

EDWARDS ACCELERATOR LAB

KEY HOLDER TRAINING FLOW CHECKLIST

Key Holder Name: _____

Date: _____

Accelerator Orientation Section:

Initials of Trainer

Acceptable to initial & mark as N/A where not needed

General:

Location of Emergency Exits

Location of Restrooms

Location of Restricted Area Doors, Video Surveillance

Building Page Device in Lobby

Location of Emergency Phone Numbers

FM, PD, and FD don't have keys

Safety Equipment:

Personal Protective Equipment in Thin Film Lab

Eye Wash / Shower Station in Thin Film Lab

Spill Control Kit in Thin Film Lab

First Aid Kit Outside Control Room

Fume Hoods

Fire Emergencies:

Hazards in Lab; Class A, B, C, D fires; Likely Locations

Types of Extinguishers in Lab (CO2 & Dry Chem) and Use

Detection Systems; Standard Smoke, Aspirating Smoke, Heat, O2 Depletion

Course of Action in Emergency - Evacuate

Electrical Emergencies:

Hazards in Lab; Common AC, High Voltage, High Current, Lasers

Specific Locations; Source Area, Magnets, Cabinets

Laser Locations

Chemical Emergencies:

Types of exposure; Respiratory, Ingestion, Contact

Chemical Locations in Lab

SF6 Locations; Properties and Hazards

Safe Practices and Protective Equipment

No food or drink, except control room

Safety and Warning Devices:

EMO Buttons; Locations and use. When in doubt, hit one

Control Room Alarms (other than fire); Contact Staff

Beam Warnings, Locations. 15 second delay for High Rad Ops

Claxon and Flashing Red Lights. Accelerator Startup. Areas Cleared by Operator.

Flashing Red Lights. Accelerator Running. Check with Operator for Entry

Key Holder Level Radiation Safety Orientation Section:

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

Sealed Sources

Types and Locations, including tritium

Signage for deployed sources

Proper Handling

Security System – PD lockdown of building

Methods of Controlling Radiation Dose

Exposure Time

Working Distance

Shielding

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

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

Role of the Accelerator Operator

Ensure Film Badge and DRD use

Limit access to only authorized personnel

Ensure compliance with visitor policies

Inspect, evacuate, and secure areas prior to beam

Knowledge of experiment conditions and hazards

May be out of Control Room, wait for his/her return

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

Visitors

Definition

Orientation

Film Badge Requirements and Card

Pregnant Women and Minors

Consultation

Activated Machine Parts

Radioactive Targets

Radioactive Sources

Violations

Key Issue Process:

Accelerator Orientation

Key Holder Level Radiation Safety Orientation

Signed Key Request and Key Issue

Security of key

Return of Key when Finished

REQUEST FOR ACCELERATOR KEY

PLEASE PRINT CLEARLY

Applicant Name: _____

Local Address: _____
Street City State Zip

Local Phone: _____ Email: _____

___ Faculty/Staff ___ Student ___ Visitor

Effective Dates: From _____ Returned _____

Signature of Chair of TALC or Chair of Physics and Astronomy

Restricted Area Key Number: _____

I have received an Accelerator Orientation and a Radiation Safety Orientation and understand the material presented. I understand that the key issued to me shall not be given or loaned to an individual who is not authorized to use the Ohio University Accelerator facility. I understand that upon termination of Accelerator facility usage the key shall be returned to the Chair of the Tandem Accelerator Lab Committee or the Chair of the Department of Physics and Astronomy.

Signature of Applicant