

MATERIALS LICENSE

Amendment No. 07

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 39, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee

1. Eurotherm Gauging Systems, Inc.
The Research Center at Manning Park
2. 46 Manning Road
Billerica, Massachusetts 01821

In accordance with letter dated
August 31, 1992,
3. License number 20-20675-01 is amended in
its entirety to read as follows:

4. Expiration date October 31, 1994

5. Docket or
Reference No 030-20709

6. Byproduct, source, and/or
special nuclear material

7. Chemical and/or physical
form

8. Maximum amount that licensee
may possess at any one time
under this license

A. Krypton 85

A. Sealed source
(E.I. Dupont NER-588)

A. Not to exceed 1.5 curies
per source and 60 curies
total

B. Strontium 90

B. Sealed source
(E.I. Dupont NER-593 or
Amersham Corp. SIF.D1)

B. Not to exceed 100
millicuries per source
and 2,000 millicuries
total

9. Authorized use

A. and B. For use or possession incident to:

- 1) Research, development, manufacturing and testing of gauging devices.
- 2) Instruction and training of individuals in the use of gauging devices listed in Condition 15.
- 3) Installation, relocation and servicing of gauging devices specified in Condition 15 at customer's facility.
- 4) Performance of radiation surveys of the gauging devices specified in Condition 15 after installation at the customer's facility.
- 5) Removal and shipping of gauging devices specified in Condition 15 from the customers' facility for repair by Aeon Systems, Inc.
- 6) Distribution to persons specifically licensed by the Nuclear Regulatory Commission or an Agreement State to possess devices specified in Condition 15.

CONDITIONS

10. Licensed material may be used at the licensee's facilities at 46 Manning Road, Billerica, Massachusetts and at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.

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OFFICIAL RECORD COPY ML 10

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number

20-20675-01

Docket or Reference number

030-20709

Amendment No. 07

(Continued)

CONDITIONS

11. A. Licensed material shall be used by, or under the supervision of, Richard F. Murphy.
- B. The Radiation Safety Officer for this license is Richard F. Murphy.
12. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders or detector cells by the licensee.
13. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as are specified by the certificate of registration referred to in 10 CFR 32.210, not to exceed 3 years.
- B. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.
- C. 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 or detector cell received from another person shall not be put into use until tested.
- D. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to any use or transfer as a sealed source.
- E. Sealed sources and detector cells need not be leak tested if:
 - (i) they contain only hydrogen 3; or
 - (ii) they contain only a gas; or
 - (iii) the half-life of the isotope is 30 days or less; or
 - (iv) they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material; or
 - (v) they are not designed to emit alpha particles, are in storage, and are not being used. However, when they are removed from storage for use or transfer to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number

20-20675-01

Docket or Reference number

030-20709

Amendment No. 07

(13. Continued)

CONDITIONS

- F. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. Records of leak test results shall be kept in units of microcuries and shall be maintained for inspection by the Commission. If the test reveals the presence of 0.005 microcurie or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission and the source shall be removed from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region I, ATTN: Chief, Nuclear Materials Safety Branch, 475 Allendale Road, King of Prussia, Pennsylvania 19406. The report shall specify the source involved, the test results, and corrective action taken.
- G. The licensee is authorized to collect leak test samples for analysis by the licensee. Alternatively, tests for leakage and/or contamination may be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.
14. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 5 years from the date of each inventory.
15. Each device possessed at temporary locations pursuant to the terms and conditions of this license shall be in accordance with the following table:
- | <u>Device Model Number</u> | <u>Source Model Number</u> | <u>Isotope</u> | <u>Maximum Activity per source (millicuries)</u> |
|----------------------------|--|----------------|--|
| ASC-185 | New England Nuclear
NER-588 | Krypton 85 | 1500 |
| ASC-190 | New England Nuclear
NER-593 or Amersham
Corp. SIF.D1 | Strontium 90 | 100 |
16. The licensee may transport licensed material in accordance with the provisions of 10 CFR 71, "Packaging and Transportation of Radioactive Material".

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number

20-20675-01

Docket or Reference number

030-20709

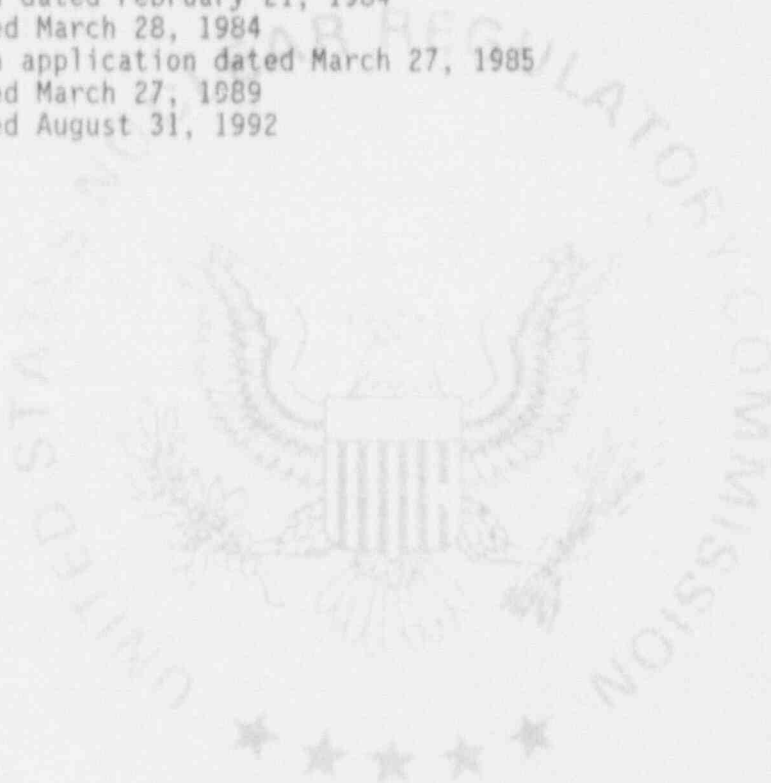
Amendment No. 07

(Continued)

CONDITIONS

17. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.

- A. Application dated February 21, 1984
- B. Letter dated March 28, 1984
- C. Letter with application dated March 27, 1985
- D. Letter dated March 27, 1989
- E. Letter dated August 31, 1992



For the U.S. Nuclear Regulatory Commission

Original Signed By:

John D. Kinneman

By

Nuclear Materials Safety Branch
Region I

King of Prussia, Pennsylvania 19406

Date

DEC 31 1992

DEC 31 1992

License No. 20-20675-01
Docket No. 030-20709
Control No. 117160

Eurotherm Gauging Systems, Inc.
ATTN: Richard F. Murphy
Vice President
The Research Center at Manning Park
46 Manning Road
Billerica, Massachusetts 01821

Dear Mr. Murphy:

Please find enclosed an amendment to your NRC Material License.

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify the Region I Material Licensing Section, (215) 337-5093, so that we can provide appropriate corrections and answers.

Please be advised that you must conduct your program involving licensed radioactive materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, please note the items in the enclosed, "Requirements for Materials Licensees."

Since serious consequences to employees and the public can result from failure to comply with NRC requirements, the NRC expects licensees to pay meticulous attention to detail and to achieve the high standard of compliance which the NRC expects of its licensees.

You will be periodically inspected by NRC. A fee may be charged for inspections in accordance with 10 CFR Part 170. Failure to conduct your program safely and in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in prompt and vigorous enforcement action against you. This could include issuance of a notice of violation, or in case of serious violations, an imposition of a civil penalty or an order suspending, modifying or revoking your license as specified in the General Policy and Procedures for NRC Enforcement Actions, 10 CFR Part 2, Appendix C.

Eurotherm Gauging Systems, Inc.

-2-

We wish you success in operating a safe and effective licensed program.

Sincerely,

Original Signed By:
John D. Kinneman


John D. Kinneman, Chief
Research, Development and
Decommissioning Section
Division of Radiation Safety
and Safeguards

Enclosures:

1. Amendment No. 07
2. Requirements for Materials Licensees
3. NRC Forms 3 and 313

DRSS:RI
Dolce/cmm

12/21/92

 DRSS:RI
Kinneman

12/30/92



**EUROTHERM
GAUGING
SYSTEMS**

U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, Pennsylvania 19046-1415

August 31, 1992

030-20709

Ref: Lic. Nos. 20-20675-01
20-20675-02G

Dear Sir:

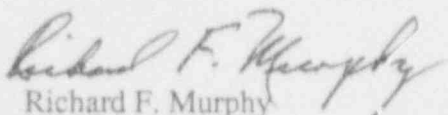
The enclosed ammendment applications to our licenses reflect a change of our company name to Eurotherm Gauging Systems, Inc. This name change does not effect the operation of our company, the management of the company and does not change any aspects of our Radiation Safety Program. The name was changed for marketing purposes.

An additional change to our Specific License is the use of an AMERSHAM SR-90 sealed source in our devices. This change was incorporated into our General License and our Device Registration in February 1986 but was inadvertently not incorporated into our Specific License.

By copy of this letter to Mr. John Lubinski in Washington, D. C. I request any changes that might be required to our Device Registration No. NR-116-D-101-G due to this name change.

Please contact me if there are any questions.

Very truly yours,


Richard F. Murphy
Vice President

cc: Director of Nuclear Material
Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attn: Mr. John Lubinski

92 SEP 21 AM 11
U.S. NUCLEAR REG. COMMISSION

Log	701
Remitter	EUROTHERM GAUGING SYSTEMS, INC.
Check No.	227061
Amount	\$220.00
Fee Category	20-20675-01
Type of Fee	ANNUAL
Date Check Rec'd	9/1/92
Date Completed	9/1/92
By	[Signature]

117160

SEP 15 1992

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

See attached instructions for details.

a. NEW LICENSE

b. AMENDMENT TO:
LICENSE NUMBER
20-20675-01

c. RENEWAL OF:
LICENSE NUMBER

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.

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

Eurotherm Gauging Systems Inc

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION
508-663-2300

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

Richard F. Murphy

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION
508-663-2300

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

The Research Center - Morning Park
Billerica, MA 01821

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

46 Manning Road
Billerica, MA 01821

(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. Richard F. Murphy	Vice President
b.	
c.	

7. RADIATION PROTECTION OFFICER

Richard F. Murphy

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	CHEMICAL AND/OR PHYSICAL FORM	NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source)	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME
A	B	C	D	
(1)	Krypton 85	Gas	E.I. Dupont NER-588	Not to exceed 1.5 curies per source and 60 curies total
(2)	Strontium 90	Ceramic	E.I. Dupont NER-593 or Amersham S1F-D1	Not to exceed 100 millicuries per source and 2000 millicuries total
(3)				
(4)				

DESCRIBE USE OF LICENSED MATERIAL
E

(1) (Same as current license)

(2)

(3)

(4)

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)	(Same as current license)		
(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)	(Same as current license)					
(2)						
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

<input type="checkbox"/> a. CALIBRATED BY SERVICE COMPANY NAME, ADDRESS, AND FREQUENCY (Same as current license)	<input type="checkbox"/> b. CALIBRATED BY APPLICANT Attach a separate sheet describing method, frequency and standards used for calibrating instruments.
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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): _____ _____ _____	(Same as current license)	<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).)

- ☐ 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.

14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED
(Same as current license)

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.

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; ... as it is 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)

c. NAME (Type or print)

Richard F. Murphy

d. TITLE

Vice President

e. DATE

August 31, 1992

(1) LICENSE FEE CATEGORY: 3B, 3N

(2) LICENSE FEE ENCLOSED: \$ 760

NOV 10 1992

DIVISION OF ACCOUNTING AND FINANCE
REQUEST FOR REFUND TO EMPLOYEE/VENDOR

THE EMPLOYEE/VENDOR IDENTIFIED BELOW HAS OVERPAID THE NUCLEAR
REGULATORY COMMISSION FOR GOODS OR SERVICES PROVIDED AND IS DUE A
REFUND.

EMPLOYEE/VENDOR/PAYEE CODE

NAME: Eurotherm Gauging Systems, Inc.

ADDRESS: ATTN: Karen J. Hays

ADDRESS: The Research Center at Manning Park

CITY: Billerica STATE: MA ZIP: 01821

AMOUNT: \$60.00

COMMENTS: Lic And Reg 20-20675-01/-026
CK 27061

(LIMIT COMMENTS TO 40 CHARACTERS, INCLUDING SPACES)

FUND: _____ JOB CODE: _____ TRANS TYPE: _____

PREPARED BY: Andrew Brown DATE: 11/9/92

AUTHORIZED BY: Andrea Henderson 11/11/92 TITLE: License Analyst

OFFICE: OC/DAE/LFDCB DATE: 11/10/92

PLEASE ATTACH EACH APPROPRIATE SUPPORTING DOCUMENTATION.

INVOICE NUMBER: _____ INVOICE PAID ON: _____ FOR: \$ _____

REFUND ENTERED INTO COLLECT BY: _____

AMOUNT: _____ BY: _____ DATE: _____

(FOR LFMS USE)
INFORMATION FROM LTS

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM
AND
REGIONAL LICENSING SECTIONS

PROGRAM CODE: 03212
STATUS CODE: 0
FEE CATEGORY: 38 3N
EXP. DATE: 19941031
FEE COMMENTS: 38 3N OK 7/2/90
DECOM FIN ASSUR REQ: N

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

APPLICANT/LICENSEE: EUROTHERM GAUGING SYSTEMS, INC.
RECEIVED DATE: 920915
DOCKET NO: 3020709
CONTROL NO.: 117160
LICENSE NO.: 20-20675-01
ACTION TYPE: AMENDMENT

2. FEE ATTACHED

AMOUNT: \$1070.00
CHECK NO.: 027061

3. COMMENTS

SIGNED
DATE

Rebecca J. Brown
7/18/92

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

1. FEE CATEGORY AND AMOUNT: 38 3N \$590

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

3. OTHER

SIGNED
DATE

B. Brown
11/9/92