

APPLICATION FOR MATERIAL LICENSE

MAY 14 1985

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
631 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
611 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 49-17749-01
☐ C. RENEWAL OF LICENSE NUMBER _____

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

Thunder Basin Coal Company
P.O. Box 406
Wright, Wyoming 82732

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

Possessed: Black Thunder Mine
Black Thunder Mine
P.O. Box 406
Wright, Wyoming 82732
Used at: Black Thunder Mine and Coal Creek Mine
P.O. Box 546
Wright, Wyoming 82732
NRC Materials License #49-19694-01

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Dean L. Roberts

TELEPHONE NUMBER

(307)464-1100, Ext. 295

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 3E AMOUNT ENCLOSED \$ 40.00

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

Dean L. Roberts Dean L. Roberts Senior Permits Coordinator 5/9/85

14. VOLUNTARY ECONOMIC DATA

a. ANNUAL RECEIPTS

< \$250K	\$1M-3.5M
\$250K-500K	\$3.5M-7M
\$500K-750K	\$7M-10M
\$750K-1M	> \$10M

b. NUMBER OF EMPLOYEES (Total for entire facility excluding outside contractors)

c. NUMBER OF BEDS

d. WOULD YOU BE WILLING TO FURNISH COST INFORMATION (Dollar 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

COM

8508120045 850708
REG4 LIC30
49-17749-01 PDR

APPROVED BY

DATE

AMOUNT RECEIVED

CHECK NUMBER

312219/312
306

#404 / #20

460637

6/13/85

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

Application for Material License (cont.)

5. Radioactive Materials

- a. Element and mass number
Cesium - 137
Americium - 241
- b. Chemical and/or physical form:
Sealed source (Troxler Laboratories Models
A-102112; A-102451)
- c. Maximum amount which will be possessed at any one time:
No single source to exceed 8 millicuries Cesium
137 and 44 millicuries Americium - 241

6. Purpose(s) for which licensed material will be used:

To be used in Troxler Laboratories Model 3411B density/moisture gauge for the measurement of density and moisture of construction materials at the Black Thunder and Coal Creek Mines.

7. Individual responsible for Radiation Safety Program and their training and experience:

Michael K. Fielder is the radiation protection officer for all on-site licensed materials. Mr. Fielder attended, on January 24 through 27, 1978, a four day course entitled "Installation and Nuclear Radiation Safety Course" (certificate attached), conducted by Kay Ray, Inc. This formal training included (a) principles and practices of radiation safety; (b) radioactivity measurement standardization and monitoring techniques and instruments; (c) mathematics and calculations basic to the use and measurement of radioactivity; and (d) biological effects of radioactivity. Mr. Fielder has also received on the job training by Kay Ray, Inc. After receipt of this requested license amendment, a representative of Troxler Laboratories will conduct training applicable to the use of the Troxler Laboratories Model 3411B density/moisture gauge.

The following individuals will also receive formal training by the Troxler representative:

<u>Name</u>	<u>Title</u>
Rich Heig	Engineer
Karen Wenig	Engineer
Rebecca Rice	Engineer
David Southern	Engineer
Roger Mourich	Engineer
Marvin Senne	Engineer
Richard Nelson	Safety Advisor
Daniel Lucy	Safety Advisor
Jerry Bonsness	Plant Supervisor
Richard Jaramillo	Plant Supervisor
George DeLong	Plant Supervisor
Loren Dobyns	Plant Supervisor
John Homnack	Electronic Technician

Application for Materials License (continued)

8. Training for individuals working in or frequenting restricted areas.

Prior to working with or in the areas of use of the Troxler density gauge, all employees will be made aware of the regulations contained in 10 CFR Chapter 1, Parts 19 and 20.

The individuals will be instructed in the following areas:

- o nature of radiation
- o instruments for detection of radiation
- o biological effects of radiation
- o natural background
- o potential exposure
- o individual protective measures

9. Facilities and equipment.

When not in use, the gauge will be maintained under the control of the Engineering Department at Coal Creek Mine. Unauthorized removal will be prevented by being kept in a locked room controlled by the Engineering Department. Enclosed is a map showing the location where the density gauge will be kept when not in use.

10. Radiation Safety Program

When not in use, the gauge will be stored under the supervision of the Engineering Department. The gauge is not to be used unless the individual has received approved training and is listed on the NRC Material License or is under the direct supervision of one who has received approved training.

When obtaining the gauge from the Engineering Department, the operator must also check out a TLD (Thermoluminescence dosimeter) which must be worn at all times when operating or transporting the gauge. The TLD badges will be issued by the Medical Department. Upon receipt of the gauge, visually inspect for damage and proper working condition.

When transporting the gauge, the probe must be in the retracted and locked position. The gauge must be secured to prevent unnecessary damage while being transported. The gauge must not be transported in the passenger compartment of the transporting vehicle.

The gauge is to be used by only the individual who is authorized to use it. It must not be used at locations other than Black Thunder or Coal Creek Mines. The user must never leave the gauges unattended.

The gauge must be returned to the Engineering Department at the end of each workday. Under no circumstances will the user keep the gauge overnight. The gauge will be stored at the Coal Creek Mine Change House in a locked room controlled by the Engineering Department.

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Application for Materials License (continued)

At no time is maintenance to be performed on the gauge which would possibly involve the dismantling or removal of the nuclear source holder. Maintenance involving the source holder must only be performed by the manufacturer of the device.

The following procedure will be followed in the event of damage to the source housing:

1. This procedure applies to all instances where damage is incurred by the source holder due to such action as fire, explosion or other accident involving possible damage to the source(s) or their contents including loss or theft of the source.
2. Immediately rope off the area around the source holder to a minimum of 15 feet in diameter.
3. Inform plant Radiation Protection Officer or person responsible for the use of the source as to the situation.
4. Inform by phone or telegram the regional NRC office of the accident.
5. Notify Troxler at (919)549-8661 if their assistance is desired.
6. In the event of an emergency involving possible damage to the source holder, its shielding or contents - the area around the source holder will be barricaded and posted until evaluated for hazard by a person qualified by license to perform such service.

Procedures to be followed for leak testing

1. Each sealed source shall be tested for leakage and/or contamination at intervals not to exceed six months. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, a sealed source received from another person shall not be put into service until tested. The periodic leak test required by this condition does not apply to sources that are stored and not being used. Sources removed from storage shall be tested for leakage prior to any use or transfer to another person if stored for longer than six months.
2. The test shall be capable of detecting the presence of 0.005 microcuries of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device on which contamination may accumulate. Records of leak test results shall be kept on file and maintained for inspection by the Commission. The results shall be reported in microcuries.

Application for Materials License (continued)

3. If the leak test reveals the presence of 0.005 microcuries or more of removal contamination, the licensee shall immediately withdraw the sealed source from use. The source shall be decontaminated and repaired or disposed of in accordance with NRC regulations. A report shall be filed within five (5) days of receipt of the test results with the U.S. Nuclear Regulatory Commissioner, Region IV, Office of Inspection and Enforcement, 611 Ryan Plaza Drive, Suite 1000, Arlington, Texas 76012, describing the equipment involved, test results and corrective action taken.
4. Safety personnel will perform the leak tests. Only leak test kits which have been approved by the NRC will be used.

11. Waste Disposal

When the sealed sources are no longer needed, the sources will either be returned to the manufacturer for disposal or transferred to another licensee authorized to possess the specific quantity and form contained in the sources.

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KAY-RAY KAY-RAY INC.

INDUSTRIAL PROCESS CONTROL EQUIPMENT

516 West Campus Drive • Arlington Heights, Illinois 60004 • (312) 259-5600 • TELEX: 28-2536 • CABLE: KAYRAY

To Whom it May Concern:

C E R T I F I C A T I O N O F T R A I N I N G

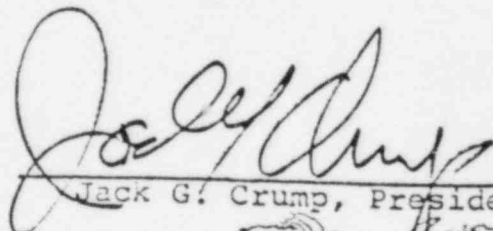
Name: MICHAEL K. FIELDER

Affiliation: Thunder Basin Coal Company

The above named individual has successfully completed the Installation and Nuclear Radiation Safety Training Course offered by Kay-Ray, Inc., consisting of the following curriculum:

- * Principles and practices of radiation protection
- * Monitoring radiation levels using Geiger counters
- * Radiation exposure limits
- * Radiation areas defined
- * Calculating radiation levels from known gamma source size and distances
- * Calculating dose rates of typical installation
- * Leak testing Kay-Ray Source Housings
- * Safety practices required for the use and handling of Kay-Ray Source Housings
- * Installation of Source Housings Demonstration and Hands-on Installation

This training course consists of formal discussions, practical applications, leak testing, specific installation discussions, and hands-on installation completion with related forms for record keeping.


Jack G. Crump, President

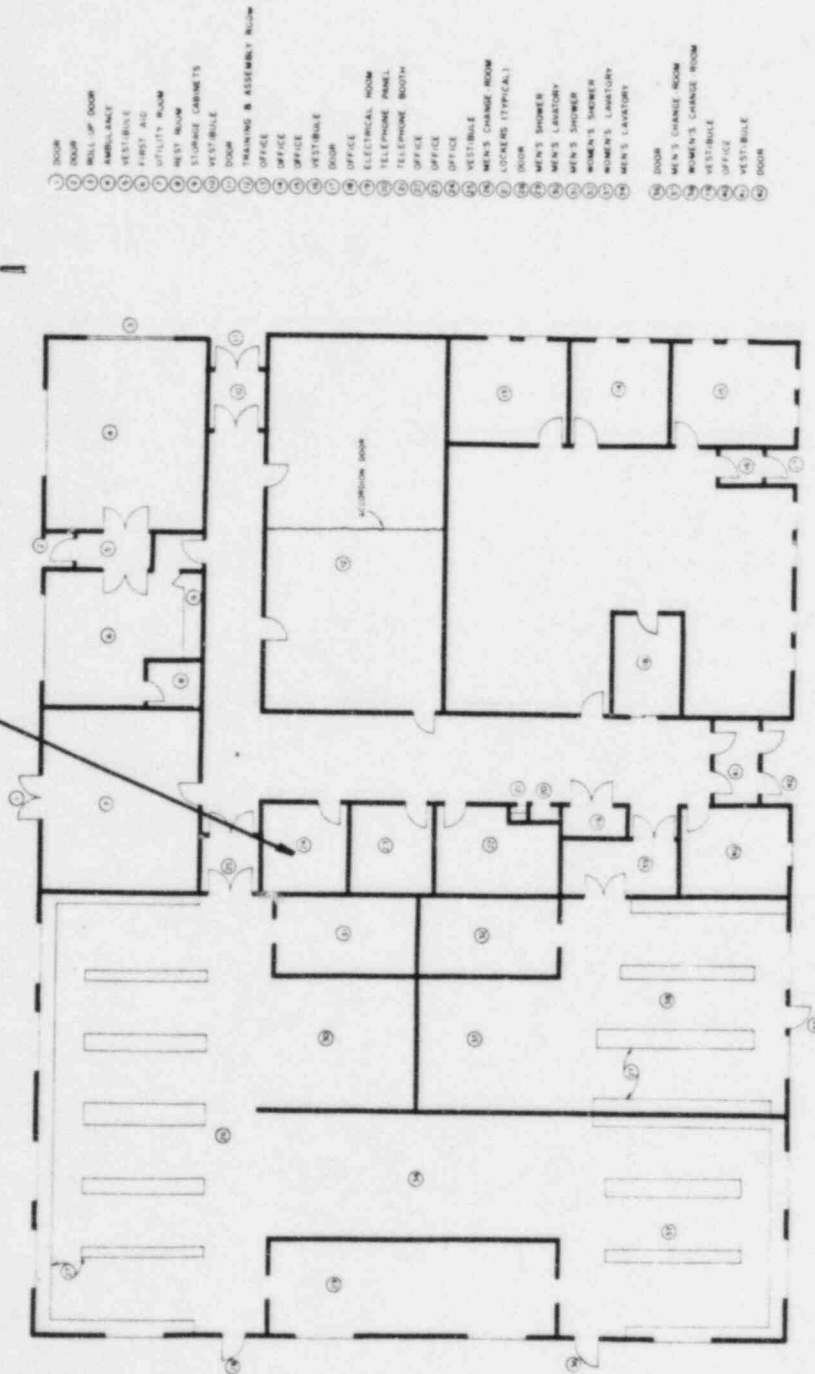
SERVICE TELEPHONE NUMBER: 259-9244

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GAUGE STORAGE ROOM



Thunder Basin Coal Company
Coal Creek Mine, Wright, Wyoming 82732

CHANGEHOUSE

Project Number	2000	Sheet	1
Date	10/1/00	Drawn	JLP
Checked	10/1/00	Scale	1" = 10'
Revised		Notes	
		7	

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