MEMORIAL UNIVERSITY

Department of Health and Safety

X-ray Safety Inspection Checklist

Date of Inspection:

Inspector:

XED Responsible User:

XED Registration #:

Room Number:

XED NL OHS ID #:

XED Make/ Model:

Inspection History:

Deficiencies discovered last inspection (provide inspection date)	Status of Deficiency Correction (corrected, not corrected, other)

The following inspection checklist is based on the requirements of the Health Canada Safety Code 32: Safety Requirements and Guidance for Analytical X-ray Equipment, and the NL Radiation Health and Safety Regulations.

Rating: **Yes = √** **No = X** **Not Applicable = NA** **Unknown = ?**

Inspection Items	Rating	Comments
X-ray Emitting Device (XED) Safety Features		
1. Key lock control switch is installed and functional		
2. Power ON/OFF switch is present and is required to energize equipment		
3. X-ray ON/OFF switch is installed and required to energize X-ray tube		
4. A guard or interlock which prevents entry of any part of the body into the primary beam path is used (wherever practical) - Does it work as intended		
5. Open beam configuration devices equipped with means to prevent access to primary beam		
6. A permanent shield is used to absorb the primary beam transmitted beyond the detector (radiation levels < 4.39 µGy/hr @ 5 cm).		
7. Shielding, diaphragms, cones, and adjustable collimators or any other devices are used to ensure dose limits are not exceeded		
8. All lights, meters, controls and other indicators must be properly labelled and marked as to function.		
9. Fail-safe interlocks installed on accessories/components for which their removal leads to direct access to the primary beam or high radiation area of equipment		
10. Unused beam ports permanently blocked off with lead		
REGISTRATION OF XED		
11. XED has been registered with Service NL - Date of Original Registration		
12. Based on the original registration : a. has the installation and use changed?		
b. has the use of rooms or areas adjacent, horizontally or vertically changed?		
c. has the shielding of x-ray source changed?		
d. Has any modification of system arrangement (filtration, specimen chamber, collimators, beam ports), major		

maintenance or relocation of the device been made since after last registration?		
13. XED has been disposed of or transferred off University property - If yes date of disposal or transfer		
Signage/Warning lights		
14. Door sign is posted and displays correct contact information (Contains “caution x-ray room” signage and “restricted access”)		
15. Registration certificate is posted near the XED - Registration stickers posted (expiry date?)		
16. X-ray warning signs are posted conspicuously near XED (map location correct), contact names are referenced		
17. Separate fail-safe flashing light indicators are present to indicate when X-ray tube is energized <u>and</u> when X-rays are being produced - for control panels controlling multiple tubes, <u>each</u> tube must be equipped with <u>both</u> lights		
18. Control panel has a fail-safe visible indicator, in close proximity to the x-ray on/off switch that clearly indicates when x-rays are being produced		
19. Fail-safe warning indicators indicating the open/shut status of shutters are installed - interlocked with X-ray production - normally in ‘closed’ position until opened by positive action - unused shutters secured to prevent opening		
20. Control panel labeled with:		
a. X-ray warning symbol and `caution` wording		
b. Caution: operated by qualified personnel statement		
c. Make, model, s/n, date/country of manufacture		
d. Service NL OHS ID sticker		
Training		
21. X-ray Users:		
a. Have general X-ray safety training (theoretical and practical) for safe operation of XED [provide training date(s)]		
b. have been informed of the characteristics, risk and safe practices (is this documented?)		

c. have access to documentation [SOPs-Safety code(s)]		
22. Authorized worker list is up to date and posted near the XED		
23. all users and workers are informed of the applicable dose limits		
24. Pregnant users and workers are informed of the dose limits which apply		
Dosimetry		
25. X-ray workers and all users are familiar with the basic principles of radiation safety and the "As Low As Reasonably Achievable" (ALARA) principle is practiced		
26. Dosimeter badges are worn appropriately, if required (and stored in an appropriate location)		
27. Dose limits are not exceeded - Any dose above action level is investigated and root cause determined (RSO immediately informed)		
Security/Reporting		
28. Laboratory door is locked when unoccupied		
29. XED is locked when not in use		
30. Unauthorized workers cannot access XED		
31. Security breaches are reported		
32. Any accident / incident resulting in a possible exposure in excess of regulatory limits is reported immediately		

Notes

Item #	Action Items	Responsible Person(s)	Due Date
1.			
2.			
3.			
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11.			
12.			
13.			
14.			
15.			

PI: _____ **Date: _____**

RSO: _____ **Date: _____**