MATERIALS LICENSE

Amendment No. 02

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. NDT Specialists, Inc.	In accordance with letter dated October 22, 1996 3. License Number 48-25917-01 is amended in its entirety to read as follows:
2. 701 West Waterford Avenue Milwaukee, WI 53221	4 Expiration Date October 31, 2003
	5. Docket or Reference No. 030-30583

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. See Condition 10.	A. Sealed sources	A. See Condition 10.
B. Uranium depleted in uranium-238	B. Solid Metal	B. Not to exceed 999 kilograms total

9. Authorized Use:

A. For use in industrial radiography.

B. For shielding in radiographic cameras and collimators.

CONDITIONS

10. Sealed sources, exposure devices and source changers are authorized for use as follows:

Isotope	Maximum Activity Per Sealed Source	Manufacturer's Name & Model No. of Sealed Source	Manufacturer's Name & Model No. of Exposure Device	Manufacturer's Name & Model No. of Source Changer
Iridium-192	120 curies	Amersham A424-9	Amersham 660 System	Amersham 650L
Cobalt-60	30 curies	Amersham A424-18	Amersham 741 B	Amersham 771
Cobalt-60	100 curies	Amersham A424-14	Amersham 680B	Amersham 771

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number 48-25917-01

Docket or Reference Number 030-30583

Amendment No. 02

11. Licensed material may be stored at the licensee's facilities located at 1739 South Carferry Drive, Milwaukee, Wisconsin; 835 Potts Avenue, Green Bay, Wisconsin, 701 W. Waterford Avenue, Milwaukee, Wisconsin and may be used at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.

12. The Radiation Safety Officer for this license is Lawrence J. Schneider, Sr.

13. Licensed material shall only be used by, or under the supervision and in the physical presence of, individuals who have received the training described in application dated July 21, 1993, and have been approved in writing by the Radiation Safety Officer.

14. A. Notwithstanding the periodic leak test required by 10 CFR 34.25(b), the requirement does not apply to radiography sources that are stored and not being used. The sources exempted from this test shall be tested for leakage before use or transfer to another person. No sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

    B. Sealed sources authorized for a use other than radiography shall be tested for leakage in accordance with 10 CFR 34.25.

15. The licensee is authorized to receive, possess, and use sealed sources of iridium-192 or cobalt-60 where the radioactivity exceeds the maximum amount of radioactivity specified in this license provided:

    A. Such possession does not exceed the quantity per source specified in Item 8 by more than 20 percent for iridium-192 or 10 percent for cobalt-60; and

    B. Records of the licensee show that no more than the maximum amount of radioactivity per source specified in this license was ordered from the supplier or transferor of the byproduct material; and

    C. The levels of radiation for radiographic exposure devices and storage containers do not exceed those specified in 10 CFR 34.21.

16. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.

17. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
48-25917-01

Docket or Reference Number
030-30583

Amendment No. 02

18. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d) for establishing decommissioning financial assurance.

19. 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 July 21, 1993; and

B. Letters dated September 21, 1993, October 22, 1996 and November 11, 1996.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date 11/15/96

By
Nuclear Materials Licensing Branch, Region III

COPY

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

(FOR LFMS USE)
INFORMATION FROM LTS

Program Code: 03320
Status Code: 0
Fee Category: 30 2B
Exp. Date: 20031031
Fee Comments:
Decom Fin Assur Reqd: N

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED
   Applicant/Licensee: NDT SPECIALISTS INCORPORATED
   Received Date: 961104
   Docket No: 3030583
   Control No.: 302022
   License No.: 48-25917-01
   Action Type: Amendment

2. FEE ATTACHED
   Amount: 720
   Check No.: 092930

3. COMMENTS

Signed D. Hersey
Date 11-5-96

96 NOV 12 AM 9:03

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered)

1. Fee Category and Amount: 30 2B $720

2. Correct Fee Paid. Application may be processed for:
   Amendment ✓
   Renewal
   License

3. OTHER

Signed SC
Date 11/14/96

NOV 18 1996

Log Nov 6 III
Remitter
Check No. 92930
Amount $720
Fee Category 30 2B
Type of Fee AMD
Date Check Rec'd 11/12/96
Date Completed 11/14/96
By: SC

NDT SPECIALISTS, INC.

1739 S. Carferry Drive • Milwaukee, WI 53207 • (414) 483-9700 • fax (414) 483-1392

• X-RAY • GAMMA RAY • ULTRASONICS • MAGNETIC PARTICLE • DYE PENETRANT •
• WELDING PROCEDURE/PERFORMANCE QUALIFICATION •
• HYDRO TESTING • HARDNESS TESTING • LEVEL III SERVICES • AWS QC-1 CWI •

October 22, 1996

US Nuclear Regulatory Commission, Region III
Materials Licensing Section
799 Roosevelt Road
Glen Ellyn, IL 60137

Re: Amendment license #48-25917-01

Gentlemen:

I wish to amend our license as follows:

1) Item #2 to show change of address to 701 West Waterford Ave., Milwaukee WI, 53221

2) Item # 4 to show extension date of October 31, 1996

3) Item #10 to include the use of Cobalt 60 Isotopes and Iridium source changer, all other conditions remain the same

Isotope	Cobalt 60	Cobalt 60	Iridium
Max Activity	30 ci	100 ci	120 ci
Manufacturer Source Model No.	Amersham A424-18	Amersham A424-14	Amersham A424-9
Manufacturer Exposure Device	Amersham 741B	Amersham 680B	Amersham 660B
Manufacturer Source Changer	Amersham 771	Amersham 771	Amersham 650L

4) Licensed material may be stored at licenses facilities located at 701 W. Waterford Ave., Milwaukee, WI; and may be used and stored at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.
Please find attached a facility diagram and changes to the Operating and Emergency Procedures. Also find enclosed the amendment fee of $720.00 per Shirley Crutchfield at 301-415-6097. If you have any question I may be contacted at 414-483-9700.

Thank You,

Lawrence J. Schneider Sr.
Radiation Safety Officer

RECEIVED
NOV 0 4 1996
REGION III

Pm: 10-31-96

302022

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 7, 1996

NDT SPECIALISTS, INC.
ATTN: Mr. SCHNEIDER, LAWRENMCE J.,SR.
Radiation Safety Officer

1739 S. CARFERRY DRIVE
MILWAUKEE, WI 53207

SUBJECT: ONE-TIME EXTENSION OF LICENSE EXPIRATION DATE
LICENSE NUMBER 48-25917-01, DOCKET NUMBER 3030583

Dear Mr. SCHNEIDER, LAWRENMCE J.,SR.

On January 16, 1996, the Nuclear Regulatory Commission (NRC) amended its regulations in 10 CFR 30, 40, and 70 to extend the expiration date of certain byproduct, source, and special nuclear material licenses by five years (61 FR 1109). The above referenced license was extended by this rulemaking and will now expire on October 31, 2003. Your license will not be amended to show this extended date until the next routine licensing action. Until then, you may provide copies of this letter to vendors and other interested parties as evidence that the license has been extended as a result of the rule.

The extended license authorizes the same activities and contains the same limitations as it previously did. There will be no change in the frequency that the NRC inspects activities authorized by this license.

The amended rules state that in the case of licensees who are granted extensions and who have a currently pending renewal application for that extended license, the application will be considered withdrawn by the licensee and any renewal fees paid by the licensee for that application will be refunded. This will apply to licenses with expiration dates after July 1, 1995, for which renewal applications and the appropriate fees have been submitted and the renewal is still pending. Refunds will be mailed to licensees under separate cover.

All licensees, including those whose renewal applications were withdrawn by this rulemaking, who wish to change their radiation safety programs must request amendment of their licenses to reflect these changes. Amendment requests must include the correct amendment fee since the NRC cannot apply pending renewal refund balances toward amendment fees.

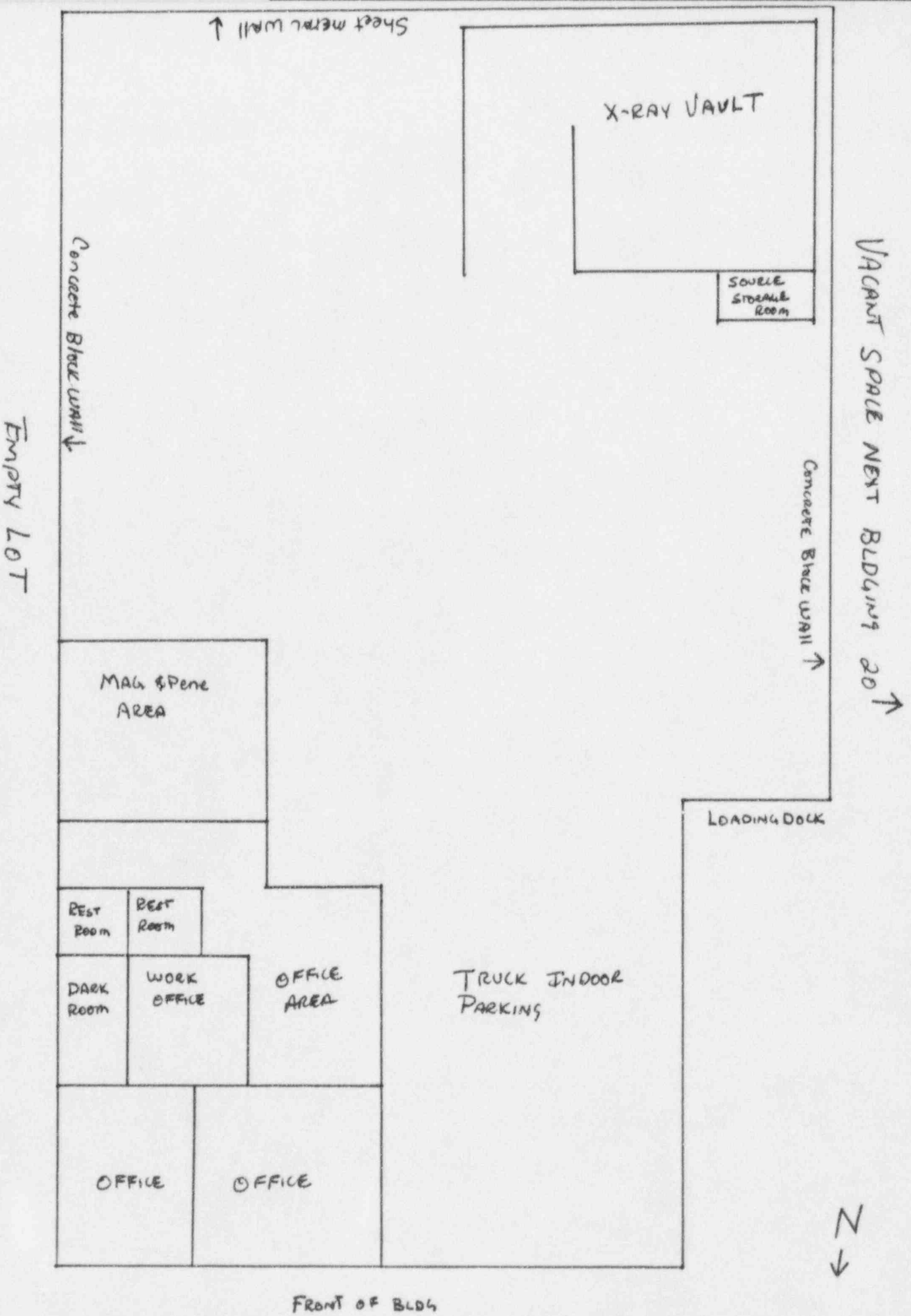
If you have any questions regarding this letter, please contact the individual below.

John R. Madera, Division of Nuclear Materials Safety - (708) 829-9834

Thank you for your cooperation in this matter.

Sincerely,

Donald A. Cool, Director
Division of Industrial and Medical Nuclear Safety
Office of Nuclear Materials Safety and Safeguards


Sheet metal wall
X-RAY VAULT
SOURCE STORAGE ROOM
VACANT SPACE NEXT BLDG IN 20
Concrete Block wall
Concrete Block wall
EMPTY LOT
MAG & PENE AREA
LOADING DOCK
REST Room
REST Room
DARK Room
WORK OFFICE
OFFICE AREA
TRUCK INDOOR PARKING
OFFICE
OFFICE
N
FRONT OF BLDG

NDT SPECIALISTS OPERATING AND EMERGENCY PROCEDURES

TABLE OF CONTENTS

1. Scope

a. The Operating and Emergency Procedure provides the radiographer with specific operating instructions, including instructions in the event of an emergency.

b. NDT Specialists have adopted an ALARA (As Low As Reasonably Achievable) philosophy in its handling of radioactive materials. Radiographic personnel are required to make every reasonably effort to maintain radiation levels and personnel doses as low as reasonably achievable.

2. Personnel

a. Only personnel classified as Radiographers may conduct radiographic operations in accordance with this procedure.

b. Assistant Radiographers may conduct radiographic operations in accordance with this procedure only under the direct supervision of a Radiographer or the Radiation Safety Officer.

3. Personnel Monitoring Devices

a. All Radiographic personnel shall wear a current film badge, a calibrated pocket dosimeter, and a alarming rate meter.

b. Film Badge Procedures
   i. A film badge is assigned to a specific person and is not transferrable from one person to another.
   ii. Film badges are issued monthly. Old film badges must be returned promptly for processing.
   iii. When not in use, film badges are to be stored in an area free of excessive humidity, heat, sunlight, and radiation.
   iv. Film badges must be worn on the part of the body most likely to receive the most radiation.

c. Pocket Dosimeters Procedures
   i. Each employee shall be issued a calibrated pocket dosimeter and it must be worn at all times during radiographic operations.
   ii. The pocket dosimeter shall have a minimum range of 1 mr. to 200 mr.
   iii. The pocket dosimeter must be charged prior to the start of each shift.
   iv. The pocket dosimeter must be worn in the general vicinity of the film badge.
   v. The daily reading of the pocket dosimeter must be recorded on the daily utilization report.
   vi. Care must be taken not to drop the docket dosimeter since this can advance the hairline.

d. Calibration of Pocket Dosimeters
   i. The pocket dosimeter must be calibrated annually and recorded.

e. Charging of pocket dosimeters
   i. The pocket dosimeter must be charged daily prior to

radiographic operations.

ii. Place the pocket dosimeter on the charging surface. Press down lightly to light up unit.

iii. While firmly pressing down on the dosimeter, adjust the hairline to zero with the adjusting knob.

iv. Remove dosimeter from charger and read under normal light. Readjust if necessary.

f. Discharge of Pocket Dosimeters

i. Should the pocket dosimeter be found to be discharged at any time during radiographic operations or in the vicinity of radioactive materials, the radiographer must immediately terminate radiographic operations, secure the exposure device notify the Radiation Safety Officer, and submit his film badge for processing. He cannot return to work until an evaluation of his exposure can be made.

g. Alarming Rate Meters

i. Each alarming rate meter must be checked at the start of each shift or work period to ensure that the alarm functions properly.

ii. Each alarming rate meter must be set to give an alarm signal at a preset dose rate of 500 mr/hr.

iii. Each Alarming rate meter must be calibrated at periods not to exceed one year for correct response to radiation. Acceptable rate meters must alarm within plus or minus 20% of true radiation dose rate.

4. Survey Meters

a. Survey meter instruments should be capable of measuring 2 mr/hr thru 1,000 mr/hr.

b. Survey meters must be calibrated at intervals not to exceed 3 months.

c. Survey meters must be calibrated after every instrument repair.

d. Survey meters shall be calibrated by:

i. Compliance Management Associates NRC 48-24598-1

ii. Health Physics Associates NRC# 12-09160-01

iii. Any facility licensed by the NRC to calibrate survey instruments.

e. Survey meters shall have a calibration sticker, showing the date of calibration and the next due date attached to the survey meter.

f. Survey meter calibration reports shall be kept on file for a period of at least 2 years. They shall identify the person, firm, or organization who performed the calibration.

5. Procedure for Checking Out Radiographic Exposure Devices

a. Check out equipment-survey meters

i. Check out a calibrated, operable survey meter from storage (2 when available).

ii. Verify battery condition by switching to the battery position and noting the needle movement to an acceptable

reading.

iii. Switch the meter to the X1 scale and the meter should return to zero.

iv. Approach an exposure device with the meter to verify that the meter is sensitive to radiation.

b. Check out of exposure device from storage

i. Utilization report. The radiographer must enter the following information in the utilization report:

(1) Date.
(2) Radiographer.
(3) Device identification number and serial number.
(4) Source (isotope) serial number.
(5) Type of radioisotope and activity of source.
(6) Location of use.
(7) Survey meter serial number.
(8) Results of physical survey.

ii. The utilization report book shall also include a copy of the decay chart which includes the following information:

(1) Activity of a given source at a given date.
(2) Serial number of the source.
(3) Certificate of leak test and 6 month due date.

iii. Exposure device inspection

(1) The radiographer must perform the following daily inspection when removing the source from the storage vault.

(a) Lock box - The lock box must operate properly.

(b) Inspect the source pigtail for any worn or bent condition.

(c) The storage cover must be attached to the device.

(d) The device must have a legible "DANGER RADIOACTIVE MATERIAL" label.

(e) The identification tag on the device must verify the source serial number, device serial number, curie strength, and date loaded.

(f) The exposure device must be surveyed to verify that the source is in the safe shielded position. The maximum dose rate allowable is 50 mr/hr. Measured at 6" from the external surface of the exposure device.

(g) Verify that the source has a current 6 month leak test.

(h) During the daily inspection, if any radiographic equipment is found to be faulty it shall not be used and tagged as faulty. The equipment condition should be brought to the attention of the Radiation Safety Officer. Do not conduct radiographic operations with faulty or inoperable equipment.

iv. Source tube and remote control inspection

(1) The radiographer must perform the following inspections prior to commencing radiographic operations:

(a) Source tubes:

(i) The source tube should be clean and free of cuts, kinks, and crimps.

(ii) The coupling connector must match the exposure device and be in good operative condition.

(iii) The source tip and collimator must attach easily and must not be clogged.

(b) Remote control and drive cable assembly:

(i) Verify that the pigtail connector matches, the one on the source device, and is not frayed, worn, or bent.

(ii) The drive cable should be flexible, lubricated and not bent or crimped.

(iii) Check crank for free operation.

(iv) The control assembly should not be loose or worn and should drive the cable without slipping.

6. Preparing Radioactive Materials for Shipment

a. The following procedures must be complied with for the preparation of radioactive materials for transportation via company vehicle.

i. The driver must have a current valid drivers license.

ii. The package or container must comply with the following labeling requirements:

(1) The proper Department of Transportation shipping name, form, identification number, and package identification number shall appear on the exterior of the container or package.

(2) The package shall have 2 "RADIOACTIVE YELLOW II" or 2 "RADIOACTIVE YELLOW III" labels. The procedure for determining which label to use is as follows;

(a) The package is complete and ready for transport.

(b) Survey the package and note the maximum dose rate at the surface of the package and at one meter from the exterior of the package.

(c) The transportation index is the maximum dose rate at one meter from the exterior of the package or container.

(d) Label the package or container in compliance with the requirements below, the package or container must meet both requirements to be labeled as Radioactive Yellow II.

(e)Radioactive Yellow II Requirements

( ) 50 mr/hr or less at the exterior surface

of the shipping container and,
(ii) 1 mr/hr or less at one meter away from the exterior surface of the shipping container.
(f)Radioactive Yellow III Requirements
(i) Greater than 50 mr/hr, but less than 200 mr/hr at the exterior surface of the shipping container or,
(ii) Greater than one mr/hr, but less than 10 mr/hr at one meter away from the exterior surface of the shipping container.
(g) If dose rates found during the survey exceed those allowed for a "Radioactive Yellow III" do not ship or transport and contact the Radiation Safety Officer immediately!

iii. The package must be secured, blocked or tied down to prevent movement during transportation.

iv. The exterior surface and the passenger compartment must be surveyed to ensure that radiation levels do not exceed 2 mr/hr at 18" from the exterior of the vehicle or 2 mr/hr in the passenger compartment.

v. If dose rates are found to be in excess of those above, the following procedures must be followed to reduce the radiation levels to acceptable levels;

(1) Move the package in the vehicle to a location further from the passenger compartment or exterior walls,or
(2) Add shielding around the source to lower the radiation levels.

vi. When transporting a "Radioactive Yellow III" labeled package the vehicle must have both sides, front, and back placarded with a DOT type radioactive sign.

vii. Shipping Papers - shippers certification for radioactive materials.
(1) The driver shall have in his possession, readily available, a copy of the shippers certification for radioactive materials. The shipping papers shall be complete with the following information:
(a) DOT proper shipping name (Example: R.Q. Radioactive Material Special Form N.O.S.)
(b) Classification Number (Example: 7)
(c) Identification Number (Example: UN2974)
(d)Radionuclide (Example: Iridium 192)
(e) Form (example: Special Form)
(f) Activity (Example: 100 Curies)
(g) Category of labels (Example:Yellow II)
(h) Transportation Index (Example:0.8)
(i) Package Identification (Example: USA/6717/B(u))
(j) Type (Example: B)

viii. To ship radioactive materials Via common carrier the

following must be complied with:

(1) The common carrier must be qualified to carry radioactive materials.

(2) The outside of the package must contain a feature such as a seal that while intact would be evidence that the package was not opened by any unauthorized personnel.

(3) The package must comply with all the aspects of Section 6.a.ii of this procedure and in addition to must be labeled with a "PALEGRO - DANGER Cargo Aircraft Only" label.

(4) The shipping papers must also state Cargo Aircraft Only" in addition to that required in 6.a.vii.1.

7. Establishing a Radiation Control Area

a. Define the general area in which the radiographic work will be performed.

b. Establish the maximum exposure time that should occur in any one hour.

c. Using this time, the activity of the source, and the available shielding, calculate the required distance necessary to establish a restricted area.

d. At the restricted area distances post " CAUTION RADIATION AREA" signs, and if possible, establish barricades or ropes to restrict unauthorized entry.

e. Calculate the required distance necessary to establish a high radiation perimeter. Post "CAUTION HIGH RADIATION AREA" signs at this distance.

f. Definitions

i. RESTRICTED AREA. Any area accessible to personnel, in which there exists radiation at such levels that an individual could receive in any one hour a dose in excess of 2 mr or a dose exceeding 100 mr in 5 consecutive days.

ii. RADIATION AREA. Any area, accessible to personnel, in which there exists radiation at such levels that an individual could receive in any one hour a dose in excess of 5 mr.

iii. HIGH RADIATION AREA. Any area, accessible to personnel, in which there exists radiation at such levels that an individual could receive in any one hour a dose in excess of 100 mr.

8. Operating Procedures for the Tech/Ops Model 660B, 741B, & 680B

a. Establish a radiation control area as described in section 7.0.

b. Survey the device at the source guide tube port with a survey

meter. Note the reading for comparison at the end of the exposure.

c. Unlock the exposure device with the key and turn the selector ring from the lock position to the connect position. When the selector ring is in the connect position the storage cover will disengage from the exposure device.

d. Slide the connector collar back and open the jaws of the connector. This exposes the male end of the swivel connector.

e. Engage the male and female portions of the drive cable and the source pigtail by pushing the spring loaded locking pin toward the exposure device and inserting the male connector into the female pigtail. Release the spring loaded locking pin and test that the connection has been properly made.

f. Close the jaws of the connector over the swivel connection.

g. Slide the connector collar over the connector jaws. Hold the collar flush against the control unit and rotate the selector ring from the connect position to the lock position.

h. Remove the round safety plug from the outlet port of the exposure device and attach the source guide tube. position the source guide tube tip for the radio-graphic exposure and adjust the position of the radiographic exposure device so that the source guide tube has no sharp bends or kinks.

i. Straighten the remote control unit to remove any bends or kinks and to get the technician as far away as possible.

j. Unlock the exposure device and rotate the selector ring to the operate position. Press the green flag into the ring to expose the red flag.

k. Crank the remote control unit to move the source to the end of the source guide tube, counting the number of turns it takes. Note for when the source is returned at the end of the exposure.

l. Retreat to the restricted area perimeter as soon as possible and maintain constant direct surveillance of the restricted area.

m. Survey the restricted area and adjust the perimeter if necessary.

n. Do not attempt to survey the high radiation area perimeter.

o. Note the results of the survey so that later it can be recorded in the daily utilization log.

p. At the end of the exposure, crank the remote control unit in the direction to return the source to the exposure device. While doing this count the number of turns it takes to return the source to the safe position and compare this to the number of cranks it took to get the source to the end of the source guide tube. They should be the same.

q. Approach the exposure device with the survey meter ahead of you, look to see if the green flag is exposed and survey the exposure device, the outlet nipple, and the entire length of the source guide tube.

r. Rotate the selector ring from the operate position to the lock position. IT IS MANDATORY THAT THE SOURCE BE SECURED WITHIN THE EXPOSURE DEVICE AFTER EACH EXPOSURE. The exposure

device should be locked at all times except when actually making an exposure. This includes when relocating the device between exposures and when transporting

s. When surveying the exposure device after completing an exposure, if readings are found higher than normal, or you cannot fully retract the source to a safe position retreat to the restricted area perimeter and follow the emergency procedures in section 10.0.

t. When terminating the work assignment disconnect the source guide tube and install the source outlet port plug, disconnect the remote control assembly and install the storage cover, and secure the exposure device for storage or transportation.

9. Monitoring a Restricted Area

a. Radiographers are required to maintain direct surveillance of the restricted area at all times during an exposure.

b. If an unauthorized person enters the restricted area, terminate the exposure immediately, secure the source, and remove the individual from the restricted area.

c. During each exposure, survey the perimeter of the restricted area and adjust as necessary. Later record the results on the daily utilization log.

d. Do not attempt to survey the high radiation area.

e. Monitor your dosimeter periodically during the course of the radiographic assignment. If your dosimeter is found to be off scale follow the instructions in section 3.f of this procedure. Enter the reading at the beginning and end of the shift. Dosimeters must be charged daily.

10. Emergency Procedures - Minimizing Exposure in the Event of an Accident

a. An emergency is when an abnormal event takes place that would or could cause an unnecessary exposure to any individual.

b. Remain calm and remove all individuals from the restricted area. Prevent unauthorized entry.

c. Resurvey and adjust the perimeter of the restricted area if necessary.

d. Maintain constant surveillance of the restricted area. If possible get RESPONSIBLE HELP in monitoring the restricted area, such as plant security, shop foreman, etc.

e. Contact the Radiation Safety Officer as soon as possible. **The Radiation Safety Officer is Lawrence J. Schneider Sr. His home phone no. is 414-672-3808, Office no. is 414-463-9700.**

f. No radiographic personnel shall attempt any operations involving source recovery or retrieval without the specific consent and direction of the Radiation Safety Officer.

11. Securing the Source for Storage - Storage Facility Requirements

a. Locked radiographic exposure devices and storage containers

must be physically secured to prevent removal or tampering by unauthorized personnel.

b. If the device is to be left unattended, then it must be secured by placing it in a locked darkroom or locked storage vault with the entrance posted with a sign that reads "CAUTION RADIOACTIVE MATERIALS". The perimeter of the storage facility must be surveyed to insure dose rates of less than 2 mr/hr.

c. A vehicle may be used for storage of radioactive materials at a temporary job site providing the following conditions are met:
   i. The vehicle is locked
   ii. The vehicle is posted with a "CAUTION RADIOACTIVE MATERIALS" sign.
   iii. The vehicle is surveyed and the radiation level does not exceed 2 mr/hr at 18" from the surface of the vehicle.
   iv. When the device is returned to locked storage, preceding the absence of radiographic personnel, the radiation level as measured in the last survey shall be recorded on the daily utilization report.

12. Receiving Shipments of Radioactive Material

a. Each shipment of radioactive material shall be surveyed as soon as possible to verify acceptable dose rates.

b. Surveys must be performed within the following times as shown:
   i. If received during normal working hours, within 1 hour.
   ii. If received after normal working hours, within 18 hours.

c. Record on the decay chart the dose rate at one meter.

d. Record on the decay chart the dose rate on contact with the device.

e. If dose rates are found to be in excess of 200 mr/hr at the surface or 10 mr/hr at one meter, follow the emergency procedures found in Section 10.0.

13. Leak testing of Radioactive Sealed Sources

a. Each sealed source must be leak tested for contamin-ation or leakage at intervals not to exceed 6 months.

b. The limit for removable contamination is 0.005 micro curies.

c. Leak testing will be performed with the Health Physics Leak Test kit # HPC 14, Applied Physics Mark 5 kit, or by any other kit from a NRC licensed vendor.

d. Only personnel classified as radiographers may perform the leak tests.

e. An operable, calibrated survey meter shall be immediately available.

f. Personnel shall wear a current film badge, calibrated dosimeter, and alarming ratemeter.

g. Procedure for leak testing sealed sources:

i. Open the cap on the tube and add water to the wetting agent and swab.

ii. Survey the exposure device to insure the source is in the safe position and remove the safety plugs.

iii. Wipe the exposure device external cable connections, nozzles, and finally inserting the swab into the exit port as far as possible and wiping the internal components.

iv. DO NOT TOUCH THE SWAB END. Install swab into plastic tube and close. Wash hands.

v. With the survey meter on the lowest scale, survey the swab to determine the presence of any detectable radiation levels. If none are detectable, complete the leak test form and ship the test kit to person or firm that is going to process it.

vi. If detectable radiation levels are found, conntact the Radiation Safety Officer and do not ship the leak test kit.

vii. The person or firm that processes the kit shall return a certificate documenting the test and results.

14. Procedures for Source Replacement/Changing

a. Only personnel classified as radiographers may onduct source changes.

b. All personnel must wear a current film badge, calibrated dosimeter, and alarming ratemeter during the source changing operations.

c. A calibrated operable survey meter shall be used to monitor radiation levels.

d. Establish a radiation control area as described in Section 7.

e. Survey the exposure device and the source changer to insure they are in the proper safe position.

f. Position the source changer and the exposure device so that only one length of source guide tube will be needed to connect the two of them.

g. Attach a remote control cable to the source and the exposure device.

h. Remove the safety plug from the exposure device and attach the source guide tube to the exposure device and the empty cell on the source changer.

i. Unlock the exposure device and crank the source from the exposure device to the source changers empty cell.

j. Approach the source changer with the survey meter and survey the source changer to assure that the source is in a safe position.

k. Open the source guides and disconnect the drive cable from the source by moving the lock pin down and sliding the drive cable connector ball out through the keyway.

l. Disconnect the source guide tube from the cell with the old source in it and connect it to the cell with the new source in it. Connect the drive cable to the new source. Close the source guides.

m. Crank the source from the source changer cell to the exposure device.

n. Approach the exposure device with the survey meter and survey it to assure that the source is in a safe position inside the exposure device. Lock the exposure device, disconnect the drive cable, the source guide tube, and install all safety plugs.

o. Survey readings at the exterior of the exposure device must not exceed 50 mr/hr at 6 inches. If readings are found to be in excess of this level, contact the Radiation Safety Officer and do not use this device.

p. Secure the source(s) in the source changer. Prepare the source changer for return shipment to the supplier for disposal.

q. Remove the old identification tag from the exposure device and attach it to the source changer. Attach the new identification tag to the exposure device.

15. Source Disposal

a. All sources will be sent back to the supplier for disposal.

16. Procedures for Reporting Defects and Non-Compliances

a. All radiographic personnel must report any defective equipment or operating procedure non-compliance to the Radiation Safety Officer as soon as possible for corrective action.

17. Occasions for Conducting Radiation Surveys

a. The following summaries are examples of when, but not limited to, when a radiation survey will be made during radiographic operations:

i. Removal of radioactive material from storage.
ii. Preparing the source for shipment
iii. Shipping/transporting the source.
iv. Determining the radiation levels at the exterior of storage facilities, including vehicles for storage.
v. Determining the perimeter of the restricted area.
vi. Determining that the source has been returned to the safe position after each exposure.
vii. Determining that the sources are in the safe position during and after source changes.
viii. Determining that radiation levels around shipping containers and source changers meet regulatory requirements.

18. Quarterly Maintenance Inspection of Exposure Devices

a. Every radioactive exposure device shall be inspected every quarter.

b. Only personnel classified as radiographers may perform the quarterly inspections on exposure devices.

c. The following is the procedure for the maintenance inspection of radiographic exposure devices:

i. Inspect the lock operation for smooth and correct action.

ii. Inspect the condition of the safety plug and the threads.

iii. Inspect the external surface of the device for damage or dents.

iv. Inspect for the correct labels and legibility.

v. Report the inspection of the device on the Quarterly Inspection form.

vi. Any discrepancies shall be reported to the Radiation Safety Officer prior to any further use.

19. Required Documents

a. When operating radioactive exposure devices, the radiographer shall have immediately available to him a copy of the utilization report for the source in use and a copy of the NDT Specialists Operating and Emergency Procedures.

NOV 1 8 1996

Lawrence J. Schneider
Radiation Safety Officer
NDT Specialists, Inc.
701 West Waterford Avenue
Milwaukee, WI 53221

Dear Mr. Schneider:

Enclosed is Amendment No. 02 to your NRC Material License No. 48-25917-01 in accordance with your request.

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 III office at (630) 829-9887 so that we can provide appropriate corrections and answers.

Please also note that the expiration date on your NRC license was extended 5 years in accordance with 10 CFR 30.36(2).

Please be advised that your license expires at the end of the day, in the month, and year stated in the license. Unless your license has been 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 the 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. Change Radiation Safety Officers;

302022

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

c. Add or change the areas of use or address or addresses of use identified in the license application or on the license; or

d. 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 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. 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.

Sincerely,
Original Signed By
James R. Mullauer, M.H.S.
Health Physicist
Nuclear Materials Licensing Branch

License No.: 48-25917-01
Docket No.: 030-30583

Enclosure: Amendment No. 02

DOCUMENT NAME: M:\03030583.CL6
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OFFICE	DNMS/RIII									
NAME	JMULLAUER:jaw									
DATE	11/5/96									

OFFICIAL RECORD COPY

NDT SPECIALISTS, INC.

1739 S. Carferry Drive • Milwaukee, WI 53207 • (414) 483-9700 • fax (414) 483-1392

• X-RAY • GAMMA RAY • ULTRASONICS • MAGNETIC PARTICLE • DYE PENETRANT •
• WELDING PROCEDURE/PERFORMANCE QUALIFICATION •
• HYDROTESTING • HARDNESS TESTING • LEVEL III SERVICES • AWS QC-1 CWI •

FAX TRANSMITTAL SHEET

TO: US Nuclear Regulatory Commission ATTEN: James Mullauer

FAX NO. 1-630-515-1259 DATE: 11/11/96 NO. PAGES: 4
INCLUDING THIS SHEET

REFERENCE:

MESSAGE: Info you asked for

FROM: Larry Schneider

NDT SPECIALISTS, INC.

1739 S. Carferry Drive • Milwaukee, WI 53207 • (414) 483-9700 • fax (414) 483-1392

• X-RAY • GAMMA RAY • ULTRASONICS • MAGNETIC PARTICLE • DYE PENETRANT •
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November 11, 1996

US Nuclear Regulatory Commission, Region III
Materials Licensing Section
801 Warrenville Rd.
Lisle, IL 60532-4531

Re: Amendment license #48-25917-01 Response

Dear Mr. Mullauer

As per our telephone conversation of Saturday 11-9-96 I am responding to the four items that you wish to have clarified or changed.

Item #1 We commit to a close out survey when we vacate our present premisses. We will use a NDS 2000 or GE Smith 2000 survey meter. We will include in letter form the date of calibration and we will be using an acceptance criteria of not to exceed any background readings as compared with a site within 200 yards of the area. This information will be sent to you using control # 302022

Item #2 In the new facility the source storage room will have a key lock that only the Safety Officer and Radiographers will have access to. The room will be properly posted with the appropriate signs.

Item #3 Please find enclosed the update page of our Emergency & Operating procedures with the verbiage changes in 8.r.

Item #4 We will have addition training for the personnel prior to the acquisition of a Cobalt source. At this point I am not sure if we will handle this internally or have an instructor give us additional training as part of our annual retraining program.

If you have any questions feel free to contact me at 414-483-9700.

Thank You,

Lawrence J. Schneider

Lawrence J. Schneider Sr.
Radiation Safety Officer

meter. Note the reading for comparison at the end of the exposure.

c. Unlock the exposure device with the key and turn the selector ring from the lock position to the connect position. When the selector ring is in the connect position the storage cover will disengage from the exposure device.

d. Slide the connector collar back and open the jaws of the connector. This exposes the male end of the swivel connector.

e. Engage the male and female portions of the drive cable and the source pigtail by pushing the spring loaded locking pin toward the exposure device and inserting the male connector into the female pigtail. Release the spring loaded locking pin and test that the connection has been properly made.

f. Close the jaws of the connector over the swivel connection.

g. Slide the connector collar over the connector jaws. Hold the collar flush against the control unit and rotate the selector ring from the connect position to the lock position.

h. Remove the round safety plug from the outlet port of the exposure device and attach the source guide tube. position the source guide tube tip for the radio-graphic exposure and adjust the position of the radiographic exposure device so that the source guide tube has no sharp bends or kinks.

i. Straighten the remote control unit to remove any bends or kinks and to get the technician as far away as possible.

j. Unlock the exposure device and rotate the selector ring to the operate position. Press the green flag into the ring to expose the red flag.

k. Crank the remote control unit to move the source to the end of the source guide tube, counting the number of turns it takes. Note for when the source is returned at the end of the exposure.

l. Retreat to the restricted area perimeter as soon as possible and maintain constant direct surveillance of the restricted area.

m. Survey the restricted area and adjust the perimeter if necessary.

n. Do not attempt to survey the high radiation area perimeter.

o. Note the results of the survey so that later it can be recorded in the daily utilization log.

p. At the end of the exposure, crank the remote control unit in the direction to return the source to the exposure device. While doing this count the number of turns it takes to return the source to the safe position and compare this to the number of cranks it took to get the source to the end of the source guide tube. They should be the same.

q. Approach the exposure device with the survey meter ahead of you, look to see if the green flag is exposed and survey the exposure device, the outlet nipple, and the entire length of the source guide tube.

r. Rotate the selector ring from the operate position to the lock position. IT IS MANDATORY THAT THE SOURCE BE SECURED WITHIN THE EXPOSURE DEVICE AFTER EACH EXPOSURE. The exposure

device shall be locked at all times except when actually making an exposure. This includes when relocating the device between exposures and when transporting.

s. When surveying the exposure device after completing an exposure, if readings are found higher than normal, or you cannot fully retract the source to a safe position retreat to the restricted area perimeter and follow the emergency procedures in section 10.0.

t. When terminating the work assignment disconnect the source guide tube and install the source outlet port plug, disconnect the remote control assembly and install the storage cover, and secure the exposure device for storage or transportation.

9. Monitoring a Restricted Area

a. Radiographers are required to maintain direct surveillance of the restricted area at all times during an exposure.

b. If an unauthorized person enters the restricted area, terminate the exposure immediately, secure the source, and remove the individual from the restricted area.

c. During each exposure, survey the perimeter of the restricted area and adjust as necessary. Later record the results on the daily utilization log.

d. Do not attempt to survey the high radiation area.

e. Monitor your dosimeter periodically during the course of the radiographic assignment. If your dosimeter is found to be off scale follow the instructions in section 3.f of this procedure. Enter the reading at the beginning and end of the shift. Dosimeters must be charged daily.

10. Emergency Procedures - Minimizing Exposure in the Event of an Accident

a. An emergency is when an abnormal event takes place that would or could cause an unnecessary exposure to any individual.

b. Remain calm and remove all individuals from the restricted area. Prevent unauthorized entry.

c. Resurvey and adjust the perimeter of the restricted area if necessary.

d. Maintain constant surveillance of the restricted area. If possible get RESPONSIBLE HELP in monitoring the restricted area, such as plant security, shop foreman, etc.

e. Contact the Radiation Safety Officer as soon as possible. **The Radiation Safety Officer is Lawrence J. Schneider Sr. His home phone no. is 414-672-3808, Office no. is 414-483-9700.**

f. No radiographic personnel shall attempt any operations involving source recovery or retrieval without the specific consent and direction of the Radiation Safety Officer.

11. Securing the Source for Storage - Storage Facility Requirements

a. Locked radiographic exposure devices and storage containers

CONVERSATION RECORD

TIME: 9 a.m. | DATE: 11/9/96

○ VISIT ○ CONFERENCE × TELEPHONE

○ INCOMING
× OUTGOING

NAME OF PERSON(S) CONTACTED OR IN CONTACT | ORGANIZATION (OFFICE, DEPT.ETC.) | TELEPHONE NO.

Larry Schneider Sr., RSO
NDT Specialists, Inc.
414-483-9700

SUBJECT

Amendment request dated 10/22/96

SUMMARY

I spoke to Larry to obtain the following information:

1. Commit to performing a close-out survey of the old storage facility, give the instrument used and calibration dated and will provide to the NRC.
2. For the new storage facility, discuss the security of the cameras, who has access to the keys and discuss posting.
3. In the new manual, item 8.r. change word "should" to must, will etc.
4. Discuss what training will be given to radiographers who never used cobalt-60 sources.

This action is certified by Jim Mullauer 11/15/96

ACTION REQUIRED

Response due in 20 days.

NAME OF PERSON DOCUMENTING CONVERSATION | SIGNATURE | DATE

James R. Mullauer

ACTION TAKEN

SIGNATURE | TITLE | DATE

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
801 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

November 6, 1996

Lawrence J. Schneider Sr.
Radiation Safety Officer
NDT Specialists Incorporated
701 West Waterford Avenue
Milwaukee, WI 53221

SUBJECT: ACKNOWLEDGEMENT OF CORRESPONDENCE
(Letter Dated 10/22/96)

Dear Licensee:

In response to your request, we have completed the initial processing, which is an administrative review of your application for a(n):

___ New License X Amendment ___ Renewal
___ Termination ___ Auth User (Amendment not required)
___ Other_____

No administrative deficiencies were identified during this initial review. However, it should be noted that a technical review may identify omissions in the submitted information.

It appears that your request is routine (see 1-3 below, as applicable).

1. New and amendment actions are normally processed within 90 days, unless we find major deficiencies, or policy issues requiring central program office assistance.

2. Renewal actions are normally processed within 180 days, however, under timely filing (before expiration), you may continue to operate under your existing license.

3. Termination actions are normally processed within 90 days, unless confirmatory surveys following decontamination/decommissioning activities are involved.

A copy of your correspondence has been forwarded to our Licensing Fee and Debt Collection Branch (301/415-6097) for approval of the fee category and amount, if required.

If you have a compelling safety or business-related reason for requesting expedited review, please contact the Materials Licensing Branch at (630) 829-9887. We will try to complete your request as soon as practicable. Any correspondence about this request should reference the control number.

Nuclear Materials Support Branch

Mail Control No. 302022
License No. 48-25917-01