

WAC 246-225-070 Radiographic systems other than fluoroscopic, dental intraoral, or veterinary systems—Radiation exposure control devices. (1) **Timers.** Means shall be provided to terminate the exposure at a preset time interval, preset product of current and time, a preset number of pulses, or a preset radiation exposure to the image receptor. In addition, it shall be impossible to make an exposure when the timer is set to a zero or off position if either position is provided.

(2) *X-ray control (exposure switch):*

(a) A control which shall be the equivalent of a dead-man switch, shall be incorporated into each X-ray system such that an exposure can be terminated at any time except for:

(i) Exposure of one-half second or less, or

(ii) During serial radiography when means shall be provided to permit completion of any single exposure of the series in process.

(b) Each X-ray control shall be located in such a way as to meet the following requirements:

(i) Stationary X-ray systems shall be required to have the X-ray exposure switch permanently mounted in a protected area so that the operator has no choice but to remain in that protected area during the entire exposure;

(ii) Mobile and portable X-ray systems shall have:

(A) An exposure cord which can extend for a minimum of 12 feet from the patient; or

(B) A protective barrier of 0.25 millimeter lead equivalent between the patient and the operator.

(c) Each X-ray control shall provide visual evidence to the operator that X-rays are being produced and an audible signal that the exposure has terminated.

(3) *Automatic exposure controls (phototimers).* When an automatic exposure control is provided:

(a) Indication shall be made on the control panel when this mode of operation is selected;

(b) When the X-ray tube potential is equal to or greater than 50 kVp, the minimum exposure time for field emission equipment rated for pulsed operation shall be equal to or less than the interval equivalent to two pulses;

(c) The minimum exposure time for all equipment other than that specified in WAC 246-225-070 (3)(b) shall be equal to or less than 1/60 second or a time interval required to deliver 5 mAs, whichever is greater.

(4) *Timer reproducibility.* With a timer setting of 0.5 seconds or less, the difference between the maximum exposure time (T_{max}) and the minimum exposure time (T_{min}) shall be less than or equal to 10% of the average exposure time (T), when four timer tests are performed:

$$(T_{max} - T_{min}) \leq 0.1T$$

[Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 91-15-083 (Order 183), § 246-225-070, filed 7/23/91, effective 8/23/91. Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-225-070, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. WSR 83-19-050 (Order 2026), § 402-28-052, filed 9/16/83. Statutory Authority: RCW 70.98.050. WSR 81-01-011 (Order 1570), § 402-28-052, filed 12/8/80; Order 1084, § 402-28-052, filed 1/14/76. Formerly WAC 402-28-050 (part).]