## OPERATIONS INFO
- **Operations Status**: Beamline is in commissioning status; Lead BL Scientist must contact M Bobis-DeLong to finalize this form and provide names of trainers before using this form to train users.

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

## EMERGENCIES
- **FLOCO/Control Rm**: Discuss process to contact a Floor Coordinator (FLOCO) and the Control Room for assistance
- **Beamline Staff**: Discuss process to contact Beamline Staff for assistance and operations (emergency contact info, phones)
- **Emergencies**: Discuss where to go and who to contact during an emergency. Locate exits and fire alarm pull boxes
- **Emergency Lights**: May come on for self-test with lights and buzzer
- **Eye Wash/Shower**: Locate eye wash/shower
- **Spill Station**: Locate spill control station
- **Emergency Beam Stop**: Locate emergency beam stop buttons, discuss purpose and operation
- **Radiation Monitors**: Identify radiation monitor locations, move away from area, call control room if area monitors sound off
- **Oxygen Monitors/Alarms**: Locate hatch ODH monitors, discuss alarm response, verify green light is on, discuss LOB receiving room access
- **Gas Alarms**: Discuss any gas systems and alarms in the area, and the appropriate response to alarms

## BEAMLINE EQUIPMENT
- **Config Control**: Identify the configuration control signs and follow configuration control policy
- **Mezzanine Access**: Access to mezzanine, areas above hutch roof, stairs are not permitted
- **User Authorization**: User is authorized to operate ONLY the equipment the user has been trained on - review operation and hazards
- **User Labyrinth**: Discuss proper steps and precautions to take for use of the user labyrinth
- **Electrical Outlets**: Note outlet colors; do not plug equipment into sensitive or UPS outlets w/o beamline staff approval
- **End Station Equip**: Point out Red Cables or High Voltage (HV) Supply for end station equip (do not touch)
- **Equip Stop Buttons**: Review operations for equipment stop buttons and when to use them
- **E-stop Buttons Reset**: Review operations for equipment stop buttons and safety edges and when to use them
- **CryoCooler**: If cryocooler will be used, review operations for water use and shut-off valves
- **CryoStat**: User ☐ is ☐ is not authorized to make changes to cryostat; if authorized, review operations
- **Detector**: Review detector location, operations, hookups, cables, fill frequency, cautions for high voltage and equip damage
- **High Temp Apparatus**: User ☐ is ☐ is not authorized to change apparatus and temp controls (review operations; prevent burns)
- **Ion Chamber(s)**: Point out Red Cables or High Voltage (HV) Supply for ion chamber(s) (do not touch)
- **Laser Training & PPE**: If operating Class 3B or 4 laser, verify BNL laser training, beamline laser training, eye exam, PPE
- **Laser Present**: Laser present at this beamline (avoid direct eye exposure)
- **Laser Interlocks**: Only beamline staff and FLOCOs are permitted to reset laser interlocks
- **Lenses**: Review location and operations for lens focusing
- **Mirror**: Review mirror location, operations [Grating Change ☐ Yes ☐ NA][Adjustment ☐ Yes ☐ NA][Rotation ☐ Yes ☐ NA][Tilt ☐ Yes ☐ NA]
- **Mirror**: Review mirror location, operations [Grating Change ☐ Yes ☐ NA][Adjustment ☐ Yes ☐ NA][Rotation ☐ Yes ☐ NA][Tilt ☐ Yes ☐ NA]
- **Mirror**: Review mirror location, operations [Adjustment ☐ Yes ☐ NA][Rotation ☐ Yes ☐ NA][Tilt ☐ Yes ☐ NA]
- **Mirror**: Review mirror location, operations [Grating Change ☐ Yes ☐ NA][Adjustment ☐ Yes ☐ NA][Rotation ☐ Yes ☐ NA][Tilt ☐ Yes ☐ NA]
- **Mirror**: Review mirror location, operations [Grating Change ☐ Yes ☐ NA][Adjustment ☐ Yes ☐ NA][Rotation ☐ Yes ☐ NA][Tilt ☐ Yes ☐ NA]
- **Monochromator**: Review operations for energy ranges, set up, and operation of monochromator drive, motors, bearings, gas feeds, power, software; User ☐ is ☐ is not authorized to adjust monochromator

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Rev Date:  

☐ B2 Monochromator  
Review operations for energy ranges, set up, and operation of monochromator drive, motors, bearings, gas feeds, power, software; User ☐ is ☐ is not authorized to adjust monochromator

☐ B3 Monochromator  
Review operations for energy ranges, set up, and operation of monochromator drive, motors, bearings, gas feeds, power, software; User ☑ is ☐ is not authorized to adjust monochromator

☐ B1 Optical System  
Review optical system set up, operations, water gauge for optics system, mirror, camera

☐ B2 Optical System  
Review optical system set up, operations, mirror, camera

☐ B3 Optical System  
Review optical system set up, operations

☐ B1 Sample Chamber  
Review operations for sample chamber and mounter; User ☐ is ☐ is not authorized to modify sample chamber or add new equipment to existing flanges (if authorized, review requirements and extension policy)

☐ B2 Sample Chamber  
Review operations for sample chamber and mounter; User ☐ is ☐ is not authorized to modify sample chamber or add new equipment to existing flanges (if authorized, review requirements and extension policy)

☐ B3 Sample Chamber  
Review operations for sample chamber and mounter; User ☐ is ☐ is not authorized to modify sample chamber or add new equipment to existing flanges (if authorized, review requirements and extension policy)

☐ B4 Sample Chamber  
Review operations for sample chamber and mounter

☐ B5 Sample Chamber  
Review operations for sample mounting and sample changing

☐ B6 Sample Chamber  
Train user to operate sample chamber and microscope (including vacuum) and how to mount samples

☐ B1 Sample Chamber (Robot)  
User ☐ ☐ ☐ is ☐ is not authorized to make changes to device (review operations)

☐ B2 Sample Chamber (Robot)  
User ☐ ☐ ☐ is ☑ is not authorized to make changes to device

☐ B Shutter  
Review shutter operation, location, and controls

☐ B Spectrometer  
Review spectrometer operations and limits

☐ B1 Table (in Hutch)  
User ☐ ☐ ☐ is ☐ is not authorized to make adjustments to table (review operations; do not place objects on table)

☐ B2 Table (in Hutch)  
User ☑ ☐ ☐ is ☐ is not authorized to make adjustments to table (review operations; do not place objects on table)

☐ B3 Table (in Hutch)  
User ☑ ☐ ☐ is ☐ is not authorized to make adjustments to table (review operations; do not place objects on table)

☐ B4 Tables (in Hutch)  
User ☑ ☐ ☐ is ☐ is not authorized to make adjustments to the hutch tables (review operations)

☐ B1 Vacuum (End Sta Eqp)  
User ☐ ☐ ☐ ☐ is ☐ is not authorized to perform vacuum work and bleed ups on end station equipment; if authorized, review location, indicators, and operations

☐ B2 Vacuum (End Sta Eqp)  
User ☐ ☐ ☐ ☐ is ☐ is not authorized for vacuum work or bleed ups on end station equipment

☐ B3 Vacuum (End Sta Eqp)  
User ☐ ☐ ☐ ☐ is ☐ is not authorized for vacuum work or bleed ups on equip vacuum; review process to reset PPS

☐ 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 pass through beamlines

☐ B Unattended Ops  
User ☐ ☐ ☐ is ☐ is not requested to attend beamline at all times, as per SAF. Discuss process

ESH & HAZARDS

☐ B Beryllium  
Identify location of beryllium articles or beryllium windows and process for notification in case of breakage

☐ B Cryogen Fill Station  
For Cryogen Filling Station, NSLS-II training and PPE required; BNL cryogen training recommended

☐ B Chemicals  
Discuss use, labeling, storage, spills, labs, disposal, and transportation of chemicals

☐ B Cryogen Use  
For cryogen/cryostat use, discuss fill operations, ODH, demonstrate use, wear PPE (eye and skin protection)

☐ B Cryogen Dewar Fills  
Liquid Nitrogen is filled by beamline staff only

☐ B Cryogen Transfer Lines  
Discuss dewar autofill process, ODH; if user is authorized to operate transfer lines, review operations

☐ 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 Electrical Connections  
User is not authorized to adjust any high voltage, motor connections or in-hutch beamline electronics

☐ E Electrical Equipment  
User is not permitted to modify or service any electrical equipment on the beamline or perform any bake-outs

☐ E Electrical Breakers  
In case of power failure, contact the FLOCO or Beamline Staff

☐ E 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 Red & Yellow Tags  
Provide information about any beamline equipment or systems that are yellow or red tagged

☐ E 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


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☐ 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 PPE (Safety Glasses)                         Safety glasses may be required inside hutch (discuss with beamline staff if required)
☐ EB Ventilation                                   Review use and operations for ventilation system and alarms, if present
☐ EB Food                                          Food consumption is permitted in designated food areas (LOBs)

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 Hazardous Wastes                             Do not generate hazardous wastes without talking with beamline staff. Anyone generating Hazardous Waste must have Lab Standard and Hazardous Waste Generator training.
☐ 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
☐ B2 Samples (Storage)                            Review storage process for samples
☐ B3 Samples (Store or Ship)                     Discuss with beamline staff whether to store samples or ship back to home institution and confirm before leaving
☐ B Shipping Haz Mat                              Review shipping process for hazardous materials
☐ B Data Log Book                                 Complete entries in Experiment Data Logbook
☐ 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
☐ B1 Shut Down/Secure BL                         Secure beamline and inform the Beamline Staff experiment is complete
☐ 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: SAF #: Instructions to User: Trainer: Place √ next to your name:

(1) Provide training for each checkbox to each user listed on the SAF as they arrive and complete the information below. If a checkbox does not apply, cross out that line. Training is valid for 1 year at this beamline only. (2) Send completed forms to NSLS-II Training, Building 745, immediately after all users listed on the SAF (who plan to arrive for this run) have been trained. Training will be entered in the user’s training history.

PRINT User Name  Life #  User Signature  Date  Trainer’s Signature  ✔Training Entered


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