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| FORM NRC-313 I (3-80) 10 CFR 30 | | U.S. NUCLEAR REGULATORY COMMISSION | | 1. APPLICATION FOR: (Check and/or complete as appropriate) | |
| APPLICATION FOR BYPRODUCT MATERIAL LICENSE INDUSTRIAL | | | | a. NEW LICENSE b. AMENDMENT TO: LICENSE NUMBER c. RENEWAL OF: LICENSE NUMBER 49-17002-01 | |
| 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.) Chen & Associates, Inc. TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION (307) 234-2126 | | | 3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION Raymond Martinez-Field Engineer Supervisor TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION (307) 234-2126 | | |
| 4. APPLICANT'S MAILING ADDRESS (Include Zip Code) (Address to which NRC correspondence, notices, bulletins, etc., should be sent.) Chen and Associates, Inc. 900 East "F" Street Casper, Wyoming 82601 | | | 5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED (Include Zip Code) See attached sheet | | |
| (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. | See attached sheet | RECEIVED BY LFMB Date... 5/19/81 Log... By... Debm | | Applicant... 4814 Check No... Amount/Fee Category... \$110 (34) Fee of Fee... Renewal Check Recd... 5/19/81 By... Debm | |
| 7. RADIATION PROTECTION OFFICER | | Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15. | | | |
| Raymond Martinez | | Orig. To... Action Compl... 5/19/81 See attached sheet | | | |
| 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 | Troxler Laboratories Models 3401, 3411, 3411B | Not to exceed 9 mill-icuries per source | |
| (2) | American 241: Beryllium | Sealed Source | Troxler Laboratories Models 3401, 3441, 3411B | Not to exceed 40 mill-icuries per source | |
| (3) | | | | | |
| (4) | | | | | |
| DESCRIBE USE OF LICENSED MATERIAL E | | | | | |
| (1) | For use in Troxler Models 3401, 3411, and 3411B gauges for measurement of moisture | | | | |
| (2) | and density. | | | | |
| (3) | 8508300483 850626 REG4 LIC30 49-17002-01 PDR | | | | |
| (4) | | | | | |

9. STORAGE OF SEALED SOURCES

| LINE NO. | CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED. | NAME OF MANUFACTURER | MODEL NUMBER |
|----------|---|---------------------------------------|----------------------|
| | A. | B. | C. |
| (1) | Surface Moisture Density Gauge | Troxler Electronic Laboratories, Inc. | 3401, 3411 and 3411B |
| (2) | | | |
| (3) | | | |
| (4) | | | |

10. RADIATION DETECTION INSTRUMENTS

| LINE NO. | TYPE OF INSTRUMENT | MANUFACTURER'S NAME | MODEL NUMBER | NUMBER AVAILABLE | RADIATION DETECTED (alpha, beta, gamma, neutron) | SENSITIVITY RANGE (milliroentgens/hour or counts/minute) |
|----------|--------------------|---------------------|--------------|------------------|---|---|
| | A | B | C | D | E | F |
| (1) | N/A | | | | | |
| (2) | | | | | | |
| (3) | | | | | | |
| (4) | | | | | | |

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☐ a. CALIBRATED BY SERVICE COMPANY

NAME, ADDRESS, AND FREQUENCY

N/A

☐ b. CALIBRATED BY APPLICANT

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

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 <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD) <input type="checkbox"/> (3) OTHER (Specify): _____ _____ _____ | Siemens Gammasonics, Inc. Health Physics Services Box 1367 Des Plaines, Illinois 60018 | <input checked="" type="checkbox"/> MONTHLY <input type="checkbox"/> QUARTERLY <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

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.

In the event it becomes necessary to dispose of a source, the 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.
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.

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|---|--|
| <p>a. LICENSE FEE REQUIRED (See Section 170.31, 10 CFR 170)</p> <p>\$110.00</p> | <p>b. CERTIFYING OFFICIAL (Signature)</p> <p><i>Raymond Martinez</i></p> |
| <p>(1) LICENSE FEE CATEGORY: <input checked="" type="checkbox"/> A</p> | <p>c. NAME (Type or print)</p> <p>Raymond Martinez</p> |
| <p>(2) LICENSE FEE ENCLOSED: \$110.00</p> | <p>d. TITLE</p> <p>Field Engineer Supervisor</p> <p>e. DATE</p> <p>May 8, 1981</p> |

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INDUSTRIAL

- (5) STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED: Licensed material may be used at the licensee's facility listed in item (4); at 2150 South Major, Salt Lake City, Utah; and at temporary job sites of the licensee any where in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.

- (6) INDIVIDUALS WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL:

| <u>Name</u> | <u>Title</u> |
|------------------|---------------------------|
| Raymond Martinez | Field Engineer Supervisor |
| Arhtur Rothmeyer | Laboratory Supervisor |
| Daniel T. Herrin | Field Engineer |
| David Young | Field Engineer |
| Douglas Graves | Field Engineer |
| Daniel Holmes | Field Engineer |
| Donald Parker | Field Engineer |
| Timothy Woster | Field Engineer |
| Tom McMullen | Field Engineer |
| Bert Jones | Field Engineer |
| Jeff Huwe | Field Engineer |
| Richard Buxton | Field Engineer |
| Louí Romero | Field Engineer |

inter in Condition 12
⑧ individuals who have completed the Troxler training program for gauge users and who have been designated by the Radiation Safety Officer, (name)

- (7) RADIATION PROTECTION OFFICER: All personnel have attended the training course presented by Troxler Electronic Laboratories, Inc.

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(15) RADIATION PROTECTION PROGRAM - Instructions during field use:

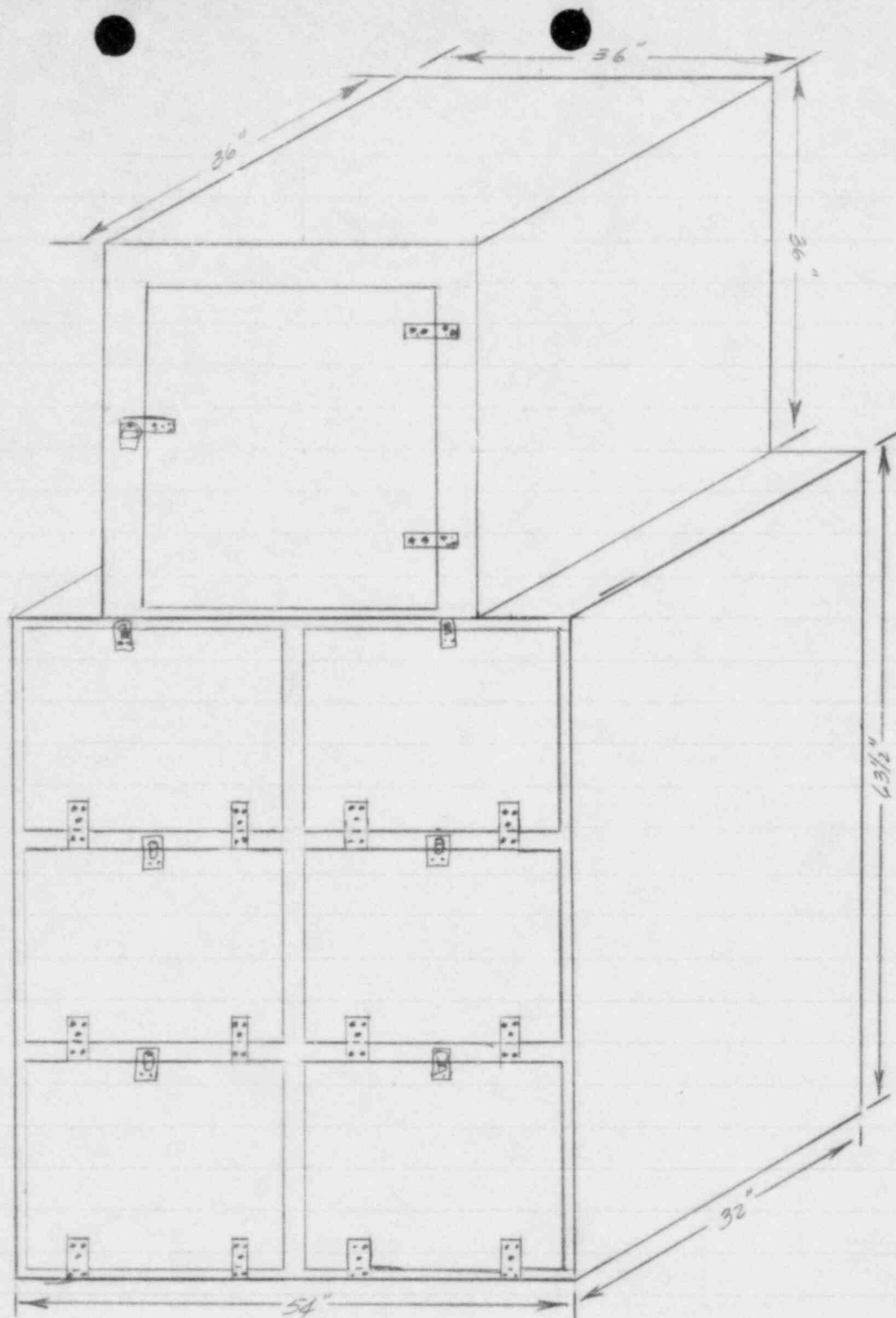
- (1) Do not operate or attempt to operate a gauge unless you have been authorized to do so.
- (2) Keep the gauge in the "SAFE" or storage position when not in use.
- (3) Wear a film badge or other radiation measurement device at all times while operating or transporting a gauge.
- (4) Keep unauthorized persons away from the gauge.
- (5) Be sure that the gauge is locked up or otherwise secured when it is not in use.
- (6) Follow established operating procedures when using the gauge.
- (7) Insure that the gauge is leak tested at proper intervals.
- (8) If a gauge is involved in an accident where physical damage has occurred to the source, notify your Radiological Safety Officer, IMMEDIATELY.
- (9) If a gauge is lost or stolen also advise your Radiological Safety Officer, IMMEDIATELY.
- (10) The Radiological Safety Officer will in the event of an accident notify the U.S. Nuclear Regulatory Commission, Region IV, Office of Inspector and Enforcement, 611 Ryan Plaza Drive, Suite 1000, Arlington, Texas 76012, telephone number (817) 334-2841.
- (11) The leak test is performed by using the Troxler type 3880 Leak Test Kit.

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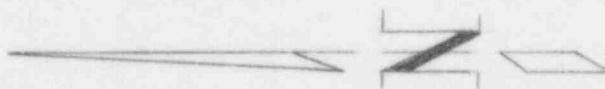
- (16) FORMAL TRAINING IN RADIATION SAFETY - Each individual named in item (6) has attended the course presented by Troxler Electronic Laboratories, Inc.

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- (17) EXPERIENCE - Each individual's work experience with radiation consists of working with a sealed source and has attended the training course presented by Troxler Electronic Laboratories, Inc.



- NOTE:
1. MADE OF 3/4" PRESSED WOOD
 2. DOOR ARE LOCKED AT ALL TIMES WHEN DEVICE IS STORED
 3. BOXES ARE CLEARLY MARKED W/ RADIATION SYMBOLS



SCALE 1" = 10'

07888

chen and associates, inc.
CONSULTING ENGINEERS

CA-13

JOB NO. _____ JOB TITLE _____ DATE _____ BY _____
SUBJECT _____ CHECKED _____ SHEET _____ OF _____