

APPENDIX A
APPLICATION FOR MATERIAL LICENSE

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

FEDERAL AGENCIES FILE APPLICATIONS WITH:

U.S. NUCLEAR REGULATORY COMMISSION
DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS
WASHINGTON, DC 20555

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS, IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION I
NUCLEAR MATERIAL SECTION B
531 PARK AVENUE
KING OF PRUSSIA, PA 19406

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION II
MATERIAL RADIATION PROTECTION SECTION
101 MARIETTA STREET, SUITE 2900
ATLANTA, GA 30323

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION III
MATERIALS LICENSING SECTION
799 ROOSEVELT ROAD
GLEN ELLYN, IL 60137

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
MATERIAL RADIATION PROTECTION SECTION
511 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TX 76011

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION V
MATERIAL RADIATION PROTECTION SECTION
1450 MARIA LANE, SUITE 210
WALNUT CREEK, CA 94596

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTION.

1. THIS IS AN APPLICATION FOR (Check appropriate item)

- ☐ A. NEW LICENSE
☐ B. AMENDMENT TO LICENSE NUMBER _____
☒ C. RENEWAL OF LICENSE NUMBER 24-20301-01

2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip Code)

Craig Bowers
P.O. Box 52
Kirksville, Missouri 63501

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Temporary job sites in States subject to NRC's regulatory authority.

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Craig R. Bowers

TELEPHONE NUMBER

816-665-1040

SUBMIT ITEMS 5 THROUGH 11 ON 8 1/2 x 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL

a. Element and mass number, b. chemical and/or physical form, and c. maximum amount which will be possessed at any one time

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS

9. FACILITIES AND EQUIPMENT

10. RADIATION SAFETY PROGRAM

11. WASTE MANAGEMENT

12. LICENSEE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY 49 FR 21293P AMOUNT ENCLOSED \$120.00

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

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, AND 40 AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR 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.

SIGNATURE—CERTIFYING OFFICER

TYPED-PRINTED NAME

TITLE

DATE

Craig R. Bowers

Craig R. Bowers

Owner

6-23-87

A. ANNUAL RECEIPTS

☒ <\$250K
☐ \$250K - \$500K
☐ \$500K - \$750K
☐ \$750K - \$1M

B. NUMBER OF EMPLOYEES (Note: for entire facility excluding outside contractors)

3

C. NUMBER OF BEDS

D. VOLUNTARY ECONOMIC DATA

8. WOULD YOU BE WILLING TO FURNISH COST INFORMATION (Data and/or staff hours) ON THE ECONOMIC IMPACT OF CURRENT NRC REGULATIONS OR ANY FUTURE PROPOSED NRC REGULATIONS THAT MAY AFFECT YOU? (NRC regulations permit it to protect confidential commercial or financial—proprietary—information furnished to the agency in confidence)

☐ YES

☐ NO

FOR NRC USE ONLY

TYPE OF FEE

FEE LOG

FEE CATEGORY

COMMENTS

APPROVED BY

REN

June -18

3P

RECEIVED

AMOUNT RECEIVED

CHECK NUMBER

\$620

23/8

JUN 25 1987

DATE

JUN 25 1987

8804250277 870914

REG3 LIC30

24-20301-01

PDR

15

CONTROL NO 83760

PRIVACY ACT STATEMENT

Pursuant to 5 U.S.C. 552a(e)(3), enacted 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 1954, as amended (42 U.S.C. 2111 and 2201(b)).
2. **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 1954, as amended, and the Commission's regulations, for the issuance of a radioactive material license or amendment thereof.
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 persons in the event of incident or exposure, for their information, investigation, 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 the document.
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
Washington, D.C. 20555

Item 5. Radioactive Material

1. Element & Mass Number ----- Cs-137
2. Physical Form ----- Sealed Source
3. Maximum Source Size ----- No single source to
exceed 9 mci
4. Gauge Type ----- Troxler Model 1351 Nuclear
Depth Density Gauge

Item 6. Purpose

For use in Troxler Model 1351 or 1352 depth density gauge to measure subsurface density of soil and coal stockpiles.

Item 7. Training & Experience

Craig R. Bowers -

Craig R. Bowers will be the designated Radioactive Safety Officer

He has attended the standard training course given by the Troxler Electronic Laboratories. This course was given on 6-9-79. Topics covered included principles and practices of radiation protection, radioactivity measurement standardization and monitoring techniques and instruments, mathematics and calculations basic to the use and measurement of radioactivity, and biological effects of radiation.

Has worked with the Troxler 1351 nuclear depth probe, the Troxler 3420 B series of surface nuclear gauges, and similar gauges built by Seamen Nuclear for the past 9 years. The instruments were used for measurement of density and moisture content of soils and coal stockpiles.

Item 8. Training For Individuals Working In Or Frequenting Restricted Areas

The nuclear device will be used only by individuals who have completed the Device Manufacturers Training Program. Records documenting the training of such employees will be maintained for 2 years from the date the training is completed.

Item 9. Facilities and Equipment

Licensed material stored in an unrestricted area and not in storage will be tended under the constant surveillance and immediate control of the licensee. The device will be stored in a locked enclosure in a way that will prevent access by unauthorized persons.

10.1 Radiation Safety Program

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Personnel monitoring equipment will be used by individuals entering restricted areas who receive or are likely to receive a dose in excess of 25% of the following doses. 1.25 rems to the whole body, head, and trunk, active blood forming organs, or gonads; 18.75 rems to the hands & forearms or feet and ankles; and 7.50 rems to the skin of the whole body. These doses are per calendar quarter.

Film badges will be used for monitoring of personnel and badges will be changes each month.

Item 10.2 Leak Testing

Leak tests for each source will be performed at 6 month intervals. The measurement of the leak test sample will be quantitative and be sufficiently sensitive to detect 0.0005 microcurie of radioactivity.

Test samples will be taken by Craig Bowers using the Troxler Model 3880 leak test kit or other approved equal. Troxler Electronics, 3008 Cornwallis Road, Research Triangle Park, N.C.

Item 10.3 Maintenance

Maintenance performed on the gauge will be done with the source safely shielded.

10.4 Transportation of Devices To Field Locations

Packing and transport of the devices will be carried out in accordance with applicable DOT regulations.

10.5 Operating and Emergency Procedures

Written operating and emergency procedures will be provided to each person who uses the gauge. The following procedures would be covered.

- 1) Use of personnel monitoring
- 2) Use of the device
- 3) Storage of the device
- 4) Transportation
- 5) Emergency procedures

11. Waste Management

Disposal of the nuclear sources will be by transfer to an authorized recipient who is a licensee specifically authorized to possess it.

U.S. NUCLEAR REGULATORY COMMISSION

INSTRUCTIONS FOR PREPARATION OF
APPLICATION FOR BYPRODUCT MATERIAL LICENSE

FORM NRC-313 (I)

030-18219
24-20301-0

GENERAL INFORMATION

An applicant for a "Byproduct Material (Radioisotopes) License," should complete Form NRC-313 (I) in detail and submit in duplicate to the U.S. Nuclear Regulatory Commission. The applicant should endeavor to cover his entire radioisotope program with one application, if possible. However, separate applications should be submitted for gamma irradiators. Applications for medical uses should be submitted on Form NRC-313 (M) and applications for use of sealed sources in radiography should be submitted on Form NRC-313R. Supplemental sheets may be appended when necessary to provide complete information. *Item 18 must be completed on all applications. Submission of an incomplete application will often result in a delay in issuance of the license because of the correspondence necessary to obtain information requested on the application.*

NOTE. —When the application includes one of the special uses listed below, the applicant should request the appropriate pamphlet which provides additional instructions:

1. Industrial Radiography—"Licensing Requirements for Industrial Radiography" (use application Form NRC-313R for Radiography);
2. Laboratory or Industrial Uses of Small Quantities—"Guide for Preparation of Applications for Laboratory and Industrial Uses of Small Quantities of Byproduct Material."

3. Broad License (research and development)—"Licensing Guide for Type-A Licenses of Broad Scope for Research and Development;"
4. Licensing Guides for the performance of well logging operations.
5. Licensing guide for the use of sealed sources in portable and semi-portable gauging devices.

The Commission charges fees for filing of applications for licenses as specified in Section 170.12, Title 10, Code of Federal Regulations, Part 170. The applicant should refer to Section 170.31, *Schedule of fees for materials licenses*, to determine what fee should accompany the application. No action can be taken on applications until fees are paid. Checks or money orders should be made payable to the U.S. Nuclear Regulatory Commission.

Two copies of the completed Form NRC-313 (I) and two copies of each attachment thereto, should be sent to the Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. One copy should be retained for the applicant's file. Applications may also be filed in person at the Commission's office at 1717 H Street, N.W., Washington, D.C. or at 7915 Eastern Avenue, Silver Spring, Maryland.

EXPLANATION OF FORM NRC-313 (I)

Form NRC-313 (I) is designed for use in supplying information on programs of varying complexity. The applicant should provide complete information on his proposed program for the possession and use of licensed material. For those items that do not apply, indicate as N.A. (not applicable).

Item No.

1. Self-explanatory
2. The "applicant" is the organization or persons legally responsible for possession and use of the licensed materials specified in the application.
3. Self-explanatory
4. Self-explanatory

5. The actual sites of use should be listed as indicated. Permanent facilities such as field offices for portable gauges or devices should be identified in Item 5 by Street, Address, City and State. Temporary field locations of use should be specified as "temporary job sites of the applicant" and list the States throughout which the temporary job sites will be located. Attach additional properly keyed sheet if more space is needed.
6. Self-explanatory
7. The "Radiation Protection Officer" is the named individual who is expected to coordinate the safe use of the licensed material specified in the application and who will ensure compliance with the applicable parts of Title 10, Code of Federal Regulations.

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8. List by name each radioisotope to be possessed and used under the license. Example:

A	B
(1) Iodine-131	(1) Iodide
(2) Iodine-131	(2) Iodinated Human Serum Albumin
(3) Krypton-85	(3) Gas
(4) Cesium-137	(4) Sealed Source

C	D
(1) Not Applicable	(1) 10 millicuries
(2) N. A.	(2) 1 millicurie
(3) N. A.	(3) 1 millicurie
(4) Iso. Corp Model Z-78	(4) 2 source of 150 millicuries each

Attach additional properly keyed sheets if more space is needed.

8.E State the use of each licensed material listed in 8. B, C, and D.

9. Description of containers and/or devices in which sealed sources listed in Item 8 will be stored or used. Example:

A	B
(1) #4 - Source housing	Iso. Corp

C
Model Z-278

10-18 Self-explanatory. (For those items that do not apply, indicate as N.A. (not applicable).)

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1. AUTHORITY Sections 81 and 161(b) of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2111 and 2201(b)).
2. PRINCIPAL PURPOSE(S) The information is evaluated by the NRC staff pursuant to the criteria set forth in 10 CFR Parts 30-36 to determine whether the application meets the requirements of the Atomic Energy Act of 1954, as amended, and the Commission's regulations, for the issuance of a byproduct material license or amendment thereof.
3. ROUTINE USES The information may be used: (a) to provide records to State health departments for their information and use; and (b) to provide information to Federal, State, and local health officials and other persons in the event of incident of exposure, for their information, investigation, 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 a NRC decision or to an appropriate Federal agency to the extent relevant and necessary for that agency's decision about you. A copy of the license issued will routinely be placed in the NRC's Public Document Room, 1717 H Street, N. W., Washington, D.C.
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 byproduct material license, or amendment thereof, will not be processed.
5. SYSTEM MANAGER(S) AND ADDRESS Director, Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.