

4731.4140 RADIOGRAPHER TRAINING.

Subpart 1. **Requirements; radiographer.** A licensee may not permit an individual to act as a radiographer until the individual:

- A. receives training according to subpart 6;
- B. completes a minimum of two months of on-the-job training;
- C. is certified through a radiographer certification program by a certifying entity according to part 4731.4360;
- D. receives copies of and instruction in parts 4731.0200, 4731.0280, and 4731.0290; the applicable DOT regulations under parts 4731.0400 to 4731.0455; the applicable portions of parts 4731.1000 to 4731.2950; parts 4731.4000 to 4731.4360; the license under which the radiographer will perform industrial radiography; and the licensee's operating and emergency procedures;
- E. demonstrates understanding of the licensee's license and operating and emergency procedures by successfully completing a written or oral examination covering the material;
- F. receives training in the use of the licensee's radiographic exposure devices and sealed sources, in the daily inspection of devices and associated equipment, and in the use of radiation survey instruments; and
- G. demonstrates understanding of the use of the radiographic exposure devices, sources, survey instruments, and associated equipment under item F by successfully completing a practical examination covering the material.

Subp. 2. **Requirements; radiographer's assistant.** A licensee may not permit an individual to act as a radiographer's assistant until the individual:

- A. receives copies of and instruction in parts 4731.0200, 4731.0280, and 4731.0290; the applicable DOT regulations under parts 4731.0400 to 4731.0455; the applicable portions of parts 4731.1000 to 4731.2950; parts 4731.4000 to 4731.4360; the license under which the radiographer's assistant will perform industrial radiography; and the licensee's operating and emergency procedures;
- B. develops competence to use, under the personal supervision of a radiographer, the radiographic exposure devices, sealed sources, associated equipment, and radiation survey instruments that the assistant will use; and
- C. demonstrates understanding of the instructions provided under item A by successfully completing a written test on the subjects covered and demonstrates competence in the use of hardware described under item B by successfully completing a practical examination on the use of the hardware.

Subp. 3. **Refresher training.** A licensee must provide annual refresher safety training for each radiographer and radiographer's assistant at intervals not to exceed 12 months.

Subp. 4. **Job performance review.**

A. Except as provided in item C, the radiation safety officer or designee must conduct an inspection program of the job performance of each radiographer and radiographer's assistant to ensure that this chapter, the license requirements, and the licensee's operating and emergency procedures are followed. The inspection program must:

(1) include observation of the performance of each radiographer and radiographer's assistant during an actual industrial radiographic operation, at intervals not to exceed six months; and

(2) provide that, if a radiographer or a radiographer's assistant has not participated in an industrial radiographic operation for more than six months since the last inspection, the radiographer must redemonstrate knowledge of the training requirements of subpart 1, item F, and the radiographer's assistant must redemonstrate knowledge of the training requirements of subpart 2, item B, by a practical examination before the individuals can next participate in a radiographic operation.

B. The commissioner may consider alternatives to item A in situations where an individual serves as both radiographer and radiation safety officer.

C. In those operations where a single individual serves as both radiographer and radiation safety officer, and performs all radiography operations, an inspection program is not required.

Subp. 5. **Record keeping.** A licensee must maintain records of training under this part, including certification documents, written and practical examinations, refresher safety training, and inspections of job performance, according to part 4731.4290.

Subp. 6. **Required subjects.** A radiographer must receive training in:

A. the fundamentals of radiation safety, including:

- (1) characteristics of gamma radiation;
- (2) units of radiation dose and quantity of radioactivity;
- (3) hazards of exposure to radiation;
- (4) levels of radiation from licensed material; and
- (5) methods of controlling radiation dose (time, distance, and shielding);

- B. radiation detection instruments, including:
 - (1) use, operation, calibration, and limitations of radiation survey instruments;
 - (2) survey techniques; and
 - (3) use of personnel monitoring equipment;
- C. equipment to be used, including:
 - (1) operation and control of radiographic exposure equipment, remote handling equipment, and storage containers, including pictures or models of source assemblies (pigtailed);
 - (2) storage, control, and disposal of licensed material; and
 - (3) inspection and maintenance of equipment;
- D. the requirements of pertinent portions of this chapter; and
- E. case histories of accidents in radiography.

Subp. 7. **Certification records.** Records of radiographer certification maintained according to part 4731.4290, subpart 1, must provide appropriate affirmation of the certification requirements specified in subpart 1, item C.

Statutory Authority: *MS s 144.1202; 144.1203*

History: *29 SR 755; 32 SR 831*

Published Electronically: *March 12, 2009*