a. The booth shall be no closer than 1.3 meters from the nearest vertical cassette holder or .3 meters from the nearest corner of the examining table.

b. The booth walls shall be at least 2.1 meters high and shall be permanently fixed to the floor or other structure as may be necessary for general purpose radiography.

c. When a door or movable panel is used as an integral part of the booth structure, it shall have a permissive device which will prevent an exposure when the door panel is not closed.

2. 'Exposure switch placement.'

a. The exposure switch shall be at least 1 meter from any open edge of the booth wall which is proximal to the examining table.

b. The exposure switch shall be fixed within the booth.

c. The exposure switch shall allow the operator to use the majority of the available viewing windows.

3. 'Viewing system requirements.'

a. Each booth shall have at least one viewing device.

b. The device shall be so placed that the operator can have full view of any occupant of the room and shall be so placed that the operator can view any entry into the room. If any door, which allows access to the room, cannot be seen from the booth, then that door shall have a permissive device which will prevent the exposure if the door is not closed.

c. When the viewing device is a window, the following requirements also apply:

i. The viewing device shall have a visible area of at least 0.09 square meters.

ii. The distance between the proximal edge of the window and the open edge of the booth shall not be less than .45 meters.

iii. The glass shall have the same lead equivalence as that required in the booth's wall in which it is to be mounted.

d. When the viewing is by mirror(s), the mirror(s) shall be so located as to accomplish the general requirements as in subpar. c.

e. When the viewing system is by electronic means, for example, television, the camera shall be so located as to accomplish the general requirements in subpar. c.

(c) *Modifications.* The approval of such plans shall not preclude the requirement of additional modifications should a subsequent analysis of operating conditions indicate the possibility of an individual receiving a dose in excess of the limits prescribed in s. HSS 157.12 (2) (a) and (e).

(4) PROCESSING OF FILM. All films shall be processed in such a fashion as to achieve maximum diagnostic information at the minimum exposure value. This criterion shall be adjudged to have been met if the film processing (chemical or equipment) manufacturer's recommendations are followed.

(5) ACTION BY THE DEPARTMENT. Within 30 days after receiving a complete application for registration and within 60 days after receiving a complete plan for approval under this chapter, the department shall register the installation or equipment or approve or deny approval to the plan and, in the case of the plan, shall inform the person in control or other person submitting the plan of that decision.

History: Cr. Register, September, 1982, No. 321, eff. 10-1-82; cr. (5), Register, November, 1985, No. 359, eff. 12-1-85.

HSS 157.04 General requirements for all diagnostic x-ray systems. In addition to other requirements, all diagnostic x-ray systems shall meet the conditions specified in this section, many of which have been taken from 21 CRF 1020.30-31.

(1) WARNING LABEL. The control panel containing the main power switch shall bear the warning statement, legible and accessible to view: "WARNING: This x-ray unit may be dangerous to patient and operator unless safe exposure factors and operating instructions are observed."

(2) BATTERY CHARGE INDICATOR. On battery-powered generators, visual means shall be provided on the control panel to indicate whether the battery is in a state of charge adequate for proper operation.

(3) LEAKAGE RADIATION FROM THE DIAGNOSTIC SOURCE ASSEMBLY. The leakage radiation from the diagnostic source assembly measured at a distance of one meter in any direction from the source shall not exceed 100 milliroentgens in one hour when the x-ray tube is operated at its leakage technique factors. Compliance shall be determined by measurements averaged over an area of 100 square centimeters with no linear dimension greater than 20 centimeters.

(4) RADIATION FROM COMPONENTS OTHER THAN THE DIAGNOSTIC SOURCE ASSEMBLY. The radiation emitted by a component other than the diagnostic source assembly shall not exceed 2 milliroentgens in one hour at 5 centimeters from any accessible surface of the component when it is operated in an assembled x-ray system under any conditions for which it was designed. Compliance shall be determined by measurements averaged over an area of 100 square centimeters with no linear dimension greater than 20 centimeters.

(5) BEAM QUALITY. (a) *Half-value layer.* 1. The half-value layer (HVL) of the useful beam for a given x-ray tube potential shall not be less than the values shown in Table 157-B. If it is necessary to determine such half-value layer at an x-ray tube potential which is not listed in Table 157-B, linear interpolation or extrapolation may be made.