IDPH/BUREAU OF RADIOLOGICAL HEALTH

GUIDE TO COMPLETING A REQUEST FOR X-RAY ROOM SHIELDING REVIEW

DENTAL FACILITIES

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.

Definitions

"Registered service providers" are companies registered with IDPH 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 image to be created.

Criteria for all intraoral, podiatric and veterinary units

1. The x-ray unit is operated in the range from 60 kVp to 90 kVp and is equipped with a position-indicating device.
2. The room containing the x-ray unit has dimensions of at least 6 feet x 6 feet.
3. The operator must be able to stand behind a protective barrier or wall of at least 6.5 feet or be at least 9 feet from the unit and out of the direct beam. Item 3. does not apply to hand-held dental units.
4. Hallways must be controlled sot that no individual is passing the door of the room during x-ray exams.
5. Dental machines shared by two rooms should have the pass-through opening located at the end of the rooms so the primary beam cannot pass through the opening. Doors on the pass-through are recommended.
6. Additional shielding (three thicknesses of 5/8" drywall instead of two) is required when sharing a wall with another office or tenant where the dentist does not have administrative control. Firewall construction of brick or concrete block between businesses is usually sufficient if the x-ray room is adjacent to the firewall.
7. Other material can provide adequate wall shielding such as concrete block or brick. While this is usually sufficient, contact a registered service provider if you have questions.

Instructions

Please use the chart below to determine what type of shielding requirement pertains to your facility:

Type of Unit	Number of exposures per week	Room shielding requirement	Action required
Intraoral	Up to 100	All personnel including staff and other patients need to be at least 6 feet away from x-ray source.	Sign attestation statement below
Intraoral	Over 100	Must be submitted by a registered service provider.	Contact service provider
Pan/ceph	Up to 50	All personnel including staff and other patients need to be at least 6 feet away from x-ray source. Operator must follow #3 under Criteria section listed above.	Sign attestation statement below
Pan/ceph	Over 50	Must be submitted by a registered service provider.	Contact service provider
CT or cone beam CT	Any amount	Must be submitted by a registered service provider.	Contact service provider

***If signing the attestation statement applies, please complete the information on this page and submit. If contacting a service provider is required, go to page 4 of this document and complete for each room.**

Facility name:_____

Facility address:_____

Facility phone:_____Email:_____

Registration number (if facility has been registered before)_____

Is this a new installation or replacement of existing equipment?_____

Please list number and types of equipment you are installing_____

_____

If the number and type of exposures for your facility fall under the parameters that the action required is to sign the attestation statement, do *not* complete the rest of this form. Sign and date below and return to IDPH.

****I _____attest that the number and type of x-ray exposures for my facility fall within the parameters noted in the chart and do not require a review from a registered service provider. I understand that I am responsible to notify IDPH if these parameters change and take appropriate action.**

_____Signature

_____Title_____Date

FOR MORE INFORMATION

You may visit the National Council on Radiation Protection and Measurements (NCRP) website

(ncronline.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

If the action required is to contact a registered service provider, they need to use the NRCP guidelines to complete the shielding request form. If they choose to use their own form, it must contain the information listed below in the IDPH request for review form.

All submissions are compared to the NCRP Reports to verify that the shielding meets national standards. After reviewing the submission, IDPH 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:

IDPH/Radiological Health

Lucas State Office Bldg, 5th Floor 321 East 12th Street

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 acknowledging your submission.

For any questions regarding the form, please call 515-201-5110.

IDPH/BUREAU OF RADIOLOGICAL HEALTH

REQUEST FOR REVIEW OF ROOM SHIELDING FOR DENTAL 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:	

Type of machine (check all that apply per each unit):

_____Intraoral stationary _____Intraoral hand held

_____Panoramic _____Pan/Cephalomatric

_____CT or cone beam CT _____Other (please explain)_____

Machine manufacturer:_____ Model #_____

Serial #_____

Workload: Example: Type or exam; Intraoral/4 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.

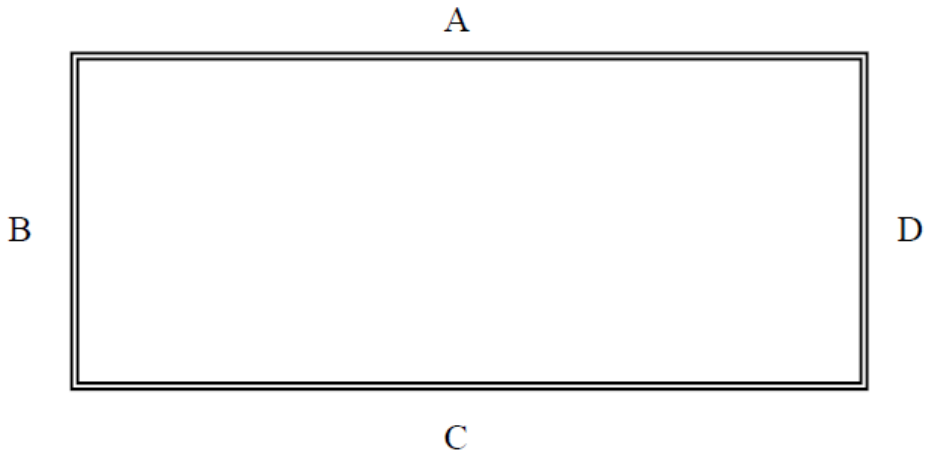
	Type of exam	Number of exposures per exam	Average number of exams per week	Average mA	Average kVp	Average exposure time
1.						
2.						
3.						

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
   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)

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 MUST BE COMPLETED IN ORDER FOR IDPH TO MAKE A VALID REVIEW.

Thank you for your cooperation.

I verify that the above information is correct.

I will notify IDPH of any changes to this form or my facility before the changes are made.

I understand that this review request does not imply approval or disapproval of this facility.

_____ _____

Printed name of individual responsible for this request Title

_____ _____

Signature Date