

APPLICATION FOR MATERIAL LICENSE

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.

FEDERAL AGENCIES FILE APPLICATIONS WITH:

U.S. NUCLEAR REGULATORY COMMISSION
DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS
WASHINGTON, DC 20555

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS, IF YOU ARE LOCATED IN:

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

U.S. NUCLEAR REGULATORY COMMISSION, REGION I
NUCLEAR MATERIAL SECTION B
631 PARK AVENUE
KING OF PRUSSIA, PA 19406

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

U.S. NUCLEAR REGULATORY COMMISSION, REGION II
MATERIAL RADIATION PROTECTION SECTION
101 MARIETTA STREET, SUITE 2900
ATLANTA, GA 30323

IF YOU ARE LOCATED IN:

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

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

U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
MATERIAL RADIATION PROTECTION SECTION
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TX 76011

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

U.S. NUCLEAR REGULATORY COMMISSION, REGION V
MATERIAL RADIATION PROTECTION SECTION
1450 MARIA LANE, SUITE 210
WALNUT CREEK, CA 94596

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 JURISDICTION.

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

- ☐ A. NEW LICENSE
☒ B. AMENDMENT TO LICENSE NUMBER 45-09042-01
☐ C. RENEWAL OF LICENSE NUMBER _____

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

A. H. Robins Company, Inc.
1211 Sherwood Avenue
Richmond, VA 23220

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

Addition to existing license: A. H. Robins Poultry Research Facility
121 Cheroy Road
Ashland, VA 23005

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Jack H. Newman

TELEPHONE NUMBER

(804) 257-2366

SUBMIT ITEMS 5 THROUGH 11 ON 8 1/2 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. See Attachment

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

See Attachment

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

Previously Submitted 5/17/84

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

See Attachment

9. FACILITIES AND EQUIPMENT.

See Attachment

10. RADIATION SAFETY PROGRAM. See Attachment

11. WASTE MANAGEMENT.

U.S. Ecology

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

FEE CATEGORY 3M AMOUNT
ENCLOSED \$ 120.00

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, 22 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.

SIGNATURE—CERTIFYING OFFICER

Carl D. Lunsford

TYPED/PRINTED NAME

Carl D. Lunsford, Ph.D.

TITLE

Senior Vice-President

DATE

7/23/87

14. VOLUNTARY ECONOMIC DATA

a. ANNUAL RECEIPTS

<input type="checkbox"/> <\$250K	<input type="checkbox"/> \$1M-3.5M
<input type="checkbox"/> \$250K-500K	<input type="checkbox"/> \$3.5M-7M
<input type="checkbox"/> \$500K-750K	<input type="checkbox"/> \$7M-10M
<input type="checkbox"/> \$750K-1M	<input type="checkbox"/> >\$10M

b. NUMBER OF EMPLOYEES (Total for entire facility excluding outside contractors)

N/A

c. NUMBER OF BEDS

N/A

d. WOULD YOU BE WILLING TO FURNISH COST INFORMATION (Dollar and/or staff hours)
ON THE ECONOMIC IMPACT OF CURRENT NRC REGULATIONS OR ANY FUTURE
PROPOSED NRC REGULATIONS THAT MAY AFFECT YOU? (NRC regulations permit
it to protect confidential commercial or financial—proprietary—information furnished to
the agency in confidence)

☐ YES

☒ NO

FOR NRC USE ONLY

TYPE OF FEE

FEE LOG

FEE CATEGORY

COMMENTS

APPROVED BY

AMOUNT RECEIVED

CHECK NUMBER

8801220389 870806
REG2 LIC30
45-09042-01 PDR

DATE

PRIVACY ACT STATEMENT

Pursuant to 5 U.S.C. 552a(e)(3), enacted into law by section 3 of the Privacy Act of 1974 (Public Law 93-579), the following statement is furnished to individuals who supply information to the Nuclear Regulatory Commission on NRC Form 313. This information is maintained in a system of records designated as NRC-3 and described at 40 Federal Register 45334 (October 1, 1975).

1. **AUTHORITY:** Sections 81 and 161(b) of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2111 and 2201(b)).
2. **PRINCIPAL PURPOSE(S):** The information is evaluated by the NRC staff pursuant to the criteria set forth in 10 CFR Parts 30, 32, 33, 34, 35 and 40 to determine whether the application meets the requirements of the Atomic Energy Act of 1954, as amended, and the Commission's regulations, for the issuance of a radioactive material license or amendment thereof.
3. **ROUTINE USES:** The information may be (a) provided to State health departments for their information and use; and (b) provided to Federal, State, and local health officials and other persons in the event of incident or exposure, for their information, investigation, and protection of the public health and safety. The information may also be disclosed to appropriate Federal, State, and local agencies in the event that the information indicates a violation or potential violation of law and in the course of an administrative or judicial proceeding. In addition, this information may be transferred to an appropriate Federal, State, or local agency to the extent relevant and necessary for an NRC decision or to an appropriate Federal agency to the extent relevant and necessary for that agency's decision about you.
4. **WHETHER DISCLOSURE IS MANDATORY OR VOLUNTARY AND EFFECT ON INDIVIDUAL OF NOT PROVIDING INFORMATION:** Disclosure of the requested information is voluntary. If the requested information is not furnished, however, the application for radioactive material license, or amendment thereof, will not be processed. A request that information be held from public inspection must be in accordance with the provisions of 10 CFR 2.790. Withholding from public inspection shall not affect the right, if any, of persons properly and directly concerned need to inspect the document.
5. **SYSTEM MANAGER(S) AND ADDRESS:** U.S. Nuclear Regulatory Commission
Director, Division of Fuel Cycle and Material Safety
Office of Nuclear Material Safety and Safeguards
Washington, D.C. 20555

Supplementary Data Sheet

- Item No. 5 Radioactive Material
a. Element and mass number: carbon-14
b. Chemical and/or physical form: any
c. Maximum amount which will be possessed at any one time:
30 millicuries
- Item No. 6 Purpose(s) for which licensed material will be used: Laboratory tracer studies in the chicken(s)
- Item No. 7 Individual responsible for radiation safety program.
Jack H. Newman
- Item No. 8 Training for individuals working in or frequenting restricted areas. Name: Gary P. Dimenna

<u>Type of Training</u>	<u>Location of Training</u>	<u>Date of Training</u>
(a) Principles and Practices of Radiation Protection	Michigan State University	1975
(b) Radioactivity Measurements, Standardization and Monitoring Techniques and Instruments	Michigan State University	1975
(c) Mathematics and Calculations basic to the use and measurement of radioactivity	Michigan State University	1975
(d) Biological effects of radiation	Michigan State University	1975

Experience for Gary P. Dimenna

<u>Location of Experience</u>	<u>Type of Experience</u>	<u>Radionuclide</u>
(a) Michigan State University	Metabolism Studies 1974-78	Carbon-14
(b) Univ. of Calif. - Davies	Metabolism Studies 1979-80	Carbon-14
(c) A. H. Robins Company	Metabolism Studies 1981-Present	Carbon-14 Tritium Rubidium-86 Sodium-22

Item No. 9 Facilities and Equipment

This one floor building is located on a farm with surrounding acreage. There are additional facilities on this farm which are used by the Medical College of Virginia. The farm is located about two miles from the town of Ashland, Virginia, in a rural environment. A caretaker has an established residence on this acreage.

The studies using radioactive materials will be in the area of the building which is dedicated to poultry research. The primary areas which will be utilized in these studies are: (a) Isolator Room, (b) Laboratory Necropsy Room, and (c) cage washer.

Isolator Room - This room will serve to house the chickens and administer the doses. The room is 15' x 8' with an 8' ceiling. The walls are constructed of cement block, and the floor is concrete. These surfaces are coated with epoxy paint. The ceiling is dry wall board with a painted surface. The room will be fitted with a door during conduct of these studies. The drainage to and from this room is an open trough fitted with a stainless steel cover. This trough passes to a concrete sewer pipe which empties into 2 connecting lagoons. These lagoons cover approximately 5 acres and is estimated to be 12' at its deepest point. It is enclosed by a fence. It is stocked with fish, and the area is inhabited by domesticated ducks.

Cages - The chickens will be housed in batteries of stainless steel, isolator cages when being administered the radioactive doses. The cages are constructed with a galvanized wire flooring and stainless steel excreta collection pans. Each cage is equipped with an individual filter for incoming and exhaust air. The air flow through each unit is approximately 7 CFM. Each cage is also supplied with its individual light source by a sealed, glass enclosed, incandescent light.

Laboratory Necropsy Room - This room is accessible from the Isolator Room by a hallway which is constructed of a concrete floor with epoxy paint. The Laboratory Necropsy Room is 7' x 14' with an 8' ceiling. The walls and floor construction are similar to the Isolator Room. The ceiling is acoustic tile. This room is equipped with a stainless steel double sink, and the drainage leads to a septic tank. The laboratory benches are covered with formica.

Item No. 10 Radiation Safety Program

The use of radioactivity at the poultry research facility is designed to be of short duration (1-2 weeks) in each individual study.

The radioactivity will be transferred to the farm just prior to administering the doses by Drug Metabolism Department personnel. It will be kept in marked containers until the conclusion of the study. Any remaining radioactive dosages will be returned to the Drug Metabolism Department.

The Isolator Room floor will be protected by two layers of wall to wall plastic covering. This surface will be monitored after each dose administration, and any contamination found on the plastic will immediately be removed or covered with additional plastic.

Each cage sliding channel will be covered with duct tape to prevent contamination. Any personnel entering the Isolator Room will wear a disposable laboratory coat, plastic foot coverings, and disposable rubber gloves.

Appropriately labeled containers will be available at the entrance of the Isolator Room to discard radioactive contaminated articles.

Each chicken will be killed prior to being moved from the Isolator Room. They will be killed in manner to contain and prevent excreta from being spread during the killing procedure. The chickens will then be dry picked of feathers. Special attention will be given to the feathers in the anal area of the chicken. All feathers will be placed in a metal container lined with a plastic bag as they are picked. These feathers will be transferred to the Drug Metabolism Department for disposal.

After picking the feathers from a selected area of each chicken, the chickens will be transferred to the Necropsy Room. Selected tissues will be removed for further analysis. Necropsy will be done over absorbent paper which will be placed on the floor and necropsy tables. The remainder of the carcasses will be placed in individual plastic bags and returned to the Drug Metabolism Department in metal containers.

Excreta will be removed from each cage daily. It will be packaged according to the A. H. Robins Radiation Protection Manual. At the conclusion of the study, the interior surfaces of each cage will be scrubbed with a brush and soapy water followed by using a small amount of rinse water. Care will be taken to keep the volume within the capacity of the stainless steel excreta collection tray. The rinse water will be collected from each tray and placed in containers to be returned to the Drug Metabolism Department for disposal. The duct tape will then be removed from the cages.

Fresh covering will be placed on the floor prior to rolling the cage units from the Isolator Room. The cage unit wheels will be monitored outside the Isolator Room to insure that no radioactive contamination is present prior to moving the cages to the cage washer. The cages will then be moved to the Vernitrol Medical Cage Washer for a final wash.

A "Radioactive Materials" sign will be placed on the entrance to the Isolator Room. Appropriate radioactive labels will be affixed to all containers containing any radioactivity.

All equipment used in the radioactive dosings, contaminated articles, floor coverings, excreta, and carcasses associated with this study will be removed from the premises at the conclusion of the study and transferred to the Drug Metabolism Department for disposal.

The working areas will be swipe tested and surveyed by a G-M survey meter prior to the study and at the completion of the study to verify contamination free areas.