

<b>NRC Form 313 I</b> (12-81) 10 CFR 30		<b>U.S. NUCLEAR REGULATORY COMMISSION</b>		
<b>APPLICATION FOR BYPRODUCT MATERIAL LICENSE</b> <b>INDUSTRIAL</b>		<b>1. APPLICATION FOR:</b> <i>(Check and/or complete as appropriate)</i> <div style="text-align: right; margin-right: 50px;">RECEIVED</div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input checked="" type="checkbox"/> a. NEW LICENSE           </div> <div style="width: 50%; text-align: right;">             85 FEB -7 110:10           </div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> b. AMENDMENT TO:              LICENSE NUMBER           </div> <div style="width: 50%; text-align: right;">             U.S. NRC              12 FEB 1986           </div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> c. RENEWAL OF:              LICENSE NUMBER           </div> <div style="width: 50%;"></div> </div>		
<i>See attached instructions for details.</i>  <i>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.</i>				
<b>2. APPLICANT'S NAME</b> <i>(Institution, firm, person, etc.)</i>  The Pittsburg & Midway Coal Mining Co. TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION (417) 238-8880		<b>3. NAME AND TITLE OF PERSON TO BE CONTACTED</b> <b>REGARDING THIS APPLICATION</b> Paul H. Mock - Geologist TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION (303) 759-6817		
<b>4. APPLICANT'S MAILING ADDRESS</b> <i>(Include Zip Code)</i> <i>(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)</i> Empire Mine Route 1, Box 54 Asbury, Missouri 64832		<b>5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED</b> <i>(Include Zip Code)</i> Empire Mine Route 1, Box 54 Asbury, Missouri 64832		
(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)				
<b>6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL</b> <i>(See Item 16 and 17 for required training and experience of each individual named below)</i>				
FULL NAME		TITLE		
a. Jeffery R. Walker		Mine Engineer		
b. Carmen M. Boccia		Plant Supervisor		
c. William M. Potusek		Pit Supervisor		
<b>7. RADIATION PROTECTION OFFICER</b>  Gary Moore - Safety Engineer		<i>Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.</i>		
<b>8. LICENSED MATERIAL</b>				
LINE NO.	ELEMENT AND MASS NUMBER A	CHEMICAL AND/OR PHYSICAL FORM B	NAME OF MANUFACTURER AND MODEL NUMBER <i>(If Sealed Source)</i> C	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME D
(1)	PU-238	Sealed	Texas Nuclear Model 570-57242B	No single source to exceed 30 millicuries
(2)	AM-241	Sealed	Texas Nuclear Model AMM.4	No single source to to exceed 0.5 uCi
(3)				
(4)			B603260432 860228 REG LIC30 24-24643-01 PDR	
Applicant: 097963-3P Check No. 1230 Amount: \$230 Type of Fee: App. 2/17/86 Date Check Recd.: 2/17/86 Received By: [Signature]		<b>DESCRIBE USE OF LICENSED MATERIAL</b> E  See Attached Sheet		
		CONTROL NO. 80635		

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FEB 3 1986

# 9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED. A.	NAME OF MANUFACTURER B.	MODEL NUMBER C.
(1)	One (1) Source Holder	Texas Nuclear	9256
(2)			
(3)			
(4)			

# 10. RADIATION DETECTION INSTRUMENTS

LINE NO.	TYPE OF INSTRUMENT A	MANUFACTURER'S NAME B	MODEL NUMBER C	NUMBER AVAILABLE D	RADIATION DETECTED (alpha, beta, gamma, neutron) E	SENSITIVITY RANGE (milliroentgens/hour or counts/minute) F
(1)	No additional	monitoring instruments are	required to	possess or utilize this		
(2)	analyzer.					
(3)						
(4)						

# 11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

<input type="checkbox"/> a. CALIBRATED BY SERVICE COMPANY NAME, ADDRESS, AND FREQUENCY  None Required	<input type="checkbox"/> b. CALIBRATED BY APPLICANT Attach a separate sheet describing method, frequency and standards used for calibrating instruments.  None Required
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# 12. PERSONNEL MONITORING DEVICES

TYPE (Check and/or complete as appropriate.) A	SUPPLIER (Service Company) B	EXCHANGE FREQUENCY C
<input type="checkbox"/> (1) FILM BADGE  <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD)  <input type="checkbox"/> (3) OTHER (Specify): _____ _____ _____	None Required  See Attached Sheet	<input 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).)

<input type="checkbox"/> a. LABORATORY FACILITIES, PLANT FACILITIES, FUME HOODS (Include filtration, if any), ETC.	NA
<input type="checkbox"/> b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING (fixed and/or temporary), ETC.	NA
<input type="checkbox"/> c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC.	NA
<input type="checkbox"/> d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.	NA

# 14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED	See Attached Sheet
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.  This application is for sealed sources.	

### 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.

a. LICENSE FEE REQUIRED  
*(See Section 170.31, 10 CFR 170)*

\$230.00

b. CERTIFYING OFFICIAL *(Signature)*

c. NAME *(Type or print)*

John A. Keily

d. TITLE

Vice President, Operations

(2) LICENSE FEE ENCLOSED: \$ 230. CONTROL NO. 80635

e. DATE

1/29/86

U.S. NUCLEAR REGULATORY COMMISSION  
NRC FORM 313 I - ADDENDUM - PAGE 1  
APPLICATION FOR BYPRODUCT MATERIAL LICENSE  
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8E - Use of Licensed Material

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LIC. FEE MGMT. BRANCH

The instrument will be used for the rapid ash analysis of coal at P&M's Empire Mine near Asbury, Missouri. Benchtop and field use will both be implemented, but all usage will be restricted to Empire Mine property.

The instrument head provides adequate shielding for the contained radioactive source and no additional storage container is necessary. The carrying case affords additional protection for the instruments both in storage and in transport.

The primary purpose of the source material is for the internal stabilization of the instruments electronics only.

12B - Personnel Monitoring Devices

No additional personnel monitoring devices are required due to the presence of this instrument. These source housing(s) are designed such that it is unlikely that any person, during normal usage, can receive an exposure in excess of 0.125 rem per year, and the surface radiation levels are all less than 1 mR/h.

14A - Waste Disposal

No waste disposal is involved. In the event that the instrument or source use is discontinued, the device will be returned to Texas Nuclear for removal of the radioactive material.

U.S. NUCLEAR REGULATORY COMMISSION  
NRC FORM 313 I - ADDENDUM - PAGE 2  
APPLICATION FOR BYPRODUCT MATERIAL LICENSE  
INDUSTRIAL

15. Radiation Protection Program

The radioactive source(s) used in the Model 9200 Series will be periodically leak tested at intervals not exceeding six months in accordance with Texas Nuclear Procedure QT/2S. The Am-241 stabilizer source will not be leak tested. Maintenance and repair to the source head will be done by Texas Nuclear and we will follow Texas Nuclear protection procedures as furnished in the instrument manual.

Adequate protection is provided by the design shielding of the instrument and source holder. The shutter will move automatically into the "CLOSED" position anytime the actuator is not forceably pressed against a measurement surface or depressed by a lab stand holder. The instrument will be secured when not in use to prevent unauthorized access by unauthorized personnel. All users will be instructed that the device will be locked in a laboratory or lab storage cabinet, or locked in a storage shed or vehicle when in the field and not in use.

In the event of accidental damage or loss of the device, the Radiation Protection Officer and Texas Nuclear will be notified for advice and instructions as well as the appropriate regulatory authority.

U.S. NUCLEAR REGULATORY COMMISSION  
NRC FORM 313 I - ADDENDUM - PAGE 3  
APPLICATION FOR BYPRODUCT MATERIAL LICENSE  
INDUSTRIAL

16. & 17. Formal Training in Radiation Safety/Experience

We shall follow the instructions concerning handling and use of the instrument given us by the manufacturer.

All questions concerning licensing or the radiation safety of the devices should be referred to:

Health Physics  
Texas Nuclear Division  
P.O. Box 9267  
Austin, Texas 78766  
Telephone: (512) 836-0801  
Ext. 311 or 310

CONTROL NO. 80635