

Part IV - Appendix C

Design Requirements for an Operator's Booth

1. Space Requirements:

(a) The operator shall be allotted not less than 7.5 square feet (0.697 m²) of unobstructed floor space in the booth.

(b) The operator's booth may be any geometric configuration with no dimension less than 2 feet (0.61m).

(c) The space shall be allotted excluding any encumbrance by the x-ray control panel, such as overhang, cables, or other similar encroachments.

(d) The booth shall be located or constructed such that unattenuated direct scatter radiation originating on the examination table or at the wall cassette cannot reach the operator's station in the booth.

2. Structural Requirements:

(a) The booth walls shall be permanently fixed barriers of at least 7 feet (2.13m) high.

(b) When a door or movable panel is used as an integral part of the booth structure, it must have an interlock which will prevent an exposure when the door or panel is not closed.

(c) Shielding shall be provided to meet the requirements of RHB 4.4.

3. X-ray Control Placement:

The x-ray control for the system shall be fixed within the booth and:

(a) Shall be at least 40 inches (1.02m) from any open edge of the booth wall which is nearest to the source of radiation, excluding mammography equipment. If the exposure switch is separate from the control panel, the exposure switch shall be at least 40 inches (1.02m) from any open edge of the booth wall which is nearest to the source of radiation.

(b) Shall allow the operator to use the majority of the available viewing windows.

4. Viewing System Requirements:

(a) Each booth shall have at least one viewing device which will:

(i) Be so placed that the operator can view the patient during any exposure; and

(ii) 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 must have an interlock controlling the exposure which will prevent the exposure if the door is not closed.

(b) When the viewing system is a window, the following requirements also apply:

(i) It shall have a viewing area of at least 1 square foot (0.0929 m²).

(ii) The design of the booth shall be such that the operator's expected position when viewing the patient and operating the x-ray system is at least 18 inches (0.457m) from the edge of the booth.

(iii) The material constituting the window shall have the same lead equivalence as that required in the booth's wall in which it is mounted.

(c) When the viewing system is by mirrors, the mirror(s) shall be so located as to accomplish the general requirements of this Part.

(d) When the viewing system is by electronic means:

(i) The camera shall be so located as to accomplish the general requirements of this Part; and

(ii) There shall be an alternate viewing system as a backup for the primary system.

5. Alternative Design Criteria. The design considerations listed in Appendix C shall be followed. If design criteria in Appendix C cannot be followed, the registrant may offer alternative design criteria to the Department for acceptance as long as the same degree of safety is being met.