

**CARPENTER TECHNOLOGY CORPORATION**

ENGINEERING AND CONSTRUCTION DEPARTMENT

P.O. BOX 662, READING, PENNSYLVANIA 19603 (215) 371-2000



Ref. RDG-10:61-P1

June 8, 1987

John E. Glenn, Ph.D., Chief  
Nuclear Materials Safety Section B  
U.S. Nuclear Regulatory Commission  
Region 1  
631 Park Avenue  
King of Prussia, PA 19406

RE: License No. 37-08210-01  
Docket No. 030-06185  
Control No. 106933

Dear Dr. Glenn:

This is in response to your May 22, 1987 letter and the June 1, 1987 meeting with respect to the subject license amendment. The item numbers refer to your question numbers in the referenced May 22 letter.

1. The gauging devices authorized by this license will be used by employees who have been given a one to two hour session by one of the following:

Joan Fessler  
Steven Delp  
George Lucas  
Anthony LaMastra

The training will present the pertinent aspects of Carpenter Technology's, "Policies Governing the Use of Ionizing Radiation"; specific operating restrictions for the particular installation; the likely radiation exposure rates at the operator's position and the relative risk; and actions to be taken should an emergency develop.

Gauge operators will not be permitted to install, relocate, work on shutter mechanisms or do repairs with the source exposed.

2. Mrs. Fessler and Messrs. Delp and Lucas will be given a 20 hour training course in radiation protection, with an emphasis on industrial gauging devices, as well as providing guidance for instructing the operators referred to in item 1 above. The course will be presented by Mr. LaMastra. A copy of the course outline is enclosed (Attachment A). A written test will be given at the conclusion of the course.

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3. As discussed at the June 1 meeting, preventive maintenance and repair work to the source housings of the gauging devices will be performed by electronics technicians who have successfully completed an 8 hour training program presented by Mr. LaMastra. An outline of the program is attached (Attachment B). The determination of understanding of the material is made by Mr. LaMastra from oral question during the course.

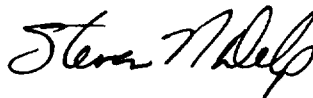
Such maintenance work will be performed only with the shutter secured in a closed position. All work will be performed following written procedures, a sample of one such procedure is attached (Attachment C). Each of the procedures state that the manufacturer's instructions must be followed.

Typical jobs are cleaning and replacing windows on beta and low energy gamma gauges, electronics repairs to detector portion of gauges, and calibrations. In no case will these employees remove sources or shielding.

We believe this information should answer all your concerns and look forward to a timely review. Thank you for your assistance in this matter.

Should there be any questions, please feel free to contact Steven Delp at 215-371-3296.

Sincerely yours,



Steven N. Delp  
Supervisor -  
Health and Safety Engineering

SND/nlh

Attachments

**RADIATION PROTECTION COURSE FOR GAUGE INSTALLATIONS - 3 DAY**

**Day 1**

8:00	-	8:30	Introduction and announcements
8:30	-	9:00	Units of measurement
9:00	-	10:15	Sources of radiation and exposure levels
10:15	-	10:30	Break
10:30	-	11:30	Radiation interactions with matter
11:30	-	noon	Film - "A Source of Trouble"
noon	-	13:00	Lunch
13:00	-	14:15	Biological effects of radiation exposure
14:15	-	10:45	Film - "Working with Radiation & Protecting the Unborn"
14:45	-	15:00	Break
15:00	-	16:00	Risk estimates and exposure limits
16:00	-	16:30	Personnel monitoring and leak testing

**Day 2**

8:00	-	8:30	Review
8:30	-	10:00	Radiation detection principles & survey technique
10:00	-	10:15	Break
10:15	-	noon	Time, distance, shielding calculations
noon	-	13:00	Lunch
13:00	-	14:00	Restricted areas and required warning signs, notices
14:00	-	16:30	Demonstrations of survey meter response, field practice

**Day 3**

8:00	-	9:00	Review
9:00	-	10:00	Developing safe operating procedures
10:00	-	10:15	Break
10:15	-	11:00	Transportation requirements
11:00	-	noon	NRC/OSHA/state/company regulations
noon	-	13:00	Lunch
13:00	-	14:00	Review
14:00	-	15:00	Test
15:00	-	15:15	Break
15:15	-	16:00	Review test

This course is intended to instruct personnel in how to perform initial surveys and supervise the installation and relocation of gauging devices. The course is presented by Anthony LaMastra, Certified Health Physicist. Emphasis is placed on the types of sources common to heavy industry, the exposure rates from those sources and methods of protection.

A test will be given at the conclusion of the course, with a passing grade being 70 percent. All tests are administered and corrected by Mr. LaMastra. The corrected tests, along with correct answers and reasons, are returned to the participants for their review. A record of test scores and questions missed by each participant is kept by Mr. LaMastra.

The goals of the course are to enable participants to: (1) understand the units of radiation exposure, dose and activity, and personnel dose limits; (2) be able to perform a satisfactory survey and understand the limitations of survey equipment as it pertains to their operation; (3) be able to apply radiation protection methods to protect themselves and those working in the area; (4) recognize the potential hazards from various types of radiation sources; (5) know the limits of their competency in radiation protection matters; (6) know what to do in the event of an emergency; (7) know the requirements of applicable radiation protection regulations; and (8) understand the reasons behind safe working procedures and become motivated to follow safe procedures.

**RADIATION PROTECTION COURSE FOR GAUGE MAINTENANCE PERSONNEL**

8:00	-	8:30	Units of measurement
8:30	-	9:15	Radiation sources and exposure levels
9:15	-	10:15	Biological effects from excessive exposure
10:15	-	10:30	Break
10:30	-	11:15	Risk from exposure and exposure limits
11:15	-	noon	Survey meter operation and survey technique
noon	-	13:00	Lunch
13:00	-	13:30	Personnel monitoring and leak testing procedures
13:30	-	14:45	Use of time, distance & shielding to reduce exposure
14:45	-	15:15	Warning signs and restricted areas
15:15	-	15:30	Break
15:30	-	16:30	Review of safe working procedures for specific gauges

This course is intended to instruct electronics/electrical repairmen in the safe methods of working on gauging devices containing radiation sources. The course is presented by Anthony LaMastra, Certified Health Physicist. Emphasis is placed on the types of sources common to heavy industry, the exposure rates from those sources and methods of protection.

The level of understanding of the participants will be gauged by questions asked of individuals during the course by Mr. LaMastra, and also from questions asked by the participants. A review of those points is then emphasised.

The goals of the course are to enable participants to: (1) understand the units of radiation exposure, dose and activity, and personnel dose limits; (2) be able to perform a satisfactory survey and understand the limitations of survey equipment as it pertains to their operation; (3) be able to apply radiation protection methods to protect themselves and those working in the area; (4) recognize the potential hazards from various types of radiation sources; (5) know the limits of their competency in radiation protection matters; (6) know what to do in the event of an emergency; (7) know the requirements of applicable radiation protection regulations; and (8) understand the reasons behind safe working procedures and become motivated to follow safe procedures.

Attachment C

Window Replacement - LFE Thickness Gauge  
Model SCL-1C  
Senzimer Mill

Upon contact from the Operating Department reporting suspected or observed damage to the window portion of the Senzimer Mill Thickness Gauges, the following procedures shall be followed by Electronic Maintenance personnel performing repairs:

1. Obtain (1) Maintenance ring badge and place on finger of dominant hand.
2. Lock out Senzimer power supply in the OFF position.
3. Lock out shutter switch on gauge in the CLOSED position.
4. Using GM Counter, survey air gap between source housing and detector to insure that shutter is closed.
5. Replace window according to manufacturer's instructions.
6. Restandardize gauge according to manufacturer's instructions.