NRC FORM 374
(10-89)

U.S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE

Amendment No. 17

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. Kidde-Fenwal, Incorporated 2. 400 Main Street Ashland, Massachusetts 01721	In accordance with the application dated November 23, 1993, 3. License number 20-15285-01 is amended in its entirety to read as follows: 4. Expiration date August 31, 1999 5. Docket or Reference No. 030-08864

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. Americium 241	A. Sealed sources (Amersham Corporation Model AMM-1001H and Model AMM-1001D or Nuclear Radiation Development Model A-001)	A. Not to exceed 6 microcuries per source and 1.8 millicuries total
B. Americium 241	B. Sealed sources (Amersham Corporation Model AMM-1001, Model AMM-1001H and Model AMM-1001D or Nuclear Radiation Development Model A-001)	B. Not to exceed 2.5 microcuries per source and 800 millicuries total

9410170219 940805
PDR ADOCK 03008864
C PDR

9. Authorized use

A. Research and development as defined in 10 CFR 30.4.
B. Fabrication of smoke detectors

Information in this record was deleted in accordance with the Freedom of Information Act, exemptions 4, 6
FOIA 2010-0200

120030

CONDITIONS

10. Licensed material may be used only at the licensee's facilities located at 400 Main Street, Ashland, Massachusetts.

11. Licensed material shall be used by, or under the supervision of John L. Ronayne.

12. The Radiation Safety Officer for this license is John L. Ronayne.

13. Licensed material shall not be used in or on human beings.

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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15. This license does not authorize commercial distribution of licensed material to persons generally licensed pursuant to 10 CFR Part 31 or equivalent regulations of any Agreement State or to persons exempt from licensing pursuant to 10 CFR 30.18.

16. 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 July 26, 1994

For the U.S. Nuclear Regulatory Commission
Original Signed By:
Francis M. Costello

Date AUG 5 1994

By Nuclear Materials Safety Branch
Region 1
King of Prussia, Pennsylvania 19406

NOTE TO DMB:

THE ATTACHED DOCUMENTS ARE TO BE PROCESSED AS ONE MATERIALS LICENSING PACKAGE.

LICENSE NUMBER: 20-15283-01

DOCKET NUMBER: 030-08864

CONTROL NUMBER: 119054

THIS SHEET MAY BE DISCARDED AFTER PROCESSING.

THANK YOU!

AUG - 9 1994

License No. 20-30113-01
Docket No. 030-33403
Control No. 119095

Ergo Sciences, Incorporated
ATTN: Anthony H. Cincotta, Ph.D.
Radiation Safety Officer
100 First Street
Boston, Massachusetts 02114

Dear Dr. Cincotta:

Enclosed is the Corrected Copy of License No. 20-30113-01. In accordance with the telephone conversation between Julie Lavallee and Tara Weidner on June 28, 1994, we now understand that although your submittal provided a resume for Ms. Julie Lavalle, you did not intend to name her as an authorized user on your license. Based on this understanding, Ms. Lavalle's name was removed from the Ergo Sciences, Inc. license authorized users condition.

We apologize for any inconvenience this misunderstanding may have caused.

Sincerely,

Original Signed By:
Mohamed M. Shanbaky

Mohamed M. Shanbaky, Chief
Research and Development Section
Division of Radiation Safety
and Safeguards

Enclosure:
Corrected Copy of License No. 20-30113-01

DRSS:RI	DRSS:RI
Weidner/gcb	Shanbaky
7/26 /94	7/26 /94

OFFICIAL RECORD COPY - G:\WPS\MLTR\L2030113.01 - 07/19/94
ML 10

AUG - 5 1994

License No. 20-15285-01
Docket No. 030-08864
Control No. 119054

Kidde-Fenwal, Inc.
ATTN: Robert A. MacNutt
Quality Manager
400 Main Street
Ashland, Massachusetts 01721

Dear Mr. MacNutt:

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

Please be advised that your license expires at the end of the day, in the month, and year stated in the license. Until your license is terminated, you must conduct your program involving byproduct materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers; Inspections," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.

2. Notify NRC, in writing, within 30 days:

   a. when an authorized user or Radiation Safety Officer, permanently discontinues performance of duties under the license or has a name change; or

   b. when the licensee's mailing address changes (no fee is required if the location of byproduct material remains the same).

3. In accordance with 10 CFR 30.36(b) and/or license condition, notify NRC, promptly, in writing, and request termination of the license when you decide to terminate all activities involving materials authorized under the license.

4. Request and obtain a license amendment before you:

a. permit anyone to work as an authorized user under the license;

b. change Radiation Safety Officers;

c. order byproduct material in excess of the amount, or radionuclide, or form different than authorized on the license;

d. add or change the areas of use, or address or addresses of use identified in the license application or on the license; or

e. change ownership of your organization.

5. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date of your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of byproduct material after your license expires is a violation of NRC regulations. A license will not normally be renewed, except on a case-by-case basis, in instances where licensed material has never been possessed or used.

In addition, please note that NRC Form 313 requires the applicant, by his/her signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signatory for the application should be the licensee or certifying official rather than a consultant.

You will be periodically inspected by the NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a notice of violation, or 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.

Since serious consequences to employees and the public can result from failure to comply with NRC requirements, prompt and vigorous enforcement action will be taken when dealing with licensees who do not achieve the necessary meticulous attention to detail and the high standard of compliance which NRC expects of its licensees.

Thank you for your cooperation.

Sincerely,

Original Signed By:
Francis M. Costello

Francis M. Costello
Nuclear Materials Safety Branch
Division of Radiation Safety
and Safeguards

Enclosure:
1. Amendment No. 17
2. 10 CFR Parts 2, 19, 20, 30, 31, 32, and 170
3. Requirements for Materials Licensees
4. NRC Forms 3 and 313

DRSS:RI	FMC DRSS:RI
Rebor/chr	Costello
7/28/94	7/30/94

MSIG
L-3

July 26, 1994

KIDDE FENWAL

KIDDE-FENWAL, INC.
400 MAIN STREET
ASHLAND, MA 01721
TEL: (508) 881-2000
FAX: (508) 881-8729

United States Nuclear
Regulatory Commission
Nuclear Safety Section B
475 Allendale Road
King of Prussia, PA 19406

Subject: Renewal of Kidde-Fenwal License No. 20-15285-01

Reference: Telephone conversation of 7/11/94, between Mr. Eric Reber (NRC) and Mr. Robert A. MacNutt (Kidde-Fenwal): Request for clarification of timely renewal application of 11/23/93.

Dear Mr. Reber:

Confirming our telephone conversation of Monday, July 11, 1994, the duties of the Kidde-Fenwal Radiation Safety Officer (RSO) will include the following:

1. To assess all potential radiation hazards and ensure the implementation of appropriate radiation safety precautions.
2. To ensure that the use of licensed material is by or under the direction supervision of individual(s) listed in Kidde-Fenwal, Inc. License No. 20-15285-01.
3. To ensure that licensed material is properly secured at all times when not in use.
4. To perform routine inspections of all places (locations) using or storing licensed material.
5. To ensure that the terms and conditions of Kidde-Fenwal, Inc. License No. 20-15285-01 are complied with and that all required records are maintained.

In additions to the above duties, the RSO shall conduct yearly training sessions for employees handling licensed materials. The RSO will be available at all times to respond to employees' radiation safety concerns. The RSO also will instruct new potential health protection problems and in the precautions or procedures to minimize exposure.

Enclosed is the Kidde-Fenwal procedure for receiving and opening packages containing radioactive material.

If further questions arise in your consideration of our application, please call me (508) 881-2000, Ext. 2733.

Sincerely

Robert A. MacNutt

Robert A. MacNutt
Quality Manager

Encl: As stated

119054

JUL 27 1994

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PROCEDURE FOR RECEIVING AND OPENING PACKAGES CONTAINING RADIOACTIVE MATERIAL

Reference:

a. 10 CFR Part 20, Section 20.1906, as amended 8/31/92.
b. DOT Regulations 49 CFR 173.403 (m) and (w) and 173.421-423.
c. 10 CFR 71.4 and Appendix A to 10 CFR Part 71.
d. DOT Regulation 49 CFR 172.403 and 172.436.

BACKGROUND

Section 20.1906, as amended 8/31/92, of 10 CFR Part 20, "Standards for Protection Against Radiation", requires Kidde-Fenwal (KF) to have procedures for receiving and opening packages. The provisions of section 20.1906 require that:

(a) a person receiving a package of radioactive material in excess of Type A quantities (8 mCi for Am-241) take possession promptly of the package when offered by the carrier. (This reduces the chances of packages being misplaced or lost.)

(b) the external surfaces of a "labeled Package" be monitored for possible contamination, unless the package contains only radioactive material in the form of a gas or in special form. (This allows for early detection of possible escape of radioactive material from the package and action to control its dispersal in the transportation system. This requirement is particularly significant in the medical field where liquid radiopharmaceuticals are transported.)

(c) the external surfaces of a "labeled package" be monitored for radiation levels if the package contains more than a Type A quantity. (This allows for early detection of problems such as a shutter coming open on an industrial gauge during shipment. Early detection enables investigation and evaluation of possible exposures to carrier personnel and others.)

(d) any package known to contain radioactive material, regardless of the quantity, be monitored for radioactive material contamination and radiation levels if there is evidence of degradation of package integrity, such as packages that are crushed, wet or damaged. (This allows for detection and evaluation of possible contamination and excessive radiation levels.)

(e) the monitoring stated above in (b), (c) and (d) be performed within 3 hours of receipt of the package if received during normal working hours of within 3 hours of start of the next work day if the package is received after working hours. If a wipe sample of 300 cm^2 reveals removable surface contamination in excess of 660 dpm for an alpha emitter (e.g., Am-241), or (2) if a radiation level in excess of 200 mrem/h on the surface of the package or 10 mrem/h at 1 meter is found, notification shall be made to the carrier and to the NRC as prescribed in subsection 20.1906(d) of 10 CFR Part 20.

(f) KF have written procedures for safely opening packages in which radioactive material is received, and that KF follow those procedures.

Radioactive material received at KF fits into 3 categories:

(1) Am-241 foil sources mounted in source holders ("radiators").

(2) Am-241 foil sources contained in smoke detectors manufactured in Japan by Nohmi.

(3) Am-241 foil sources contained in old smoke detectors which are occasionally returned by users to KF for disposal. This is a result of a label used many years ago which advised the customer to return the detector to the manufacturer for disposal.

It is noted that the above 3 categories of incoming shipments may reasonably be considered by the shippers to KF to be exempt from certain Department of Transportation (DOT) labeling requirements as instruments or manufactured articles. Also, since a source and its holder (radiator) or smoke detector from NRD, Amersham and Nohmi contains, on the average, about 1 microcurie, it is highly unlikely that KF would receive a single package containing more than an A_2 quantity (8 mCi Am-241). However, since it may be convenient for our suppliers not to consider radiators or detectors to be manufactured articles or instruments and since "over-labeling" can occur, our Receiving Department will be instructed by the RSO about the label and required action. If labeled, the label used should be the Radioactive White-I.

RECEIVING DEPARTMENT INSTRUCTIONS for RADIOACTIVE MATERIAL

1. Take possession promptly when packages containing radioactive material are offered by the carrier. Handle with care so that packages are not damaged.

2. Packages containing radioactive material shall be identified by shipping papers and/or label. The label will be the RADIOACTIVE WHITE-I described below. Except for size and color, the RADIOACTIVE WHITE-I will be:

The background on the RADIOACTIVE WHITE-I label will be white. The printing and symbol will be black, except for the "I" which will be red. The label is diamond-shaped, four inches on each side. Two or more of these labels would be affixed to opposite sides of the package.

3. The most likely shippers of radioactive material to KF are Nuclear Radiation Development Corp., Amersham Corp., and Nohmi.

4. 4.1 If the total number of sources or detectors in a package is 8,000 or more or if the package has the RADIOACTIVE WHITE-I label, notify the Radiation Safety Officer immediately (within 2 hours of receipt) and move the package to the secured area (Do Not Open).

4.2 If any package of radioactive material, regardless of quantity, is damaged or wet, notify the Radiation Safety Officer immediately (within 2 hours of receipt) and move the package to the secured area (Do Not Open).

4.3 If the package contains less than 8,000 sources or detectors, is not labeled, or is not damaged move to the secured area and notify the Radiation Safety Officer (Do Not Open).

4.4 The Radiation Safety Officer can be contacted at any time for additional information about handling radioactive material shipments.

INSPECTION OF UNOPENED PACKAGE BY RSO

1. Radiation Safety Officer

1.1 Monitor the external surface of a labeled or damaged package for contamination and radiation levels by performing wipe tests and gamma radiation surveys. This inspection must be performed within 3 hours after the package is received at the KF facility. Monitoring shall be performed in accordance with 10 CFR 71.47 for external radiation levels and with 10 CFR 71.87(I) for removable surface contamination.

If the external radiation levels are greater than the limits of 71.47 (200 mrem/h at any point on the external surface or 10 mrem/h at 1 meter from the package) or a wipe test of 300 cm^2 shows greater than 660 dpm, the RSO shall immediately notify the final delivery carrier and, by telephone and telegram, mailgram or facsimile, the appropriate NRC Regional Office (Region I).

1.2 Packages that are not labeled, do not contain more than 8 millicuries of Am-241, or are not damaged, do not require wipe tests on the external surfaces of the package or monitoring of external radiation levels.

OPENING AND INSPECTION OF PACKAGES

1. Shipping packages shall be opened by or under the supervision of the RSO.

1.1 Wipe tests will be conducted on foil/holders (radiators) and/or detectors. Any wipe greater than 0.005 microcurie shall be cause for rejection and notification of the supplier.

1.2 An inventory of package contents shall show agreement between the contents and the shipping documents. Any departures will be investigated and reconciled by the RSO.

cc: Sheldon Zaklow
Jack Ronayne, RSO
Scott Parker
Rick Ball

TELEPHONE CONVERSATON RECORD	Date: 7/11/94	Time: 10:00am
Mail Control No.: 119054	220-15285-01License No.:	Docket No.:030-08864
Person Called: Robert MacNutt, Quality Manager	Licensee:Kidde-Fenwal	Telephone Number: (508)881-2000
Person Calling: Eric H. Reber / (215) 337-5276		
Subject:		

Summary:

1. Submit a description of the duties and responsibilities of your Radiation Safety Officer. The typical duties of a Radiation Safety Officer would be:

   a. To assess radiological hazards and prescribe, and ensure the implementation of, appropriate radiation safety precautions.

   b. To ensure that the use of licensed material is by or under the direct supervision of individuals specifically listed on your license.

   c. To ensure that licensed materials are properly secured against unauthorized removal at all times when not in use.

   d. To perform routine inspections of all laboratories using or storing licensed materials.

   e. To ensure that the terms and conditions of your license are met, and that all required records are maintained.

2. Your application does not state that periodic training of radiation workers will be provided. Specify the frequency for these periodic training sessions. It is acceptable to retrain workers annually.

3. Describe your procedures for receipt of licensed materials, and for notification of responsible persons upon the receipt of these materials.

Action Required/Taken:

Signature: Eric H. Reber	Date: 7/11/94

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JAN 26 1994

Docket No. 030-08864
License No. 20-15285-01
Control No. 119054

Kidde-Fenwal, Inc.
ATTN: Robert A. Macnutt
Quality Manager
400 Main Street
Ashland, Massachusetts 01721

Dear Mr. Macnutt:

Subject: LICENSE RENEWAL APPLICATION

This is to acknowledge receipt of your application for renewal of material(s) license identified above. Your application is deemed timely filed, and accordingly, the license will not expire until final action has been taken by this office.

Any correspondence regarding the renewal application should reference the control number specified above.

Sincerely,

Original Signed By:
Sheryl Villar

Sheryl Villar, Chief
Licensing Assistance Section
Division of Radiation Safety
and Safeguards

mar 1/26/94 CJ 1/24/94

S:\PENDING\KIDDE.DTL OFFICIAL RECORD COPY December 20, 1993
ML 10

KIDDE FENWAL

KIDDE-FENWAL, INC.
400 MAIN STREET
ASHLAND, MA 01721
TEL: (508) 881-2000
FAX: (508) 881-6729

November 23, 1993

030-08864

United States Nuclear
Regulatory Commission
Nuclear Safety Section B
475 Allendale Road
King of Prussia, PA 19406

License No. 20-15285-01
Expiration Date: 01-31-94
Program Code: 03214

RECEIVED
'93 NOV 29 P 4:47

SUBJECT: Renewal of our NRC
License No. 20-15285-01

ATTENTION: License Renewal Section

As advised in your letter of October 05, 1993, enclosed is Kidde-Fenwal, Inc.'s timely application for renewal of NRC License No. 20-15285-01. We wish to continue this Material License as stated in NRC License No. 20-15285-01 Amendment No. 16.

We have elected to submit the renewal application in its entirety. This procedural choice was influenced by the January 1, 1994, implementation date for the new 10 CFR Part 20. Although we believe our program is fully consistent with the new Part 20, we appreciate this opportunity for your review of the program in the early days of the new rule.

It is our intent that the renewed license continue the coverage now stated in License No. 20-15285-01 and also clarify the covered activities with respect to the Nohmi smoke detectors. In addition to storage of the Nohmi detectors, we process and distribute them pursuant to Section 32.26 and License No. 20-15285-03E.

As required by 10 CFR 170.31, enclosed with this application for renewal of License No. 20-15285-01 is our check for $2200.00.

If any questions arise in your consideration of our application, please call me (508) 881-2000.

Sincerely,

Robert A. MacNutt

Robert A. MacNutt
Quality Manager

Encl.: (2) copies of renewal application
Renewal fee check for $2200.00

License Fee Information
on [illegible] dtd 11/23/93

119054

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NOV 29 1993

NRC FORM 313
10 CFR 30, 32, 33, 34, 35 and 40

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR MATERIAL LICENSE

APPROVED BY OMB: NO. 3150-0120
EXPIRES 6-30-93

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 2.25 HOURS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0120), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOUR ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION
NUCLEAR MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

NUCLEAR MATERIALS SAFETY SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION II
101 MARIETTA STREET, NW, SUITE 2900
ATLANTA, GA 30323

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
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:

MATERIAL RADIATION PROTECTION SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-8064

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

NUCLEAR MATERIALS SAFETY SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION V
1450 MARIA LANE
WALNUT CREEK, CA 94596-5368

030-08864 X

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 JURISDICTIONS.

1. THIS IS AN APPLICATION FOR (Check appropriate item)

- A. NEW LICENSE
- B. AMENDMENT TO LICENSE NUMBER _____
- X C. RENEWAL OF LICENSE NUMBER 20-15285-01

2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip Code)

Kidde-Fenwal, Inc.
400 Main Street
Ashland, MA 01721

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED.

400 Main Street
Ashland, MA 01721

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Robert A. MacNutt - Quality Manager

TELEPHONE NUMBER: (508) 881-2000

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.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

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

FEE CATEGORY | AMOUNT ENCLOSED: $ 2200.00

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 OFFICE 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
[signature]	Sheldon Zaklow	V.P. - Operations	11-23-93

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	COMMENTS
REN	Dec 6	3B	

AMOUNT RECEIVED	CHECK NUMBER
$2200	176370

APPROVED BY [signature] DATE 12/16/93

NRC FORM 313 (3-89)

OFFICIAL RECORD COPY ML 10

119054 NOV 29 1993

ITEM 5. RADIOACTIVE MATERIAL

a. Element and mass number	b. chemical and/or physical form	c. maximum amount that will be possessed at one time
A. Americium 241	A. Foil sources (Nuclear Radiation Development Model A-001, Amersham Corp. Models AMM-1001, AMM-1001H or AMM-1001D)	A. Not to exceed 6 microcuries per source and 1.8 millicuries total
B. Americium 241	B. Foil sources (Nuclear Radiation Development Model A-001, Amersham Corp. Models AMM-1001, AMM-1001H or AMM-1001D)	B. Not to exceed 2.5 microcuries per source and 800 millicuries total

ITEM 6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED

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

B. Fabrication of smoke detectors, and import and processing for distribution of smoke detectors.

ITEM 7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE

The licensed material will be used by, or under the supervision of, John L. Ronayne. Mr. Ronayne also is the radiation safety officer (RSO) for License No. 20-15285-01. Mr. Ronayne has been designated on the license as the responsible user and the RSO since early 1993.

The qualifications of John L. Ronayne are the following:

1. Prior to Jan. 1993, John L. Ronayne worked under the supervision of Kidde-Fenwal's former RSO in the performance of the Kidde-Fenwal Radiation Safety Program. John formerly was the Quality Engineer with the responsibility of the Receiving Department.

2. John L. Ronayne attended the Harvard School of Public Health Course "Occupational and Environmental Radiation Protection" for the period of March 23 - 27, 1992.

3. In addition, John L. Ronayne attended a 40 hour course conducted by Howard Levingston & Associates. John L. Ronayne satisfactorily completed the course in Radiation Safety and in the fundamentals of radiation, including passing a qualifying examination. John L. Ronayne was certified as a Radiation Safety Officer on July 17, 1992.

4. Also enclosed is a statement of Mr. Ronayne's experience and education.

John L. Ronayne

(b)(6)

Experience:

1954-1981 Olson Mfg. Co., Holden, MA 01520

Methods Engineer
Sales Engineer
Quality Control Manager

Method & Sales Engineer - 20 years - Determined the method of manufacture and sequence of operations including outside operations for a one hundred automatic screw machine job shop.

Quality Control Manager - 7 years - Set up, implemented, managed a plant wide quality control system in a 300 per machine shop. This quality system enabled the company to be certified as an approved quality vendor by Ford Motor Co., G.M., Pratt & Whitney, IBM, Digital, Mercury Marine and others.

1981-1993 Kidde-Fenwal, Inc., Ashland, MA 01721

Tool Engineer
Materials Engineer
Quality Engineer

Tool Engineer - 7 years - Provided the method, tooling and inspection procedures to insure a quality product is being produced by the machine shop.

Materials Engineer - 1 year - Define, locate, inspect raw materials, to determine what are best suited for particular applications.

Quality Engineer - 3 years - Set up and maintain a Computer Aided Gage Calibration System, Receiving Inspection Department, Corrective Action System, Discrepant Material System to ISO 9001.

Education:

(b)(6)

Worcester Jr. College - Basic Engineering	1957
Worcester Industrial Tech. - Drafting	1961
Brown & Sharpe Tool & Cam Design Course	1969
MassARNG - NBC Course	1970
USAR - Staff Officers Radiation Course	1992
Harvard Univ. School of Public Health - Occupational & Environmental Radiation Protection	1992
H. Levingston & Assoc. Radiation Safety Course	

Military:

1952-1979 ARNG/USAR
Master Sargeant
Platoon Sargeant - Heavy weapons - 14 years
Intelligence Sargeant, Infantry - 3 years
Director NCO Academy USAR - 4 years

Professional:

ASQC, Association of the United States Army, Screw Machine Products Assoc.

ITEM 8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS

Individuals working in or frequenting restricted areas are and will continue to be instructed in subjects listed in 10 CFR 19.12, "Instructions to Workers". The training emphasizes good housekeeping practices, inventory control of the sources, assuring that work surfaces are free of contamination, use of individual monitoring devices, NRC regulatory provisions on doses to pregnant women, based on experience the doses to be expected for Kidde-Fenwal employees, and the biological effects of radiation. The training is the primary responsibility of the RSO. Both the RSO and our company doctor are available for answering employees' questions about radiation protection and the effects of radiation.

ITEM 9. FACILITIES AND EQUIPMENT

Licensed material is handled in three limited and defined areas. The areas are shown in the attached sketch 9-1.

Section A on the sketch 9-1 is the incoming area for processing the foreign manufactured Nohmi detectors.

Section B on the sketch 9-1 is the manufacturing restricted storage area and the restricted manufacturing work area that is also used for engineering development purposes.

Section C on the sketch 9-1 is the manufacturing assembly and packing for shipment area.

Section D on the sketch 9-1 is the manufacturing x-ray area.

Access to Section B and D is restricted. Radiation levels outside the restricted areas are very low and satisfy levels for unrestricted areas even though they qualify as controlled areas.

(b)(4)

ITEM 10. RADIATION SAFETY PROGRAM

Kidde-Fenwal's licensed program is for the use of Am-241 in the form of foils. Am-241 emits a 60 kev gamma which produces a radiation level of about 15 millirem per hour per curie at a distance of 1 meter. Am-241 also emits alpha radiation and if taken into the body can cause high internal doses. The Kidde-Fenwal radiation safety program is designed to ensure that the Am-241 is not taken into the body and that external doses are very low.

Contamination Control.

The major emphasis of our radiation safety program is on minimizing the potential for contamination in the work area and possible intake by the workers. The workers are instructed on the construction of a foil and are advised to exercise care in order to avoid possible damage to its containment properties. The employees also are instructed to practice good housekeeping in the restricted area, not to have food in the restricted area, and to wash their hands before eating when they leave the restricted area.

At least weekly when a production line is operating, wipe (smear) samples are taken for possible contamination on likely surfaces in the work area. If a smear showed evidence of contamination, that is, more than a few DPM per square centimeter, clean up would occur. In recent years we have found contamination in only a few instances and those have been for smears from our enclosed source storage/waste storage area.

Another check which we have for possible contamination is the contamination checks performed on our manufactured detectors and on the Nohmi manufactured detectors. If we were to find contamination on the product, immediate action would be taken to determine its origin and to assure that work areas are not contaminated.

Radiation Detection Instruments

Attached is a list of the instruments which we have available for use in our radiation safety program. Portable instruments are sent out for annual calibration by a facility specifically licensed by the NRC or an Agreement State to perform this service. Our laboratory type instruments that are used for analysis of smears are calibrated daily when used, in house, by use of our 0.00966 microcurie Am-241 standard which is referenced to a NIST standard. The active area diameter of the calibration source is 19 mm and comparable to the diameter of the samples that are analyzed.

Personnel Monitoring Equipment.

We have long used film badges supplied by Landauer Co. Over the years, because of changes in the number of workers and detectors produced, our number of badged workers has varied from about 40 to 12. Badges are exchanged monthly. Landauer's reported lower limit of detection is 10 mr. No detectable personnel exposure has been reported in recent years by Landauer. Occasionally we have used badges for area monitoring and for those have received reported exposures above the minimum detectable.

We intend to continue using Landauer badges, but if a change is made we will use badges from a supplier accredited under the NVLAP (10 CFR 20.1501(c)).

We intend to continue to badge our RSO and others to an extent at least in compliance with 10 CFR 20.1502.

Periodic Review of Radiation Protection Program

As required by 10 CFR 20.1101(c) we will periodically review the content of our radiation protection program and its implementation. On a semi-annual basis this review will be performed by the RSO and the Quality Manager. On an annual basis the review will be performed by the RSO, Quality Manager, and the V.P.-Operations.

ITEM 11. WASTE MANAGEMENT

All wastes are stored in containers in a restricted storage area, Section B. Radioactive waste consists almost entirely of foil sources which do not meet our specifications or foil sources from detectors which have been returned to Kidde-Fenwal. The returned detectors are a consequence of (1) a label which we used in the 70's advised the customer to return the detector to the manufacturer for disposal, and (2) a label which advised the customer to return the detector to the manufacturer for service. In the latter case, if service is not feasible, the detector enters our waste stream.

Sources which were originally obtained from a present supplier, per agreement, are transferred back to that supplier. We presently have 3410 sources, containing about 3 mCi of Am-241 foils, which will soon be transferred. Together with source holders these occupy a volume of about 2 liters and do not constitute a storage problem.

Sources which were originally obtained from a supplier that no longer exists will be transferred to an NRC or Agreement State licensed disposal company. We presently have stored 328 sources, containing less than 1 mCi of Am-241 foils, in this category. They occupy a volume of about 1 liter and do not constitute a storage problem. Any other waste, such as contaminated wipes, also will be handled in accordance with 10 CFR 20.2001.

INSTRUMENTS RETAINED BY KIDDE-FENWAL, INC.

1. **Radector**
   Manufactured by Jordan Electronic Mfg. Company
   Model No. AGB-50-SR
   Serial No. 212
   Range 0.05 MR/HR to 50R/HR
   Asset No. 2-6-253

2. **Digi/Rate**
   Manufactured by Reactor Experiments, Inc.
   Model No.
   Serial No.
   Range 0.1 MR/H to 99.9 R/H
   Asset No. E1901

3. **Survey Meter**
   Manufactured by Tracerlab
   Model No. SU-21
   Serial No. 667018
   Range 0-0.5, 0-5.0, 0-50.0 MR/HR
   Asset No. 6922

4. **Count Rate Meter**
   Manufactured by Ludlum Measurements, Inc.
   Model 12
   Serial No.
   Range - 500 Counts/min., X1, X10, X100, X1000

5. **Scaler**
   Manufactured by Ludlum Measurements, Inc.
   Model 2000
   Serial No. 83836

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM
AND
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)
INFORMATION FROM LTS

PROGRAM CODE: 03216
STATUS CODE: 2
FEE CATEGORY: 3B
EXP. DATE: 19940131
FEE COMMENTS: ALWAYS
DECOM FIN ASSUR REQD: N

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED
APPLICANT/LICENSEE: KIDDE-FENWAL, INC.
RECEIVED DATE: 931129
DOCKET NO: 3008964
CONTROL NO.: 119054
LICENSE NO.: 20-15285-01
ACTION TYPE: RENEWAL

2. FEE ATTACHED
AMOUNT: $1200.00
CHECK NO.: 17620

3. COMMENTS

SIGNED M.A. Perkins
DATE 12/3/93

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED N/A)

1. FEE CATEGORY AND AMOUNT: 3B $1200

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

3. OTHER

SIGNED
DATE 12/14/93