



X-ray Analysis Equipment Survey Form

Authorised by: UWA Safety and Health

This document is uncontrolled when printed. The current version is available on the Safety and Health website

Phone : 6488 3938 Fax: 6488 1179 Email safety@admin.uwa.edu.au Web www.safety.uwa.edu.au

X-ray Analysis Equipment Survey Form

Department	Date, Co.	ntact and No						
Department Room Make Model	Registration							
Mak KV Power Max MA Records registration monitoring radiation surveys reports				R	.oom			
Max KV Records registration monitoring radiation accident training reports				N	Iodel			
Max KV Records registration monitoring radiation accident training reports				P	ower			
Records registration monitoring radiation accident training reports OH & S				Ν	ſax mA			
Surveys reports		registration	monitorii			accident	training	_
Licence and users — use, use and service(restricted), use and service Licence Number Names	11000100	registration	111011110111	6			u u u u u u u u u u u u u u u u u u u	
Training and Working rules All users trained Records of training Safety and Working procedures available Read by all users Supervision of users Warning signs and Lights Room warning sign Room warning light XRAYS ON Machine sign Shutter light for each port Machine light XRAYS ON Machine sign Shutter light for each port Machine light XRAYS ON Fail safe warning lights - switch off machine if light fails 5.3.1 Interlocks (5.3.1.1) Difficult to render ineffective (5.3.1.2) Reliable (5.3.1.3) Electric interlocks difficult to bypass (5.3.1.4) Dual interlock micro-switches Partly Enclosed Units 5.3.2 Tube Housing (5.3.2.1) Strength and thickness adequate (5.3.2.2) Apertures - shutteror interlocked enclosure (3.3.2) Strength and thickness adequate (5.3.3.2) Fair shutteror interlocked enclosure (3.3.2) Tube shutters (5.3.3.1) Dose at 5cm <25 microGy/hr Easy to operate control with interlocks in place (5.3.3.1) Pose at 5cm <25 microGy/hr (5.3.3.3) Pose at 5cm <25 microGy/hr Dose at 5		OH & S				1		
Training and Working rules All users trained Records of training Safety and Working procedures available Read by all users Supervision of users Warning signs and Lights Room warning sign Room warning light XRAYS ON Machine sign Shutter light for each port Machine light XRAYS ON Machine sign Shutter light for each port Machine light XRAYS ON Fail safe warning lights - switch off machine if light fails 5.3.1 Interlocks (5.3.1.1) Difficult to render ineffective (5.3.1.2) Reliable (5.3.1.3) Electric interlocks difficult to bypass (5.3.1.4) Dual interlock micro-switches Partly Enclosed Units 5.3.2 Tube Housing (5.3.2.1) Strength and thickness adequate (5.3.2.2) Apertures - shutteror interlocked enclosure (3.3.2) Strength and thickness adequate (5.3.3.2) Fair shutteror interlocked enclosure (3.3.2) Tube shutters (5.3.3.1) Dose at 5cm <25 microGy/hr Easy to operate control with interlocks in place (5.3.3.1) Pose at 5cm <25 microGy/hr (5.3.3.3) Pose at 5cm <25 microGy/hr Dose at 5	Licence and users – use	use and service(re	estricted) us	se ai	nd service			
Training and Working rules All users trained Records of training Safety and Working procedures available Read by all users Supervision of users Warning signs and Lights Room warning signs and Lights Room warning sign Room warning light XRAYS ON Machine sign Shutter light for each port Machine light XRAYS ON Shutter light for each port Machine light XRAYS ON Shutter light sHUTTER OPEN Fail safe warning lights - switch off machine if light fails S.3.1 Interlocks (5.3.1.1) Difficult to render ineffective Dose at 5cm <25 microGy/hr (5.3.1.2) Reliable Shielded collimator tube S.3.2 Tube Housing Prevents inadvertent exposure to hands or body Partly Enclosed Units Fayl y Enclosed Units Prevents inadvertent exposure to hands or body Permanently attached or interlocked to shutter Dose at 5cm <25 microGy/hr Dos			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,				\neg
All users trained Records of training Safety and Working procedures available Read by all users Supervision of users Warning signs and Lights Room warning sign Shutter light for each port Machine sign Shutter lights SHUTTER OPEN Fail safe warning light XRAYS ON Shutter lights SHUTTER OPEN Fail safe warning light sewitch off machine if light fails 5.3.1 Interlocks (5.3.1.1) Difficult to render ineffective Dose at 5cm <25 microGy/hr (5.3.1.2) Reliable Tube can be operated from outside enclosure (5.3.1.4) Dual interlock micro-switches Partly Enclosed Units 5.3.2 Tube Housing Prevents inadvertent exposure to hands or body (5.3.2.1) Strength and thickness adequate Permanently attached or interlocked to shutter (5.3.2.2) Apertures – shutteror interlocked enclosure (3.0 Dose at 5cm <25 microGy/hr (b) De-energizes machine on removal of cover Beam directed away from occupied areas or beam stops Separate room or cubicle 5.3.3 Tube shutters (5.3.3.1) Dose at 5cm <25 microGy/hr (5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Monitoring Additional – finger etc used Worn by each person in the area Additional – finger etc used	Electice (valuee)	Tunies						_
All users trained Records of training Safety and Working procedures available Read by all users Supervision of users Warning signs and Lights Room warning sign Shutter light for each port Machine sign Shutter lights SHUTTER OPEN Fail safe warning light XRAYS ON Shutter lights SHUTTER OPEN Fail safe warning light sewitch off machine if light fails 5.3.1 Interlocks (5.3.1.1) Difficult to render ineffective Dose at 5cm <25 microGy/hr (5.3.1.2) Reliable Tube can be operated from outside enclosure (5.3.1.4) Dual interlock micro-switches Partly Enclosed Units 5.3.2 Tube Housing Prevents inadvertent exposure to hands or body (5.3.2.1) Strength and thickness adequate Permanently attached or interlocked to shutter (5.3.2.2) Apertures – shutteror interlocked enclosure (3.0 Dose at 5cm <25 microGy/hr (b) De-energizes machine on removal of cover Beam directed away from occupied areas or beam stops Separate room or cubicle 5.3.3 Tube shutters (5.3.3.1) Dose at 5cm <25 microGy/hr (5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Monitoring Additional – finger etc used Worn by each person in the area Additional – finger etc used								-
All users trained Records of training Safety and Working procedures available Read by all users Supervision of users Warning signs and Lights Room warning sign Shutter light for each port Machine sign Shutter lights SHUTTER OPEN Fail safe warning light XRAYS ON Shutter lights SHUTTER OPEN Fail safe warning light sewitch off machine if light fails 5.3.1 Interlocks (5.3.1.1) Difficult to render ineffective Dose at 5cm <25 microGy/hr (5.3.1.2) Reliable Tube can be operated from outside enclosure (5.3.1.4) Dual interlock micro-switches Partly Enclosed Units 5.3.2 Tube Housing Prevents inadvertent exposure to hands or body (5.3.2.1) Strength and thickness adequate Permanently attached or interlocked to shutter (5.3.2.2) Apertures – shutteror interlocked enclosure (3.0 Dose at 5cm <25 microGy/hr (b) De-energizes machine on removal of cover Beam directed away from occupied areas or beam stops Separate room or cubicle 5.3.3 Tube shutters (5.3.3.1) Dose at 5cm <25 microGy/hr (5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Monitoring Additional – finger etc used Worn by each person in the area Additional – finger etc used								\dashv
All users trained Records of training Safety and Working procedures available Read by all users Supervision of users Warning signs and Lights Room warning sign Shutter light for each port Machine sign Shutter lights SHUTTER OPEN Fail safe warning light XRAYS ON Shutter lights SHUTTER OPEN Fail safe warning light sewitch off machine if light fails 5.3.1 Interlocks (5.3.1.1) Difficult to render ineffective Dose at 5cm <25 microGy/hr (5.3.1.2) Reliable Tube can be operated from outside enclosure (5.3.1.4) Dual interlock micro-switches Partly Enclosed Units 5.3.2 Tube Housing Prevents inadvertent exposure to hands or body (5.3.2.1) Strength and thickness adequate Permanently attached or interlocked to shutter (5.3.2.2) Apertures – shutteror interlocked enclosure (3.0 Dose at 5cm <25 microGy/hr (b) De-energizes machine on removal of cover Beam directed away from occupied areas or beam stops Separate room or cubicle 5.3.3 Tube shutters (5.3.3.1) Dose at 5cm <25 microGy/hr (5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Monitoring Additional – finger etc used Worn by each person in the area Additional – finger etc used								\dashv
All users trained Records of training Safety and Working procedures available Read by all users Supervision of users Warning signs and Lights Room warning sign Shutter light for each port Machine sign Shutter lights SHUTTER OPEN Fail safe warning light XRAYS ON Shutter lights SHUTTER OPEN Fail safe warning light sewitch off machine if light fails 5.3.1 Interlocks (5.3.1.1) Difficult to render ineffective Dose at 5cm <25 microGy/hr (5.3.1.2) Reliable Tube can be operated from outside enclosure (5.3.1.4) Dual interlock micro-switches Partly Enclosed Units 5.3.2 Tube Housing Prevents inadvertent exposure to hands or body (5.3.2.1) Strength and thickness adequate Permanently attached or interlocked to shutter (5.3.2.2) Apertures – shutteror interlocked enclosure (3.0 Dose at 5cm <25 microGy/hr (b) De-energizes machine on removal of cover Beam directed away from occupied areas or beam stops Separate room or cubicle 5.3.3 Tube shutters (5.3.3.1) Dose at 5cm <25 microGy/hr (5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Monitoring Additional – finger etc used Worn by each person in the area Additional – finger etc used	Training and Warlein a	ulos						
Records of training Safety and Working procedures available Read by all users Supervision of users Warning signs and Lights Room warning sign Room warning light XRAYS ON Machine sign Shutter light for each port Machine light XRAYS ON Shutter lights SHUTTER OPEN Fail safe warning lights - switch off machine if light fails 5.3.1 Interlocks Sal.1.1 Difficult to render ineffective Dose at 5cm <25 microGy/hr Sal.2.1 Ap Dual interlock micro-switches Farly Enclosed Units Sal.2.2 Apertures - shutteror interlocked enclosure Sal.2.1 Strength and thickness adequate Permanently attached or interlocked to shutter Sal.2.2 Apertures - shutteror interlocked enclosure Sal.2.2 Neptrures - shutteror interlocked enclosure Sal.3.3 Tube shutters Shielded collimator tube Sal.3.4 Tube shutters Shielded collimator tube Sal.3.5 Tube shutters Shielded collimator tube Sal.5 Tube shutters Shi		uies	Ī					\neg
Safety and Working procedures available Read by all users Supervision of users Warning signs and Lights Room warning sign Machine light XRAYS ON Machine light XRAYS ON Fail safe warning lights — switch off machine if light fails Sal. Interlocks (5.3.1.1) Difficult to render ineffective Dose at 5cm <25 microGy/hr (5.3.1.2) Reliable (5.3.1.3) Electric interlocks difficult to bypass (5.3.1.4) Dual interlock micro-switches Partly Enclosed Units Sal. Uniterlock and thickness adequate (5.3.2.1) Strength and thickness adequate (5.3.2.2) Apertures — shutteror interlocked enclosure (3.3.3.3) Tube shutters (5.3.3.1) Dose at 5cm <25 microGy/hr (b) De-energizes machine on removal of cover Sal. Tube shutters Easy to operate control with interlocks in place (5.3.3.1) Dose at 5cm <25 microGy/hr (5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Monitoring Personal Monitoring Additional — finger etc used Worn by each person in the area (b) Interlocked to tube housing (c) Detachment closes relevant shutter								_
Read by all users Supervision of users Warning signs and Lights Room warning light XRAYS ON Machine sign Machine sign Machine light XRAYS ON Fail safe warning lights – switch off machine if light fails 5.3.1 Interlocks Shutter lights SHUTTER OPEN Fail safe warning lights – switch off machine if light fails 5.3.1 Interlocks Permanently attached or interlocked to shutter (5.3.1.1) Difficult to render ineffective (5.3.1.2) Reliable (5.3.1.3) Electric interlocks difficult to bypass (5.3.1.4) Dual interlock micro-switches Partly Enclosed Units 5.3.2 Tube Housing Prevents inadvertent exposure to hands or body (5.3.2.2) Apertures – shutteror interlocked enclosure (a) Dose at 5cm <25 microGy/hr (b) De-energizes machine on removal of cover Separate room or cubicle 5.3.3 Tube shutters (5.3.3.3) Fail safe on power failure (5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Monitoring Personal Monitoring Additional – finger etc used (c) Detachment closes relevant shutter								_
Supervision of users Warning signs and Lights Room warning sign Room warning light XRAYS ON Machine sign Shutter light for each port Machine light XRAYS ON Shutter lights SHUTTER OPEN Fail safe warning lights – switch off machine if light fails Permanently attached or interlocked to shutter 5.3.1 Interlocks Permanently attached or interlocked to shutter (5.3.1.2) Reliable Tube can be operated from outside enclosure (5.3.1.3) Electric interlocks difficult to bypass Shielded collimator tube (5.3.1.4) Dual interlock micro-switches Partly Enclosed Units 5.3.2 Tube Housing Prevents inadvertent exposure to hands or body (5.3.2.2) Apertures – shutteror interlocked enclosure Shielded collimator tube (3.3.2.2) Apertures – shutteror interlocked enclosure Shielded collimator tube (a) Dose at 5cm <25 microGy/hr Dose at 5cm <25 microGy/hr		dures available						
Room warning signs and Lights Room warning light XRAYS ON Machine sign Shutter light for each port Machine light XRAYS ON Shutter light for each port Machine light XRAYS ON Shutter lights SHUTTER OPEN Shutter lights SHUTTER OPEN								
Room warning sign Room warning light XRAYS ON Machine sign Shutter light for each port Shutter light for each port Shutter lights SHUTTER OPEN Fail safe warning lights — switch off machine if light fails								
Room warning sign Room warning light XRAYS ON Machine sign Shutter light for each port Shutter light for each port Shutter lights SHUTTER OPEN Fail safe warning lights — switch off machine if light fails	Warning signs and Light	s						
Machine sign Shutter light for each port Machine light XRAYS ON Shutter lights SHUTTER OPEN Fail safe warning lights – switch off machine if light fails Shutter lights SHUTTER OPEN 5.3.1 Interlocks Permanently attached or interlocked to shutter (5.3.1.1) Difficult to render ineffective Dose at 5cm <25 microGy/hr (5.3.1.2) Reliable Tube can be operated from outside enclosure (5.3.1.3) Electric interlocks difficult to bypass Shielded collimator tube (5.3.1.4) Dual interlock micro-switches Partly Enclosed Units F.3.2 Tube Housing Prevents inadvertent exposure to hands or body (5.3.2.1) Strength and thickness adequate Permanently attached or interlocked to shutter (5.3.2.2) Apertures – shutteror interlocked enclosure Shielded collimator tube (a) Dose at 5cm <25 microGy/hr Dose at 5cm <25 microGy/hr (b) De-energizes machine on removal of cover Beam directed away from occupied areas or beam stops 5.3.3 Tube shutters Easy to operate control with interlocks in place (5.3.3.2) Fail safe on power failure Working rules (5.3.3.3) Need tools to remove Monitoring 5.3.4 Enclosures – at least one of the following Personal Monitoring (a) Need tools to remove from tube housing <td></td> <td></td> <td></td> <td></td> <td>Room warning 1</td> <td>ight XRAYS Of</td> <td>N</td> <td></td>					Room warning 1	ight XRAYS Of	N	
Shutter lights SHUTTER OPEN								
Fail safe warning lights – switch off machine if light fails Sality Sa		V					,	
Sall Interlocks Permanently attached or interlocked to shutter				-	<u> </u>		l l	
5.3.1 Interlocks Permanently attached or interlocked to shutter (5.3.1.1) Difficult to render ineffective Dose at 5cm <25 microGy/hr		fails						
(5.3.1.1) Difficult to render ineffective (5.3.1.2) Reliable (5.3.1.3) Electric interlocks difficult to bypass (5.3.1.4) Dual interlock micro-switches Partly Enclosed Units Prevents inadvertent exposure to hands or body (5.3.2.1) Strength and thickness adequate (5.3.2.2) Apertures – shutteror interlocked enclosure (a) Dose at 5cm <25 microGy/hr (b) De-energizes machine on removal of cover Beam directed away from occupied areas or beam stops Separate room or cubicle 5.3.3 Tube shutters (5.3.3.1) Dose at 5cm <25 microGy/hr (5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Additional – finger etc used (c) Detachment closes relevant shutter			L					
(5.3.1.1) Difficult to render ineffective (5.3.1.2) Reliable (5.3.1.3) Electric interlocks difficult to bypass (5.3.1.4) Dual interlock micro-switches Partly Enclosed Units Prevents inadvertent exposure to hands or body (5.3.2.1) Strength and thickness adequate (5.3.2.2) Apertures – shutteror interlocked enclosure (a) Dose at 5cm <25 microGy/hr (b) De-energizes machine on removal of cover Beam directed away from occupied areas or beam stops Separate room or cubicle 5.3.3 Tube shutters (5.3.3.1) Dose at 5cm <25 microGy/hr (5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Additional – finger etc used (c) Detachment closes relevant shutter	5.3.1 Interlocks				Permanently at	ttached or interl	ocked to shutter	
(5.3.1.2) Reliable (5.3.1.3) Electric interlocks difficult to bypass (5.3.1.4) Dual interlock micro-switches Partly Enclosed Units 5.3.2 Tube Housing (5.3.2.1) Strength and thickness adequate (5.3.2.2) Apertures – shutteror interlocked enclosure (a) Dose at 5cm <25 microGy/hr (b) De-energizes machine on removal of cover 5.3.3 Tube shutters (5.3.3.1) Dose at 5cm <25 microGy/hr (5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing (a) Need tools to remove from tube housing (b) Interlocked to tube housing (c) Detachment closes relevant shutter								
Shielded collimator tube	` /							
Salation	` '							
Partly Enclosed Units			133		Sincided commutor tube			
Prevents inadvertent exposure to hands or body	(5.5.1.7) Duai michock illi	icro switches			Partly Enclose	d Units		
(5.3.2.1) Strength and thickness adequate (5.3.2.2) Apertures – shutteror interlocked enclosure (a) Dose at 5cm <25 microGy/hr (b) De-energizes machine on removal of cover Separate room or cubicle 5.3.3 Tube shutters (5.3.3.1) Dose at 5cm <25 microGy/hr Easy to operate control with interlocks in place (5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Monitoring 5.3.4 Enclosures – at least one of the following (a) Need tools to remove from tube housing (b) Interlocked to tube housing Monitoring Personal Monitoring Worn by each person in the area (c) Detachment closes relevant shutter	5 3.2 Tube Housing						to hands or hody	
(5.3.2.2) Apertures – shutteror interlocked enclosure (a) Dose at 5cm <25 microGy/hr (b) De-energizes machine on removal of cover Beam directed away from occupied areas or beam stops Separate room or cubicle 5.3.3 Tube shutters Easy to operate control with interlocks in place (5.3.3.1) Dose at 5cm <25 microGy/hr (5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Monitoring 5.3.4 Enclosures – at least one of the following (a) Need tools to remove from tube housing Worn by each person in the area (b) Interlocked to tube housing Additional – finger etc used (c) Detachment closes relevant shutter		kness adequate			i i			
(a) Dose at 5cm <25 microGy/hr (b) De-energizes machine on removal of cover Beam directed away from occupied areas or beam stops Separate room or cubicle 5.3.3 Tube shutters Easy to operate control with interlocks in place (5.3.3.1) Dose at 5cm <25 microGy/hr (5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Monitoring 5.3.4 Enclosures – at least one of the following (a) Need tools to remove from tube housing Worn by each person in the area (b) Interlocked to tube housing Additional – finger etc used (c) Detachment closes relevant shutter					·			
(b) De-energizes machine on removal of cover Separate room or cubicle 5.3.3 Tube shutters Easy to operate control with interlocks in place (5.3.3.1) Dose at 5cm <25 microGy/hr (5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Monitoring 5.3.4 Enclosures – at least one of the following (a) Need tools to remove from tube housing Worn by each person in the area (b) Interlocked to tube housing Additional – finger etc used (c) Detachment closes relevant shutter								
Separate room or cubicle 5.3.3 Tube shutters Easy to operate control with interlocks in place (5.3.3.1) Dose at 5cm <25 microGy/hr (5.3.3.2) Fail safe on power failure Working rules (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Monitoring 5.3.4 Enclosures – at least one of the following (a) Need tools to remove from tube housing Worn by each person in the area (b) Interlocked to tube housing Additional – finger etc used (c) Detachment closes relevant shutter					·			
5.3.3 Tube shutters Easy to operate control with interlocks in place (5.3.3.1) Dose at 5cm <25 microGy/hr Working rules (5.3.3.2) Fail safe on power failure Working rules (5.3.3.3) Need tools to remove Monitoring 5.3.4 Enclosures – at least one of the following Personal Monitoring (a) Need tools to remove from tube housing Worn by each person in the area (b) Interlocked to tube housing Additional – finger etc used (c) Detachment closes relevant shutter	(b) De-energizes machine on removal of cover				• • • • • • • • • • • • • • • • • • • •			
(5.3.3.1) Dose at 5cm <25 microGy/hr (5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Monitoring 5.3.4 Enclosures – at least one of the following (a) Need tools to remove from tube housing Worn by each person in the area (b) Interlocked to tube housing Additional – finger etc used (c) Detachment closes relevant shutter	#00 m 1 1 1				_		. 1 1	
(5.3.3.2) Fail safe on power failure (5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Monitoring 5.3.4 Enclosures – at least one of the following (a) Need tools to remove from tube housing Worn by each person in the area (b) Interlocked to tube housing Additional – finger etc used (c) Detachment closes relevant shutter					Easy to operate control with interlocks in place			
(5.3.3.3) Need tools to remove (5.3.3.4) Interlocked to tube housing Monitoring 5.3.4 Enclosures – at least one of the following (a) Need tools to remove from tube housing (b) Interlocked to tube housing (c) Detachment closes relevant shutter Monitoring Worn by each person in the area Additional – finger etc used		•						
(5.3.3.4) Interlocked to tube housing Monitoring 5.3.4 Enclosures – at least one of the following (a) Need tools to remove from tube housing (b) Interlocked to tube housing (c) Detachment closes relevant shutter Monitoring Personal Monitoring Worn by each person in the area Additional – finger etc used					Working rules			
5.3.4 Enclosures – at least one of the following (a) Need tools to remove from tube housing (b) Interlocked to tube housing (c) Detachment closes relevant shutter Personal Monitoring Worn by each person in the area Additional – finger etc used	,							
(a) Need tools to remove from tube housingWorn by each person in the area(b) Interlocked to tube housingAdditional – finger etc used(c) Detachment closes relevant shutter	(5.3.3.4) Interlocked to tub	be housing			Monitoring			
(a) Need tools to remove from tube housingWorn by each person in the area(b) Interlocked to tube housingAdditional – finger etc used(c) Detachment closes relevant shutter	5 2 4 Englesses - 4 1	4 one of 4h - f-11	in-		Darcanal Mari	toring		
(b) Interlocked to tube housing Additional – finger etc used (c) Detachment closes relevant shutter								
(c) Detachment closes relevant shutter					• •			
					Additional – finger etc used			
Monitoring equipment	(c) Detachment closes rele	vant shutter			1.6			
					Monitoring eq	uıpment		

Published on: Nov 2011

Review Date: Nov 2016

Version 1.2

Page 1 of 2

5.3.5 Beam stops	Accuracy +-50%
(a) Dose at 5cm <25 microGy/hr	Response < 20 s at 10 microGy/hr
(b) Fixed part of unit	Calibrated
(i,ii) Interlocked to de-energise tube, closes relevant	Monitored at maximum kVp and current
shutter	·
	Period – Enclosed quarterly
5.3.6 Warning signs, lights and labels	- Partly enclosed monthly
(5.3.6.1) Illuminated light/sign	Records kept
(5.3.6.2) Readable from 2m on all accessible sides of	
machine	
(5.3.6.3) Energised when tube is energised	Service
(5.3.6.4) Shutter lights	Records kept
(5.3.6.1) Warning sign on cubicle/area	•
(5.3.6.1) Warning light (if not enclosed unit)	Positive fail safe
(5.3.6.1) Lights and signs red or orange	Perspex enclosure (XRD)
(5.3.6.1) Lights fail-safe	Only register as shut when fully shut
(5.3.6.1) Partially enclosed barrier incomplete warning	Software controlled – failsafe
(5.3.6.1) Partially enclosed warning for hands	Number of ports
(5.3.6.1) Clearly labelled as enclosed or partly closed	Independent shutter operation
	Enclosure for unused ports
Radiation Shields	•
Steel etc or supported lead	Enclosures
**	X-ray enclosure, lead loaded PVC
Barriers	Enclosure door interlocks
Sufficient strength to prevent access	Controls outside enclosure
· ·	Keyed over ride for alignment
Enclosed Units	Qualified XRA personnel with key
Enclosure covers primary beam area preventing exposure	
to hands or body	
Radiation monitoring - Personal	Equipment repair/Maintenance
Type of personal monitors	High voltage disable whilst maintaining power to
	electronics
Finger monitors	Shielding integrity checks after service
Radiation monitoring – Equipment	Service persons name, contact number and Licence
	number
Leakage <25 μGy/hr at 5 cm	Records of service kept
Leakage at maximum factors	Tag outs available and used
Leakage without filters	
Carried out quarterly (fully enclosed)	
Carried out monthly (partially enclosed)	
Type of monitoring instrument used	
Comments	
-	
	

X-ray Analysis Equipment Survey Form	Published on: Nov 2011	Version 1.2				
Authorised by: UWA Safety and Health	Review Date: Nov 2016	Page 2 of 2				
This document is uncontrolled when printed. The current version is available on the Safety and Health website						