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

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PRIVACY ACT STATEMENT

Pursuant to 5 U.S.C. 552s(e)(3), enected into law by section 3 of the Privacy Act of 1974 (Public Law 93-579), the following statement is furnished to individuals who supply information to the Nuclear Regulatory Commission on NRC Form 313. This information is maintained in a system of records designated as NRC-3 and described at 40 Federal Register 45334 (October 1, 1975).

- 1. AUTHORITY: Sections 81 and 161(b) of the Atomic Energy Act of 1964, as amended (42 U.S.C. 2111 and 2201(b)).
- PRINCIPAL PURPOSE(S): The information is evaluated by the NRC staff pursuant to the criteria set forth in 10 CFR
 Parts 30, 32, 33, 34, 35 and 40 to determine whether the application meets the requirements of the Atomic Energy Act of
 19F4, as amended, and the Commission's regulations, for the issuance of a radioactive material license or amendment
- 3. ROUTINE USES: The information may be (a) provided to State health departments for their information and use; and (b) provided to Federal, State, and local health officials and other parsons in the event of incident or exposure, for their information, in estigation, and protection of the public health and safety. The information may also be disclosed to appropriate Federal, State, and local agencies in the event that the information indicates a violation or potential violation of law and in the course of an administrative or judicial proceeding. In addition, this information may be transferred to an appropriate Federal, State, or local agency to the extent relevant and necessary for an NRC decision or to an appropriate Federal agency to the extent relevant and necessary for that agency's decision about you.
- 4. WHETHER DISCLOSURE IS MANDATORY OR VOLUNTARY AND EFFECT ON INDIVIDUAL OF NOT PROVIDING INFORMATION: Disclosure of the requested information is voluntary. If the requested information is not furnished, however, the application for radioactive material license, or amendment thereof, will not be processed. A request
 that information be held from public inspection must be in accordance with the provisions of 10 CFR 2.790. Withholding from public inspection shall not affect the right, if any, of persons properly and directly concerned need to inspect
- 5. SYSTEM MANAGER(S) AND ADDRESS: U.S. Nuclear Regulatory Commission
 Director, Division of Fuel Cycle and Material Safety
 Office of Nuclear Material Safety and Safeguards
 Weshington, D.C. 20555

CX.

DETAILS OF THE ITEMS 5 THROUGH 11 OF THE APPLICATION FOR MATERIAL LICENSE

ITEM 5: (MC-1, MC-3 and 501 guages)

(a) Radionuclei (b) Form (c) Maximum Amount

Cesium 137 Sealed source CPN No single source
Drawing CPN-131 to exceed 10 mci

Americium 241-BE Sealed source CPN No single source
drawing CPN-131 to exceed 50 mci

ITEM 6: For use in MC-series (500 series for 501) surface (sub-surface for 501) moisture density guage to measure various properties of construction and other materials.

ITEM 7: Khalid Malik
this person has attended the CPN corporation's authorised
training class. Copy of the training certificate is
appended with this application.

ITEM 8: Two persons will work with the equipment. They have successfuly completed the training class administered by CPN corporation (the manufacturer of the equipment). The names of the persons authorized to use the equipment are;

- 1- Khalid Malik
- 2- David Jeminez

Copies of the certificates are appended with this application.

ITEM 9: Please see the attached sketch of the storage room.

ITEM 10: RADIATION SAFELY PROGRAM

Please see the attached Radiation Safety program report

ITEM 11: Disposal of radioactive material is limited to transfering to another licensed user or return to the manufacturer.

RADIATION SAFETY PROGRAM 1. Radiation Safety Officer

- Khalid Malik has been designated as the company Radiation Safety Officer and will assume the duties and
 - responsibilities that include the following:
 - To ensure that all terms and conditions of license are being complied with and that the information contained in the license is up-to-date and accurate.
 - To ensure that the equipment has been leak tested at the required intervals and that the leak test is performed in the manner prescribed by CPN Corporation.
 - The leak test shall be carried out using CPN# TD11B leak test kit.
 - To ensure that the gauge is only used by individuals 3 . authorized by the RSO and that they use the gauge in accordance with all relevant regulations. Tris will include the wearing of a suitable radiation film badge.
 - To maintain the records as required by the license and the regulations. These records shall include personnel exposure, leak test records, and training certificates for all users.
 - To ensure that the equipment is properly secured against unauthorized removal at all times.
 - To serve as a point of contact and give assistance 6 . in case of emergency such as equipment damaged in the field or theft and to notify the proper authorities in case of emergency.
 - To ensure that all users have read and understood the radiation safety operation and emergency procedure.
 - To arrange appropriate training for new users as required.
 - 9. To post all required signs and notices for new users as required.

2. Operation Procedures

A. Transportation of Equipment

- 1. All possible means shall be provided to ensure that the equipment is fully secured in the transporting vehicle and the equipment is away from the passenger compartment. When transporting in an enclosed vehicle (car or van), the vehicle will be locked. When transporting in an open bed vehicle, the gauge should be securely fastened and locked to the truck bed.
- The gauge will be transported in the CPN transportation case. The U.S. Department of Transportation requires that the gauge be transported in a properly labeled carrying case.
- At all times while the gauge is being transported the operator will carry the required shipping papers and a copy of the emergency plan.

B. Operational Procedures

- The operator will exercise suitable control over the gauge at all times.
- Under no circumstances will the gauge be left unattended or under the supervision of an unauthorized person.
- 3. When not being used for field measurements, the gauge shall have its source mechanism locked and will be locked in its transportation case. The gauge will also be returned to the vehicle.
- 4. When testing is completed the gauge will be returned to its permanent place of storag as soon as possible.
- 5. When using the equipment operators will wear the personnel monitoring device that has been assigned to them. When the operator is not using the equipment, the monitoring device will be kept in a radiation free area, as designated by the Radiation Safety Officer.
- At all time operators will observe the principle of A.L.A.R.A

By following the ALARA principle operators will receive a radiation dose that is:

As Low as Reasonably Achievable

As required by the NRC.

C. Maintenence and Leak Test Procedures

- Periodic maintenance will include cleaning of the gauge. The operator will have received proper instruction on how to do this and will wear his film badge and observe the A.L.A.R.A while carrying this out.
- No maintenance will be performed in which the radioactive source is removed from the gauge. For this type of maintenance, the gauge will be returned to the manufacturer.
- 3. The leak test will be performed using an approved leak test kit, (such as the CPN# TD11B leak test kit) and in accordance with the manufacturer's instructions. The operator will wear their personal monitoring device while carrying this out.
- 4. The shipping case will be checked periodically to ensure all the required labels are present.

3. Emergency Procedures

- A. In the event of physical damage to a gauge, the following will be performed:
 - Immediately cordon off an area around the gauge. An area radius of (15) fifteen feet will be sufficient.
 - If a vehicle is involved, it must be stopped until the extent of contamination, if any, can be established.
 - A visual inspection of the gauge is to be made to determine if the source housing and/or shielding has been damaged.
 - 4. At the earliest possible time, when the situation is under control, you must contact (Name of Radiation Safety Officer) at (Phone). Describe the present conditions and follow the instructions of the Radiation Safety Officer.

The Radiation Safety Off r will contact the appropriate NRC office as listed below:

Region I 24 hr. telephone number (215) 337-5000

Region II 24 hr. telephone number (404) 331-4503

Region III 24 hr. telephone number (312) 790-5500

Region IV 24 hr. telephone number (817) 860-8100

Region V 24 hr. telephone number (415) 943-3700

CPN will also be contacted for advice at numbers listed below:

CPN (California Office)

(415) 228-9770

CPN (Ohio Office)

(614) 766-1276

Other contacts will be established with the NRC or local authorities for response to a damaged gauge.

B. In the event the gauge is lost or stolen, immediately notify the Radiation Safety Officer as listed above in Item 3.A.4.

NOTES:

THE KEY TO THE DOOR SHOWN ABOVE WILL BE WITH MR. KHALID MALIK
THE RADIATION SAFETY OFFICER

NO UBJECT WILL BE STORED WITHIN 10 FEET OF THE NUCLEAR TESTER

STERAGE ROOM FOR NUCLEAR DENSITY TESTER	LOCKED STEEL
LOCKED DOOR	
	12 FEET
	L

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person server party person



MC-3 violation Control For Compaction Control Acceptate and rugged Epsy fit use.

CPN

NEW MO3 PORTAPROBE

MC 9 PORTAPROBE - For Compaction Control les 'Accurate and sugged Ensy to-use.

Testing

BPN



The new MC-3 PORTAPRORE is the most accurate, rugged, and easy to use density/moisture testing instrument available today.

FEATURES

- · Automatic depth sensing
- Lightweight and portable
- Accurate and reproduceable
- Dual-depth backscatter positions
- Field service and component exchange with a screwdriver
 - · Rechargeable, extended-use battery pack
 - · Integral microprocessor for simple function selection
 - Simultaneous display of all compaction control data
 - Operator-selectable time or precision of test
 - Memory-storage of 128 readings of all displayed information
 - Data transfer capability to a PC computer or printer via RS232C serial interface
 - · Real time clock and calendar

APPLICATIONS

EARTH CONSTRUCTION

For compaction control of highways, airports, railway embankments, trench backfills and other earthworks such as dams and foundations. This precision instrument complies with ASTM STANDARD TEST METHODS D2922 & D3017, Density and Moisture Content of Soil and Soil-Aggregates in Place by Nuclear Methods.

ASPHALT PAVING

For rapid, accurate density and percent air void tests on asphalt pavements, such as highways, airports and parking lots. The MC-3 PORTAPROBE* complies with ASTM STANDARD TEST METHOD D2950, Density of Bituminous Concrete in Place by Nuclear Method.

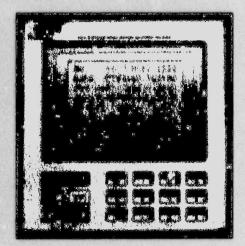
SIMPLICITY OF OPERATION

his state-of-the-art instrument otters a simple to operate but superior alternative to other methods of in-place density and moisture testing. The MC-3 operator needs minimal instruction, and unlike other instruments, the MC-3 performs its own calculations and records compaction data automatically. (See Figure for keyboard functions.)

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Field Applications: (1) asphalt pavement testing at airport: (2) foundation testing at industrial site, (3) utilization of slide hammer to prepare test hole; (4) transmission testing of earth embankments.



MC-3 Keyboard Display

MC-3 PORTAPROBE* operation is nearly foolproof. After initially entering laboratory determined values, such as maximum wet and dry densities for soils, the operator begins the test by pressing START...In less than one minute, the 160 character display can provide direct readout of all results simultaneously. The following data is

displayed in English or metric units.

- · Wet Density
- · Dry Density
- · Moisture Content
- · Percent Moisture
- · Relative Compaction
- · Percent Air Void
- · A Statistical Measure of Precision

To measure density of pavements, the PORTAPROBE* is simply positioned on a surface that is relatively smooth and free of voids. Accurate measurements of density can then be made to depths of 2.05 or 2.80" (52.1 or 71.1 mm), using the dual backscatter positions. Depth of measurement = 95% gamma return.

To measure compaction of soils, a small nole is made in the soil with a spike or slide hammer and the instrument is placed over the hole. By lowering the source rod into the hole, density measurements can be taken in 1 or 2 inch (25 or 50 mm) increments to a depth of 8 or 12 inches (200 or 300 mm).

Moisture measurements are made from the surface. The depth of measurement is from 4 to 8 inches (100 to 200 mm) without a test hole or special surface preparation.

RUGGED

There are fewer connections for greater reliability. Integrated circuits are soldered... even the battery pack is a welded assembly. Each cell is selected for load balance to provide extended use in the field.

All electronic circuits are sealed in dustproof and water resistant compartments...all printed circuit boards are coated to eliminate effects of severe environmental conditions. The MC-3, constructed of cast aluminum, is lightweight and extremely resistant to shock.

PRECISION

Instrument precision, for a one minute test at 125 pcf (2.0 gcc) wet density and 10 pcf (0.16 gcc) moisture:

Backscatter test: ± 0.50 pcf (0.008 gcc)

Transmission test: ± 0.25 pcf (0.004 gcc) 8.0" (200mm) depth

Moisture test: ± 0.25 pcf (0.004 gcc)

"OFFICIAL RECORD COPY"

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SPECIFICATIONS

ORDERING INFORMATION

No. 113082 PORTAPROBE® DENSITY/MOISTURE SURFACE GAUGE, 8" depth of measurement in 2" increments, for the on-site measurement of density and moisture content of construction materials including soils, soil aggregates, concrete and asphalt pavements. Stateof the art programmed microprocessor provides direct reading of wet density, dry density, moisture content, and relative density upon entering maximum values. Complete with molded, plastic shipping and storage case, lock and two keys, reference standard, guideplate/scraper, drill pin, lubricant, sign kit, wipe test kit and certificate, 115/230 volts AC battery charger, and battery pack of eight each welded AA NICAD batteries. Operating instructions.

No. 113081 PORTAPROBE®, same as No. MC-3-82 except with 8" depth of measurement in A" increments

No. 113122 PORTAPROBE*, same as No. MC-3-82 except with 12" depth of measurement in 2" increments.

No. 113121 PORTAPROBE*, same as No. MC-3-82 except with 12" depth of measurement in 1" increments.

Also available in metric units. Please specify when ordering

No. 101050 Campbell hammer, impact type

No. 702632 Printer, hand-held 110v

No. 702678 Printer, hand-held, 220v.

PERFORMANCE

FUNCTION:

	ments for compaction control of construction materials
RANGE: Density	70 to 170 pcf (1.120 to 2.73 gcc)
Moisture	0 to 40 pcf (0 to 0.64 gcc)
PRECISION: AC	± 0.50 pcf (0.008 gcc) (at 125 pcf)
(One Minute Transmission	on ±0.25 pcf (0.004 gcc) (at 125 pcf)
Test) Moisture .	±0.25 pcf (0.064 gcc) (at 10 pci)
CHEMICAL ERROR: BS	± 1.00 pcf (0.016 gcc)
Moisture PRECISION: AC (One Minute Transmissic Test) Moisture	0 to 40 pcf (0 to 0.64 gcc) ±0.50 pcf (0.008 gcc) (at 125 pcf) bp ±0.25 pcf (0.004 gcc) (at 125 pcf) ±0.25 pcf (0.064 gcc) (at 10 pci)

In-place density/moisture measure-

Transmission .. ±0.75 pcf (0.012 gcc) ROUGHNESS ERROR: BS -4.00 pcf (0.064 gcc) Transmission ... -0.56 pcf (0.008 gcc) (0.05") COUNT TIME User selectable fixed time or

POWER..... Battery pack of 8 ea. welded AA

NICADS

constant precision

CONSUMPTION 10 mA avg. Allows more than 600

1-minute tests

RECHARGE 14 hours at C/10 via wall charger. liquid crystal display (8 line by 20 characters.) Easily readable in direct

sunlight.

UNITS User selectable; pcf. gcc, and cpm. 128 readings of all displayed infor-MEMORY-STORAGE mation. May be uploaded to a PC

computer via RS232C serial

interface.

.Factory calibration or keypad entry CALIBRATION

of coefficients

Radiological:

GAMMA SOURCE:	10 mCi (370 MBq) Cesium-137
NEUTRON SOURCE:	50 mCi (1.85 × 103 MBq)
	Americium-241/Be
ENCAPSULATION:	Double sealed Capsule, CPN 131
DOSE RATE AT HANDLE:	Less than 0.5 mr.cm/hr.
SHIPPING:	Radioactive Material, Special Form,

N.O.S., UN2974 Transport Index 0.4 Yellow II Label

USA DOT 7A, Type A Package

SPECIAL FORM APPROVAL: USA/0150/8

An NRC or agreement state license is required for domestic use. Contact CPN Corp. for assistance in obtaining the operator training required for a license.

SERVICE

The modular design of the MC-3 allows repairs by simple component exchange. Replacement parts can be shipped within one working day.

TRAINING

CPN Corp. offers comprehensive training on the use of CPN instruments, either at your facility or ours. Training topics include safety, equipment operation, applications and field maintenance.

DIMENSIONS/SHIPPING WEIGHTS

MODEL NUMBER	WIDTH	DEPTH	HEIGHT	WEIGHT
INSTRUMENT MC-3-82, 41 MC-3-122, -121	14.1* (358 mm) 14.1* (358 mm)	9.4* (240 mm) 9.4* (240 mm)	22.8* (579 mm) 26.8* (681 mm)	30 lbs. (13.6 kg.) 31 lbs. (14.1 kg.)
INSTRUMENT & CARRYING CASE MC-3-82, -81 MC-3-122, -121	26* (660 mm) 30* (762 mm)	15" (381 mm) 16" (406 mm)	16.5" (419 mm) 16.5" (419 mm)	75 lbs. (34.0 kg.) 78 lbs. (35.4 kg.)



CORPORATION

2830 Howe Road Martinez, California 94553 (415) 228-9770 Telex 17-1289 CPN-UD MIDWEST

6185-D Shamrock Court Dublin (Columbus), Ohio 43017 (614) 766-1276

NORTHWEST P.O. Box 84055 Vancouver, WA 98684 (206) 699-0676



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	: (FOR LFMS USE) : INFORMATION FROM LTS
BETWEEN:	
LICENSE FEE MANAGEMENT BRANCH AND REGIONAL LICENSING SECTIONS	: STATUS CODE: 3 : FEE CATEGORY: : EXP. DATE: 0 : FEE COMMENTS: 170'116 (
LICENSE FEE TRANSMITTAL	Contalded: 1
A. REGION I	
LICENSE NO.: NEW	815 30756 417
AMOUNT: CHECK NO.:	
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B. LICENSE FEE MANAGEMENT BR	ANCH THECK WHEN MILESTONE OF IS ENTERED ! TO
1. FEE CATEGORY AND AMOUNT:	
2. COFRECT FEE PAID. APPLI AMENDMENT RENEWAL LICENSE	CATION MAY BE PROCESSED FOR: 170.11(9)(9)
3. OTHER	SIGNED S.Kimhxley