

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

☒ C. RENEWAL OF LICENSE NUMBER 12-18761-01

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

Christian-Roge & Associates, Inc.
130 North Franklin Street
Chicago, Illinois 60606

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

At address listed in item #2 and at temporary jobsites anywhere NRC maintains jurisdiction.

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Carl C. Roge

TELEPHONE NUMBER

312-372-2023

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.

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 E

8507160074 850621
REG3 LIC30
12-18761-01 PDR

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT...

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

FEE CATEGORY 3P

AMOUNT ENCLOSURE \$ 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, 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

SIGNATURE—CERTIFYING OFFICER

TYPED/PRINTED NAME

TITLE

DATE

Carl C. Roge

Carl C. Roge

Chairman & CEO

4-22-85

14. VOLUNTARY ECONOMIC DATA

a. ANNUAL RECEIPTS

< \$250K	\$1M-3.5M
\$250K-500K	\$3.5M-7M
\$500K-750K	\$7M-10M
\$750K-1M	> \$10M

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

c. NUMBER OF BEDS

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

FOR NRC USE ONLY

TYPE OF FEE

FEE LOG

FEE CATEGORY

COMMENTS

AMOUNT RECEIVED

CHECK NUMBER

APPROVED BY

DATE

CONTROL NO. 78804

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

Item 5. RADIOACTIVE MATERIAL.

	a. Element and Mass Number	b. Chemical and/or Physical Form	c. Maximum Amount Which Will be Possessed at Any One Time
A.	Cesium-137	A. Sealed Source (Trolxer Model No. 102112)	A. No single source to exceed 9 millicuries
B.	Americium-241	B. Sealed Source (Trolxer Model No. 102451)	B. No single source to exceed 40 millicuries

Item 6. PURPOSE FOR WHICH LICENSED MATERIAL WILL BE USED.

For use in Troxler 3400 series Moisture-Density gauge to measure properties of construction materials.

Item 7. INDIVIDUAL RESPONSIBLE FOR RADIATION SAFETY PROGRAM WITH TRAINING AND EXPERIENCE.

Ronald E. Havel is responsible for the radiation safety program. He has completed the radiological training course conducted by Troxler Electronics Laboratories, Inc. His experience is indicated on the attached resume.

Item 8. FORMAL TRAINING IN RADIATION SAFETY

The following listed persons of our staff have received formal training in radiation safety:

- Ronald E. Havel, P.E.
- Edward J. Mills, P.E.
- John R. Kehrberg, P.E.
- Anthony J. Miller
- Mark Pytko, P.E.
- John Paoletti
- Barry Hynes

The radiological training course was conducted by the Troxler Electronic Laboratories, Inc., over a two day period in the Chicago Metropolitan area. The training was given during various sessions over the past five years.

Personnel monitoring devices, film badges, are supplied and exchanged on a monthly basis for all individuals working with the moisture-density gauge. The supplier is:

R. S. Landauer, Jr. Co.
Glenwood Science Park
Glenwood, Illinois 60425

RONALD E. HAVEL
Project Manager
Christian-Roge & Associates, Inc.

Personal

Date of Birth: November 13, 1933

Education

Michigan Technological University, 1955, BSCE
Northwestern University, 1968, MBA

Registration

Professional Engineer, Illinois 1961

Professional Organizations

National Society of Professional Engineers
Illinois Society of Professional Engineers
Institute of Traffic Engineers
Western Society of Engineers

Experience

1957-1961 Engineer and Planning Engineer
 Urban and Regional Transportation Planning and Location
 DeLeuw-Cather & Company, Chicago, Illinois

Major Projects

Transportation Studies for Various Communities
Freeway Location Studies, Sydney, Australia

RONALD E. HAVEL

Experience (Continued)

1961-1969 Project Manager
Planning, Location, Design and Construction
H. W. Lochner, Inc., Chicago, Illinois

Major Projects

Transportation Study for Madison-St.Clair Counties
Transportation Study, Fox River Valley
Joliet Area Transportation Study, Will County
Freeway Location Study, North Suburban Freeway
Freeway Location Study, Fox River Valley Freeway
FAI Route 70, East St. Louis, Illinois
FAI Route 275, Covington, Kentucky

1969-Present Project Manager
Planning, Location, Design and Inspection
CHRISTIAN-ROGE & ASSOCIATES, INC., CHICAGO, ILLINOIS

Major Projects

FAI Route 426, Elgin, Illinois
FAI Route 72, Decatur, Illinois
FAI Route 412, Decatur, Illinois
FAI Route 474, Peoria, Illinois
FAI Route 407, Quincy, Illinois
* Tri-State Tollway, Cook County, Illinois
* Northwest Tollway, Cook County, Illinois
East River Road, Cook County, Illinois
Lake-Cook Road, Cook County, Illinois
* FA Route 412, Rochelle, Illinois
* East-West Tollway, DuPage County, Illinois
* FAI Route 55, Will County, Illinois
* Northwest Tollway, Cook County, Illinois

* Construction Inspection

Licensed by Nuclear Regulatory Commission to operate nuclear
moisture-density gauges.

Christian-Roge & Associates, Inc.

CONTROL NO. 78804

Item 9. FACILITIES AND EQUIPMENT

The facilities used for storage of the moisture-density gauge are shown on the attached drawings.

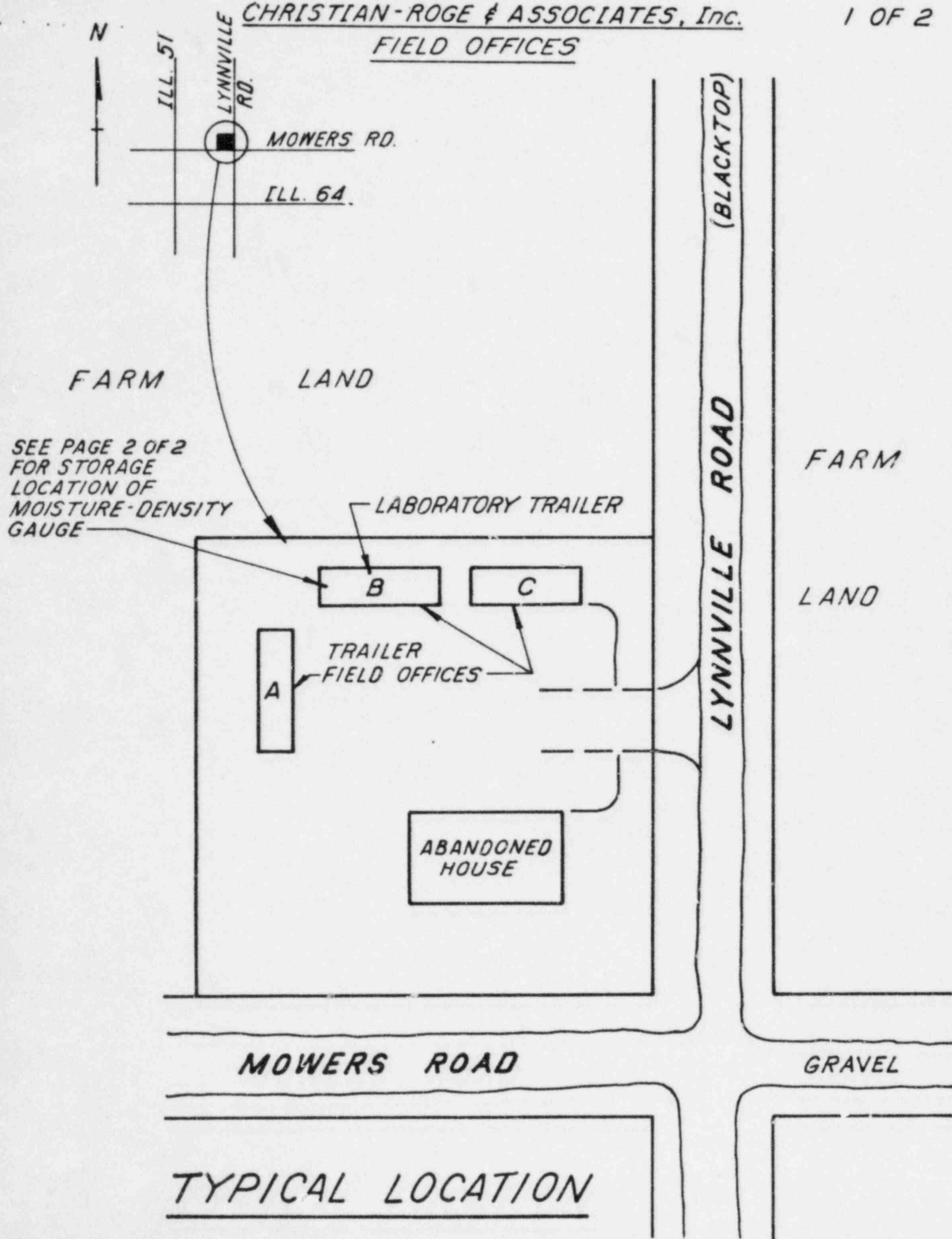
Item 10. RADIATION SAFETY PROGRAM

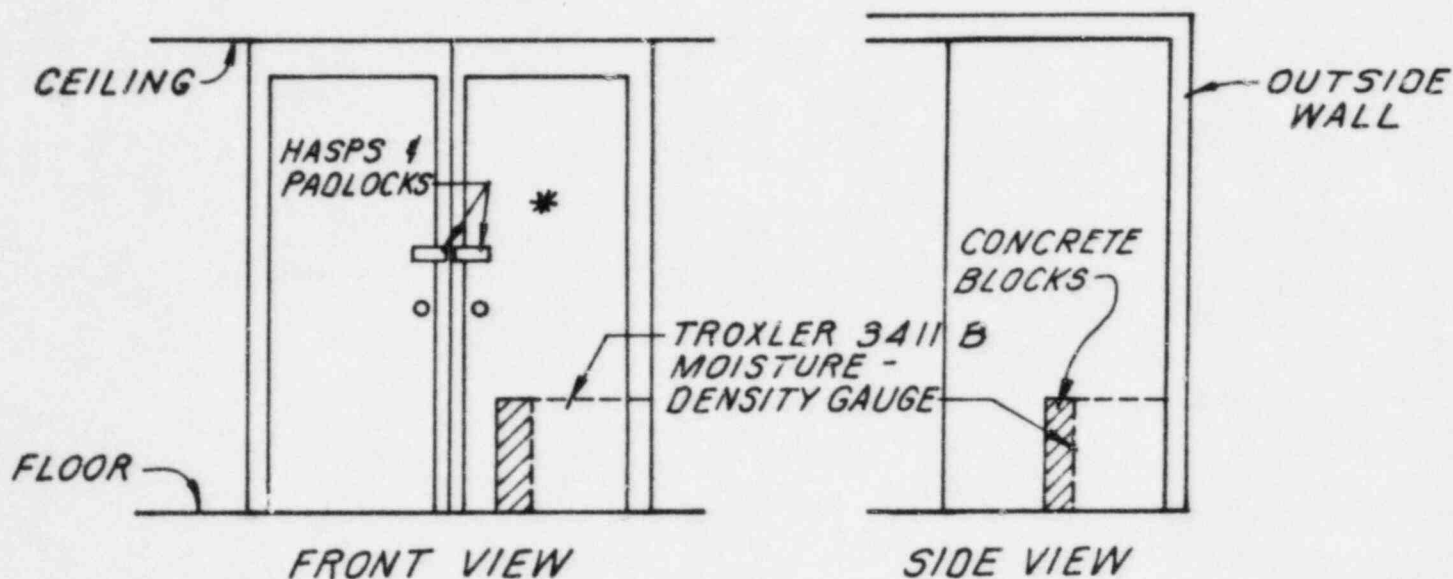
This Radiation Safety Program is designed to maximize operator safety and to outline the precautions which must be observed by the operators and licensee. The term "licensee" as used below shall mean Christian-Roge & Associates, Inc.

A. HANDLING PROCEDURES

1. Do not operate or attempt to operate the instrument unless you have been authorized to do so.
2. Keep the source position in the "SAFE" or stored position when not in use.
3. Wear a film badge or other dose measurement device when using or transporting the instrument.
4. While exposure dose levels are well within limits for radiation workers, never expose yourself to the bare source without sufficient reason for justification of the additional dose.
5. Keep all unauthorized persons out to the operating area. A suggested distance is 5 meters or 15 feet. The general public must not be unnecessarily exposed to radiation.
6. Maintain security of the instrument at all times. The source lock should be in place when not in use and the instrument should be kept in a locked vehicle when transported. When stored, the area should be locked. Not only is it an expensive piece of equipment but, if stolen, could be abandoned under conditions which could be hazardous.
7. The operator shall report any operating procedures that he feels are unsafe to the Radiation Safety Officer.
8. Insure that the gauge has had leak tests performed at the intervals required by the Radioactive Materials License. Leak tests will be performed by using a Troxler Electronic Laboratories, Inc., Model 3880 Leak Test Kit.
9. Any maintenance on the gauges involving dismantling, removal of source holders, etc., shall not be performed by the user and must only be performed by the manufacturer of the device.
10. If you have any doubts about use of the instrument, ASK. Your Radiological Safety Officer either has the answer or can obtain one.

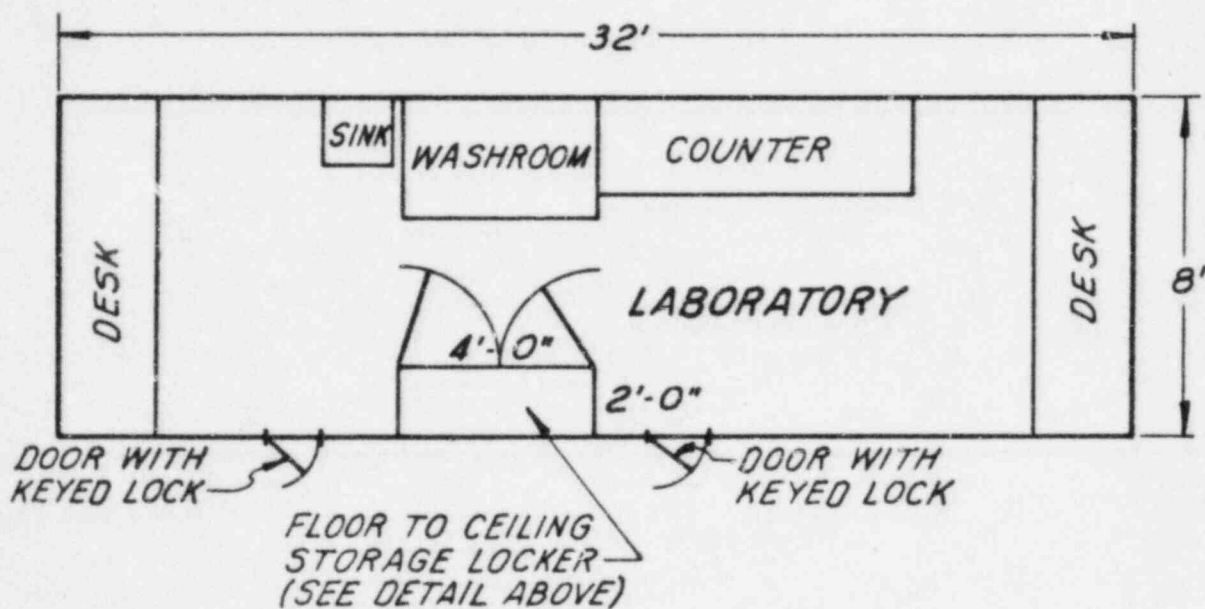
FIELD OFFICES





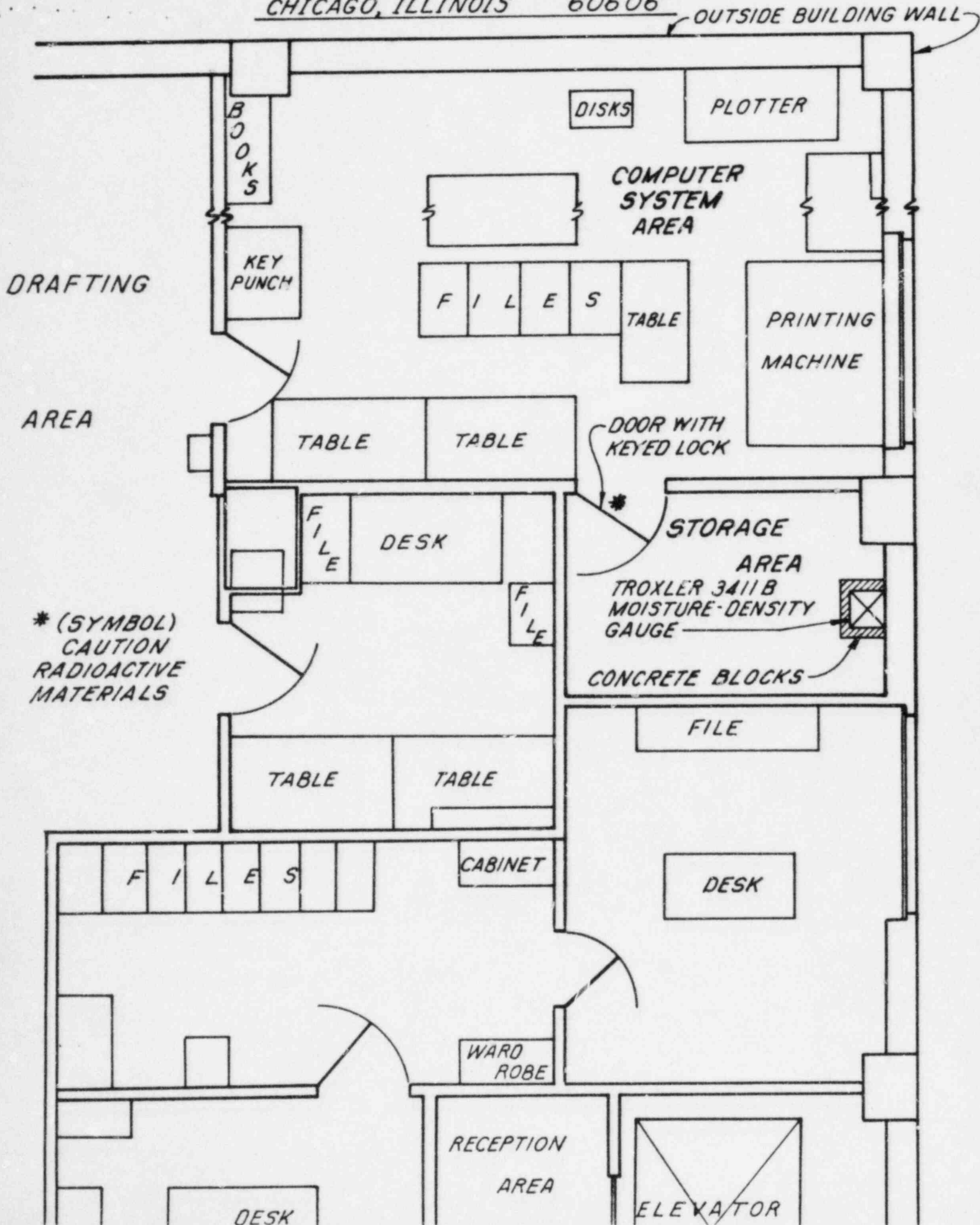
* (SYMBOL)
CAUTION
RADIOACTIVE MATERIALS

STORAGE LOCKER



FIELD OFFICE B (TRAILER)

TYPICAL FIELD STORAGE



B. SECURITY

Regulations require that locks be maintained on radiographic equipment to prevent accidental exposure of a sealed source when not under the direct supervision of approved personnel. In addition, storage containers shall be physically secured to prevent tampering or removal by unauthorized personnel.

Designated and locked locations of storage at the main office and temporary job sites shall be determined by the Radiation Safety Officer and the licensee. Keys to the storage area shall be issued only to persons authorized by the licensee.

Each storage area shall be identified with the NRC radiation symbol and the legend:

CAUTION

RADIOACTIVE MATERIALS

C. PERSONNEL MONITORING

The licensee should not permit any person to use this equipment unless at all times the user is in the possession of a film badge or other form of dosimetry.

D. RECORDS AND REPORTS

1. The licensee shall conduct a quarterly physical inventory to account for all sealed sources received and possessed under the license. The inventory record shall be maintained for inspection.
2. The licensee shall have all sealed sources leak tested at the interval required by the license. When transferred, in the absence of a leak test certificate, the source shall not be put into use until tested.
3. Reports from film badge service must be maintained for inspection. Reports will be obtained monthly.
4. When an individual terminates employment with the licensee, a record of his total received dose shall be made available to the employee.

E.

INCIDENTS

1. The licensee shall report any theft or loss of licensed material by telephone or telegram to the appropriate agency, including the appropriate state agency. Within 30 days after the loss, a written report shall be filed giving a detailed description of the source, circumstances of the loss, statement of disposition, possible radiation exposure or hazard, actions taken to recover the source, and procedures which will be implemented to prevent a recurrence of the loss or theft.
2. The licensee shall report any overexposure of operators which exceeds the limits given in 10 CFR part 20, detailing circumstances of the exposure and possible injury.

F.

HANDLING AND EMERGENCY PROCEDURES

1. No personnel may transport or use the nuclear gauges unless the individual has been approved by the Radiation Safety Officer and the requirements of these procedures are met.
2. Each user must demonstrate their ability to correctly and safely use the nuclear gauge.
3. At the termination of each field use, the nuclear gauge will be transferred to its regular storage area.
4. In the event of physical damage to a gauge, a six (6) feet radius exclusion area should be maintained until the extent of source damage (if any) is determined. If a vehicle is involved, it must be stopped and remain stopped until the extent of contamination hazard (if any) is determined. If visual examination of the instrument and source indicates damage to the source, including fracture of the weld, the appropriate authorities and Troxler Electronic Laboratories, Inc. should be notified. The instrument may be removed from the site by using a shovel or other long handled instrument and placed in a suitable container such as a metal drum. Provisions should be made to have the site surveyed for possible contamination after the instrument is removed. Disposition by the factory, as covered later, could be arranged after a leak test has been performed to determine the integrity of the source before shipment back to the factory.
5. Immediate telephone notification must be made to the following in the event of accident (4 above) or the loss of a sealed source, whether accidental or due to theft.

A. * Company Radiation Safety Officer

Carl C. Roge

* Ronald E. Havel

Office (312) 372-2023

Office (312) 372-2023

Home (312) 358-4916

Home (312) 369-6676

5. (Continued)

- B. NRC Regional Office
- C. State Health Department
Radiological Protection Division
- D. Local Authorities
Fire department, sheriff, police,
state highway patrol, as required.
- E. Troxler Electronic Laboratories

G. TRANSPORT BY PRIVATE MOTOR VEHICLE

The equipment, in its container, may be transported by motor vehicle under the "YELLOW II" label without placarding the vehicle as required by 49 CFR 177.823.

The lock shall be in place and the container placed in a portion of the vehicle which can be locked. When not in transit the equipment shall be stored in a secured area.

Since the container has a Transport Index of 0.1 or greater it may not be stored less than 30 centimeters from passengers per 49 CFR 174.586. It also should not be stored for more than 8 hours at less than 1 meter from undeveloped film.

- H. A copy of license and NRC regulations which apply to the gauge will be prominently posted on premises where the gauge is used or stored.

RADIATION SAFETY OFFICER

Roald E. Havel will be assigned the duties of Radiation Safety Officer. He will report to management on radiation safety matters and shall coordinate all activities pertaining to:

1. The safe use of the gauge.
2. Assure compliance with the requirements of Title 10 CRF Parts 19, 20, 30, 71, 150 and 170, applicable state regulations and all applicable US DOT regulations.
3. Assure byproduct materials possessed under the license are in conformity to materials listed on the license.

4. Assure that use of the gauge (particularly in the field) is only by persons named as users under the license or persons who have completed acceptable training.
5. Assure all users wear personnel monitoring badges while using gauges.
6. Assure gauges are properly secured against unauthorized removal at all times.
7. Serve as the point of contact and give assistance in case of emergency, also to insure that all proper authorities are notified promptly in case of accidents.
8. Assure that terms and conditions of the license are met such as:
 - a. Periodic leak tests are performed.
 - b. All required records are kept and reviewed periodically for compliance with regulations. These include source certificate, leak test records, personnel exposure records and transfer of radioactive material.

Item 11. WASTE MANAGEMENT.

In the event that disposal of waste would be necessary, the sources will be returned to the manufacturer.