

APPLICATION FOR AN X-RAY SAFETY CERTIFICATE

The Province of Ontario, Ministry of Labour, regulates X-Rays that are not regulated by the Canadian Nuclear Safety Commission (OHSA, R.R.O. 1990, Regulation 861). This includes most analytical, diagnostic X-Ray. In recognition of this the University of Windsor, has mandated the University of Windsor's Radiation Safety Committee and Chemical Control Centre to develop and manage an X-Ray Safety Program that not only ensures compliance but facilitates research activity.

Each X-Ray Emitting Device (XED) must be registered with the Ministry of Labour, prior to its use, and this registration must be amended should the unit be moved or disposed of. In addition, training requirement must be met. The University of Windsor requires that all Researchers possess a valid X-Ray safety certificate for each X-Ray Emitting Device (XED). Failure to acquire an X-Ray safety certificate will lead to the withholding of funding until the application process is completed.

Section A: Project Information:

Title			
Start Date		End Date	
Key Words			

Please provide a brief description of your work that outlines the use of X-Ray Emitting Device (XED) and how it will be used. If you require additional space, please attach a separate sheet.

Section B: Administrative Information:

Research Type	<input type="checkbox"/> - Basic Science (research)	<input type="checkbox"/> - Clinical Trial
	<input type="checkbox"/> - Course (teaching)	<input type="checkbox"/> - Pilot Study
	<input type="checkbox"/> - Diagnosis	<input type="checkbox"/> - Veterinarian
Application:	<input type="checkbox"/> - Medical or Dental Diagnosis	<input type="checkbox"/> - Diffraction or Crystallography
	<input type="checkbox"/> - Radiography (non-medical)	<input type="checkbox"/> - Fluoroscopy (non-medical)
Start Date		End Date
Key Words		

Section C: Principle Investigator Information:

Name:			
Department:		Rank:	
Mailing Address:			
Email Address:		Office Ext.:	
Emergency Phone #:		Gender:	
X-Ray Work Experience:			
Designated X-Ray Worker (Y/N)		Date Designated:	

Section D: Funding Sponsor and/or Agency Information: If you require additional space, please photocopy this section attach as an appendix to your application.

Title	ORS File No:	
Agency	Business Unit #	Start / End Dates

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Agency	Business Unit #	Start / End Dates

Section E: Project Personnel: If you require additional space, please photocopy this section attach as an appendix to your application.

Name (Last, First):			
Date Training Completed ¹ :		Training Validated:	Office Use Only
Email:		Role ² :	
Employee / Student ID #:		Gender (M/F):	
Emergency Phone #:		Office Phone #:	
Designated X-Ray Worker (Y/N):		Date Designated:	

¹ – All project members must successfully complete the University of Windsor’s X-Ray training program on-line (<http://www.uwindsor.ca/xray>).

² – Project roles: Co-Investigator, Co-Supervisor, Joint Partner, Local Contact, Project Staff, Qualified Investigator, Research Coordinator, Student, or Supervisor.

Section F: Equipment Information:

Building:		Room:	
Department:			
Machine Model #:		Serial #:	
Max kV:		Max mA:	

Question	Y/N	XED (Diagnostic Examination of Animals) Questions	Y/N
X-ray warning signs are posted conspicuously (map location correct), contact names are referenced		a) where applicable, radiographic procedures performed in a room designed for the purpose of performing x-rays on animals	
Control panel has an <i>visible</i> indicator, in close proximity to the x-ray on/off switch that clearly indicates when x-rays are being produced <i>- is this a failsafe design</i>		b) air kerma due to leakage radiation from the x-ray tube housing or from an attached beam limiting device does not exceed 1 mGray / hr at a distance of 1 meter from the focal spot of the x-ray tube.	
A flashing warning light that indicates when x-ray are being produced, is mounted near each x-ray tube in such a way as to be clearly visible from any direction from which the tube can be approached. <i>- is this a failsafe design</i>		c) exposure duration is controlled by a preset timing mechanism and is initiated by a switch that requires positive action by the operator to continue the exposure and that allows the operator to remain at least 2 m from the tube housing	
The condition of the shutter (open / closed) is clearly indicated at or near the x-ray tube <i>- is this a failsafe design</i>		The dimension of the useful beam is limited to that of the film (whenever possible)	
A XED generating an air kerma of 5 μ Gray/hr or greater must be signed at the control panel -Reading mA, kV meter, Lock or Key meter		The film cassette is not held by hand during exposure	
Each port is designed in such a way that the x-ray beam can emerge only when a camera or other recording device is in its proper position (whenever practical) <i>- is this a failsafe design</i>		Animal being x-rayed is restrained or supported by mechanical means (where practicable)	
A guard or interlock which prevents entry of any part of the body into the primary beam path is used (wherever practical) <i>- Does it working as intended?</i>		Protective aprons and gloves (providing shielding equivalent to at least 0.5 mm of lead) are worn by any person providing restraint or support by hand to an animal being x-rayed	
A shield is used to absorb the primary beam at the nearest practical position beyond the point of intersection of the beam and the sample that is irradiated		Records of radiographic exposures, (including: date, kilovoltage, tube current and duration of each exposure) are kept for at least one year	
All unused ports are secured in such a way as to prevent inadvertent opening.		Survey meter (calibrated and functioning) are available during operation of XED.	

A cabinet is arranged and shielded as to prevent the air kerma rate from exceeding 5 µGrays / hr at any accessible point 5 centimetres from the external surface, under all possible operating conditions.		Radiation survey report (exposure rates) in all adjacent rooms and operator's position.	
Where the air kerma in an area exceeds 100 µGrays / hr locks and interlocks are used (portable XED are barred off and signed)			
Shielding, diaphragms, cones, and adjustable collimators or any other devices are used to ensure dose limits are not exceeded.			

[Occupational Health & Safety Act RRO 1990, Regulation 861, X-ray Safety, Ontario Ministry of Labor](#)
[Health Canada Safety Code 32 - Safety Requirements And Guidance For Analytical X-ray Equipment](#)
[Health Canada Safety Code 34 - Radiation Protection and Safety for Industrial X-Ray Equipment](#)

Section G: Site Specific Handling & Emergency Response: Please list the site specific instructions and safety protocols that all project personnel workers will follow when using X-Ray Emitting Device (XED) specified in this application.

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Section H: Human Utilization: Indicate if an X-Ray Emitting Device (XED) is to be used on humans. Provide attachment that briefly outlines procedures that involve humans used in conjunction with x-ray equipment.

<input type="checkbox"/>	None – No Humans will be used in the projects outlined in "Section A"
Approved by Research Ethics Board (REB)	
<i>REB Protocol No:</i>	
<input type="checkbox"/>	Pending Approval from Research Ethics Board (REB) - application submitted

For more information, please visit the Research Ethics Board (REB) website: www.uwindsor.ca/reb

Section I: Animal Utilization: Indicate if an X-Ray Emitting Device (XED) is to be used on animals. Provide attachment that briefly outlines procedures that involve animals used in conjunction with x-ray equipment.

<input type="checkbox"/>	None – No animals will be used in the projects outlined in "Section A"	
<input type="checkbox"/>	Non-primate mammals	Other animals: specify
Approved by Animal Care Committee (ACC)		
<i>Animal Research Protocol No:</i>		
<input type="checkbox"/>	Pending Approval from Animal Care Committee (ACC) - application submitted	

For more information, please visit the Animal Care Committee website: www.uwindsor.ca/acc

Section J: Radiation Utilization: Indicate if an X-Ray Emitting Device (XED) is to be used in conjunction with radioisotopes.

<input type="checkbox"/>	None – No radioisotopes will be used in the projects outlined in "Section A"	
<input type="checkbox"/>	Radioisotope	Other type of radiation
Approved by Radiation Safety Committee (UWinRSC)		
<i>Radiation Permit No.</i>		
<input type="checkbox"/>	Pending Approval from Radiation Safety Committee (UWinRSC) - application submitted	

For more information, please visit the Radiation Safety Program website: www.uwindsor.ca/radiation

Section K: Biological Agent Utilization: Indicate if x-ray generating equipment is to be used in conjunction with biological agents.

None – No biological agents will be used in the projects outlined in "Section B"	
Approved by Biological Safety Committee (UWinBSC):	
<input type="checkbox"/> – Microbes and/or Parasites	<input type="checkbox"/> – Cell culture
<input type="checkbox"/> – Human source material	<input type="checkbox"/> – Genetically modified organisms / cell lines
<i>Biological Safety Certificate No.</i>	
Pending Approval from Biological Safety Committee (UWinBSC)- application submitted	

For more information, please visit the Biological Safety Program website: www.uwindsor.ca/biosafety

Section L: Declaration:

I declare that I am familiar with the contents of University of Windsor’s Radiation Safety Manual, as it relates to x-ray instruments, and that the above describes my research program, insofar as this includes the use of an X-Ray Emitting Device (XED), in its entirety.

As the legally responsible individual, I will ensure that all research conducted under my direction in the above laboratories and by the above personnel conforms to the requirements of the University of Windsor’s Radiation Safety Program. In addition, I understand that if either myself and/or designated personal are found to be in breach of either institutional and/or regulatory guidelines all associated research funding maybe frozen until corrective action is taken.

Signature of Principle Investigator

Date

Signature of Department Head

Date

Assistance, Information, and the World Wide Web:

The University of Windsor’s Radiation Safety Program is available at: <http://www.uwindsor.ca/xray>

This site contains the text of the University of Windsor’s Radiation Safety Program, reference guides, contact information, MSDS information, and other radiation safety related information.

Questions remaining unanswered after accessing this site, and requests for assistance should be directed to:

University of Windsor’s Responsible Officer – Radiation Safety
Chemical Control Centre
University of Windsor
Essex Hall – B37
401 Sunset Avenue
Windsor, Ontario N9B 3P4
P: (519) 253-3000 ext. 3523
F: (519) 973-7013
E: ccc@uwindsor.ca

Radiation Safety Program Use Only:

Institutional Responsible Official (RO):

AP (Approved); CA (Conditionally Approved); RS (Review & Resubmit)

Signature of Institutional Responsible Official (RO)

Date

Conditions/Comments:

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University of Windsor Radiation Safety Committee – Chair (UWinRSC):

AP (Approved); CA (Conditionally Approved); RS (Review & Resubmit)

Signature of Chair - UWRSC

Date

Conditions/Comments:

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University of Windsor Radiation Safety Committee:

AP (Approved); CA (Conditionally Approved); RS (Review & Resubmit)

Conditions/Comments:

Name	Status
	<input type="checkbox"/> AP (Approved); <input type="checkbox"/> CA (Conditionally Approved); <input type="checkbox"/> RS (Review & Resubmit)
	<input type="checkbox"/> AP (Approved); <input type="checkbox"/> CA (Conditionally Approved); <input type="checkbox"/> RS (Review & Resubmit)

XED Safety Certificate No:	
Issued Date:	
Expiry Date:	
Restrictions:	