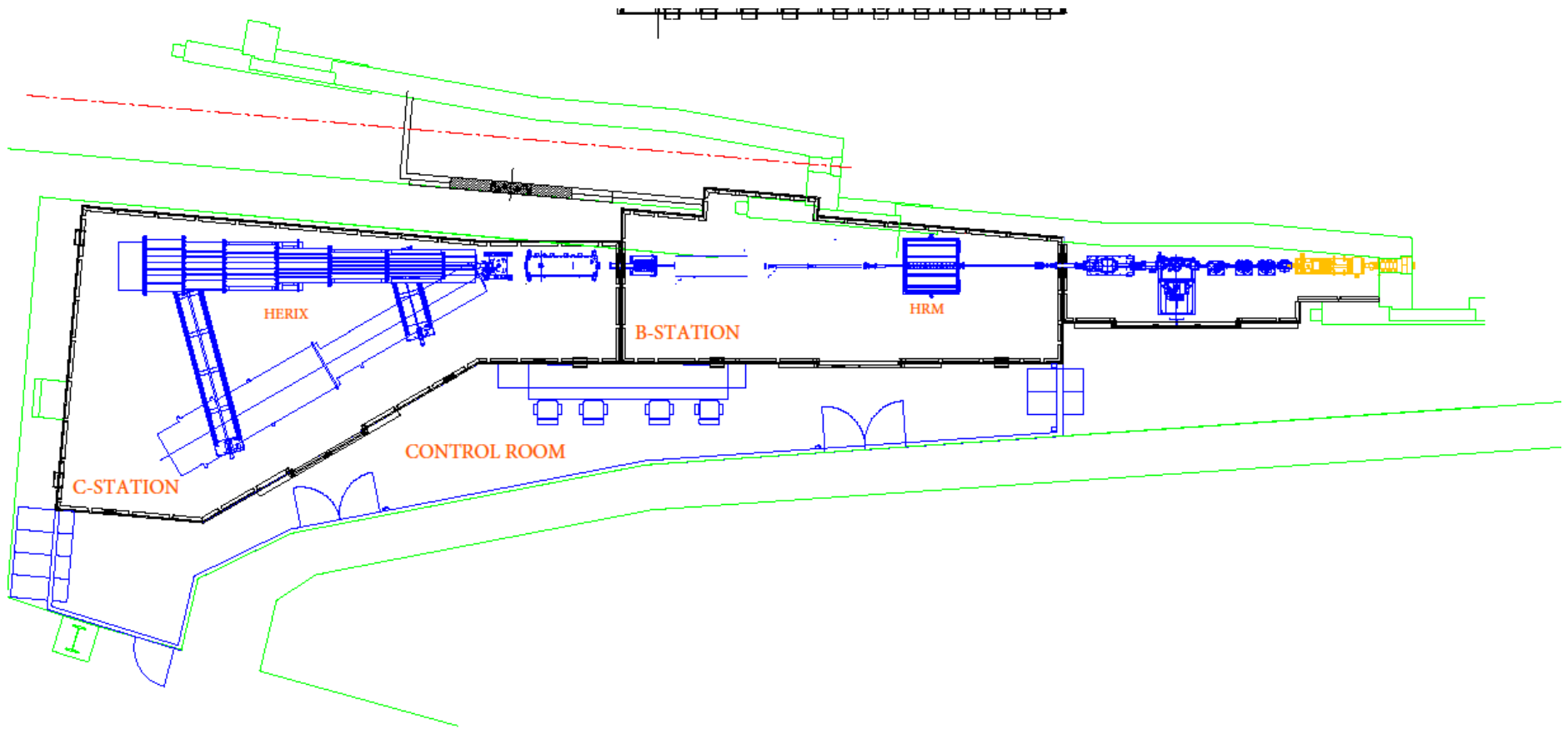


# SECTOR ORIENTATION

## 30-ID

# Beamline Layout



# Beamline Contacts

- **Dialing from ANL phones:**

- To call an internal number, dial 2-XXXX
- To call an outside number, dial 7-1-XXX-XXX-XXX

- **Beamline Phone:**

2-1830

- **Ayman Said**

Office: 2-7534

Cell: 312-953-2847

- **Ahmet Alatas**

Office: 2-0168

Cell: 630-440-5385

- **Emily Aran**

Office: 2-4551

- **Floor Coordinator**

24/7 Pager: 2-0101





# Safety First and Stop Work Authority

- **Safety First**

No work we do is so important that it needs to be done without assuring that proper safety measures are in place.

- **Stop Work Authority**

Personnel and users have the authority and responsibility to stop any activity at the APS that poses a clear and present threat to health, safety, or the environment.

- **If you are asked to stop work, you must do so.**



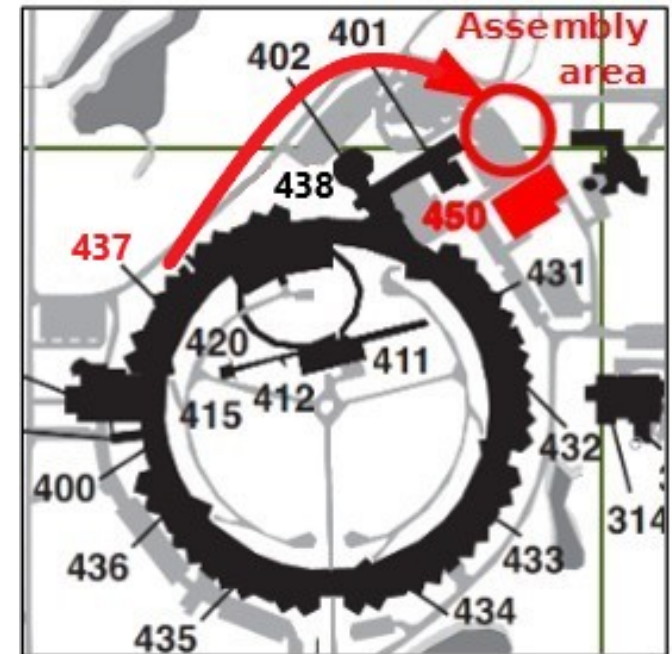
# Emergencies

- For emergencies, call:
  - **911** (from any ANL phone)
  - **630-252-1911** (from any cell phone)
- In the case of a fire, leave the building using the nearest exit. Do NOT attempt to use fire extinguishers unless you have received appropriate training.
  - **Fire alarm boxes** are next to all emergency and building exits
  - **Fire extinguishers** are on every other column of experimental floor
- Tornado warnings and watches are announced over the intercom. In case of a tornado **warning**, seek shelter in any of the tornado shelters (restrooms & sample prep lab)



# Emergencies

- In case of a building evacuation, the assembly area is on the north side of building 450 (north-east side of the 401 parking lot).
- If no alarms are active inside the LOM, it is OK to leave the experimental hall and stay inside the LOM (and vice-versa)



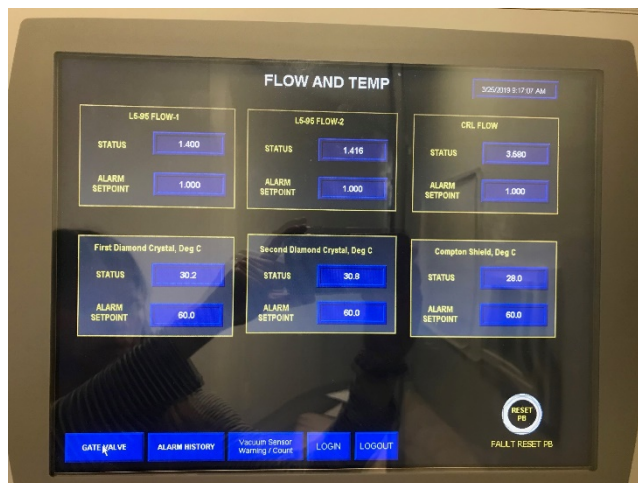
# Electrical Safety Requirements

- It is required by DOE that all **non-NRTL electrical equipment must be inspected** and approved before use at ANL. Full details of the inspection program can be found in the Electrical Equipment Inspection pages.
- Users are only permitted to plug/unplug appliances & equipment to/from standard outlets and replace batteries in calculators, flashlights, and similar equipment. Users are not authorized to work on/modify any electrical equipment if not trained to do so.
- **Extension cords:** daisy chaining is not allowed, and extension cords must be kept off the ground.
- The request for an electrical equipment inspection must be submitted **at least three days** prior to the start of the experiment to allow for scheduling the inspectors.
- Electrical equipment bearing the NRTL markings (examples shown below) are exempt from inspection unless modified.



# Beamline Equipment Protection Systems

- The **Beamline Equipment Protection Systems (BLEPS)** monitors water flow, vacuum, and temperature reading for the devices that provide X-rays to the experimental stations.
- The EPS is designed to protect beamline components from damage. Usually, the white beam shutter will be closed in case of any EPS faults. The fault will be displayed on the EPICS EPS status panel. If an EPS fault occurs, contact beamline personnel immediately. Users are not authorized to handle EPS faults in the absence of beamline personnel.





# Utility Shutoffs/ Electrical Panels

- Each experimental station is equipped with emergency shutoff switches for the main electrical power, water, and compressed air supplies.
- Breakers can be found in the electrical panels just outside each station door and require a key for access.
- Water & compressed air shutoffs can be found inside each station and, if further needed, on the outer back corner of the C-station.



# Personal Safety System (PSS)

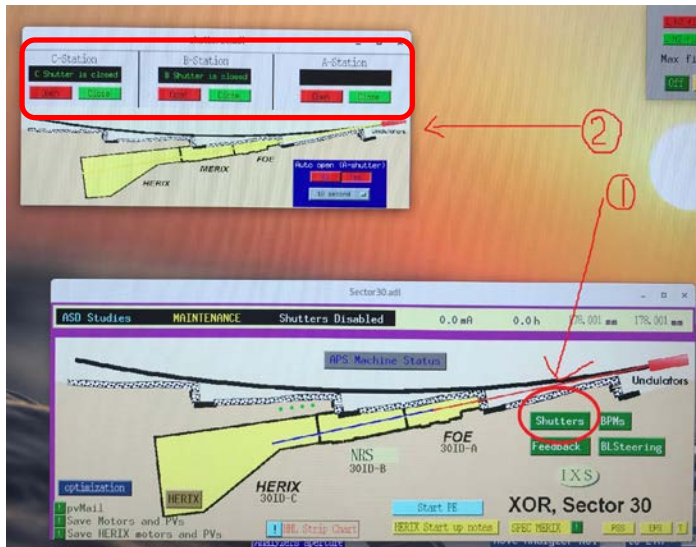
- The PSS is the interface to the beamline X-ray shutters and active shielding components (doors)
- The PSS is designed to ensure that no one is within an experimental enclosure at the same time that there are X-rays inside.
- The PSS is an interlock system which permits X-rays to enter an enclosure. If the system detects a problem, it will generate a **FAULT** which will require corrective action and resetting by a person with authority to do so.



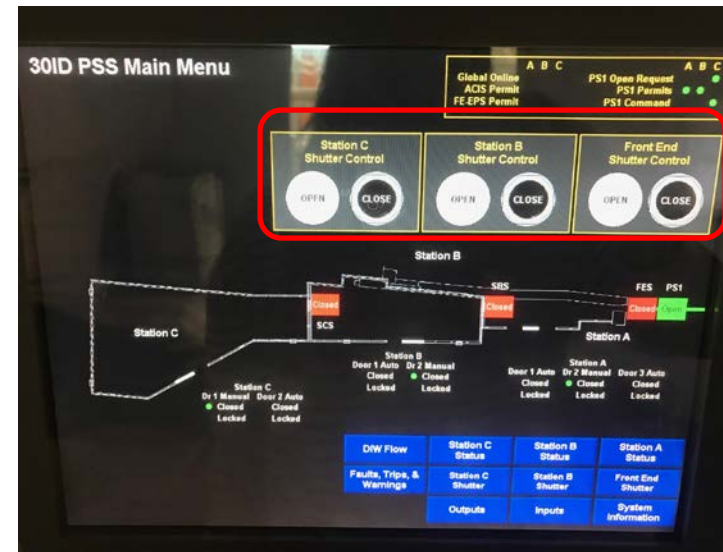
# Shutter Control/Opening Hutch

- To re-enter a hutch once its doors are locked, you must first close its shutter.
- There are two ways to open/close the shutters:

## 1. EPICS



## 2. PSS Panel



- After closing the shutter, you can then press the red “Open” button on the station panel to open hutch doors



# Search & Secure Stations

- Before closing station doors and opening shutters for beam, you must complete a search to ensure that no one is left inside the station.
- **Performing a Search & Secure:**
  1. Let all other persons exit the hutch
  2. Press Search Box 1 button
  3. Press Search Box 2 button
  4. Exit hutch and press the green “Close” button on station panel just outside the doors **until the doors have fully closed** (an audible signal will emit once doors are properly closed).
- The Search and Secure must be completed within a defined time period (60-120 seconds) or the procedure must be started again.



# PSS Emergency Buttons

- Each hutch has two types of emergency buttons in the event that you get locked inside a station:
  - **Beam Stop:** the beam stop button will prevent beam from entering the station. Press this button **immediately** if you happen to get locked inside a station.
  - **Door Disable:** To open an automatic door, press the emergency DOOR OPEN for three seconds. Automatic doors should slide open; if they do not open, press the DOOR DISABLE button to dissipate air pressure on the pneumatic closing system and push the door open. The air pressure may take approximately 30 seconds to dissipate.



# HERIX Arm Emergency Buttons

- The C-station includes multiple emergency buttons on the HERIX arm that may be pressed to stop the motors if the arm hits an obstruction.
- Make sure these buttons are depressed when troubleshooting the HERIX motors.



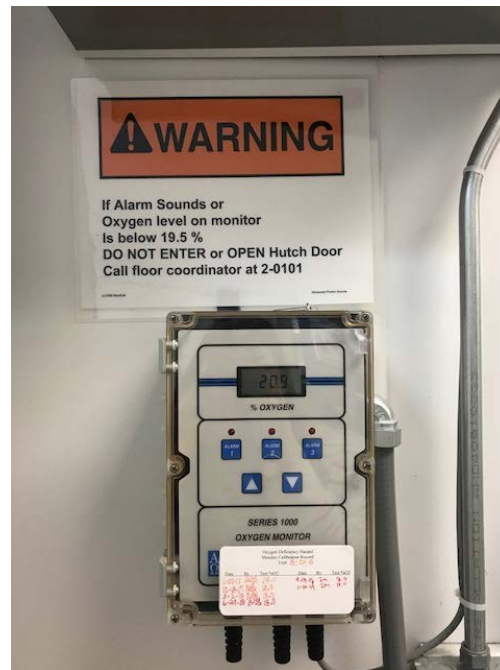
# Shielding Configuration Control Policy

- Pink tags identify shielding elements that are under administrative control
- Users may not move, modify, or alter controlled shielding in any way (including labyrinths)
- If modifications are required, contact beamline staff or the floor coordinator



# LN2 Alarm

- The LN2 cryostat in the B-station is refilled each week. During this time, an alarm may sound to signify the drop in oxygen level. **Do not enter the B station when the alarm is sounding.**
- Please note that this is a regular occurrence and there is no need to notify beamline staff.





# Experiment Safety Considerations (ESAF)

When you prepare your ESAF, please check to make sure that it accurately defines your intended work. We recommend insuring that these six items are present:

- List of ALL materials and equipment (including gases, cryogenes, furnaces, lasers etc.)
  - Label ALL experimenters as on-site or off-site
  - List of ALL activities performed with the above list of Materials (e.g. handling, mixing, grinding, loading, heating, cooling, exposure to voltage, etc.)
  - Indication of ALL hazards associated with the listed Materials
  - Indication of ALL hazards associated with the activities (e.g. high/low temperatures, electrical exposure, potential exposure to hazards, sharps, etc.)
  - List of ALL actions taken to mitigate the hazards associated with all of the above (sample containment, signage, SOPs, monitoring, etc.)
- Log in to the ESAF system here:  
[https://beam.aps.anl.gov/pls/apsweb/esaf0001.start\\_page](https://beam.aps.anl.gov/pls/apsweb/esaf0001.start_page)



# Sample Preparation Lab (437-C001)

Samples can be prepared in advance at your home institution or at the APS once your ESAF is approved.

- Alcohols and acetone are available for use in the lab and are stored in the chemical cabinet.
- Lab includes:
  - Balance
  - Glove bags
  - Ultrasonic cleaner
  - EDM machine
  - Microscope
  - Vacuum pump on request



# Personal Protective Equipment (PPE)

Your experiment might require the use of Personal Protective Equipment. It is your responsibility to know and understand the need for PPE related to your experiment. Make sure to follow the MSDS of each sample/material.

## Examples of PPE:

- Safety glasses with side shields
- Gloves for handling toxic, carcinogenic, or other hazardous materials
- Cryogenics: thermal gloves, safety glasses, face shield, apron



# Compressed Gases

- Compressed gas cylinders are regularly changed at the beamline.
- Gas cylinders must be safely secured at all times.
- Regulators must be disconnected and cylinder safety cap must be on when transporting cylinders.
- If you need additional compressed gas cylinders, please ask your beamline contact.



# Shipping Support

- Users are required to comply with U.S. Department of Energy, Argonne National Laboratory, and APS requirements for inbound and outbound shipping.
- In general, users are not permitted to either transport hazardous material on the Argonne site or arrange for shipment directly to the APS. Hazardous materials must be processed through Argonne's hazardous materials receiving area. Special provisions apply for small-quantity exceptions and biohazards.
- **All shipments must include an MSDS form of every item in the package** or ANL shipping will not process it.
- All users are required to provide either a FedEx or UPS account # to pay for their return shipments from ANL. All hazardous shipments must go through FedEx.
- For more information see:  
<https://www.aps.anl.gov/Safety-and-Training/Safety/Shipping/Shipping-Samples-and-Equipment-An-Introduction>





## Before you leave...

- Do not leave without your samples; If necessary, speak with your local contact to arrange shipments of samples/materials.
- Please clean up your work areas before leaving, both at the beamline and in the lab.
- Return any equipment and tools to their original locations.

