

Brockhouse (BXDS) Beamline Specific Orientation (BSO)

33.11.37.1 Rev. 2

Date: 2020-June-09

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REVISION HISTORY

<i>Revision</i>	<i>Date</i>	<i>Description</i>	<i>Author</i>
A	2018-Feb-08	Original Draft	Beatriz Moreno
0	2018-Feb-21	Including Reviewers' comments	Beatriz Moreno
0A	2019-Nov-29	Including usage of power tools and mention of beamline hazard disclosure form	Beatriz Moreno
1	2020-Jan-07	Issued for use	Beatriz Moreno
1A	2020-May-08	Updating with CLS new template	Beatriz Moreno
1B	2020-May-21	Including Meghan, Graham and Adam's comments	Beatriz Moreno
2	2020-Jun-09	Issued for use	Beatriz Moreno



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Notes:

- The completed BSO form will serve as a checklist to be used when beamline staff gives the BSO to users.
- Each beamline, please use this template to generate a Beamline Specific Orientation (BSO).
- In the "Hazards and Health Safety at the Beamline" section, list all hazards that were checked in the second column of "Beamline Hazard Disclosure" form of your beamline (document "11.11.37.29 Beamline Hazard Analysis and Mitigation), so that users are aware of the hazards in the beamline area.
- In the "Beamline Operation" section, add relevant information specific to your beamline, such as (highlighted):
 - Vacuum Safety procedure,
 - Cryogenic Safety procedure,
 - Ventilation Panel and Exhaust Port Hook up Locations,
 - Sample loading and removing procedure, etc.
- Handling certain materials, such as hydrogen fluoride (HF), requires additional training. Providing basic information during BSO does not qualify the users for handling such materials.
- The Author and one reviewer for the completed BSO shall be beamline staff (must include BR); two other reviewers are Training Specialist and HSE reviewer; the approver is the Science Manager of your department.



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The Beamline Staff or designate will complete the eBSO for each User.

Each User must be instructed in the safe operation of the beamline. The training is valid for 2 years. The Beamline Scientists must make available all relevant instructions and safety documents.

Additional training may be required.

Emergency and Safety

- **Building Evacuation:** Evacuate via the nearest safe exit (doors AL13, AL14, EE09) and meet outside the Main Entrance on the North side of the building.
- **Fire Extinguishers:** CO₂ fire extinguishers can be found inside each hutch, by door AL13, on the building wall north of POE1, and by BMIT washrooms.
- **Fire Alarm Pull Stations:** Pull Stations can be found by door AL13 and door EE09.
- **Emergency eye wash/shower:** Nearest locations are by door IE36 and inside the Life Science Lab (room 1118B).
- **Spill station:** Spill cleanup materials can be found in the Life Science Lab 1118B under the sink and under the sink in BMIT coffee area.
- **Beamline Health & Safety Information Centre**
 - Beamline Hazard Disclosure and beamline contact list are posted in all BXDS beamlines.
 - Health and Safety Information Centre can be found in BXDS-LE users' area.
 - Experimental permits are online. They must be posted if the website is not working.
 - SDS are located online, provided with the permit or submitted by hard copy.
 - In case of a fire alarm, exit the building by the closest door and gather on the north side of the building, by the CLS sign. For other emergencies, contact beamline staff, floor coordinator or 911.
 - Beamline and emergency contact lists can be found in the beamline user manuals, and on the walls of the user areas.
- **First Aid Room and Kit:** Location is BXDS-LE users' area, it has basic supplies and log sheets. An injury report must be completed immediately if any items are used.
- **Emergency Off Switch (EOS):** They are located by the SOE doors. The purpose of an EOS is to shut down or interlock the radiation source.



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Emergency Contacts

- **Floor Coordinator (FC):**
 - From CLS Phone: 3639
 - From External Phone: 306-657-3639
 - Report any accidents or incidents
 - Large or dangerous chemical spill
 - Any fault lights or technical problems on the ACIS Control Panel
 - For assistance when beamline staff are unavailable
 - If appropriate, the FC will contact the Beamline Staff
- **Emergency Number** for Fire, Ambulance and Police
 - 911
- **University of Saskatchewan Protective Services**
 - From CLS Phone: 9-306-966-5555
- **Beamline Staff:** Refer to Beamline Health & Safety Information Centre
- **Health, Safety and Environment Department:**
 - From CLS Phone: 3663
 - From External Phone: 306-657-3663

Code of Conduct at the CLS (Doc #0.1.1.45 for details)

- User activities shall be in compliance with the laws and regulations. Users shall exercise high academic integrity, and respect the applicable confidentiality of information.
- Users shall show respect for the dignity and diversity of other people. Any harassment and violence will not be tolerated. Users shall not be impaired by alcohol and drug use.



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Hazards and Health Safety at the Beamline

- Hazards to be aware of include:
 1. Beryllium parts
 2. Pinch hazards
 3. Manual lifting
 4. High Voltage
 5. Laser
 6. Vacuum and pressure
 7. Compressed gas
 8. Cryogenic/burn hazard
 9. Sharps and glassware
 10. Ladder usage
 11. Ergonomic / Narrow spaces
 12. Tripping hazard
 13. Radiation hazard
 14. Oxygen deficiency
 15. Overhead crane
 16. Working alone
- Waste Disposal: Liquid/solid/sharps disposal location in the Life Sciences Room 1118B.
- Food/Drink Policy: Food & drink are not allowed on surfaces being used for sample preparation. No food is allowed inside the hutches. Food is allowed in the users area as long as it stays clean and tidy and away from all electronics.
- Recognize that ergonomic, fatigue, and distraction may be issues.
- Rest areas beside the computer stations (sofas).
- Users cannot escort visitors on the experimental floor. Only CLS staff can escort visitors on the floor.
- Read and apply the Beamline Hazard Disclosure form posted in the user areas at the beamlines
- In case a hazard presents that hasn't been covered in the BSO nor the Hazard Disclosure, quickly seek help from the CLS staff: ex. beamline staff or floor coordinator. The CLS staff will follow the Field Level Hazard Assessment (FLHA) procedure to act accordingly.

Beamline Operation

- **Facility Access:** All facility access trainings must be valid (Doc #8.7.1.1 for details). After hours, users can enter the CLS using the main door. Users may also enter vestibule (first door) at the BMIT or SAL entrance, and then contact the security officer in the lobby via intercom to access the building.
- **Beamline Use:** A valid on-line experimental permit must be in place when the beamline is in-use. Modifications to experimental setup, beamline equipment or instruments should never be conducted without explicit approval or assistance from beamline staff.
- **ACIS (Access Control Interlock System) Panel:** Understand the indicator lights and buttons.
- **Beamline Enable / Disable Key:** Used in case of unsafe/unauthorized operation of the beamline as determined by the FC.
- **Beamline Hutch Lock-up Training:** for beamline requiring hutch access, each user shall demonstrate the ability to lock-up the hutch, and know how to stop a lock-up.
 - Lockup Station (LUS) → Close the door → All-Clear horn → ACIS Panel indicator lights
 - Emergency Off Switch (EOS) location and use; Green Exit Button releases the magnetic locks on exit door; Door release button



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- **Manuals and Documents:** Beamline procedures and manuals are located on the shelves by the computer stations and online wiki page. The beamline hazard disclosure document is posted at the beamlines, to be considered by every person working at the beamline.
- **Tools:** The beamline staff will setup the beamline for the users' experiments. It is expected that users will not need to use any tools during their beamtime. In particular, power tools are meant for beamline staff use only. Gas cylinders can only be changed by trained CLS staff. Ask the beamline staff for help if you need to change beamline setup.
- **Computer Control:** The staff will train the users on beamline controls. Users should only operate controls they have been trained on. The beamline manuals have useful tips when using software controls.
- **Vacuum Safety procedure:** Be windows and Kapton windows can be boundaries for components in vacuum. Do not touch or pinch. Also, Be is toxic and should not be touched. The beamline vacuum equipment is handled exclusively by the beamline staff.
- **Cryogenic Safety procedure:** Cryostreams are used to cool/heat samples during some experiments. Filling the cryostream dewar is done exclusively by the beamline staff. Follow the instructions in the cryostream manual at the beamline when changing samples. Do not touch cold finger.
- **Beamline Unattended:** If away from beamline for >30 minutes, please fill in the contact information in "Beamline Unattended" window, accessible from your online e-Permit. In case of an event, the FC will notify the user to return to the beamline.
- **Sample Preparation and Handling**
 - Location for non-hazardous samples preparation. PPE recommended: nitrile gloves and eye protection.
 - Hazardous samples must be prepared in Wet labs or Life Sci Lab. Appropriate PPE required.
 - Temporary sample storage shall be in the Life Science lab if the samples pose any hazard.
 - Handling certain materials, such as hydrogen fluoride (HF), requires additional training. Providing basic information during BSO does not qualify the users for handling such materials.
- **Vacuum/Power Issues:** Immediately contact FC and Beamline staff.
- **Data Storage and Transfer:** Users should transfer data to their own computers prior to leaving the CLS. We encourage users to transfer their data daily, rather than the very end of the run. This can be done by their personal USB sticks or external hard drive. The transfer of large data sets to portable hard drives or other online storage sites can take a long time. We will store user data at CLS in confidence, for a minimum of 1 year.
- **Additional training** may be required for some beamline equipment, or hazardous materials.
- Modifications to experimental setup, beamline equipment or instruments should never be conducted without explicit approval or assistance from beamline staff.

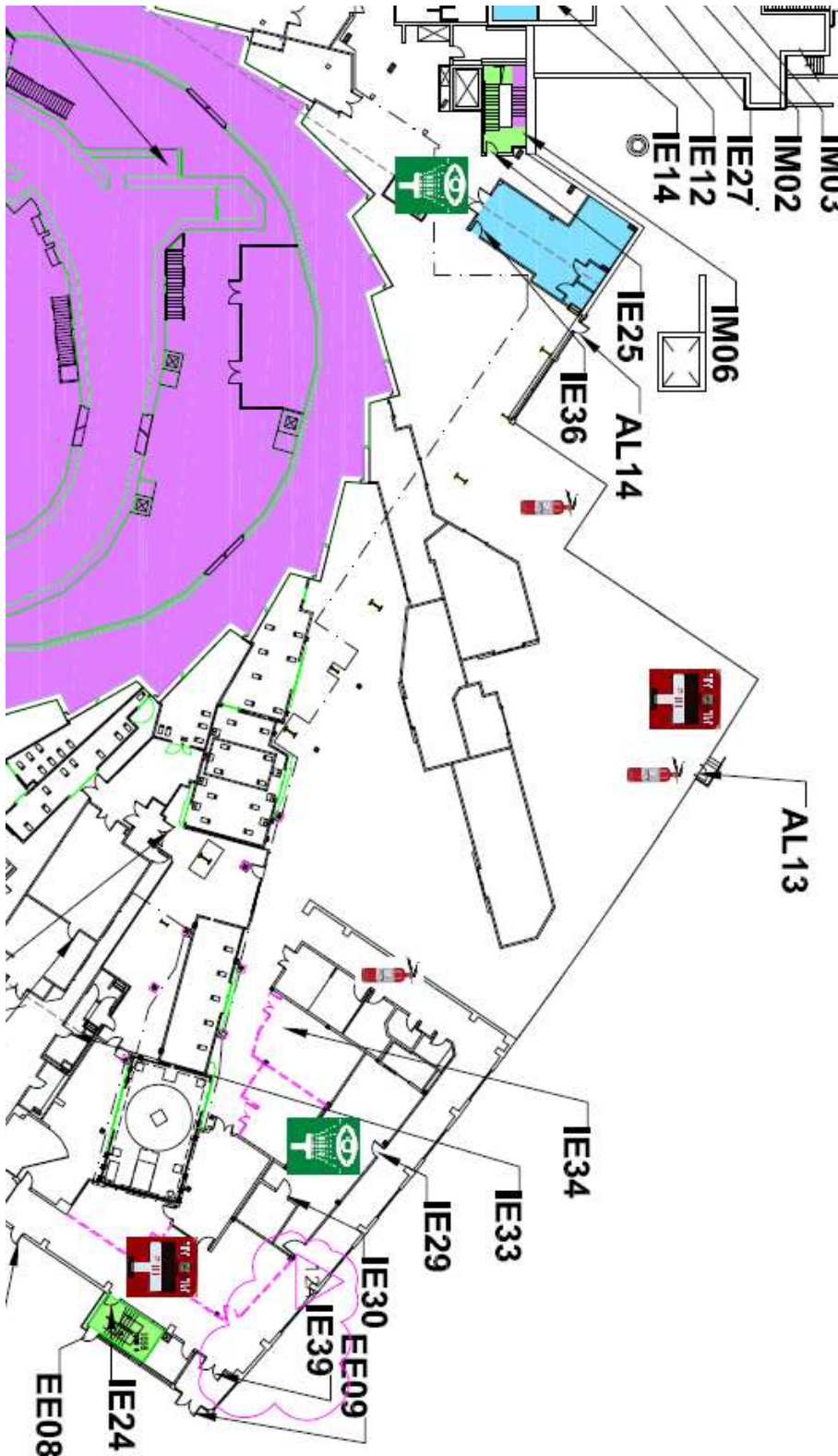
Close Out

- **Housekeeping:** Users are required to keep the area clean and tidy during their time at the beamline, and clean up after themselves after beamtime is complete.
- **Samples:** Remove all samples or arrange storage/shipping with beamline staff.
- **Sign off** the experimental permit. Fill out the on-line User Feedback.
- **Publications:** Report publications on CLS website.



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