



Arkansas Department of Health

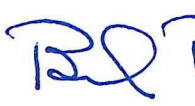
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Governor Asa Hutchinson

José R. Romero, MD, Secretary of Health

ARKANSAS INFORMATION NOTICE 22-01

To: Vendor Service registrants

From: Bernard Bevill, Section Chief
Radiation Control Section 

Date: February 2, 2022

Subject: Shielding Plan Reviews (Shielding Calculations)

This Information Notice is to clarify shielding plan/calculation requirements regarding the installation of new and replacement radiation machines for non-therapeutic use in the healing arts.

Prior to equipment use, the floor plans, shielding specifications, and equipment arrangement of all new installations or modifications of existing installations utilizing radiation for non-therapeutic uses in the healing arts, except bone densitometry, podiatric, and dental, other than cone beam computed tomography, are to be completed by a Qualified Expert and made available for review by the Department upon request. However, the shielding plans for all new installations or modifications of existing installations utilizing fluoroscopy or computed tomography are to be submitted for Department review and approval prior to equipment use.

Modifications of existing installations include, but are not limited to, the following: replacing a radiation machine with one of a higher output; changing the orientation of the radiation machine or image receptor; changing the occupancy of areas adjacent to the radiation machine room; and changing the radiation machine workload or technique factors, deemed significant by a Qualified Expert.

To be authorized as a Qualified Expert, training and experience of the individual must be reviewed and approved by the Department.

A shielding plan is to contain, at a minimum, the following information:

1. Basic facility information including the following: name, telephone number, and Department vendor registration/license number of the individual responsible for preparation of the shielding plan; name and telephone number of the facility supervisor; the street address of the radiation machine facility; and the room number of the radiation machine. The plan should also indicate whether this is a new structure or a modification to an existing structure.
2. The normal location of the x-ray tube, along with an indication of anode-cathode orientation to the cassette holders; the limits of the tube travel; the directions in which the tube is pointed; locations of any windows and doors or other openings; the location of the operator's booth or

operator's position; the location of the exposure switch; and position of the viewing window, if any;

3. The structural composition and thickness or lead equivalence of all walls, doors, partitions, floor, and ceiling of the room(s) concerned;
4. The dimensions of the room(s) concerned;
5. The identification of and occupancy of all adjacent areas inclusive of space above and below the room(s) concerned. If there is an exterior wall, show distance to the closest area(s) where it is likely that individuals may be present;
6. The make and model of the equipment, the maximum technique factors, and the energy waveform (single phase, three phase, etc.);
7. The type of examination(s) or treatment(s) which will be performed with the equipment;
8. The maximum anticipated number of patients per week; and
9. The anticipated workload of the x-ray system.

A report is to be completed showing all basic assumptions used in the development of the shielding specifications and verifying that the shielding and safety design is in compliance with occupational and individual member of the public dose limits specified in Part C of Section 3 of the Rules for Control of Sources of Ionizing Radiation.

Shielding plan approval does not preclude revisions to the plan should a subsequent analysis of operating conditions indicate the possibility of an individual receiving a dose in excess of Part C of Section 3 limits.

If you have any questions, please call the X-Ray Program at (501) 661-2378.