1/14-NRC.

FORM NRC 313 I (1-79) 10 CFR 30

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

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.

1. APPLICATION FOR: *(Check and/or complete as appropriate)*

03D-12330

- a. NEW LICENSE
- ✓ b. AMENDMENT TO LICENSE NUMBER: 14-18897-01
- c. RENEWAL OF LICENSE NUMBER:

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

PATRIQ TESTING LABORATORIES CO., INC

TELEPHONE NUMBER: AREA CODE – NUMBER EXTENSION

515-266-5101

3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION

ROBERT R STRAIT

TELEPHONE NUMBER: AREA CODE – NUMBER EXTENSION

515-266-5101

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

3922 DELAWARE AVE.
DES MOINES IOWA 50313

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

3922 DELAWARE AVE
DES MOINES IOWA
AND TEMPORARY JOBSITES OF PATRIQ TESTING LABS. IN IOWA, MISSOURI, ILLINOIS

(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)*

3/31/85
3L

	FULL NAME	TITLE
a.	ROBERT R STRAIT	SUPERVISOR
b.	BRADLEY M WELLS	FIELD SUPERVISOR
c.	RICHARD E SCHOLL	ASSISTANT SUPERVISOR

7. RADIATION PROTECTION OFFICER

ROBERT R STRAIT

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

8. LICENSED MATERIAL

LINE NO.	A ELEMENT AND MASS NUMBER	B CHEMICAL AND/OR PHYSICAL FORM	C NAME OF MANUFACTURER AND MODEL NUMBER *(If Sealed Source)*	D 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	TROXLER ELECTRONICS 3400 SERIES	NOT TO EXCEED 10 MILLICURIES Cs-137
(2)	AMERICIUM-241	SEALED SOURCE	TROXLER ELECTRONICS 3400 SERIES	AND/OR 50 MILLICURIES AM-241 IN EACH SOURCE PAIR, ONE SOURCE PAIR IN EACH DEVICE
(3)				
(4)			next pg	

DESCRIBE USE OF LICENSED MATERIAL

E

(1) TO BE USED IN TROXLER MODELS 3401 OR 3411 DENSITY/MOISTURE
(2) GAUGES FOR THE MEASUREMENT OF DENSITY AND MOISTURE
(3) OF CONSTRUCTION MATERIALS AT VARIOUS JOBSITES IN
(4) IOWA, MISSOURI AND ILLINOIS

Control No. 04106

NOV 17 1980

FORM NRC 313 I (1-79)

21-12804-54 4pp.

9. STORAGE OF SEALED SOURCES

LINE NO.	A. CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED.	B. NAME OF MANUFACTURER	C. MODEL NUMBER
(1)	3400 MODELS DENSITY/MOISTURE GAUGES	TROXLER ELECTRONICS	3401 / 3411
(2)			
(3)			
(4)			

10. RADIATION DETECTION INSTRUMENTS

LINE NO.	A. TYPE OF INSTRUMENT	B. MANUFACTURER'S NAME	C. MODEL NUMBER	D. NUMBER AVAILABLE	E. RADIATION DETECTED (alpha, beta, gamma, neutron)	F. SENSITIVITY RANGE (milliroentgens/hour or counts/minute)
(1)	NOT REQUIRED OR APPLICABLE					
(2)						
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☐ a. CALIBRATED BY SERVICE COMPANY

NAME, ADDRESS, AND FREQUENCY

NOT APPLICABLE

☐ b. CALIBRATED BY APPLICANT

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

NOT APPLICABLE

12. PERSONNEL MONITORING DEVICES

A. TYPE (Check and/or complete as appropriate.)	B. SUPPLIER (Service Company)	C. EXCHANGE FREQUENCY
☒ (1) FILM BADGE	SEARLE DIAGNOSTIC INC BOX 1367 OAKTON STREET STATION DES PLAINES, ILLINOIS 60018	☒ MONTHLY
☐ (2) THERMOLUMINESCENCE DOSIMETER (TLD)		☐ QUARTERLY
☐ (3) OTHER (Specify): _____		☐ OTHER (Specify):

13. FACILITIES AND EQUIPMENT (Check were 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

NOT APPLICABLE

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.

THE APPLICATION IS FOR SEALED SOURCES AND THEY 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:

RECEIVED
Dec. Pg 2 III
'80 DEC -9 P4:00
U.S. NRC
LIC. FEE MGMT. BRANCH

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.

Applicant...
Check No. 5917
Amount $40.00
Date 12/30/80
Received from Jackson...

18. CERTIFICATE

(This item must be completed by applicant)

440-31
Amendment

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)* $40.00	b. CERTIFYING OFFICIAL *(Signature)* Robert R Strait
	c. NAME *(Type or print)* ROBERT R STRAIT
(1) LICENSE FEE CATEGORY:	d. TITLE SUPERVISOR
(2) LICENSE FEE ENCLOSED: $ $40.00	e. DATE NOVEMBER 10, 1980

FORM NRC-313 I (1-79)

This is the type of testing we will be doing for leakage.
PATZIG TESTING LABORATORIES CO., INC. Des Plaines, IA

CPN CORP
130 SO. BUCHANAN CIRCLE
PACHECO, CA. 94553
PHONE 415-687-6472 TELEX 171289

Leak Test Kit

(CPN # TD-11B)

GENERAL:

1. Refer to the instructions on the reverse of this form and/or in your device manual for the specific locations and procedures for leak testing your nuclear device.

2. Remove the swab from the plastic container, wet it with detergent solution, and swab the appropriate area per the instructions for the device.

3. Return the swab to the plastic container.

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

COMPLETE BOTH SIDES OF THIS FORM:

4. Fill in the required device identification data below.

Fill in the name and address of the Radiation Safety Officer (RSO) on the reverse of this form for future automatic return mail reminder service of the next leak test requirement.

Read your license and check off which leak test period box applies for your next leak test requirement. One month before the next leak test is due, we will mail the "Tearoff" portion of this kit as a reminder to obtain another LEAK TEST KIT to avoid violation of your license terms. It is necessary that CPN has accurate name, address, and license period information in order to be able to provide this service.

GULF NUCLEAR, INC.
202 MEDICAL CTR BLVD
WEBSTER, TX 77598

SEND TO LABORATORY:

5. PLACE THE SWAB AND THIS FOLDER IN A WINDOW ENVELOPE SO THIS ADDRESS SHOWS IN WINDOW.

Results will be forwarded by mail to the RSO address you place on the reverse of this form. If test is unsatisfactory, RSO will be notified by wire or telephone.

LEAK TEST DATA:

DATE YOU TOOK THE TEST _____

DEVICE NAME _____ MODEL # _____ SERIAL _____

SOURCE TYPE AND SIZE: Radium 226 _____mCi Cesium 137 _____mCi Americium 241 _____mCi

Other Material (Identify) _____ Millicuries

REQUIRED TEST PERIOD STATED IN YOUR LICENSE: 6 Mo. _____ 1 Yr. _____ 3 Yr. _____

REMINDER TO R.S.O.:
(Leak Test is Due)

This is mailed back to you by CPN one month prior to your next Leak Test requirement.

PLEASE SEND US _____ KITS @ $15.00 EACH. BILL US ON PO # _____ OR,
PAYMENT IS ENCLOSED _____. SIGNED _____ DATE _____

TD-01-LTK-01-0379

Control No. 0 4 1 0 6

CPN CORP
130 SO. BUCHANAN CIRCLE
PACHECO, CA. 94553
415-687-6472

TECH DATA SHEET # 11A

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 to prevent theft or loss while unattended or in an accident. Metal clamps, chains, or bars 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 to the vehicle when it does not contain the Gauge.

5. Gauges will be securely locked in storage areas when not in use. Keys will be restricted to authorized users only.

6. The Nuclear Gauge will be used only by users specifically authorized in writing by the Radiation Safety Officer.

7. The Gauge will be leak tested annually using Campbell Pacific Nuclear Test Kit TD-11B or other approved kit. Results will be maintained for permanent record and inspection.

8. Disposal of the source or of the device will not be done by licensee directly.

   In the event of emergency disposal, we shall contact the factory or other authorized disposal facility for instructions.

   The unit will be transferred only to authorized licensees for this specific device and a record of transfer will be retained in our files, with proof of license authority by the recipient, in the event of sale, trade, loan, or other transfer.

9. 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 competant, trained assistance:*

RSO: ROBERT R STRAIT (O) 515/266/5101 (H) 515/274/7657

PUBLIC HEALTH OFFICE: 515/281/5787

CIVIL DEFENSE: 515/283/4116

CPN FACTORY: 415-687-6472

OTHER: DES MOINES POLICE - 515/283/4811
POLK CO. POLICE - 515/286/3333

CPN CORP
130 SO. BUCHANAN CIRCLE
PACHECO, CA. 94553
PHONE 415-687-6472

TECH DATA SHEET # 11C

PERMANENT STORAGE LOCATION FOR NUCLEAR GAUGES

PATZIG TESTING LABORATORIES CO. INC.
(Licensee)
3922 DELAWARE AVE.
(Permanent Storage Address)
DES MOINES IOWA 50313
(City, State, and Zip) (Date)

CERTIFICATION

I certify that the sketch of the proposed storage location is an accurate representation of our storage intentions. I also certify that the gauge will be stored on temporary jobsites in accordance with the same procedures and recommendations as closely as is practical.

X Robert R. Stout Rad Safe Officer

GENERAL

License regs require secure, locked storage of nuclear devices when not in use, with final key access only by authorized users. Each storage area will differ for each user, however, the final key access integrity will be maintained.

RECOMMENDATIONS

* Lighted area with electrical outlet for charging gauge while in storage.
* Gauge(s) 10' from nearest desk or other location requiring full time employee attention. Coming and going around the gauge is alright.
* Check the other side of the nearest wall by the gauge. Somebody may work there full time.
* In a space shared with others, the gauge will be separately locked to the wall, floor, or pipe, thus preventing removal or movement.

TYPICAL STORAGE EXAMPLES

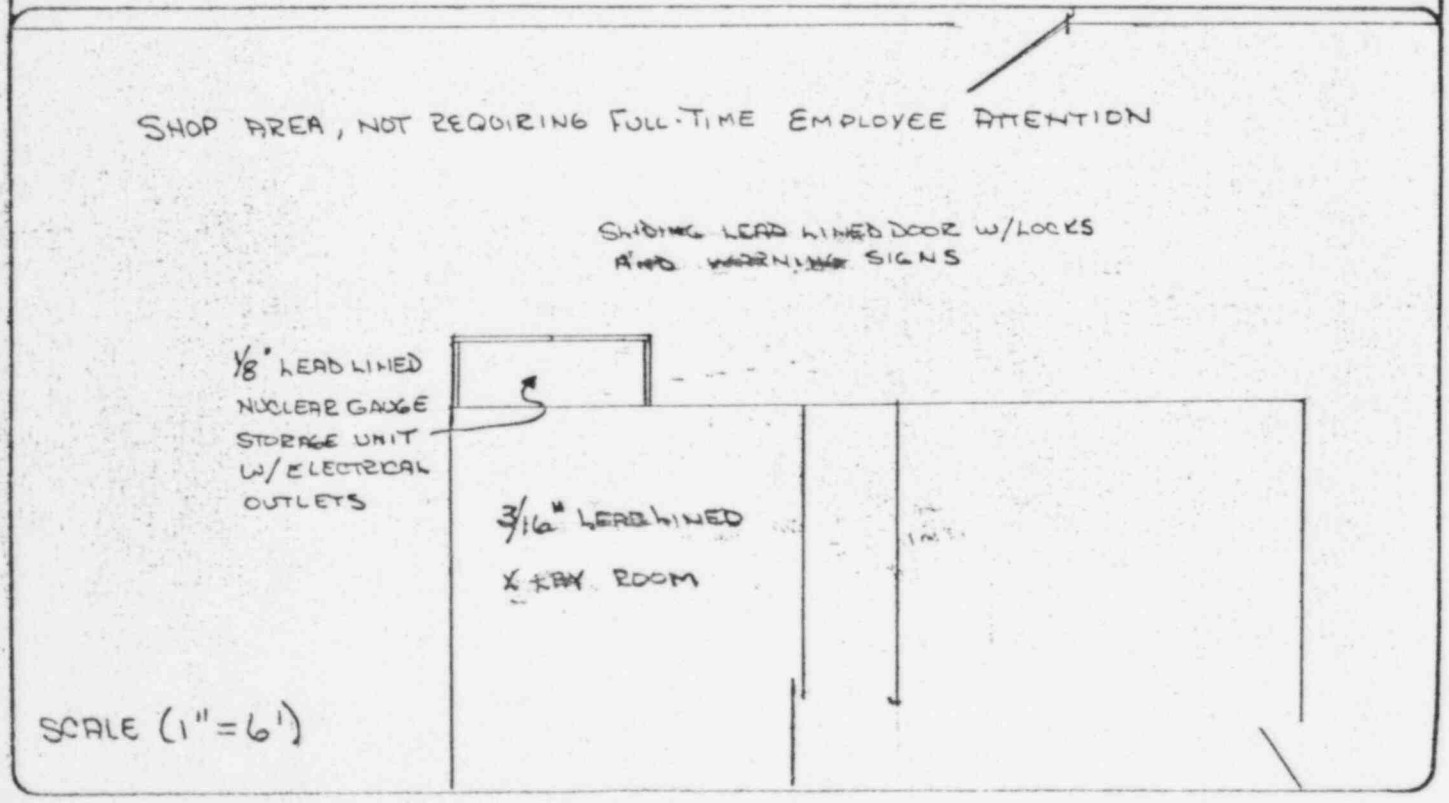
A. Gauge shipping case, or "like" case, secured to the floor or wall in a shared closet or cabinet. Radiation signs on case, case locked and immobile.

B. Gauge stored inside cabinet or closet with lock and sign on outside of cabinet or closet, limited key access. Gauge case is not necessarily locked (charging, etc.)

C. Gauge case and/or cabinet or closet not locked, however, the room is locked with limited key access. Sign on room door.

PROPOSED STORAGE LOCATION SKETCH

The following sketch proposes the manner in which we will store our nuclear gauges. Doors, windows, desks, and work areas are designated. We have designated the hours per day required for employees for each work area within 10 feet of the gauge.



INDIVIDUAL GAUGE LEAK TEST INSTRUCTIONS

PORTAPROBE MODEL A (Single, combined 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, (from the outside), around the four mounting screws on the bottom of the gauge under the source mechanism.

PORTAPROBE MODEL B, BR, & BRC (Single, combined source)

1. Do NOT remove the chassis. Do NOT extend source. Leave in SAFE position!

2. Up end the gauge, stand behind it, swab around the brass cleanout ring on the bottom with the shutter CLOSED.

PORTAPROBE MODEL MC SERIES (Two sources with same swab)

1. First, remove the four screws and lift the electronic assembly out of the case. Swab the RED SPOT beside the moisture detector to test the Americium 241/Be source.

2. Then, repeat the Model BR test procedure. This will test the Cesium 137 source in the rod.

HYDROTECTOR MODEL MC-M (Single, internal source)

1. Remove the flat plate on the end of the gauge. Swab around the Radioactive Source Label visible inside the opening.

DEPTH GAUGES, MODEL 500 SERIES, ANY FORM

1. Lay gauge on its back. Swab around the inside of the access hole on the bottom of the case. It is not necessary to extend the probe itself, although this is permissible.

   (Be sure to note the type of gauge on the reverse of this form. Model 501 has a combination CS/AM source, Model 502 has Cesium only, and Model 503 has Americium only.)

OTHER DEVICES (Other Soil Gauges, Industrial Devices, etc.)

1. This Leak Test Kit can be used for any authorized swab test. Refer to the manufacturer's leak test instructions and use this kit accordingly. Properly identify the device and the radioactive material and quantity on the reverse of this form.

2. If instructions are not available, contact the manufacturer, CPN Factory, or your local Public Health Officer for assistance in effecting a proper test.

CPN campbell pacific nuclear

130 So. Buchanan Circle · Pacheco, CA 94553

RADIATION SAFETY OFFICER

_____

_____

_____

_____

CPN CORP
130 SO. BUCHANAN CIRCLE
PACHECO, CA. 94553
415-687-6472

TECH DATA SHEET # 11

UNIVERSAL RADIATION LICENSE APPLICATION INSTRUCTIONS

GENERAL

A radioactive materials license is required for the possession and use of reactor produced isotopes used in CPN gauges. This universal instruction sheet will assist you in properly completing your application for expeditious handling.

Federal Nuclear Regulatory Commission regulations are the basic law of the land regarding licensing of radioisotopes and an NRC license is required in all federally controlled areas.

Twentyfive states (as of this printing) have elected to control their own licensing as "Agreement States", following NRC regulations, but including control of Radium and XRAY machines as well as the reactor produced isotopes. An appropriate STATE license is required in these states.

CPN Tech Data Sheet 5 lists these states.

We are enclosing an appropriate application for your completion for your immediate jurisdiction. If you contemplate using your CPN device in another jurisdiction for more than 180 days, you must obtain a license in that jurisdiction.

Please contact us for an application form for the new jurisdiction. You may have more than one license and may be licensed for more units than you actually own. We recommend licensing yourself for at least one more unit than you are going to use in normal operation.

The attached application is typical of all forms and follows the general NRC format. Fill in the obvious blanks as required. Some blanks require technical information or nomenclature which you would not know. The following instructions will provide that information in correct form. Terms and nomenclature will vary somewhat between licensing agencies. Adapt the instructions as appropriate for your application form.

We suggest that a copy of the application be forwarded to our offices for file and possible further assistance.

LICENSE BEFORE SHIPMENT

CPN must have proof of license before we can ship. Please forward a copy of your returned license to us for file. In turn, should you ship to others, you must have a copy of their license.

SPECIFIC INSTRUCTIONS FOR: "RADIOISOTOPE" - "FORM" - "QUANTITY" - "INTENDED USE"

Each application form contains blanks requesting the following information. (Headings may vary depending upon the licensing agency.)

RADIOISOTOPE * Cesium 137 and/or Americium 241 or other material.

FORM * Sealed Source CPN-131

QUANTITY * 10 millicuries CS 137 and/or 50 millicuries AM 241

INTENDED USE * Why you are going to use the material and in which device.

From the following descriptive groupings, select the one(s) which fit the device(s) you wish to have licensed. Enter the descriptions in the blanks as required on the application. (Note the description allows an unlimited number of gauges. Some license agencies may require a definite quantity to be listed. It is a good idea to plan for future expansion.)

FOR MODEL A, BRC, & MC SURFACE AND 501 DEPTH GAUGES

(RADIOISOTOPE)	(FORM)	(QUANTITY)
Cesium 137	CPN-131 Sealed Source	Not to exceed 10 millicuries Cesium 137 and 50 millicuries Americium 241 in each source pair, one source pair in each device.
Americium 241/Be	CPN-131 Sealed Source	

(INTENDED USE)

To be used in CPN CORP Model A, BRC, MC, or 501 Density/Moisture Gauges for the measurement of density and moisture of construction materials at various jobsites.

FOR MODEL 502 DENSITY ONLY DEPTH GAUGE

Cesium 137	CPN-131 Sealed Source	Not to exceed 10 millicuries Cesium 137 per source, one source per device.

To be used in CPN CORP Model 500 Series Density Only Depth Gauges for measurement of density of construction materials at various jobsites.

FOR MODEL 503 HYDROPROBE (MOISTURE ONLY) and MODEL MC-M SURFACE MOISTURE GAUGE

Americium 241/BE	CPN-131 Sealed Source	Not to exceed 50 millicuries Americium 241/Be per source, one source per device.

To be used in CPN CORP Model 500 Series Depth Gauges or Model MC Series Surface Gauges for the measurement of moisture in construction materials at various jobsites.

TRAINING AND EXPERIENCE WITH RADIOISOTOPES

State that you will follow the instructions of the manufacturer and of the regulations of the agency. State any prior experience with radioisotopes or radiation training on the part of any of the prospective users. Some agencies require formal training of the users by an approved training agency, usually the manufacturer.

If formal training is required, please contact the local CPN representative or the factory for inclusion in one of our periodic training seminars. We can arrange a special course if required.

RADIATION DETECTION INSTRUMENTS AND CALIBRATION OF THEM

Only the State of Alabama requires possession of radiation detection instruments (survey meters).

CPN does not recommend their possession by users due to the false security that this can provide. Few users are qualified to accurately read and use a survey meter. The possibility of instrument damage requiring a survey meter to be used is so remote that the average user would never turn it on or will not know how to turn it on and read it if he suddenly had to. State that this is "Not Required" or "Not Applicable".

FILM BADGES - FACILITIES - RADIATION PROTECTION PROGRAM - DISPOSAL

CPN recommends the use of a film badge for all active users. Some agencies also require this service. We suggest that you use the services of R.S. LANDAUER JR., & CO, 999 N. Sepulveda Blvd, El Segundo, CA, 90245. If you plan to use film badge service, state this on your application with the name of the company you plan to use. Most license agencies will require badges.

A facilities sketch form is attached for your use. Please follow the general guidelines for storage and then sketch in the proposed area you plan to use, following these guides. Include a copy of this sketch with your application.

A "Nuclear Safety Procedures" form is attached to this instruction. Attach copies of this form to your application and plan on following these procedures. These become a part of your application when you send them in.

These are your intended actions in the event of an emergency and for general operating protection.

Only an authorized disposal agency can effect final destruction and disposal of a radioactive source. You will dispose of your sources by sale to authorized users or by return to the factory.

LEAK TEST REQUIREMENTS

Basic license law requires leak testing of sealed sources every six months. Most agencies grant waivers on CPN gauges for one year. You should request a one year waiver in your application cover letter. We suggest you use our CPN Leak Test Kit for this requirement. A sample is attached for submission with your application. Kits from other commercial services can be used.

QUESTIONS AND PROBLEMS

This Universal Instruction Sheet should permit you to complete your license application without difficulty. Should problems arise, please contact our CPN factory offices for assistance. We will be happy to assist you in submitting your initial request or amendment for change.