



**LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL COMPLIANCE
RADIATION SECTION
POST OFFICE BOX 4312
BATON ROUGE, LOUISIANA 70821-4312
PHONE: (225) 219-3041 E-MAIL: LDEQRadiationlicensing@la.gov**

X-RAY SHIELDING REVIEW FORM INSTRUCTIONS

LAC 33:XV.603.E requires that, prior to construction or modification, the floor plans and equipment arrangement of all installations utilizing X-rays for medical diagnostic or therapeutic purposes shall be submitted to the Department for review and approval. The review and approval is solely for the purpose of radiation protection, assuring that exposures to individuals in restricted and unrestricted areas are not likely to exceed the limits specified in Chapter 4 of LAC 33:XV.

Since it is very important to design rooms for efficient use, you may wish to use the services of a qualified expert to determine not only the shielding requirements but the design and layout of the room itself, to ensure that it can be used for the intended purpose. The Department suggests that if you are not familiar with the layout of the X-ray rooms, the requirements of the Louisiana Radiation Regulations, or the recommendations found in NCRP Report No. 147, then the services of a qualified expert should be obtained. If needed, the Department can supply a list of consultants in this area that may assist you in this matter.

The Department will not review a shielding request until the appropriate fee has been paid. Please refer to Appendix A of Chapter 25 of LAC 33:XV **to determine the appropriate fee for each room**. Please make checks payable to the Department of Environmental Quality.

If you have any questions concerning the form or the policy for shielding review, please do not hesitate to contact the Radiation Licensing & Registration Section for additional information at (225) 219-3041, E-mail LDEQRadiationlicensing@la.gov.

X-RAY SHIELDING REVIEW FORM

1. A. Location of Proposed X-ray Room

☐ send results to this address

Facility Name:		Contact Person:	
		Phone No.:	
Complete Address:		Email Address:	
		Room Number:	
City:	State		Zip

B. Previous Location X-ray Room

☐ send results to this address

Facility Name		Phone No.	
Complete Address		Email Address	
City	State	Zip	
Registration Number			

C. Submitter of Plan (if different than indicated in Part A) ☐ send results to this address

Facility Name		Phone No.	
Complete Address		Email Address	
City	State	Zip	
Email			

2. Purpose of Application for Review

- ☐ New X-Ray Room
(New Construction)

☐ New Equipment in Existing
X-ray Room

☐ Remodeling of Existing
X-Ray Facility

3. Type of Facility

- ☐ Hospital

☐ Radiology Office

☐ M.D./D.O.

☐ Chiropractic

☐ Veterinary

☐ Industrial

☐ Educational

☐ Dental

☐ Other _____

4. Type of Machine

- ☐ Radiographic

☐ Heart Cath

☐ CT Scanner

☐ Fluoroscopic

☐ Special Procedures

☐ Educational

☐ Radiographic/Fluoroscopic

☐ Other _____

5. Attach Drawing of the Room
Provide to scale plans or blueprints of the room and adjacent areas. Scale must be ¼ inch per foot or larger. Verify that all of the following items are included in your submittal. Incomplete submittals will delay the plan review.

- | | |
|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| <input type="checkbox"/> All Xray equipment and accessories | <input type="checkbox"/> Operator's barrier |
| <input type="checkbox"/> windows | <input type="checkbox"/> Exposure switch (exact location) |
| <input type="checkbox"/> patient viewing window | <input type="checkbox"/> X-ray tube and extent of movement |
| <input type="checkbox"/> wall cassette holder | <input type="checkbox"/> the height of shielding installed |
| <input type="checkbox"/> xray table | <input type="checkbox"/> compass direction |
| <input type="checkbox"/> location of the proposed shielding | <input type="checkbox"/> the thickness of the proposed shielding |
| <input type="checkbox"/> doors | <input type="checkbox"/> building material thicknesses if used for shielding |
| <input type="checkbox"/> Specify primary protective barriers and secondary barriers. | |

☐ Specify proposed shielding, such as lead (note thickness), brick veneer, solid or hollow core concrete block, cinder block, poured concrete, etc. Indicate the thickness of concrete and masonry materials. Please include the minimum concrete thickness.

☐ Include a description of the occupancy and control of adjoining areas including above and below the x-ray room on the plans.

☐ Include a description of any area the outside wall, such as lawn, parking lot and sidewalk. For exterior walls, show the distance to property line and closest area where individuals may be present.

6. The x-ray tube current _____
(the average tube current expressed as mA min or mAs)

The average exposure time in seconds _____

The maximum anticipated weekly workload for this X-ray room is _____ milliamp-minutes at _____ kVp (the average kVp). The maximum number of patients per week _____. This may be significantly different from number of exposures per week (see Item 7, pg. 3).

The maximum kVp of the x-ray device _____

7. Single Story: _____ yes _____ no (If no, give details)

8. Use Factor (U)
There is a use factor for the primary and secondary protective barriers.

Primary Barrier #1 _____
Primary Barrier #2 _____
Secondary Barrier #1 _____
Secondary Barrier #2 _____
Secondary Barrier #3 _____
Secondary Barrier #4 _____
Secondary Barrier #5 _____

9. Dimension Information
Enter the distance from the source (tube) to the barriers

Primary Barrier #1 _____
Primary Barrier #2 _____
Secondary Barrier #1 _____
Secondary Barrier #2 _____
Secondary Barrier #3 _____
Secondary Barrier #4 _____
Secondary Barrier #5 _____

10. Occupancy Factors: Referring to the sketch that you provided, identify all adjacent areas to the x-ray room (e.g. office, file, public toilet, closet, and corridor) and supply occupancy factor.

Primary Barrier #1 _____
Primary Barrier #2 _____
Secondary Barrier #1 _____
Secondary Barrier #2 _____
Secondary Barrier #3 _____
Secondary Barrier #4 _____
Secondary Barrier #5 _____

Typical Occupancy Factors (T) (as found in NCRP 147)

T = 1	Work areas such as offices, laboratories, shops, wards, nurse's stations, living quarters, Children's play areas, and occupied spaces in nearby buildings
T = 1/5	Corridors, restrooms, unattended parking lots
T = 1/20	Waiting rooms, toilets, stairways, janitor's closets, outside areas.

11. Shielding material: Enter the construction material(sheetrock, concrete, brick, etc) and any lead shielding installed.

Primary Barrier #1 _____
Primary Barrier #2 _____
Secondary Barrier #1 _____
Secondary Barrier #2 _____
Secondary Barrier #3 _____
Secondary Barrier #4 _____
Secondary Barrier #5 _____

12. Unexposed X-ray film will be stored _____ (Mark exact location on drawing). This film will be protected from radiation by _____ mm (thickness) of _____ (type of material).

13. This is to certify that, to the best of my knowledge, all information contained herein, including any supplements attached hereto, is true and correct.

NAME (Please print or type)

Phone Number

SIGNATURE

Date

Submit shielding plans and specifications to:

Radiation Licensing Section
Louisiana Department of Environmental Quality
PO Box 4312
Baton Rouge, LA 70821

OR

Radiation Licensing Section
Louisiana Department of Environmental Quality
602 North 5th Street
Baton Rouge, LA 70802

OR

E-mail LDEQRadiationlicensing@la.gov