

**EDWARDS ACCELERATOR LAB**

**OPERATOR 1 TRAINING FLOW CHECKLIST**

**Operator Candidate Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

<u>Subject</u>	<u>Source Material for Subject</u> <b>Location:</b> <i>Procedure or Document</i>	<u>Candidate Initials for Receipt and Understanding</u>
Key Holder	Pre Requisite	N/A
Types of Lab Personnel	<b>Training Book:</b> <i>Personnel Classifications</i>	_____
Information Location	<b>Training Book:</b> <i>Control Room Books</i>	_____
Accelerator Status Page	Instructor links to page and presents content and function	_____
Accelerator Handbook Wiki Page	Instructor links to page and presents content and function	_____
OUAL Control Button Bar	Instructor presents content and function with backup Control 1 computer	_____
Emergency Procedures	<b>Emergency Procedures Book:</b>	
Lab Safety & Warning Alarm Systems	<i>Lab Safety &amp; Warning Alarm Systems</i>	
Device Locations	Walking Tour	
Fire Alarm Systems	<i>Fire Alarm</i>	
Annunciator Panel	<i>Fire Alarm</i>	
VESDA System	<i>VESDA</i>	
Operator Actions	<i>Fire Alarm &amp; VESDA</i>	
Power Failures	<i>Long Duration &amp; Short Duration</i>	_____
Chemical & Radiation Emergencies	<b>Rad Safety Handbook:</b> <i>Section VIII</i>	_____
Tritium Emergency	<b>Rad Safety Handbook:</b> <i>Appendix 24</i>	_____
Testing Policy & Interlock Rules	<b>Testing, Calibration, &amp; Shutdown Book:</b> <i>Testing Policy &amp; Interlock Rules</i>	_____

Operating Procedures

Shift Change of Operator

Manning of the Control Console

General Safe Practices

**Operating Procedures Book:**

*Shift Change*

*Console Policy*

**Rad Safety Handbook: Sections III, IV, V, VI,IX**

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Applicable Requirements of OAC

**Training Book: OAC 3701:1-68-05**

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Fundamentals of Radiation Safety

Characteristics of Radiation

Units of Radiation Dose

Significance of Radiation Dose

Fundamentals of Radiation Dose

Radiation protection Standards

Biological Effects of Radiation

Levels of Radiation from Particle Accelerator Sources

Radiation locations with beam on

Radiation locations following beam on

X-rays from accelerator tubes

X-rays from source area

Op Level Radiation Safety Orientation

**Rad Safety Handbook: Section VI.E.**

**Instruction by Accelerator Staff**

**Instruction by Accelerator Staff**

**Instruction by Accelerator Staff**

**Instruction by Accelerator Staff**

Sealed Sources

Types and Locations, including tritium

Signage for deployed sources

Periodic Inventory

Proper Handling

**Accelerator License Holder**

**Accelerator License Holder**

**Accelerator License Holder**

**Accelerator License Holder**

Methods of Controlling Radiation Dose

Exposure Time

Working Distance

Shielding

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Use of Radiation Detection Instruments

Survey Instruments

Neutron Survey Meter

Victoreen 440 RF

Geiger Counter

Direct Reading Dosimeter

Instrument Operation

Calibration

Limits of Detection

Monitoring Procedures

Op Level Radiation Safety Orientation

**Rad Safety Handbook:** *Section VI.C.*

**Rad Safety Handbook:** *Section VI.C.2*

**Rad Safety Handbook:** *Section VI.C.2*

**Internet Search**

**Operating Procedures Book:** *Direct Reading Dosimeter*

**See Instruments**

**Rad Safety Handbook:** *Section VI.C.3*

**Rad Safety Handbook:** *Section VI.C.2*

**Instruction by RSO**

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Personnel Monitoring Equipment (Dosimetry)

Procedures for Issuance, Wearing, and Exchange of Dosimetry

Typical Exposures Expected

Methods to Keep Exposures ALARA

Film Badges

Direct Reading Dosimeter

Bioassays

Op Level Radiation Safety Orientation

**Instruction by RSO**

**Instruction by RSO**

**Rad Safety Handbook:** *Section VI.D.*

**Operating Procedures Book:** *Direct Reading Dosimeter*

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Responsibility of Operators

Ensure Film Badge and DRD use

Authorized Personnel

Visitors

Inspection of Areas Prior to Beam

Inspection of Door Lights Prior to Beam

Leaving Control Console During Experiment

Op Level Radiation Safety Orientation

**Rad Safety Handbook:** *Section VI.A.6.a*

**Rad Safety Handbook:** *Section VI.A.6.a*

**Rad Safety Handbook:** *Section VI.A.7.*

**Rad Safety Handbook:** *Section VI.A.6.b*

**Rad Safety Handbook:** *Section VI.A.6.b*

**Operating Procedures Book:** *Console Policy*

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Fixed Radiation Monitor System

Detection of n, x, and gamma Radiation

Types of Detectors

Where Detectors are Monitored

Shutdown Due to Radiation Monitor

Accumulated

Rate

8 Hour Scaler

24 Hour Scaler

Signal Comparator

Recorder

Procedure to Follow for Shutdown

Procedure to Follow for Reset

Op Level Radiation Safety Orientation

**Rad Safety Handbook: Section VI.B.**



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Visitors

Definition

Orientation

Film Badge Requirements and Card

Pregnant Women and Minors

Op Level Radiation Safety Orientation

**Rad Safety Handbook: Section VI.D.1.b.3**

**Rad Safety Handbook: Appendix 18**

**Rad Safety Handbook: Section VI.D.**

**Rad Safety Handbook: Appendices 11,28**

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Consultation

Activated Machine Parts

Radioactive Targets

Radioactive Sources

Violations

Op Level Radiation Safety Orientation

**Rad Safety Handbook: Section VI.F.**

**Rad Safety Handbook: II, III, IV, V, VI.F**

**Rad Safety Handbook: II, III, IV, V, VI.F**

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Alarm Systems Written Test

Pass / Fail

Date: \_\_\_\_\_

Signature of Accelerator Staff: \_\_\_\_\_

Op Level Radiation Safety Orientation Written Test

Pass / Fail

Date: \_\_\_\_\_

Signature of OU Radiation Safety Officer: \_\_\_\_\_

Certification as Operator 1 Complete

Date: \_\_\_\_\_

Signature of OU Radiation Safety Officer: \_\_\_\_\_