

## **902 KAR 100:130. Dental.**

RELATES TO: KRS 211.842-211.852, 211.990(4)

STATUTORY AUTHORITY: KRS 194.050, 211.090, 211.844

NECESSITY, FUNCTION, AND CONFORMITY: The Cabinet for Human Resources is authorized by KRS 211.844 to provide by administrative regulation for the registration and licensing of the possession or use of any sources of ionizing or electronic product radiation and the handling and disposal of radioactive waste. The purpose of this administrative regulation is to provide special requirements for the possession, use and operation of intra-oral dental radiographic x-ray systems.

Section 1. Applicability. This administrative regulation shall apply to dental intra-oral radiographic x-ray systems and to persons, equipment and materials used in connection with the possession, use or operation of these systems.

Section 2. Source to Skin Distance. Each radiographic x-ray system designed for use with an intra-oral image receptor shall be provided with a means to limit the source to skin distance to not less than:

- (1) Eighteen (18) centimeters if operable above fifty (50) kilovolts peak; or
- (2) Ten (10) centimeters if not operable above fifty (50) kilovolts peak.

Section 3. Field Limitation. Each radiographic x-ray system designed for use with an intra-oral image receptor shall be provided with a means to limit the x-ray beam.

(1) If the minimum source to skin distance (SSD) is eighteen (18) centimeters or more, the x-ray field, at the minimum SSD, shall be containable in a circle having a diameter of no more than seven (7) centimeters; or

(2) If the minimum SSD is less than eighteen (18) centimeters, the x-ray field, at the minimum SSD, shall be containable in a circle having a diameter of no more than six (6) centimeters.

Section 4. Operator Protection. Each installation shall be provided with a protective barrier for the operator or shall be so arranged that the operator can conveniently stand, in the judgment of the cabinet, at least one and eight tenths (1.8) meters from the patient, the tube housing assembly, and the useful beam if the exposure to the operator is within the limits provided by 902 KAR 100:020, Section 20.

Section 5. Operating Procedures. In performing intra-oral dental radiography the following rules shall apply:

- (1) Film holding devices shall be used if technique permits;
- (2) Neither the tube housing assembly nor the position indicating device shall be hand-held during an exposure;
- (3) The x-ray system shall be arranged and operated in a manner that the useful beam at the patient's skin does not exceed the dimensions specified in Section 3 of this administrative regulation.
- (4) Each patient undergoing dental radiography shall be draped with a protective apron of not less than 0.25 mm lead equivalent to cover the gonadal area;
- (5) Film of a USASI (USA) speed group rating of "D" or faster shall be used;
- (6) All dental radiographic x-ray systems registered after March 2, 1977, shall be provided with electronic timers; and
- (7) If patients are immobilized during an x-ray exposure mechanical restraints shall be used if

technique permits.

Section 6. Filtration. In addition to the requirements of 902 KAR 100:115, Section 6, all intra-oral dental radiographic systems manufactured on and after December 1, 1980, shall have a minimum half-value layer not less than one and five-tenths (1.5) millimeters aluminum equivalent filtration permanently installed in the useful beam.

Section 7. Linearity. On dental intra-oral radiographic systems certified under the federal performance standard, if the equipment allows a choice of x-ray tube current settings and is operated on a power supply as specified by the manufacturer in accordance with the requirements of applicable federal standards, for any fixed x-ray tube potential within the range of forty (40) to 100 percent of the maximum rating, the average ratios of exposure to the indicated milliampere-seconds product obtained at any two (2) consecutive tube current settings shall not differ by more than one-tenth (0.1) times their sum. (1 Ky.R. 415; eff. 2-5-75; Am. 3 Ky.R. 560; eff. 3-2-77; 12 Ky.R. 1401; eff. 3-4-86; 18 Ky.R. 1557; eff. 1-10-92.)