L & L 28216
030-30598

NRC Form 313 I
(12-81)
10 CFR 30

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

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.

1. APPLICATION FOR: *(Check and/or complete as appropriate)*

a. NEW LICENSE YES

b. AMENDMENT TO: LICENSE NUMBER

c. RENEWAL OF: LICENSE NUMBER

2. APPLICANT'S NAME *(Institution, firm, person, etc.)*

AES THAMES, INC.

TELEPHONE NUMBER: AREA CODE – NUMBER EXTENSION
(203) 848-2264

3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION

DAVID G. MCMILLEN

TELEPHONE NUMBER: AREA CODE – NUMBER EXTENSION
(203) 848-2264

4. APPLICANT'S MAILING ADDRESS *(Include Zip Code)* *(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)*

125 Depot Road
Uncasville, CT 06382

5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED *(Include Zip Code)*

125 Depot Road
Uncasville, CT 06382

(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. DAN F. BROWN (Construction Period)	Project Technical Director
b. DAVID G. MCMILLEN (Operation)	Plant Manager
c.	

7. RADIATION PROTECTION OFFICER

DAVID G. MCMILLEN

Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.

8. LICENSED MATERIAL

LINE NO.	ELEMENT AND MASS NUMBER (A)	CHEMICAL AND/OR PHYSICAL FORM (B)	NAME OF MANUFACTURER AND MODEL NUMBER *(If Sealed Source)* (C)	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME (D)
(1)	Cs-137 Capsule Model No. 696894	Sealed	Sealed Sources. use in Texas Nuc	For possession and lear devices which
(2)			have been evaluat	ed and approved
			for licensing pur	poses and authorized
(3)			for distribution	under a license
			issued by the Nuc	lear Regulatory
(4)			Commission or an	Agreement State.

DESCRIBE USE OF LICENSED MATERIAL (E)

(1) See attached Item 8E and drawing.

(2)

(3) 9001160412 881014 REG1 LIC30 06-28216-01 PDR

(4)

May 21
Control No. 353
Amount $ 230
Fee Category 3P
Type of Fee App
Date Check Rec'd. 6/27/88
Date Completed 6/27/88
By: Messier

108923

5-16-88

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)	10 each Texas Nuclear Model 5200	source holders.	
(2)	The source holders are a complete	storage container for	the source,
(3)	both prior and subsequent to inst	allation of the gauge.	
(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 radiation detection	instrumentation is			necessary to	safely
(2)	possess and utilize these devices.					
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☐ a. CALIBRATED BY SERVICE COMPANY

NAME, ADDRESS, AND FREQUENCY

None Required.

☐ 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
☐ (1) FILM BADGE None Required. See attached sheet. ☐ (2) THERMOLUMINESCENCE DOSIMETER (TLD) ☐ (3) OTHER (Specify): _____		☐ MONTHLY ☐ QUARTERLY ☐ OTHER (Specify): _____

13. FACILITIES AND EQUIPMENT (Check were 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.

N/A

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.

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.

See detail in item presented above.

18. CERTIFICATE

(This item must be completed by applicant)

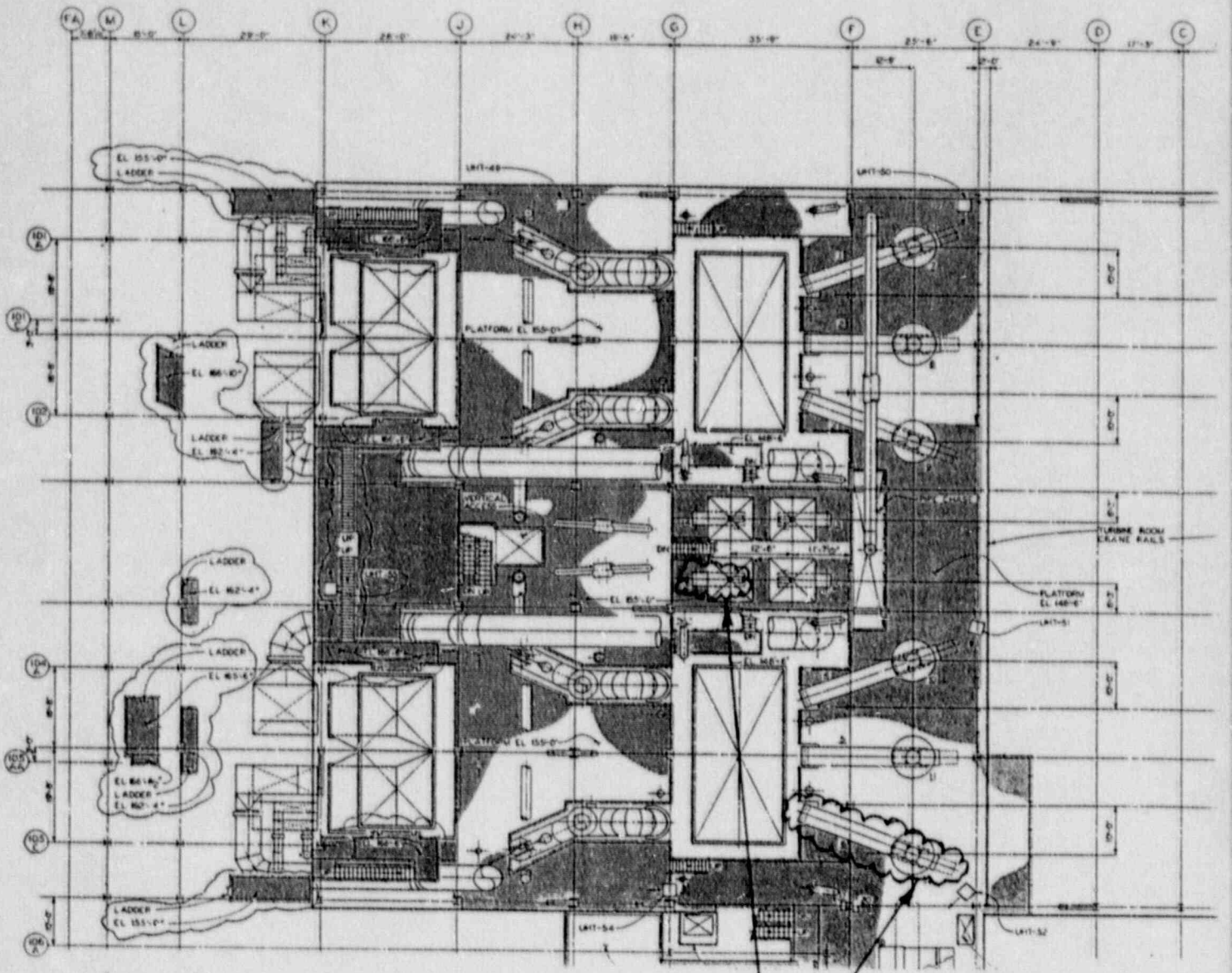
The applicant and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 30, and that all information contained herein, including any supplements attached hereto, is true 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)*	b. CERTIFYING OFFICIAL *(Signature)* Dan F. Brown
	c. NAME *(Type or print)* Dan F. Brown
(1) LICENSE FEE CATEGORY:	d. TITLE Proj. Tech. Director
(2) LICENSE FEE ENCLOSED: $	e. DATE 5-10-88

AES THAMES COGEN. PLANT

UNCASVILLE, CT.



BOILER BUILDING PLAN

From Black and Veatch drawing no. 12713-1BSA-M1104A showing location and platform accessibility to 10 feeders containing nuclear devices.

ATTACHMENT TO APPLICATION FOR BYPRODUCT

MATERIAL LICENSE - INDUSTRIAL

8E Six of these devices are to be used in six coal feeders. Four of these devices are to be used in four limestone feeders. They are used to measure the density of the coal or limestone to determine density and thus provide an accurate control of the feed rate. There are no severe environmental conditions that can affect the integrity of the source and shielding. All environmental factors have been presented to the manufacturer for evaluation prior to specifying these devices. The attached drawing shows platforms and accessibility to the feeders. The devices are housed within the rather large feeder enclosures. Accessibility around the feeder enclosure is good. To be within three feet of the device an employee must stand very near the housing. Working or standing near the enclosure is not a routine operating procedure.

12 Personnel Monitoring

No additional personnel monitoring devices need be utilized due to the presence of these gauging devices. The source holder(s) are designed such that radiation levels will be less than 5 mR/h one foot from any accessible surface at the maximum source loading for the device with the device in the OFF position. When the shutter(s) is open, a fan beam of radiation exists between the point source located in the upper arm and the detector in the lower arm. The beam is no wider than the belt in one dimension and no wider than the detector in another dimension. It is not likely, when consideration is given to the design of the device and to the precautions given below, that any individual will receive a radiation exposure in excess of 0.125 rem per calendar quarter.

14 No waste disposal is involved. In the event that the gauge is damaged or its use discontinued, we shall notify Texas Nuclear for removal and return the gauge for repair or disposal of the source material.

15a Based upon working conditions and physical accessibility, we estimate that one person would routinely be within three feet of any of these devices 0.004 hrs/week.

Our personnel will be instructed as to the size of the beam, the radiation levels in the beam and will be cautioned that unless the shutter is CLOSED these radiation levels are significant. These devices have the capability of producing high level radiation between the source holder and the belt. However, the combination of:

i. during normal operation the moving belt physically precludes the access of any major portion of the body to this radiation area and only authorized personnel are allowed to stop the belt;

ii. personnel are instructed to CLOSE the shutter when the belt is stopped and/or work must be done in the near proximity of the gauge;

iii. if the belt is to be shut down for any extended period of time or work is to be done on the gauge, 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;

iv. signs displaying "Caution Radiation" and the standard symbol stating that the shutter must be CLOSED and the radiation safety officer notified prior to entering the area when working near the gauge will be posted at installation;

v. the general inaccessibility of these devices;

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

15b Texas Nuclear personnel will perform the initial radiation survey and leak testing at the time of installation. Additionally, our personnel will receive specific training at the time of installation. This rating will include construction features of the

device, source integrity, beam geometry and intensity and operating details of the device. Any precautionary steps like the addition of shielding, signs, or precautions to be taken will be covered at the time in accordance with Texas Nuclear installation procedures and training.

15c The source holder(s) will be tested for source integrity:

Model(s) 5200 at least once every three years.

Leak testing will be performed by Texas Nuclear Procedure QT/1K.

15d i. In the event some catastrophic emergency occurs and these device(s) may be involved, we will notify Texas Nuclear and await further instructions.

ii. Any repair, relocation or removal of the source holder(s) will be done by Texas Nuclear personnel.

16 The manufacturer will furnish us with detailed instructions on the proper precautions to be taken in utilizing these devices. Specific items of design detail, shutter operation, beam geometry, radiation levels and regulatory compliance will be presented by trained personnel of Texas Nuclear at the time these devices are installed.

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM
AND
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)
INFORMATION FROM LTS

PROGRAM CODE: _____
STATUS CODE: 3
FEE CATEGORY: _____
EXP. DATE: 0
FEE COMMENTS: _____

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED
APPLICANT/LICENSEE: AES THAMES, INC.
RECEIVED DATE: 880516
DOCKET NO: 3030598
CONTROL NO.: 108923
LICENSE NO.:
ACTION TYPE: NEW LICENSEE

2. FEE ATTACHED
AMOUNT: 0
CHECK NO.: 0

3. COMMENTS

SIGNED BP
DATE 5/24/88

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED 6/1)

1. FEE CATEGORY AND AMOUNT: 3P (4230)

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:
AMENDMENT _____
RENEWAL _____
LICENSE ✓

3. OTHER _____
_____

SIGNED [signature]
DATE 6/2/88