

RADIATION SAFETY SERVICES, Inc.

1564 Ashland Avenue
Evanston, Illinois 60201

312/866-7744

April 5, 1984

U.S. Nuclear Regulatory Commission
Attn: William J. Adam, Ph.D.
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Control No. 75458

Gentlemen:

The following is our response to your letter dated October 27, 1983. The items in our response are keyed to your letter for clarity. Radiation Safety Services, Inc., is requesting that the contents of our initial application and its supporting documents and of this letter be considered proprietary information with access restricted to NRC personnel in connection with their duties in accordance with the provisions of 10CFR2.790. These documents contain information submitted to the NRC by Radiation Safety Services, Inc., which is of competitive commercial value and is claimed to be proprietary in accordance with 10CFR2.790(b).

1. We are withdrawing our request for authorization for the use of material listed in section 33.100 for research and development at temporary job sites. We are instead requesting authorization to perform emergency decontamination and recovery operations at temporary job sites for material which was originally in sealed or unsealed form. We are also requesting authorization to perform recovery operations on any device approved by the NRC where the device is undamaged and the shutter mechanism can be operated to ensure compliance with the requirements of 10CFR20. Where there is doubt regarding our ability to manage a radiological incident with respect to safety or compliance with Title 10 or Title 49, the problem shall be referred to the NRC, DOT or the manufacturer as is deemed appropriate.
2. We are commercial tenants at the address of our proposed site for use of licensed material. Other licensees also have facilities at this location.

The only planned activities which might overlap those of other licensees at this and other locations involve the performance of services for other licensees.

- a) Our radioactive material control form includes information clearly identifying the licensee who is responsible for licensed material. This form

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be filled out whenever it is necessary to identify which licensee possesses material to separate activities on different licenses.

- b) The facilities of the listed address are under the control of Radiation Safety Services, Inc. Other than services performed for other licensees we do not intend to conduct licensed activities upon their premises.
 - c) We do not plan to perform activities involving the routine use of NRC license material in the possession of other licensees except in the performance of services for these licensees.
3. a) Training will be performed by Eli A. Port, David J. Derenzo, Cindy W. Bloom or any employee of Radiation Safety Services, Inc., who is certified by the American Board of Health Physics or eligible for certification by the American Board of Health Physics.
- b) The following subjects will be presented in the installation and radiation safety course for individuals performing services on fixed gauges.
 - I. BASIC PRINCIPLES OF NUCLEAR PHYSICS
 - II. DETECTION OF RADIATION
 - III. DOSIMETRY-PERSONNEL MONITORING
 - IV. RADIATION SAFETY
 - V. INSTRUCTIONS IN NRC AND TYPICAL STATE REGULATIONS AND LICENSING REQUIREMENTS
 - VI. SPECIFIC SAFETY PRECAUTIONS TO BE FOLLOWED TO INSURE PERSONNEL SAFETY AND REGULATORY COMPLIANCE WHEN SERVICING FIXED GAUGES
 - c) These subjects will typically be covered in 4 days.
 - d) The individual taking the course will demonstrate to the satisfaction of both the instructor and the radiation safety officer that he has met the training objectives of the course and can safely perform the requested services which do not include the removal or exchange of sources for fixed gauges.

4. Survey instruments and pocket dosimeters will be calibrated annually.
5. Step-by-step procedures for servicing non-portable gauges is attached.
6. Copies of our dose calibrator calibration and sealed source leak test records are attached.
7. We do not intend to receive damaged gauges containing quantities of material in excess of 10 times the quantities in 10CFR33.100 Schedule A, Col. 1, at our facility. In nonemergency situations, devices with excessive external exposure rates or where there is evidence of source damage for devices resulting in a loss of activity in quantities greater than 10 times the quantities in 10CFR33.100, Schedule A, Col. 1, will be referred to the appropriate authorities or the manufacturer.
8. Radiation levels in unrestricted areas including areas above and below our calibration room will be maintained below 10CFR20.105 levels while survey instrument calibrations are being conducted. Occupancy factors will not be used. Shielding calculations incorporating available information regarding materials of construction will be used to calculate additional shielding requirements. Prior to the routine use of the facility at a time when the unrestricted areas are not occupied, these areas shall be surveyed to confirm compliance with 10CFR20.105 levels and additional shielding furnished as needed to insure compliance.
9. We are supplementing the routine survey procedures to include surveys of processing areas after handling in unsealed form quantities of byproduct material in excess of 10 times the quantity of material listed in 10CFR30.71, Schedule B.
10. We will provide our proposed services for gauging devices for NRC approved gauges and for devices distributed pursuant to General Licenses issued by the NRC or Agreement states.
11. We agree that the use of a smaller sealed source for calibrations on a portable basis will conform more closely to ALARA considerations and withdraw our request for authorization to routinely use a 5 curie calibration source on a portable basis. We are instead requesting authorization to use a 3 curie source on a portable basis.

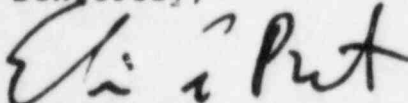
U.S. Nuclear Regulatory Commission
Attn: William J. Adam, Ph.D.
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April 5, 1984

12. Ancillary personnel whose duties require them to work in restricted areas in our facility will receive appropriate training to comply with the requirements of 10CFR19.12 and 20.206. This instruction will be given initially and annually on a refresher basis and will be between 1/2 and 2 hours of instruction depending upon the duties and level of supervision of the personnel.
13. Our Eberline Model NRD Neutron Rem detector was inadvertently omitted from the equipment list supplied with our application. R. S. Landauer neutron dosimeters are presently used and exchanged monthly.
14. The duties and responsibilities of our radiation safety officer include insuring that the terms and conditions of our license are met, that the requirements of NRC regulations are met and that all required records are maintained. These duties and responsibilities include the radiation safety program outlined in our application and its supporting documents and incorporate the typical duties specified in this section of your letter.

We are also withdrawing our request for a specific license for source material. The proposed source material activities shall be conducted under the authorization of the general license issued in 10 CFR 40.22.

If you have any further questions regarding our application, its supporting documents or our response to this letter, please contact me at (312) 866-7744. A check to pay an additional license fee of \$570 is being submitted along with a copy of this letter to the License Fee Management Branch.

Sincerely,



Eli A. Port, CHP, P.E.
President

EAP:ts

Enclosure

cc Glenda Jackson, License Fee Management Branch

RADIATION SAFETY SERVICES, INC.
DOSE CALIBRATOR CALIBRATION RECORD

Manufacturer: _____ Model: _____ Serial No.: _____ Date: _____	For: _____
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Calibration No. _____

Instrument Zero _____ Background Zero _____ Chamber Liner _____

CALIBRATION DATA

A. ACCURACY

<u>Radio Nuclide</u>	<u>Source Activity</u>	<u>Net Averaged Instrument Reading</u>	<u>Percentage Error</u>
Co-57	_____	_____	_____
Ba-133	_____	_____	_____
Cs-137	_____	_____	_____
_____	_____	_____	_____

- ☐ This instrument is accurate within $\pm 5\%$.
- ☐ This instrument is not accurate within $\pm 5\%$. It must be repaired, adjusted, or used with a calculated calibration factor.

B. LINEARITY

<u>Method</u>	<u>Recommended Time (hrs.) or Dilution Factor</u>	<u>Actual Time or Dilution Factor</u>	<u>Calculated Activity</u>	<u>Dose Calibrator Reading</u>	<u>Percentage Error</u>
_____	0 or 1.0000	_____	_____	_____	_____
	6 or 0.5000	_____	_____	_____	_____
	24 or 0.0625	_____	_____	_____	_____
	30 or 0.0312	_____	_____*	_____*	_____
	48 or 0.0039	_____	_____	_____	_____

*Activity calculated using this reading.

- ☐ This instrument is linear to within $\pm 5\%$.
- ☐ This instrument is not linear to within 5% and must be repaired.

C. GEOMETRY

<u>Radionuclide</u>	<u>Volume (ml)</u>	<u>Activity</u>	<u>Dose Calibrator Reading</u>	<u>Percentage Error</u>
_____	1	_____	_____	_____
	2	_____	_____	_____
	4	_____	_____	_____
	8	_____	_____	_____
	10	_____	_____	_____
	20	_____	_____	_____
	25	_____	_____	_____

☐ This instrument's geometry dependence is less than $\pm 2\%$.

☐ This instrument's geometry dependence is greater than $\pm 2\%$ and must be repaired, adjusted or used with a calibration factor.

D. CONSTANCY

<u>Radionuclide</u>	<u>Activity</u>	<u>Radionuclide Setting</u>	<u>Dose Calibrator Reading</u>	<u>Acceptable Ranges ($\pm 5\%$)</u>
_____	_____	_____	_____	_____
		_____	_____	_____
		_____	_____	_____
		_____	_____	_____
		_____	_____	_____
		_____	_____	_____
		_____	_____	_____
Source I.D. or Serial No. _____		_____	_____	_____
		_____	_____	_____
		_____	_____	_____

This information is to be used for daily constancy checks.

SUMMARY

- ☐ This instrument satisfies the recommendations in Regulatory Guide 10.8 which is incorporated by reference into many USNRC and agreement state licenses.
- ☐ This instrument satisfies the requirements of your license No. _____.
- ☐ This instrument does not satisfy the recommendations in regulatory Guide 10.8 or known license conditions and must be withdrawn from use, repaired and recalibrated.

Calibrated by: _____

SEALED SOURCE LEAK TEST ANALYSIS REPORT

Facility _____
 Address _____

 Telephone Number _____

Purchase Order Number _____
 Person Collecting Sample(s) _____
 Date Samples Collected _____
 Send Results To _____

Manufacturer	Radionuclide	Activity	Calibration Date	Model	Serial No.	Sample Number	Results in Microcuries

Laboratory Manager _____ Date _____

Return Samples, gloves and this form in the mailer provided. You will be contacted by telephone if results show activity on sample greater than 0.05 uCi for a teletherapy source or 0.001 uCi Radon 24 hr. in the case of radium brachy therapy sources.

Correspondence and Billing:

Radiation Safety Services, Inc.
 1564 Ashland
 Evanston, IL 60201
 (312) 866-7744

Submit all samples to:

Radiation Safety Services, Inc.
 10 W. 35th Street
 Chicago, IL 60616

INSTALLATION, REMOVAL, RELOCATION AND
SERVICING OF MEASURING, GAUGING
AND CONTROLLING DEVICES

PRELIMINARY CONSIDERATIONS

1. Determine whether the device is possessed by authority of a general or specific license. Generally licensed devices should bear a permanently affixed label stating the device is generally licensed and naming the agency issuing the license (e.g., NRC or name of an Agreement State).
2. Become familiar with the client's license conditions.
 - a) General license conditions are published in 10CFR31.5 (or equivalent state regulations) and should be reprinted in the instruction or user manual. The label affixed to the device may list additional license conditions.
 - b) Conditions of a specific license are stated in the body of the license and will include by reference the application and supporting documents.

3. Obtain a copy of the instruction manual if possible. Review the manual for safety precautions and installation instructions. If any step of the contemplated procedure is unclear contact the RSSI Radiation Safety Officer or his qualified designee for information and assistance.
4. Review the leak test conditions and the leak test records. If the device has not been leak tested within the required interval or if it has been subject to conditions that may have caused the source, do not begin until a leak test has been completed.

SAFETY PRECAUTIONS

1. Wear personnel monitoring device(s) if prescribed by the RSSI Radiation Safety Officer.
2. Survey the device for excessive radiation levels. Excessive levels can be caused by an open, damaged or melted shutter mechanism, source misalignment, voids in the shielding material or a leaking source. Defects of this nature are to be reported to the RSSI Radiation Safety Officer or his qualified designee after taking any necessary emergency actions.

3. Before installing, removing or otherwise servicing any device where access to the direct radiation beam is possible, close the shutter mechanism and secure with a padlock, bolt and nut, or other securing mechanism. Be sure the shutter cannot accidentally open during the procedure. Some devices containing small sources may not have a shutter mechanism and this precaution may not be possible.
4. If because of design there is no shutter or if the source shutter mechanism cannot be mechanically locked, shield the beam exit port with suitable material and secure the shielding in place.
5. Do not open the shutter mechanism during the procedure if the device is not in a stable and secure position, if the beam stop is not installed or if any portion of the body might accidentally be exposed to the primary beam path.
6. If the device or beam stop has been installed or removed or if the service procedure could have changed the alignment of the source with the beam stop, a radiation survey should be conducted to verify the primary beam is completely intercepted. From these measurements determine if warning signs should be posted as required by 10CFR20.203 and 20.204.

7. Report any unusual events, suspected primary beam exposures or other emergencies to the RSSI Radiation Safety Officer or his qualified designee as soon as possible and take steps to minimize exposure to radiation or radioactive material.

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030-17943
12-20084-01
A (EX)



STATE OF ILLINOIS,
DEPARTMENT OF NUCLEAR SAFETY

1035 OUTER PARK DRIVE

SPRINGFIELD 62704

(217) 546-8100

TERRY R. LASH
DIRECTOR

December 19, 1984

Mr. George McCann
NRC Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

RE: License No: 12-20084-01

Dear Mr. McCann:

It is requested that the above-referenced license be amended as follows:

Condition 10.B. - Delete: 580 North Street
- Add: 4800 Roger Street

Condition 10.E. - Delete: 580 North Street
- Add: 4800 Roger Street

As of January 1, 1985, we will be vacating 580 North Street and a portion of our 550 North Street location.

Close-out surveys of any areas where radioactive materials have been stored will be performed and records of the results of such surveys will be maintained on file.

A floor plan of our new facility at 4800 Roger Street, Springfield, Illinois, is enclosed. At any time licensed radioactive material is present at this location, the facility will be locked. Radiation levels to unrestricted areas will be maintained in accordance with 10 CFR 20.105.

Your assistance to this Department is appreciated.

Sincerely,

Paul D. Eastvold
Paul D. Eastvold,
Radiation Safety Officer
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REGION III

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Enc.

cc: RSC File

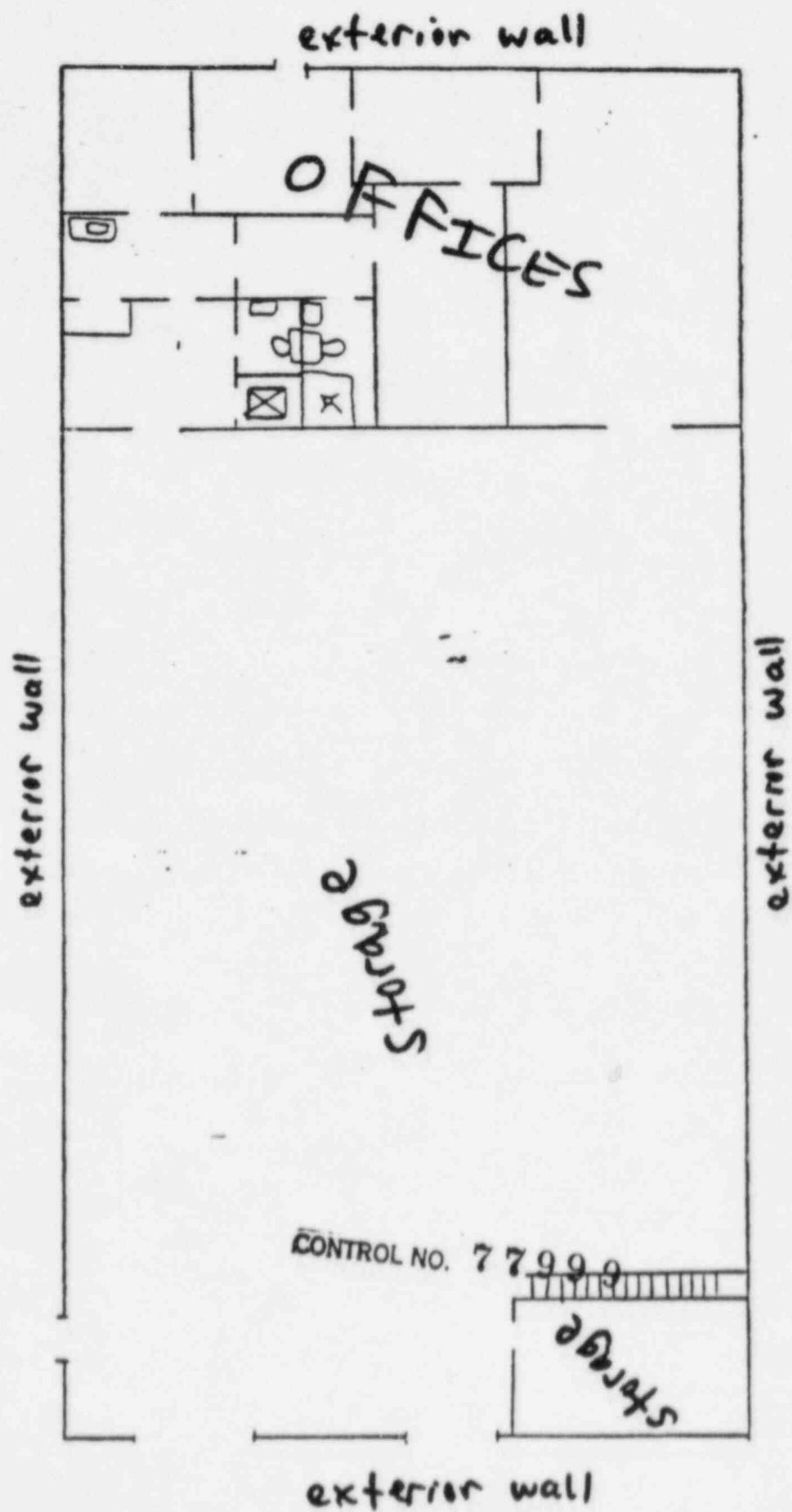
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DEC 24 1984

4800 Roger Street



**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License number

12-20084-01

Docket or Reference number

030-17943

Amendment No. 06

Illinois Department of Nuclear Safety
1035 Outer Park Drive
Springfield, IL 62704

In accordance with letter dated December 19, 1984, License Number 12-20084-01 is amended as follows:

Conditions 10.B., 10.E., 12.A., and 25. are amended to read:

10. B. Licensed material listed in Subitem A. shall be used at the licensee's facilities located at 1035 Outer Park Drive, Springfield, Illinois; 550 North Street, Springfield, Illinois; 525 West Jefferson Street, Springfield, Illinois; 4302 North Main Street, Rockford, Illinois; 5415 North University, Peoria, Illinois; 5813 Elm Street, Berkeley, Illinois; 4500 South 6th Street, Springfield, Illinois; 2125 South First Street, Champaign, Illinois; Cottonwood Road, Edwardsville, Illinois; 2209 West Main Street, Marion, Illinois and at temporary job sites of the licensee throughout the State of Illinois.
- E. Licensed materials may be stored at 550 North Street, Springfield, Illinois and 4800 Roger Street, Springfield, Illinois.
12. A. Licensed material listed in Item B above is authorized for use by, or under the supervision of, the following individual for the materials and uses indicated:
- | | |
|-------------------|-----|
| James Blackburn | A11 |
| Kenneth Barat | A11 |
| Lih-Ching Chu | A11 |
| John Cooper | A11 |
| Paul Eastvold | A11 |
| David Ed | A11 |
| James M. Ewan | A11 |
| David Filler | A11 |
| Terry R. Lash | A11 |
| Kenneth Hitchcock | A11 |
| Maury E. Neuweg | A11 |
| Arthur Carlson | A11 |

Material listed in Subitems A., D.
and E.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number

12-20084-01

Docket or Reference number

030-17943

Amendment No. 06

Patricia A. Bostick

Material listed in Subitems A.
and C.

David Brown

Material listed in Subitem A.
Leak test samples

Steven Dunas

Material listed in Subitem A.

Lou Kreppert

Material listed in Subitem A.
Leak test samples

Paul Kalicki

Material listed in Subitem A.
Leak test samples

James Hanlon

Material listed in Subitem A.
Leak test samples

John Papendorf

Material listed in Subitem A.
Leak test samples

Timothy Runyon

Material listed in Subitem A.
Leak test samples

Melanie A. Hanel

Material listed in Subitems A.
and C.

25. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application received January 12, 1984; letters dated May 22, 1981, December 10, 1981, January 21, 1982, September 3, 1982, December 22, 1982, February 23, 1983, October 12, 1983, July 31, 1984, and December 19, 1984. The Nuclear Regulatory Commission's regulations shall govern the licensee's statements in applications or letters, unless the statements are more restrictive than the regulations.

For the U.S. Nuclear Regulatory Commission

Original Signed By

By George M. McCann

Materials Licensing Section, Region III

Date February 1, 1985

COPY

FEB 04 1985

Illinois Department of Nuclear Safety
ATTN: Paul D. Eastvold
Radiation Safety Officer
1035 Outer Park Drive
Springfield, IL 62704

Gentlemen:

Enclosed is Amendment No. 06 to your NRC License No. 12-20084-01 in accordance with your request.

Please review the enclosed document carefully and be sure that you understand all conditions. You must conduct your program involving radioactive 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. Possess radioactive material only in the quantity and form indicated in your license.
3. Use radioactive material only for the purpose(s) indicated in your license.
4. Notify NRC in writing of any change in mailing address.
5. Request and obtain appropriate amendment if you plan to change ownership of your organization, change locations of radioactive material, or make any other changes in your facility or program which are contrary to your license conditions or representations made in your license application and any supplemental correspondence with NRC. Any amendment request should be accompanied by the appropriate fee specified in 10 CFR Part 170.
6. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date on your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of radioactive material after your license expires is a violation of NRC regulations.
7. Request termination of your license if you plan to permanently discontinue activities involving radioactive material prior to your expiration date.

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Illinois Department of
Nuclear Safety

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You will be periodically inspected by NRC. Failure to conduct your program in accordance with NRC regulations, license conditions and representations in your license application will result in enforcement action against you in accordance with the General Policy and Procedures for NRC Enforcement Actions, 10 CFR Part 2, Appendix C.

If you have any questions or require clarification of any of the above stated information, contact us at (312) 790-5625.

Sincerely,

Original Signed By
George M. McCann
Materials Licensing Section

Enclosures: Amendment No. 06

R111

McCann/cm
01/24/85