Ontario

Ministry of Health
Licensing and X-ray
Inspection Service (LXRIS)

Form 3 – X-ray Equipment and Shielding Specifications

Healing Arts Radiation Protection Act. 1990

NEW - Effective July 1, 2022

Registration Number

Room

Instructions

1. **Ensure all appropriate areas are signed.**
2. Submit the completed application and all supporting documentation to xrisplans@ontario.ca.
3. Each X-ray machine requiring approval must have a corresponding Form 3. To add an additional Form 3, click on the "**Add (+) X-ray Room (Form 3)**" button at the end of this Form.
4. On your plan, please include the limits of travel of the X-ray tube and image receptor within the room, the position and limits of rotation of the chair (dental only), and the room dimensions.
5. Any subsequent changes and/or alterations made to the X-ray equipment, its use, location, or to the surrounding environment require re-approval. Please submit a new plan to this office **before** making any of the above changes.
6. Refer to the Information Pamphlet on Plan Applications for more information.

Shielding Methodology

Select **only** one (1) of the following shielding methodology standards used in completing your application and associated shielding calculations. All plan applications must comply with at least one of these shielding methodology standards. Complete all calculations, measurements and values required on this form and associated schematic plan based on the selected shielding methodology standard. Refer to Information Sheet and F.A.Q. for more information.

☐ Appendix II of Safety Code 20A

☐ National Council on Radiation Protection and Measurements (NCRP) Report #147

Equipment Identification

This form refers to X-ray room number _____ of _____ X-ray rooms for which approval is sought in this application.

The applicant identifies this room as _____ and it is so marked on the drawings.

Make	Model	Year of Manufacture

Is this device Health Canada approved?

☐ Yes – Provide the medical devices licence number ► _____

☐ No – Contact Health Canada to apply for a medical devices licence for your proposed device before submitting your application

The Medical Devices Active Licence Listing (MDALL) can be accessed at https://health-products.canada.ca/mdall-limh/

The X-ray machine indicated above will have _____

X-ray tube(s). If more than one (1) tube, indicate all tubes in the table below.

Are the X-ray equipment parts (Image Receptor, X-ray Tube and X-ray Generator) supplied as one integrated unit by one manufacturer?

☐ Yes ☐ No (complete table)

Table #1: Equipment Information

	Make	Model
Image Receptor		
X-ray Tube		
X-ray Generator		

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Type / Use of X-ray machine (select all that apply)

Dental

☐Intra-oral ☐Panoramic ☐Dental Computerized Axial Tomography (e.g., CBCT, 3D)
☐Cephalometric ☐Linear tomogram ☐Other (specify)

If Panoramic and/or Cephalometric is selected, does the machine currently as designed (i.e., without additional software and/or hardware upgrades) have the capability to generate 3D/volumetric image(s)? (Mandatory for Pan and/or Ceph machines)

☐Yes. Refer to Section 7 (CT Installation Only) of Form 2. ☐No

Medical

☐Radiographic ☐Radiographic Mobile ☐Fluoroscopic ☐Fluoroscopic Mobile
☐Mammographic ☐Bone Mineral Density ☐Radiation Therapy ☐Computerized Axial Tomography (CAT/CT)
☐Angiography ☐Skull Unit ☐Podiatric ☐Hybrid CT Machines (e.g., SPECT/CT, PET/CT)
☐Other (specify)

Does the machine currently as designed (i.e., without additional software and/or hardware upgrades) have the capability to generate 3D/volumetric image(s)? (Mandatory for all medical machine types)

☐Yes. Refer to Section 7 (CT Installation Only) of Form 2. ☐No

X-ray machine to be installed in this room

The maximum rated tube voltage is (kVp)	The maximum rated tube current is (mA)

Table #2: Workload - It is strongly advisable to submit your workload calculations with your application in order to expedite review.

Specify anticipated maximum workload for each modality that the X-ray machine can support.
Examples of modalities include intra-oral, panoramic, cephalometric, CBCT, 3D, radiographic, fluoroscopic, etc.

Mode	Type	Number of exposures per week (if applicable)	Maximum weekly workload (milliampere-minutes per week) Primary tube	Auxiliary tube (if applicable)
	☐Digital ☐Film			
	☐Digital ☐Film			
	☐Digital ☐Film			

If more than one (1) X-ray machine is being installed in this room, complete a new Form 3 for each additional machine.

RPO Attestation
I attest, as the Radiation Protection Officer (RPO), that the **workload** values of the X-ray machine are accurate for my facility and that I fully understand and accept my role as the RPO as set out in the HARP Act and Regulations.

RPO Submission Options (Choose one of the following options to sign this form)

Option 1: E-signature (Recommended)

☐By checking this box and typing my name below, I certify that I am the RPO for this facility. I also agree that the checkbox and my name typed below are to be used as my electronic signature.

RPO's Last Name	RPO's First Name	Date (yyyy/mm/dd)

Option 2: If you are signing a hard copy of this form, please have the applicant scan and e-mail the signed and completed form to the e-mail address provided at the beginning of this form.

RPO's Last Name	RPO's First Name	Signature	Date (yyyy/mm/dd)

Room Construction and Adjacent Spaces

Important – The following information must be reconciled with your plan. The application cannot be processed without it. State all measurements in metric units (m-meter; cm-centimeter; mm-millimeter).

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Table #3: Room Construction

Item	Partitions		Material Composition (excluding framing)					Material Thickness						Lead	
	Height (m)	Length (m)	Material 1	Material 2	Material 3	Material 4	Check if cabinet	Material 1		Material 2		Material 3		Height (m)	Thickness (mm)
Floor															mm
Walls North	m	m					☐							m	mm
East	m	m					☐							m	mm
South	m	m					☐							m	mm
West	m	m					☐							m	mm
Ceiling															mm
Door 1															mm
Door 2															mm
Control booth wall															mm
Control booth window															mm

Table #4: Adjacent Spaces

Space behind, (underneath, over)	Adjacent space occupied by	For what percentage of your working day is the space occupied? (%)	What percentage of the exposure time are the primary beam and auxiliary beam pointed toward this space? Primary %	Auxiliary % (if applicable)
Floor				
Walls North				
East				
South				
West				
Ceiling				
Control booth				

Equipment Shielding Information

Submission of the following information is not mandatory but may result in less shielding being required if provided.

1. Is there any additional shielding incorporated into the X-ray equipment or accessories (e.g., shielded and interlocked enclosures, leaded tables, chest-stands or other backdrops, etc.)

☐No ☐Yes (specify)

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2. Complete following information regarding the image receptor:

Type of shielding at image receptor	Thickness of shielding at image receptor
	mm

3. Will the primary beam be fully intercepted by the image receptor?

☐No

☐Yes. You may be requested to provide supporting documentation (e.g., valid scatter testing data, manufacturer's specifications, etc)

4. Does your submission include isodose maps/curves for the indicated X-ray or CT machine?

☐No. You may be requested to provide this information.

☐Yes. Provide documentation.

Additional Comments

Provide any additional information regarding the X-ray equipment and plan.

Submission Options (Choose one of the following options to submit this form)

Option 1: E-signature (Recommended)

☐By checking this box and typing my name below, I certify that all information on this form is true and correct and that I am the owner or a delegate of the owner authorized to submit this form. I also agree that the checkbox and my name typed below are to be used as my electronic signature.

Title of Owner or Delegate

Last Name	First Name	Date (yyyy/mm/dd)

Option 2: If you are signing a hard copy of this form, please scan and e-mail the signed form to the e-mail address provided at the beginning of this form.

Title of Owner or Delegate	Signature	Date (yyyy/mm/dd)

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