Kansas Administrative Regulations

Department of Health and Environment

Article 35.—Radiation—Part 7. Special Requirements for Industrial Radiographic Operations.

28-35-284. Personnel monitoring.

(a) The licensee or registrant shall not permit any individual to act as a radiographer or a radiographer's assistant unless, at all times during radiographic operations, each individual wears on the trunk of the body a personnel-monitoring device (PMD) as specified in K.A.R. 28-35-217a, a direct reading dosimeter, and an alarming ratemeter. At permanent radiographic installations where other appropriate alarming or warning devices are in routine use and during radiographic operations using radiation machines, the use of an alarming ratemeter shall not be required.

(1) Each pocket ion-chamber dosimeter shall have a range from zero to 200 mrem and shall be recharged at the start of each work shift. Electronic personal dosimeters may be used in place of only pocket ion-chamber dosimeters.

(2) Each PMD shall be assigned to and worn by only one individual.

(3) Each PMD that requires replacement shall be replaced at least monthly.

(4) After replacement, each PMD shall be returned to the supplier for processing within 14 calendar days after the end of the monitoring period, or as soon as practicable. In circumstances that make it impossible to return each PMD within 14 calendar days, these circumstances shall be documented in writing and available for review by the department.

(b) Direct reading dosimeters, including pocket ion-chamber dosimeters and electronic personal dosimeters, shall be read and the exposures shall be recorded at the beginning and end of each work shift and records shall be maintained for three years.

(c) All pocket ion-chamber dosimeters and electronic personal dosimeters shall be checked at least each 12 months for the proper response to and the accurate measurement of radiation and records shall be maintained for three years. An

acceptable reading on each dosimeter shall be within plus or minus 30 percent of the true radiation exposure.

(d) If an individual's pocket ion-chamber dosimeter is found to be off-scale or if an electronic personal dosimeter reads greater than 200 mrem, and the possibility of radiation exposure cannot be ruled out as the cause, the individual's PMD that requires processing shall be sent for processing and evaluation within 24 hours. For personnel dosimeters that do not require processing, evaluation of the dosimeter shall be started within 24 hours. In addition, the individual shall not resume any work associated with the use of sources of radiation until a determination of the amount of that individual's radiation exposure is made. This determination shall be made by the radiation safety officer or the radiation safety officer's designee. The results of this determination shall be included in the records required in subsection (g).

(e) If an individual's PMD is lost or damaged, the individual shall cease work immediately until a replacement PMD is provided and the exposure is calculated for the time period from issuance to loss or damage of the PMD. The results of the calculated exposure and the time period during which the PMD was lost or damaged shall be included in the records required in subsection (g).

(f) Each licensee or registrant shall ensure that each alarming ratemeter meets the following requirements:

(1) The alarming ratemeter is checked to ensure that the alarm functions properly before using at the start of each shift.

(2) The alarming ratemeter is set to give an alarm signal at a preset dose rate of 500 mrem per hour, with an accuracy of plus or minus 20 percent of the true radiation dose rate.

(3) The alarming ratemeter requires a special means to change the preset alarm function.

(4) The alarming ratemeter is calibrated at least each 12 months for the accurate measurement of radiation.

(g) Each licensee or registrant shall maintain the following exposure records:

(1) Direct reading dosimeter readings and yearly operability checks for three years after the record is made;

(2) alarm ratemeter calibrations for three years after the record is made;

(3) PMD results until the department terminates the license; and

(4) exposure estimates as a result of any direct reading dosimeter that reads off-scale or any lost or damaged personnel-monitoring equipment until the department terminates the license.

(Authorized by and implementing K.S.A. 48-1607; effective Jan. 1, 1970; amended Jan. 1, 1972; amended, T-85-43, Dec. 19, 1984; amended May 1, 1985; amended Sept. 20, 1993; amended Dec. 30, 2005; amended Dec. 26, 2025.)

***** Authenticated Kansas Administrative Regulation *****