

MATERIALS LICENSE

Amendment No. 02

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, 36, 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.

OFFICIAL RECORD COPY

Licensee

1. Ergo Science, Incorporated
2. Charlestown Navy Yard
100 First Street
Boston, Massachusetts 02129-2051

In accordance with the letter dated
August 27, 1996,

3. License Number 20-30113-01 is amended in
its entirety to read as follows:

4. Expiration Date May 31, 2004

5. Docket or
Reference No. 030-33403

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. Hydrogen 3
B. Carbon 14
C. Phosphorus 32
D. Phosphorus 33
E. Sulfur 35
F. Chromium 51
G. Iodine 125

- A. Any
B. Any
C. Any
D. Any
E. Any
F. Any
G. Any

- A. 50 millicuries
B. 50 millicuries
C. 100 millicuries
D. 25 millicuries
E. 100 millicuries
F. 50 millicuries
G. 50 millicuries

9. Authorized use

A. through G. Research and development as defined in 10 CFR 30.4.

CONDITIONS

10. Licensed material may be used only at the licensee's facilities located at 100 First Street, Fourth Floor, Charlestown Navy Yard, Boston, Massachusetts.
11. A. Licensed material shall be used by, or under the supervision of, Anthony H. Cincotta, Ph.D.
- B. The Radiation Safety Officer for this license is Anthony H. Cincotta, Ph.D.
12. Licensed material shall not be used in or on human beings.
13. The licensee shall not use licensed material in field applications where activity is released except as provided otherwise by specific condition of this license.
14. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

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PDR ADOCK 03033403
C PDR

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**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

20-30113-01

Docket or Reference Number

030-33403

Amendment No. 02

15. The licensee is authorized to hold radioactive material with a physical half-life of less than or equal to 120 days for decay-in-storage before disposal in ordinary trash, provided:
 - A. Waste to be disposed of in this manner shall be held for decay a minimum of ten half-lives.
 - B. Before disposal as ordinary trash, the waste shall be surveyed at the container surface with the appropriate survey instrument set on its most sensitive scale and with no interposed shielding to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.
 - C. A record of each such disposal permitted under this License Condition shall be retained for three years. The record must include the date of disposal, the date on which the byproduct material was placed in storage, the radionuclides disposed, the survey instrument used, the background dose rate, the dose rate measured at the surface of each waste container, and the name of the individual who performed the disposal.
16. Radioactive waste generated shall be stored in accordance with the statements, representations, and procedures included with the waste storage plan described in the licensee's letter dated April 14, 1994.
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 November 23, 1993
 - B. Letter dated February 7, 1994
 - C. Letter dated April 14, 1994
 - D. Letter dated August 17, 1995
 - E. Letter dated August 27, 1996
 - F. Letter dated October 2, 1996

Date OCT 16 1996

For the U.S. Nuclear Regulatory Commission

Original Signed By
James M. Bondick

By

Nuclear Materials Safety Branch
Region I
King of Prussia, Pennsylvania 19406

OCT 16 1996

Ronald H. Abrahams, Ph.D.
Acting Chief Executive Officer
Ergo Science, Incorporated
Charlestown Navy Yard
100 First Street
Boston, MA 02129-2051

Dear Dr. Abrahams:

This refers to your license amendment request. Enclosed with this letter is the amended license. Please note that as part of this amendment, in accordance with 10 CFR 30.36, effective February 15, 1996, the expiration date of your license has been extended by a period of five years. Your new expiration date is stated in Item 4 of the license. Also note that we have corrected the name of your company and ZIP code on the license as discussed with Dr. Anthony H. Cincotta on October 15, 1996.

Please review the enclosed document carefully and be sure that you understand and fully implement all the conditions incorporated into the amended license. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5093 or 5239, so that we can provide appropriate corrections and answers.

Thank you for your cooperation.

Sincerely,

Original Signed By
James M. Bondick

James M. Bondick
Health Physicist
Division of Nuclear Materials Safety

License No. 20-30113-01
Docket No. 030-33403
Control No. 123647

Enclosure:

Amendment No. 02

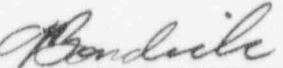
DOCUMENT NAME: R:\WPS\MLTR\L2030113.01

To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNMS/RI	N	DNMS/RI				
NAME	JBondick/jmb <i>qB</i>						
DATE	10/16/96	10/	/96	10/	/96	10/	/96

OFFICIAL RECORD COPY

ML 10

TELEPHONE CONVERSATION RECORD	Date: 10/15/96	Time: 3 p.m.
Mail Control No.: 123647	License No.: 20-30113-01	Docket No.: 030-33403
Person Called: Anthony Cincotta, Ph.D.	Licensee: Ergo Science Inc.	Telephone No.: 617-241-6800 fax: 617-241- 6822
Person Calling: J. Bondick		
Subject: Company name and ZIP code		
Summary: Spoke with Dr. Cincotta about the name of the company as printed on the letterhead, and the difference in ZIP code on the letterhead and the original application. Dr. Cincotta stated that the location was still the same, at 100 First Street, and that the ZIP code had always been as listed on the letterhead. He did not explain why there was a difference. Dr. Cincotta asked if we could fax a copy of the signed license amendment.		
Action Required/Taken: Note to file: complete amendment action with corrected name and ZIP code and fax copy of Amendment No. 02.		
Signature: J. Bondick 	Date: 10/15/96	

OFFICIAL RECORD COPY

ML 10



ergoscience

100 First Avenue
Charlestown, MA 02129-2051

Phone 617.241.6800
Fax 617.241.8822

MS-16
96

October 2, 1996

James M. Bondick
Health Physicist
Division of Nuclear Materials Safety
United States Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

Reference: License No. 20-30113-01
Docket No. 030-33403
Control No. 123647

Dear Mr. Bondick:

This is in reference to the deficiency letter dated September 13, 1996.

Question 1:

Your application should have been signed by a management representative rather than the Radiation Safety Officer. Please submit a letter signed by a management representative indicating that management has reviewed the application and concurs in the statements and representations contained therein. Note also that a management representative should sign all future correspondence which request change in your license.

Response to Question 1:

This amendment request and all future correspondence with regard to Ergo Science's license will be reviewed and signed by Rice Powell, Vice President Operations. I understand that my signature signifies my concurrence with the statements and representations contained within this amendment and all future correspondence as well. Please note for your records that Ronald H. Abrahams, Ph.D. is now the Acting Chief Executive Officer for Ergo Science Development Corporation.

Mr. Bondick
Page 2
October 2, 1996

Question 2:

The following questions are in regard to your request to expand the areas to rooms and corridors where radioactive material will be used. The drawing submitted with your request does not provide sufficient detail about proposed restricted areas and unrestricted areas.

- a) Provide a schematic drawing which indicates the location of the proposed new areas in relation to the other existing areas where licensed material is used or stored.

Response to Question 2a:

The previously enclosed schematic has been updated to represent the final room layout as built. Please note the lower right portion of the drawing depicts the previously licensed lab space, a drawing of which has been included as an attachment as you requested.

- b) The area behind the sinks in Room #2 does not contain enough detail, and the corridor across from the area behind the sinks appears to be a public corridor with uncontrolled access to the new Room #2 area. Also, the location of the kitchen area across from Equipment Room #1 is of concern. 10 CFR 20.1301 specifies the dose limits for individual members of the public, and 10 CFR 20.1302 specifies the requirements for compliance with dose limits for individual members of the public. Please provide a drawing which provides more detail about the area behind the sinks in Room #2 and specify what licensed material will be used and stored in the equipment room. Provide information on how you will comply with 10 CFR 20.1301 and 10 CFR 20.1302.

Response to Question 2b:

The previously enclosed schematic has been updated to represent the final room layout as built. Please note that as you exit the elevators to the fourth floor, the doors to both the lab space on the left and the kitchen on the right will be locked. Access will be by either key or combination keypad. Routine daily access will be controlled. Only employees that have undergone Ergo Science radiation training will work in these areas. There will be no access to members of the general public. In addition, a security guard on the ground floor to the 100 First Avenue building controls access to the elevators during working hours. Access to the elevators is restricted after hours to building occupants only. Additionally, there will be no transfer of licensed material into the kitchen area. The area behind the sinks when completed will likely contain storage for laboratory supplies. No licensed material will be stored in this area. Compliance to 10 CFR 20.1301 will be verified by the placement of a monitoring film dosimeter on the doorway to the new lab area. The

Mr. Bondick
Page 3
October 2, 1996

equipment room will be used to analyze samples via liquid scintillation counters, etc. No licensed material will be stored in this area.

Question 2c:

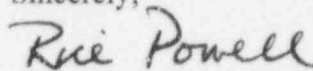
The entire new proposed area appears to have unrestricted access to the facility. 10 CFR 20.1801 states: "The licensee shall secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas." 10 CFR 20.1802 states: "The licensee shall control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area that is not in storage." Please describe how you will comply with the provisions of 10 CFR 20.1801 and 10 CFR 20.1802.

Response to Question 2c:

The previously enclosed schematic has been updated to represent the final room layout as built. Please note that as you exit the elevators to the fourth floor, the doors to both the lab space on the left and the kitchen on the right will be locked. Access will be by either key or combination keypad. Routine daily access will be controlled. Only employees that have undergone Ergo Science radiation training will work in these areas. There will be no access to members of the general public. Compliance to 10 CFR 20.1801 and 10 CFR 20.1802 will be maintained since all licensed material, whether stored or in use, will be secure from unauthorized removal.

Please contact me with any further questions or clarifications that you may have.

Sincerely,



Rice Powell
Vice President Operations

dc

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**DOCUMENT
PAGE(S) PULLED**

SEE APERTURE CARD FILES

APERTURE CARD/HARD COPY AVAILABLE THROUGH NRC FILE CENTER

NUMBER OF OVERSIZE PAGES FILMED ON APERTURE CARD(S) _____

ACCESSION NUMBERS OF OVERSIZE PAGES:

9610280228-01

SEP 13 1996

License No. 20-30113-01
Docket No. 030-33403
Control No. 123647

Mr. Manuel Cincotta, Jr.
Chief Executive Officer
Ergo Sciences, Inc.
Charlestown Navy Yard
100 First Street
Fourth Floor
Boston, MA 02114

Dear Mr. Cincotta:

This is in reference to your letter dated August 27, 1996 to amend byproduct material License No. 20-30113-01. In order to continue our review, we need the following additional information:

1. Your application should have been signed by a management representative rather than the Radiation Safety Officer. Please submit a letter signed by a management representative indicating that management has reviewed the application and concurs in the statements and representations contained therein. Note also that a management representative should sign all future correspondence which request change in your license.
2. The following questions are in regard to your request to expand the areas to rooms and corridors where radioactive material will be used. The drawing submitted with your request does not provide sufficient detail about proposed restricted areas and unrestricted areas.
 - a) Provide a schematic drawing which indicates the location of the proposed new areas in relation to the other existing areas where licensed material is used or stored.
 - b) The area behind the sinks in Room #2 does not contain enough detail, and the corridor across from the area behind the sinks appears to be a public corridor with uncontrolled access to the new Room #2 area. Also, the location of the kitchen area across from Equipment Room #1 is of concern. 10 CFR 20.1301 specifies the dose limits for individual members of the public, and 10 CFR 20.1302 specifies the requirements for compliance with dose limits for individual members of the public. Please provide a drawing which provide more detail about the area behind the sinks in room #2 and specify what licensed material will be used and stored in the equipment room. Provide information on how you will comply with 10 CFR 20.1301 and 10 CFR 20.1302.

M. Cincotta, Jr.
Ergo Sciences, Inc.

-2-

- c) The entire new proposed area appears to have unrestricted access to the facility. 10 CFR 20.1801 states: " The licensee shall secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas." 10 CFR 20.1802 states: " The licensee shall control and maintain constance surveillance of licensed material that is in a controlled or unrestricted area that is not in storage." Please describe how you will comply with the provisions of 10 CFR 20.1801 and 10 CFR 20.1802.

We will continue our review upon receipt of this information. Please reply in duplicate to my attention at the Region I Office and refer to Mail Control No. 123647. If you have any technical questions regarding this deficiency letter, please call me at (610) 337-6951.

If we do not receive a reply from you within 30 calendar days from the date of this letter, we shall assume that you do not wish to pursue your application.

Sincerely,

ORIGINAL SIGNED BY:

James M. Bondick
Health Physicist
Division of Nuclear Materials Safety

Enclosure:
10 CFR Part 20

DOCUMENT NAME: R:\WPS\DLTR\D2030113.01

To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNMS/RI	N	DNMS/RI				
NAME	JBondick/jmb						
DATE	09/13/96	09/	/96	09/	/96	09/	/96

OFFICIAL RECORD COPY

Ergo Science Incorporated
Charlestown Navy Yard
100 First Street, Fourth Floor
Boston, MA 02129-2051
(617) 241-8999

030-33403

August 27, 1996

U.S. Nuclear Regulatory Commission, Region I
Attention: Licensing Assistance Section

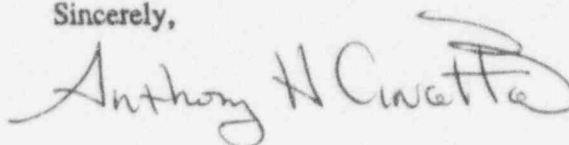
Reference: License No. 20-30113-01
Docket No. 030-33403

Ergo Science Incorporated wishes to amend our NRC license to reflect the anticipated expansion of our research. In addition to the rooms indicated in section 10.A of NRC license number 20-30113-01, amendment 01, and application dated November 23, 1993, we would like to add the following: depicted rooms and corridors (see Attachment A). This area is to be designed and built in similar fashion as our existing laboratories, with similar use. These rooms will be added to our routine radiation and contamination survey schedule upon NRC acceptance.

The \$590.00 amendment fee is enclosed.

Please contact me with any further questions or clarifications necessary to elucidate this issue.

Sincerely,



Anthony H. Cincotta, Ph.D.
Radiation Safety Officer

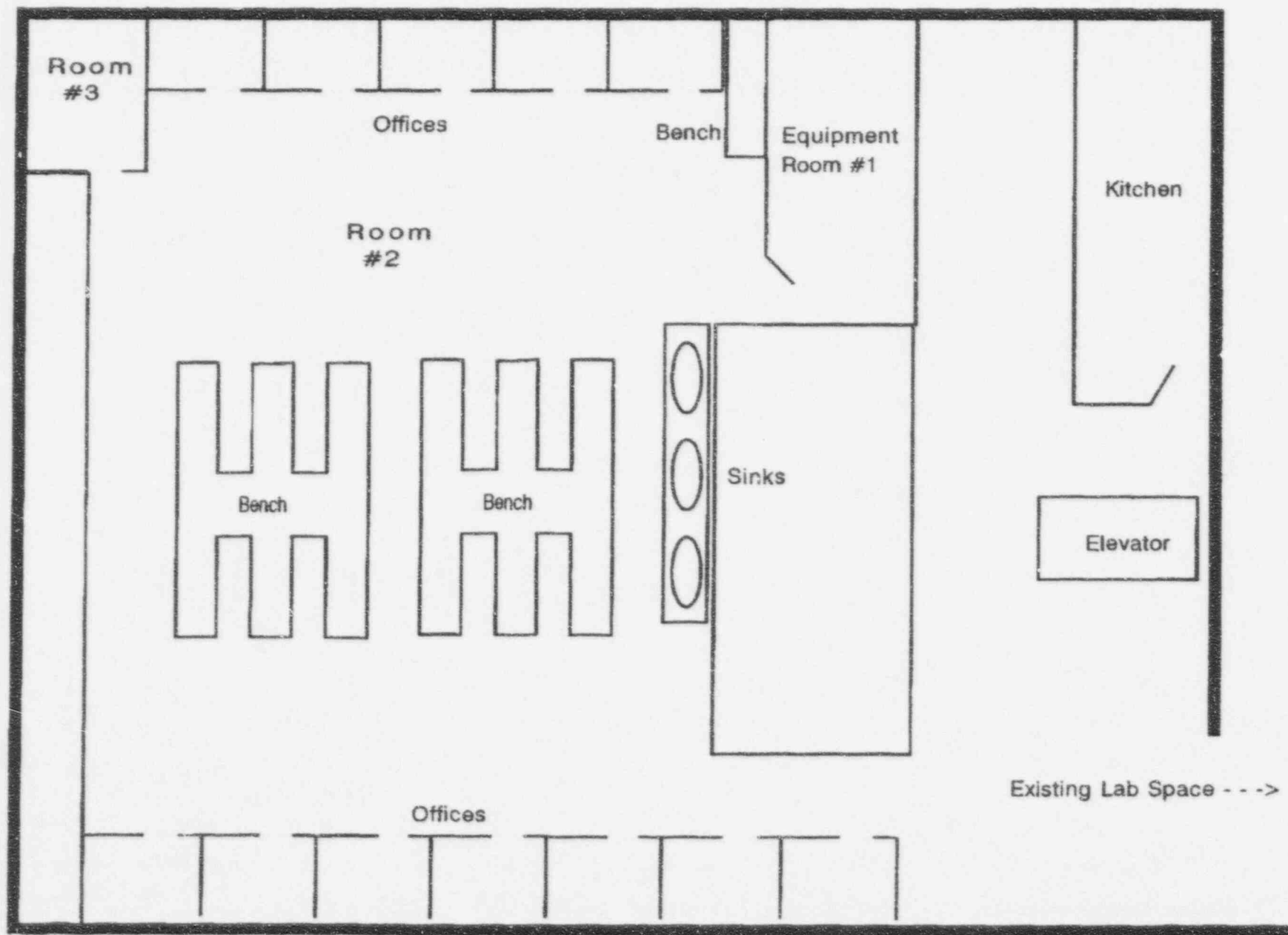
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123647

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ATTACHMENT A



LICENSE FEE REQUIREMENTS

LICENSE FEE AND DEBT COLLECTION BRANCH
DIVISION OF ACCOUNTING AND FINANCE
OFFICE OF THE CONTROLLER
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001ERGO SCIENCES, INC.
ATTN: ANTHONY H. CINCOTTA, PH.D.
RADIATION SAFETY OFFICER
CHARLESTOWN NAVY YARD
100 FIRST STREET
FOURTH FLOOR
BOSTON, MA 02129-2051

TYPE OF ACTION

- ☐ NEW LICENSE
☐ RENEWAL OF LICENSE
☒ AMENDMENT TO LICENSE

REQUESTED DATE

8-27-96

LICENSE NUMBER

20-30113-01

CONTROL NUMBER

123647

I. APPLICATION FEE DUE

Your request for a licensing action is subject to the fee(s) in the category(ies) noted below in accordance with Section 170.31 of the enclosed Federal Register notice. Payment of the fee is required prior to the issuance of the license, renewal, or amendment.

FEE CATEGORY	APPLICATION	RENEWAL	AMENDMENT
3M	\$	\$	\$ 610.00
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$

FEE(s) DUE	\$	610.00
PAYMENT RECEIVED	\$	590.00
AMOUNT DUE	\$	20.00

☒ Your request was received without the prescribed application fee.

☒ We received your Check No. 10631 in the amount of \$ 590.00. Payment of the additional fee noted above is required.

☐ Your request will increase the scope of your license program. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(d)(2).

☐ Your license expired prior to the receipt of your application for renewal. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(a).

MAKE PAYMENT OF THE FEE(S) TO THE U.S. NUCLEAR REGULATORY COMMISSION AND MAIL THE PAYMENT TO THE ADDRESS LISTED AT THE TOP OF THIS FORM. IF WE DO NOT RECEIVE A REPLY FROM YOU WITHIN 30 CALENDAR DAYS FROM THE DATE LISTED BELOW, WE SHALL ASSUME THAT YOU DO NOT WISH TO PURSUE YOUR APPLICATION AND WILL VOID THIS ACTION.

SIGNATURE - LICENSE FEE ANALYST

BRENDA BROWN

LFDCB

BB *BB*
9/19/96

LFDCB

Distribution:

Region I Pending
BBrown LFARB RF
OC/DAF/SF (LF-3.2.7)

DATE

9-19-96

II. FEE NOT REQUIRED

☐ Enclosed is Check No. _____ which accompanied your request. The fee is not required because:

☐ We received your Check No. _____ in payment of the fee.

☐ The Licensing staff has informed us that your request is to be considered as a continuation of your request dated _____, Control No. _____.

☐ Your request was combined, prior to review, with your request, Control No. _____.

III. CHECK RETURNED

☐ Enclosed is Check No. _____ which was returned to us by the bank for:

☐ INSUFFICIENT FUNDS

☐ ACCOUNT CLOSED

☐ OTHER

MAIL THE REPLACEMENT CHECK TO THE ADDRESS LISTED AT THE TOP OF THIS FORM AND REFERENCE THE ABOVE CONTROL NUMBER.

IV. LICENSE ISSUED WITHOUT THE REQUIRED FEE

☐ License No. _____ Amendment No. _____, issued on _____, was issued without the required fee being collected. The fee required is noted in Section I of this form.

☐ The scope of your licensed program was increased. Therefore, your request is subject to the application fee(s) noted in Section 1 of this form. Refer to Section 170.31 and Footnote 1(d)(2).

☐ Because of the urgency of your request, the license was issued without remittance of the prescribed fee noted in Section 1 of this form.

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM
AND
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)
INFORMATION FROM LTS

PROGRAM CODE: 03620
STATUS CODE: 0
FEE CATEGORY: 3M
EXP. DATE: 20040531
FEE COMMENTS: -----
DECOM FIN ASSUR REQD: N
.....

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED
APPLICANT/LICENSEE: ERGO SCIENCES, INC.
RECEIVED DATE: 960906
DOCKET NO: 3033403
CONTROL NO.: 123647
LICENSE NO.: 20-30113-01
ACTION TYPE: AMENDMENT

2. FEE ATTACHED
AMOUNT: \$590.00
CHECK NO.: 010631

3. COMMENTS

SIGNED
DATE

M. A. Perkins
9/9/96

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

1. FEE CATEGORY AND AMOUNT: 3M \$610

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

3. OTHER -----

SIGNED
DATE

Log Aug 21
Remitter ERGO SCIENCE DEVELOPMENT CORP.
Check No. 010631/010976
Amount \$590.00
Fee Category 3M
Type of Fee AMD
Date Check Rec'd 12/2/96
Date Completed PA
By