IOWA HHS/BUREAU OF RADIOLOGICAL HEALTH
GUIDE TO COMPLETING
A REQUEST FOR X-RAY ROOM SHIELDING REVIEW

MEDICAL FACILITIES
(and dental, podiatric, and veterinary facilities not meeting the requirements of the Dental, Podiatric, and Veterinary Facility Shielding Review Form)

The Iowa Administrative Code states:
641-41.1(3)"d"(1) **Prior to construction of all new installations or modifications of existing installations, or installations of equipment into existing facilities utilizing x-rays for diagnostic or therapeutic purposes, the floor plans and equipment arrangements shall be submitted to the agency for review and verification that national standards have been met.**

The purpose of this guide is to help you complete the Request for Review of Room Shielding form. Room shielding is required to provide protection outside the room where the x-ray unit will be operated to ensure machine operators and members of the general public are not unnecessarily exposed to radiation.

**No shielding review is necessary for bone densitometry units.
**Mammography room shielding review should be submitted according to the mammography program guidelines.
**Medical and chiropractic facilities must contact a registered service provider who will determine the shielding requirements and submit the form on your behalf. Some installers of x-ray equipment do this as part of their installation service.
**All shielding evaluations for CT or cone-beam CT must be submitted by a registered service provider.

Definitions

"Registered service providers" are companies registered with Iowa HHS to provide services such as installation, repair, and calibration of x-ray equipment and processors, and radiation safety evaluations of facilities.
"Exposure" means one push of the control button to allow one x-ray film to be created.

Firewall construction of brick or concrete block between businesses is usually sufficient if the x-ray room is adjacent to the firewall.

Exposure buttons for stationary x-ray units must be located in a protected location (behind a wall or in a booth or protective barrier).

PANORAMIC AND PANORAMIC/CEPHALOMTRIC UNITS

Additional shielding may be required for usage over 10 exposures per day. This would require an evaluation and submission by a registered service provider.

FOR ALL ROOMS

1. Hallways must be controlled so that no individual is passing the door of the room during x-ray exams.
2. The operator must be outside of the room and behind the wall or protected area during x-ray exams.

FOR MORE INFORMATION

You may visit the National Council on Radiation Protection and Measurements (NCRP) website (ncrponline.org) and review the appropriate document:

a. NCRP Report #145: Radiation Protection in Dentistry
b. NCRP Report #147: Structural Shielding Design for Medical X-ray Imaging Facilities
c. NCRP Report #148: Radiation Protection in Veterinary Medicine

Use the NRCP guidelines to complete the shielding request form.

All submissions are compared to the NCRP Reports to verify that the shielding meets national standards. After reviewing the submission, Iowa HHS may still require the applicant to use the services of a registered service provider to determine proper shielding.

Submit the shielding request form at least 30 days prior to installation to:

IHHS/Radiological Health
Lucas State Office Bldg, 5th Floor
321 East 12th St
Des Moines, IA 50319

EMAIL: radhealthia@idph.iowa.gov

Allow at least 4 weeks for us to review your submission. You will receive a letter confirming that your submission.

For any questions regarding the form, please call 515-802-6866.

Iowa Health and Human Services/Rad Health

REQUEST FOR REVIEW OF ROOM SHIELDING FOR X-RAY EQUIPMENT.
Complete one request for each room.

Facility name:	Facility registration number (if already registered)
Facility street address:	Facility city and zip:
Facility address: (mailing)	Facility city and zip: (mailing)
Contact for questions:	Contact phone number:
Email:	FAX:
Is this a new building construction? [ ] yes [ ] no Expected dated of completion:	Is this a replacement of old unit with different unit in the same room? [ ] yes [ ] no Expected date of installation:
Is this an existing facility that you are moving to? [ ] yes [ ] no Move in date:	Is this a remodel of the facility registered above? [ ] yes [ ] no Date of completion:
Room number or name:	

Submitter of this request if different than above	[ ] Send results to this address
Company name:	
Company address:	POB:
City: State:	Zip Code:
Telephone:	Email:
Fax:	

Type of machine:

[ ] Bone Density [ ] CT [ ]Mobile General

[ ] General Medical [ ] Chiropractic

[ ] Stationary Fluoro [ ] Mobile Fluoro

Other _____

Machine manufacturer _____ Model # _____ Serial # _____

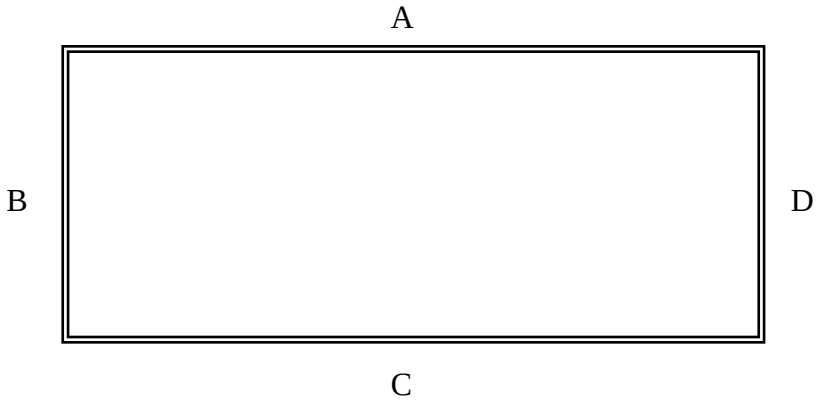
Workload: Example: Type of exam: C-spine/3 exposures. The unit operator's manual should have the average mA, kVp, and time for each type of exposure. For new practices, please estimate the number of weekly exams expected after 6 months of operation. For fluoroscopy, please estimate the number of weekly procedures and the approximate "on" time for each type of procedure.

	Type of exam	Number of exposures per exam	Average Number of exams per week	Average mA	Average kVp	Average exposure time
1.						
2.						
3.						
4.						
5.						
6.						

Dimensions of the room:
Distance from wall A to wall C: _____

Distance from wall B to wall D: _____

1. Use the following symbols on your drawing:
   W for windows D for doors X for position of x-ray unit
   E for exposure switch P for pass-through door
2. Show the position of the operator during exposures or label the operator's booth.
3. Use arrows to show the general direction (s) of the x-ray beam during exposures.



If any of the above are hallways, you must be able to prevent passing during exposures.

X-ray Room Composition: (fill in the appropriate blanks)

	Wall A	Wall B	Wall C	Wall D	Operator barrier for medical/chiro offices only
1. E for exterior, I for interior					
2. Thickness of sheetrock in inches					
3.Number of layers of sheetrock					
4.Inches of lead (1/16, 1/32) OR					
Inches of concrete block or other material (please specify material)					

Composition of the floor? _____wood _____concrete: Thickness in inches _____

Composition of the ceiling? _____ wood _____concrete ____ sheetrock
_____other (specify)_____ Thickness in inches _____

What or who is on the other side of the wall. Measure from the wall to the person.

Wall	Distance to nearest person in feet	How many hours per day is this person in this position?
Wall A		
Wall B		
Wall C		
Wall D		
Floor		
Ceiling		

ALL ITEMS IN PAGES 1 through 4 MUST BE COMPLETED IN ORDER FOR IHHS TO MAKE A VALID REVIEW. Thank you for your cooperation.

Service provider verification: (please sign if you are completing the review, if you have a separate medical physicist report, there is no need to sign-just enclose the report)

I verify that the above information is correct.
I understand that this review request does not imply approval or disapproval of this facility.

_____ _____
Printed name of individual responsible for this request Date

_____
Signature

Facility verification: I will notify IHHS of any changes to this form or my facility before the changes are made.

_____
Printed name of person responsible for facility radiation protection program

_____ _____
Signature Date