SHIELDING EVALUATION FORM

Dear Client,

Thank you for choosing RPC for your shielding evaluation. We understand these projects can seem overwhelming and frustrating at times, but we will strive to make it as seamless as possible.

The Minnesota Department of Health (MDH) requires that a shielding evaluation be performed whenever a facility acquires new radiation producing equipment, modifies existing shielded barriers, reorients equipment in an existing room, or installs new equipment of a different type or higher power. A separate shielding evaluation is required for each space.

The purpose of this form is to collect all necessary information to determine the minimum amount of radiation protective materials required to be built into each wall and barrier of the exam room to ensure operators and members of the general public are not exposed to radiation above the recommendation of state and federal guidelines.

After RPC receives **ALL** the required information, the standard turnaround time for a shielding evaluation is 4-6 weeks depending on the current workload. An expedited service may be available for an additional cost. This evaluation will not enter the queue until all items on this form are completed and all requested information is received.

This shielding evaluation must be submitted to the MDH **prior** to beginning construction or replacing equipment. The MDH does not require shielding evaluations to be submitted for mammography or bone density/DEXA units, however an evaluation must still be performed before first patient use. [Note: If the state does not accept the planned shielding specification, any construction started prior to authorization may be required to be demolished and rebuilt.]

The shielding plan we provide will indicate the minimum required thickness of commercially available shielding for each barrier in the exam room. Typically, some barriers in the same room will require more shielding than others. We recommend shielding all barriers with the same (greater) thickness for ease of ordering and installation. For portable equipment, we will also indicate the minimum distance allowed from each barrier when standard building materials are used.

After construction, the MDH requires the facility to post a shielding placard permanently mounted in the exam room that lists the type and thickness of each barrier that the contractor actually installed in the exam room. (Some contractors will install only the required shielding while others will install additional shielding because it may be cheaper for them to do so.) A shielding placard template will be provided with the completed shielding evaluation.

Please contact us with any questions, or if clarification is needed, as you are filling out the form. We look forward to working with you!

Sincerely,

Radiation Physics Consultants

Client information:

Client name	Facility name (location of project)		
Street address of facility	City	State	Zip
Project name		Room(s) number	

Contact information:

Individual acting as the **registrant** for the facility and responsible for submitting the completed shielding plan to the MDH:

Name	Email	Phone

Individual to contact for **patient use** information:

Name	Email	Phone

Individual to contact for **building** information:

Name	Email	Phone

Individual responsible for **billing**:

Name	Email	Phone

Purpose of shielding request:

- ☐ New room construction
- ☐ Existing room equipment change (e.g., replace general rad room with fluoro, DBT upgrade)
- ☐ Existing room remodel (e.g., change one or more walls, windows, or doors)
- ☐ Existing room patient workload increase
- ☐ Existing room equipment reorientation

Additional info:

Date you would like to receive the completed shielding plan:

Date you would like to begin performing patient examinations:

Equipment manufacturer	Model

Type of equipment and workload:

Radiographic equipment	Number of patients per week (assuming 10-year growth)
☐ Radiographic room[1]	
☐ Dedicated chest room[1]	
☐ Digital mammographic	
☐ DBT mammographic	
☐ Dental panoramic or CBCT	
☐ Bone density or DEXA	
☐ Body scanner	
☐ Other:	

[1]Does the room have an upright wall bucky?

☐ Yes[2] ☐ No ☐ N/A

[2]*The location MUST be marked on the room layout.*

Fluoroscopic equipment	Number of patients per week (assuming 10-year growth)	Average to maximum fluoro time per patient[3]
☐ Radiographic/Fluoroscopic room[1]		
☐ C-arm		
☐ Mini C-arm		

[3]*Our calculations are based on conservative outputs following NCRP 147 guidelines. If more detail is needed (i.e., kVp or mA values), we will reach out for more information.*

Other equipment	Number of patients per week (assuming 10-year growth)	Most common exam
☐ CT		☐ Head ☐ Abdomen/peripheral
☐ Bi-plane fluoro room (EP)		☐ Cardiac ☐ Peripheral
☐ Specials fluoro room (IR, Cath, CV, EP)		☐ Cardiac ☐ Peripheral

Additional documents needed for EACH room (✓ when completed):

❑ **Interior room** floor plan in PDF format (we do not have the ability to view CAD files)

- ➲ Send the FINAL plans, not initial or preliminary; modifications will invalidate shielding evaluation
- ❍ ¼" scale drawing (¼" = 1') preferred
- ❍ Indicate North on all drawings
- ❍ Floor to floor distance to level above: _____ (even if roof above)
- ❍ Floor to floor distance to level below: _____ ☐ cement slab on ground
- ❍ Show the exact location of x-ray equipment including location of the table, wall stand, x-ray tubes, and exposure button in control room (position not required if mobile C-arm)
- ❍ For radiographic rooms, indicate compass direction tube will point for cross-table exams: _____
- ❍ Show the placement of protective barriers (walls, doors, windows, standing shields, and control booth)
- ❍ Using the table below, provide information regarding existing or planned building materials and thicknesses for permanent barriers

Barrier			Materials*	Thickness**
North wall	☐ Interior	☐ Exterior		
South wall	☐ Interior	☐ Exterior		
East wall	☐ Interior	☐ Exterior		
West wall	☐ Interior	☐ Exterior		
Control booth wall				
Control booth window				
Door 1	Location:			
Door 2	Location:			
Door 3	Location:			
Ceiling				
Floor				

**Example: sheetrock, concrete, lead, plate glass, solid wood, brick*
***Measured in inches without holes/voids inside of material as in a concrete block*

❑ Manufacturer scatter plot diagram (i.e., CT scanner, dental cone beam, dental panalypse)

❑ **Department** floor plan (at least 3 rooms out in each direction; corridors and outside areas clearly labeled)

- ❍ ⅛" scale drawing preferred
- ❍ Indicate North on all drawings
- ❍ Type of room on floor above: _____
- ❍ Type of room on floor below: _____
- ❍ For exterior walls, show outdoor features (e.g., sidewalks, parking lots, landscaping)
- ❍ Distance to nearest building or property line for each exterior wall

	Direction	Distance (ft)
Wall 1		
Wall 2		
Wall 3		