

4732.1040 INDUSTRIAL FACILITY REQUIREMENTS FOR USING RADIATION-PRODUCING EQUIPMENT IN MANUFACTURING PROCESSES, GAUGES, AND CABINETS.

Subpart 1. **Applicability.** This part establishes standards for the use of radiation-producing equipment for manufacturing processes, gauges, and cabinets in industrial settings. The requirements of this part are in addition to other pertinent requirements of this chapter.

A. A registrant who performs industrial radiography using a certified cabinet system must comply with all requirements of Code of Federal Regulations, title 21, section 1020.40, as subsequently amended.

B. Individuals who use equipment regulated under this part are not required to hold a radiographer certification.

Subp. 2. **Operating procedures.** The registrant must have operating procedures that include:

A. maintaining radiation doses as low as reasonably achievable and actions to prevent exceeding the dose limits in parts 4732.0410 to 4732.0430;

B. identification of radiation hazards associated with the equipment use;

C. identification of the various radiation warning signs, safety devices, and interlocks incorporated into the equipment;

D. methods of locking and securing the radiation-producing equipment;

E. inspecting and maintaining the equipment according to manufacturer's specifications;

F. utilization log preparation as applicable; and

G. maintenance of required records according to part 4732.0330.

Subp. 3. **Emergency procedures.** The registrant must have emergency procedures that include emergency procedures for employees and the procedures for notifying personnel in the event of an accident or equipment malfunction.

Subp. 4. **Instruction and training.** The registrant must ensure that:

A. An individual operating or maintaining the radiation-producing equipment is adequately instructed initially in operating and emergency procedures. The training must include:

(1) the fundamentals of radiation safety, including:

(a) characteristics of gamma radiation;

(b) units of radiation dose;

- (c) hazards of exposure to radiation;
- (d) levels of radiation from radiation-producing equipment; and
- (e) methods of controlling radiation dose; and

(2) requirements of pertinent parts of this chapter.

B. Additional training must be conducted with the addition of any new radiation-producing equipment.

C. Documentation of the initial and any additional instruction must be maintained according to part 4732.0330.

Subp. 5. **Analytical ionizing radiation-producing equipment.** The registrant must ensure:

A. any unused ports on radiation-producing housings must be closed to prevent opening by an individual other than the operator;

B. each port on an open-beam configuration housing must be equipped with a shutter that cannot be operated unless either a collimator or a coupling has been connected to the port; and

C. the dose does not exceed 0.5 millirem (0.005 mSv) in one hour at a distance of 1.97 inches (five centimeters) from the protective surfaces.

Subp. 6. **Bypassing a safety device.** The registrant must ensure the requirements in part 4732.0630 are met in order to bypass a safety device.

Subp. 7. **Manufacturing process equipment.** In addition to any other applicable requirements in this chapter, the registrant using any manufacturing process equipment must ensure:

A. that the materials exposed to ionizing radiation are contained within a permanent enclosure; and

B. that shielding of the enclosure attenuates the primary and secondary radiation beam so dose limits in parts 4732.0400 to 4732.0430 are not exceeded.

Subp. 8. **Records.** The registrant must ensure that records are maintained for each piece of industrial ionizing radiation-producing equipment according to part 4732.0330.

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