NRC FORM 313
(1-84)
10 CFR 30, 32, 33, 34, 35 and 40

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED BY OMB
3150-0120
Expires: 5-31-87

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
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 _____
- [X] C. RENEWAL OF LICENSE NUMBER 49-19694-01

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.

Used and possessed at
Coal Creek Mine
P.O. Box 546
Wright, Wyoming 82732

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Dean L. Roberts

TELEPHONE NUMBER

(307)939-1300

SUBMIT ITEMS 5 THROUGH 11 ON 8½ 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

8801220083 870812
REG4 LIC30
49-19694-01 PDR

10. RADIATION SAFETY PROGRAM.

11. WASTE MA

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

FEE CATEGORY

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
Lyle D. Randen	Lyle D. Randen	Manager, Health, Safety & Environment	3/18/86

14. VOLUNTARY ECONOMIC DATA

a. ANNUAL RECEIPTS

- [ ] < $250K
- [ ] $250K – 500K
- [ ] $500K – 750K
- [ ] $750K – 1M
- [ ] $1M – 3.5M
- [ ] $3.5M – 7M
- [ ] $7M – 10M
- [ ] > $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	COMMENTS	APPROVED BY
Renewal	Mar 31	3P		L. Jackson
AMOUNT RECEIVED	CHECK NUMBER			DATE
$120	316900			3/28/86

PRIVACY ACT STATEMENT ON THE REVERSE

460994

Application for Material License Renewal (continued)

5. Radioactive Materials

   a. Element and mass number
      Cesium - 137

   b. Chemical and/or physical form:
      Sealed source (Texas Nuclear Model 570-57157C
      Omart Model 4100)

   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 Texas Nuclear Model Numbers 5192 and 5193 source holders for density/level gauge measurements. To be used in the Omart 4100 source holder for measurements.

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

   Loren K. Dobyns is the radiation protection officer for all on-site licensed materials. Mr. Dobyns attended, on November 1 through 5, 1982, 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. Dobyns has also received on the job training by Kay Ray, Inc.

   The following individuals have also received training in the use of nuclear sealed source instruments:

Name	Title
Rich Heig	Engineer
Karen Wenig	Engineer
Rebecca Rice	Engineer
Roger Mourich	Engineer
Marvin Senne	Engineer
Richard Nelson	Safety Advisor
Daniel Lucy	Safety Advisor
Jerry Bonsness	Plant Supervisor
George DeLong	Plant Supervisor

460994

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

Prior to working with or in the areas of use of the density/level gauges, 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.

See the enclosed location layout drawings showing the locations of the sealed sources.

10. Radiation Safety Program

Based upon working conditions and physical accessibility it is estimate that 1 person would routinely be within 3 feet of any of these devices 1 hour per week.

The personnel will be instructed as to size and location of the beam, the radiation levels in the beam and will be cautioned that unless the shutter is Closed the radiation levels are significant. The devices have the capability of producing high level radiation between the source holder and detector. However, the combination of:

1) During normal operation no individual has access to the vessel. The contained material and operating parameters preclude the access of any major portion of the body to the radiation field. Only authorized personnel are allowed to change the operating parameters;

2) Personnel are instructed to CLOSE the gauge shutter when the operation is stopped and/or work must be done in any vessel being monitored;

3) If the operation is to be shut down for any extended period of time or extensive work is to be done on the vessel, the radiation safety officer will be notified to insure that the shutter is locked in the CLOSED position and remains locked during this period of time;

4) Signs displaying "Caution Radiation" and standard symbol stating that the shutter must be CLOSED and the radiation safety officer notified prior to entering the vessel being monitored, will be posted at installation;

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5) The general inaccessibility of these devices;

Should be sufficient to prevent unauthorized entry to the radiation beam and preclude any unintentional radiation exposure.

Texas Nuclear personnel performed the initial radiation survey and leak testing at the time of installation. Additionally, our personnel received specific training at the time of installation. This training included construction features of the device, source integrity, beam geometry and intensity and operating details of the device.

Annually, all employees who may be required to work with or in the location of the sources, will be instructed in radiation safety practices.

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 Texas Nuclear or Omart 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 three years. 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.

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.

2160994

KAY-RAY INC.
INDUSTRIAL PROCESS CONTROL EQUIPMENT
516 West Campus Drive • Arlington Heights, Illinois 60004 • (312) 259-5600 • TELEX: 281-085 • CABLE: KAYRAY

November 8, 1982

Mr. Loren K. Dobyns
Thunder Basin Coal Company

Dear Loren:

Enclosed please find the Certification of Training awarded to you for the successful completion of the Kay-Ray Installation and Nuclear Radiation Safety course presented November 1 to 5, 1982. Also enclosed is a copy of your test. The Training Certificate is being shipped to you under separate cover.

It was our pleasure to present this course to you and trust that it met with your approval. Please feel free to contact us if you have any questions regarding this matter.

Very truly yours,

Toni Pasowicz

Toni Pasowicz
Service Administrator

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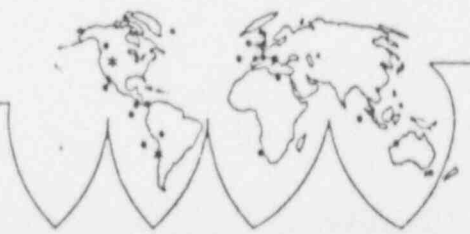

KAY-RAY® INC.

INDUSTRIAL PROCESS CONTROL EQUIPMENT

516 West Campus Drive • Arlington Heights, Illinois 60004 • (312) 259-5600 • TELEX: 281-085 • CABLE: KAYRAY

CERTIFICATION OF TRAINING

Name: Loren K. Dobyns

Company: Thunder Basin Coal Company

The above named individual has successfully completed the INSTALLATION AND NUCLEAR RADIATION SAFETY 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.

Certified on equipment
model 7062,7062P

Instructor: Raymond A. Parsons
Date: November 5, 1982

ROBERT J. BAKER
Vice President