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
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.

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Signature of Applicant