St. Louis, Missouri on April 19, 1978.

Individual: Cecil D. Harriss

Training: Mr. Harriss received training in Items a through d, question 16 in a basic training course on radiation safety and use of nuclear soil gauges offered by Campbell Pacific Nuclear Corporation. The course was eight (8) hours long and was held at the Holiday Inn in the City of St. Louis, Missouri on April 19, 1978.

Note: Both individuals will follow the instructions of the manufacturer and of the regulations of the agency when using the Nuclear Soil Gauges.



Control No. 0192 ~~12-12-78~~

17.

EXPERIENCE

Individual: Dennis J. Schweigert

Experience:

November 1977 to July 1978: Used a Seaman Model C-75 Nuclear Moisture Density Meter to measure moisture and density of construction materials at various job sites in Missouri. The Seaman Model C-75 gauge contained 4.5 mc of Radium 226 in a sealed source.

Individual: Cecil D. Harriss

Experience:

None.



Control No. 01923