NSLS-II Beamline Specific Training Form 7-BM

Course Code PS-BST-7-BM

Rev Date: 10/9/2018

ACCESS
☐ F Signs and Placards  Locate and discuss all posted signs and placards (Hazard Info Placard, contact info, PPE)
☐ E B Hutch Access  Train user for Beamline Hutch Search and Secure and Breaking Security. Be aware of moving door hazards
☐ F Safety Approval Form  Users must review SAF; review controls and other training for SAF or beamline
☐ F Lead Experimenter  Lead Experimenter must ensure that safety, training, and reporting requirements are completed

EMERGENCIES
☐ F FLOCO/Control Rm  Discuss process to contact a Floor Coordinator (FLOCO) and the Control Room for assistance
☐ F Beamline Staff  Discuss process to contact Beamline Staff for assistance and operations (emergency contact info, phones)
☐ F Emergencies  Discuss where to go and who to contact during an emergency. Locate exits and fire alarm pull boxes
☐ F Emergency Lights  May come on for self-test with lights and buzzer
☐ F Eye Wash/Shower  Locate eye wash/shower
☐ F Spill Station  Locate spill control station
☐ F Emergency Beam Stop  Locate emergency beam stop buttons, discuss purpose and operation
☐ F Oxygen Monitors/Alarms  Locate hutch ODH monitors, discuss alarm response, verify green light is on, discuss LOB receiving room access

BEAMLINE EQUIPMENT
☐ F Config Control  Identify the configuration control signs and follow configuration control policy
☐ F Mezzanine Access  Access to mezzanine, areas above hatch roof, staircase is not permitted
☐ F User Authorization  User is authorized to operate ONLY the equipment the user has been trained on - review operation and hazards
☐ E B User Labyrinth  Discuss proper steps and precautions to take for use of the user labyrinth
☐ B Ergonomics  Use caution when moving around equipment and under beam pipes, changing chambers, during equipment alignment (limited space, low pipe, trip hazards, awkward positions, personnel injury, equipment damage)
☐ B Detector  Review detector location, operations, hookups, cables, fill frequency, cautions for high voltage and equip damage
☐ B Ion Chamber(s)  Point out Red Cables or High Voltage (HV) Supply for ion chamber(s) (do not touch)
☐ B4 Monochromator  Review operations for energy ranges, set up, and operation of monochromator drive, motors, bearings, power, software; User ☐ is ☐ is not authorized to adjust monochromator
☐ B5 Sample Chamber  Review operations for sample mounting and sample changing
☐ B Sample Environ and Cell  Review operations and sample mounting
☐ B Shutters  Review location, operations, indicators, and required sequence for beamline shutter controls
☐ B4 Tables (in Hutch)  User ☐ is ☐ is not authorized to make adjustments to the hutch tables (review operations)
☐ B2 Vacuum (End Sta Eqp)  User ☐ is ☐ is not authorized for vacuum work or bleed ups on end station equipment
☐ B Water System  Review location, indicators, alarms, trips, and operations for system and shut off
☐ B WebCam  Be aware of Webcams and/or Remote Monitoring

BEAMLINE OPERATIONS
☐ B Computer Operations  Review operations for computer operations, control software, data acquisition software, machine status
☐ B Computer Software  Do not install any computer software on beamline computers
☐ B Computer Data  Review data storage, data transfer, and back up process
☐ B Passthrough Beamlines  Review operations for passthrough beamlines
☐ E B Unattended Ops  User ☐ is ☐ is not requested to attend beamline at all times, as per SAF. Discuss process

ESH & HAZARDS
☐ E B Beryllium  Identify location of beryllium articles or beryllium windows and process for notification in case of breakage
☐ E B Chemicals  Discuss use, labeling, storage, spills, labs, disposal, and transportation of chemicals
☐ E B Cryogen Use  For cryogen/cryostat use, discuss fill operations, ODH, demonstrate use, wear PPE (eye and skin protection)
☐ E B Cryogen Dewar Fills  Liquid Nitrogen is filled by beamline staff only
☐ E B LN2 Shut Off  Review operations for LN2 shutoff buttons and when to use them
☐ F Electrical Work 50V  No work on exposed electrical components >50V without appropriate electrical training
☐ E B Electrical Connections  User is not authorized to adjust any high voltage, motor connections or in-hutch beamline electronics
☐ E B Electrical Equipment  User is not permitted to modify or service any electrical equipment on the beamline or perform any bakes-outs
☐ E B Electrical Breakers  In case of power failure, contact the FLOCO or Beamline Staff
☐ E B Electrical Pwr Supplies  Review process to check power supplies and cables; User ☐ is ☐ is not authorized to change PS; User ☐ is ☐ is not authorized to power down PS; if authorized, review operations
☐ E B Red & Yellow Tags  Provide information about any beamline equipment or systems that are yellow or red tagged


During initial form development: If there is a number next to the designation (e.g., B1, B2, etc), select the most appropriate content.
**LAB/TECH AREAS & SAMPLE PREP**
- **EB Lab Use**: Discuss use of lab (including forms and PPE) and/or tech space (non-lab) area
- **EB Sample Prep**: Discuss location for sample prep; prepare samples only where instructed
- **EB Soldering Station**: Avoid skin contact with soldering iron to prevent burns to the skin; advise of process for solder scrap

**WASTES**
- **EB Waste Location**: Show relevant waste collection areas and discuss training requirements (sharps, razor blades, pipet tips, broken glass, hazardous waste Satellite Accumulation Area/SAA)
- **EB Sharps**: Place cover slips, tips, needles in sharps container

**CLOSE OUT**
- **B1 Samples (Take Home)**: Take samples back to home institution
- **B Shipping Haz Mat**: Review shipping process for hazardous materials
- **F End of Run Form**: Complete the End of Run form for NSLS-II
- **B Systems & Equip**: Power down systems and turn off equipment voltages as required, perform PC security check
- **B2 Shut Down/Contact Staff**: Secure beamline and contact the Beamline Staff to disable the shutters before you leave
- **F Housekeeping**: Check housekeeping (beamline area neat, clean, free of hazards), recycling, tools returned or stored
- **F2 Publications**: Send a copy of your publication to ☐NSLS-II User Administration ☐the beamline

**Instructions to Trainer:**
- ☐EB Gas: Show location, operations, use, fills, storage of gas (inc cabinets if any), emergency response actions, and if authorized: valve operations, gas interlocks, switching cylinders, operating transfer lines
- ☐EB Ladders: Review step ladder use if needed; if ladder required, discuss set up, safety and 3-point rule
- ☐EB Lifting: If lifting objects <30 lbs, keep weight close to the body (between shoulders and knees); If lifting objects =/>30 lbs, use lifting and/or mechanical aids or two person lifts
- ☐EB Magnetic Fields: Magnetic fields present at this beamline - Users with medical devices/implants should stay 1’ away from source
- ☐EB Nano Materials: Review approved locations and controls for nanomaterial use
- ☐EB Ventilation: Review use and operations for ventilation system and alarms, if present
- ☐EB Food: Food consumption is permitted in designated food areas (LOBs)

**Instructions to User:**
- Ensure your name and life number are correct and sign the space below that you understand the instructions provided to you in this training.

**TRAINING ENTERED**
- ☐EB Gas
- ☐EB Ladders
- ☐EB Lifting
- ☐EB Magnetic Fields
- ☐EB Nano Materials
- ☐EB Ventilation
- ☐EB Food

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