Facility Operations Training



F_101 – LaCave Escorted Access Training



Summary

LaCave Escorted Access Training

- Follow directions of the Escort
- LaCave Access is controlled with a badge reader.
- Fire code prohibits more than 15 personnel in LaCave at a given time.
- LaCave is densely populated with equipment and many potential hazards.
- Maintain situational awareness at all times.
- Always wear safety glasses
- Be aware of your surroundings
- Listen to your little voice of common sense
- When in doubt, Ask!

Safety is our first priority



Outline



- Escort role and responsibility
- Layout and familiarization
- Closed Access and Sweeps
- Restricted Access
- Communication
- Safety
 - Fire code and egress routes
 - Beryllium storage
 - Radiation
 - Physical hazards



Arranging LaCave Escort Support

- LaCave escorts come from all different disciplines around the Facility.
- Escort support can be provided in two ways
 - On an 'as needed' basis
 - Request is made to the Shot Director
 - Reserved for short tasks (typically less than 20 min)
 - Dedicated escort for entire campaign
 - Planned during the 1-2 week campaign review
 - Support complex set-ups / intensive campaigns
 - One escort will be present in the bay

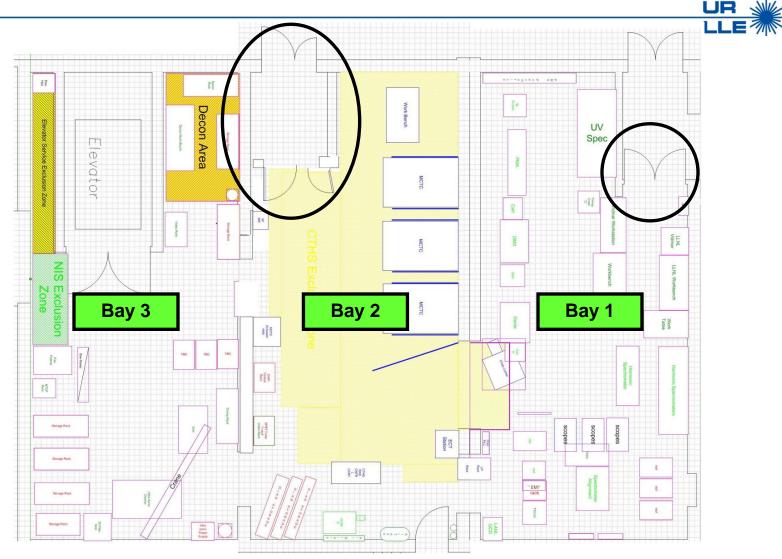


LaCave escorts are your immediate point of contact

- Provide access to LaCave
- Enforce the limit of personnel allowed in LaCave at a given time
- Keep visitor(s) aware of safety hazards in the area
- Provide a line of communication to the shot operations crew



Access LaCave through Bay 1 doors, Bay 2 'airlock' doors may be used if transporting large equipment





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Access to LaCave is controlled with a badge reader

- Safety glasses are required at all times in LaCave
- Only authorized LLE personnel are able to swipe
- Door will have to be opened by the escort
- Visitors may gain access by:
 - Ringing door bell located to the right side of the Bay 1 door
 - Knocking on Bay 1 door
 - Calling in on Channel 3 on the intercom box located to the left side of the Bay 1 door
- LaCave is under negative pressure compared to surrounding areas
- The Bay 1 door can be quite heavy, especially if the outer door to the passageway is already open.
- Wait until the outer door is fully closed before opening the Bay 1 door.



Closed Access is established in LaCave for high yield target shots

- The Shot Director will make an announcement and magnetically lock the LaCave doors in preparation for high yield shots.
- The Power Conditioning Technician (PCT) is responsible for sweeping LaCave for each high yield target shot.
 - Exit the bay when instructed to do so.
 - If more preparation time is needed for the shot, inform the Escort or PCT to communicate to Shot Director.

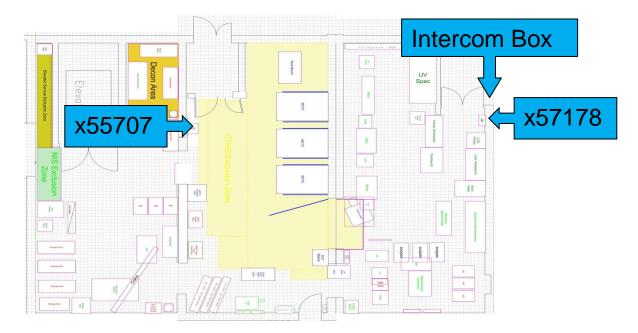


To exit LaCave after the doors have been locked, you must press and <u>HOLD</u> the illuminated square button while opening the door.



Telephones and Intercom equipment connect LaCave to the rest of the Facility

- Two telephones are located in Bays 1 and 2 of LaCave.
- The LaCave escort is in possession of a wireless headset that allows for internal communication on Channel 3.



Emergency numbers and selective phone lists are located nearby the telephones.



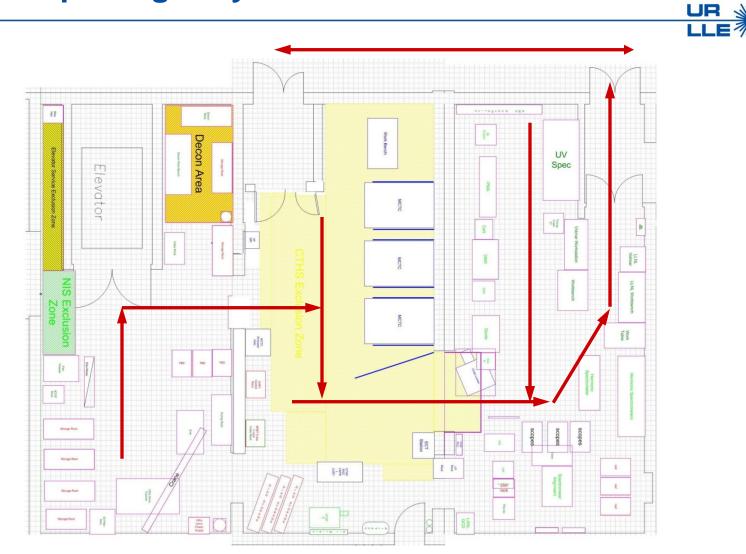
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Due to Fire Code, no more than <u>15</u> people can occupy LaCave at any time.

- Escort is included in the count
- Escort will hold people at the door until some other individuals leave the area
- The PI is responsible for setting activity priority, otherwise access will be granted on first come basis.
- In the event of a fire alarm follow the escort through one of the designated egress routes



The primary egress route is through the Bay 1 Door and out to the passageway.





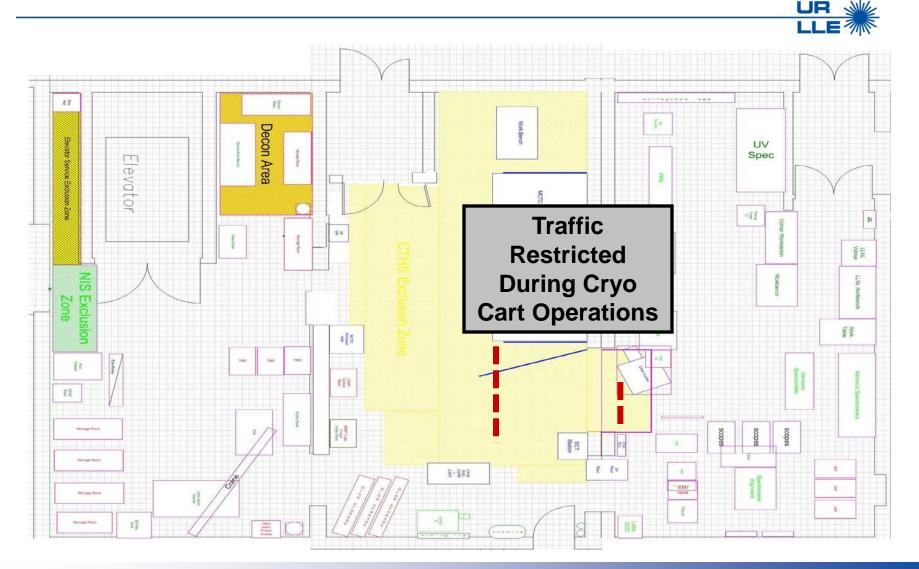
The secondary fire egress route is through the pump house UR



Cryo Cart operations take precedence over all other activities

- When Cryo Cart operations are taking place at the lower pylon, access is restricted in the following areas:
 - Lower Pylon area
 - Chain Locker area
 - This applies to <u>ALL</u> personnel
 - The ECTs or escorts will inform personnel when restricted access takes effect
 - Barriers will be put in place around the Chain Locker and Lower Pylon
- When restricted access is in effect
 - No work will be performed within the designated areas
 - No traffic will be allowed to pass through from Bay 1 to Bay 2
 - Access to Bay 3 may be obtained through the MCTC doors

Traffic from Bay 1 to Bay 2 is restricted during Cryo Cart operations.



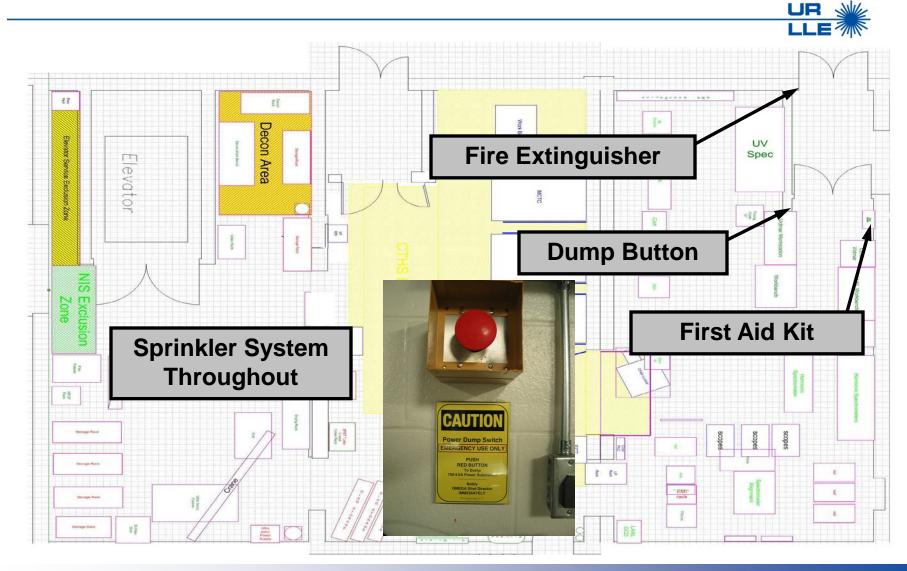


LaCave is densely populated with equipment and thereby many potential hazards are present

- Radiological Areas
- Physical Hazards (head bump, trip)
- Compressed Gas
- Electrical
- Beryllium



Safety Equipment





Safety Equipment

- A fire extinguisher is located just inside the door from the passageway heading to LaCave Bay 1 entry door.
- The building sprinkler system is located throughout LaCave.
- The first aid kit is located near the telephone in Bay 1
- The Dump Button is located in Bay 1 near the door.
 - Hard Abort used to stop a shot in case of emergency.
 - Stops the charging process and dumps any stored electricity safely to ground.
 - Notify the Shot Director immediately.

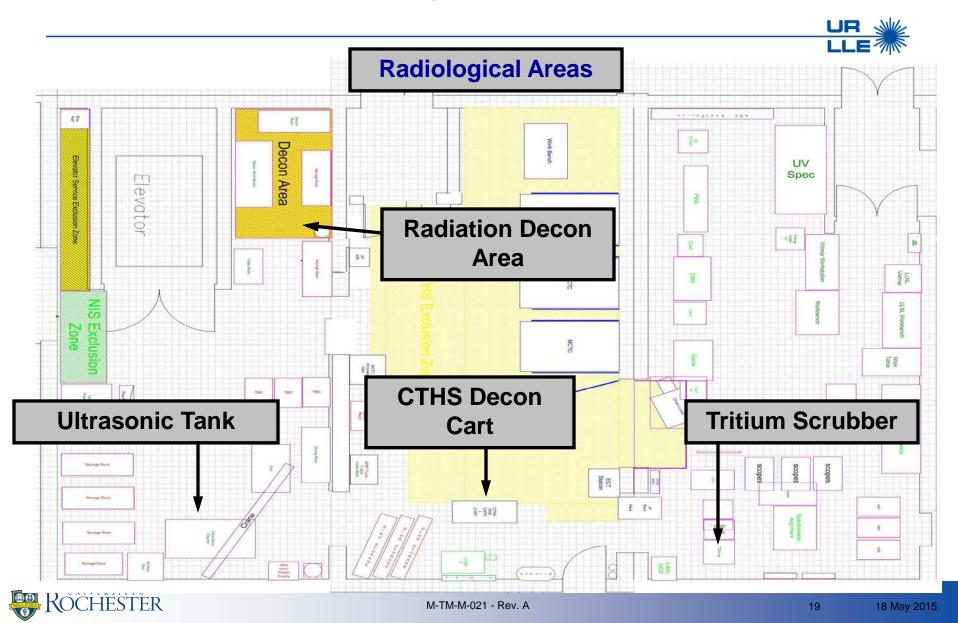


Radiation areas

- Only qualified LLE radiation workers may
 - enter the equipment decon area
 - Use the roll-around decon cart
 - Use the ultrasonic cleaning tank



There are several radiological areas in LaCave

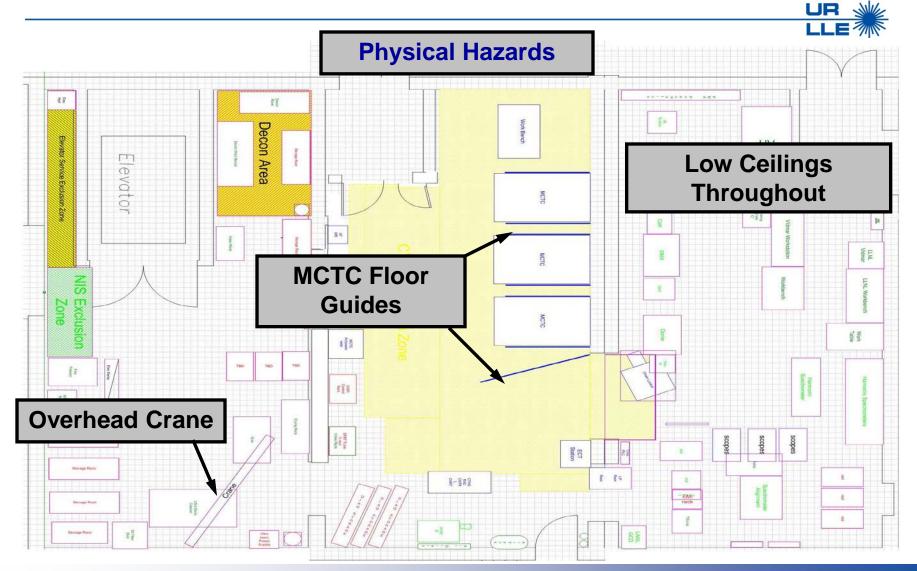


Physical head bump and trip hazards

- Head bump hazards
 - Sprinkler and various other facility pipes hang from an already low ceiling.
 - Lower pylon
 - The crane in LaCave Bay 3 has very low head clearance
 - The crane also has a swing arm which presents a moving overhead hazard
 - Due to low ceiling throughout the area hard hats will be provided upon request.
- Trip Hazards
 - Cryo cart floor guides pose a trip hazard especially when a parking space is empty.



There are multiple physical hazards located throughout LaCave





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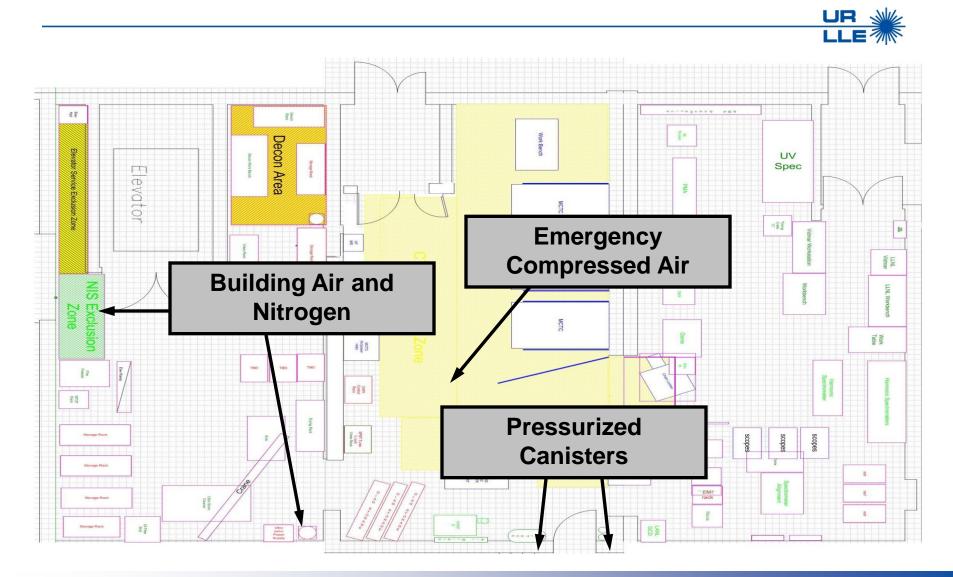


- Additional safety training is required to work with pressured gas systems
 - Connections to the building air and nitrogen systems may only be made by LLE personnel
 - Any pressurized systems being temporarily installed for diagnostics campaigns must be approved by the OMEGA Facility (Instruction 7700)

Safety glasses are required in LaCave at all times



Building Air and Pressurized Canisters





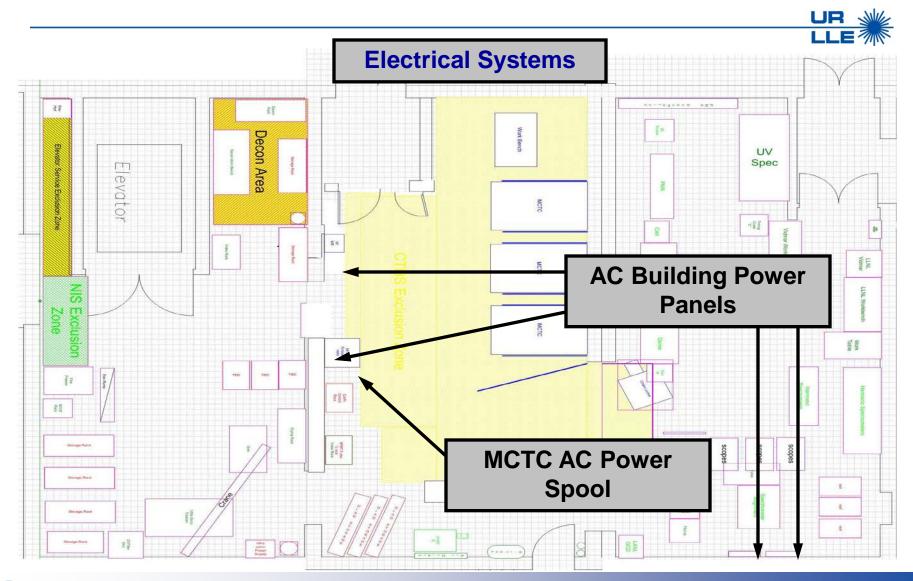
Basic Electrical Safety Information



- High Voltage is considered anything > 50V
 - De-energize equipment to do work or to troubleshoot whenever possible.
 - An "Energized Work Permit" is required for working on high-voltage systems (> 50V), including trouble-shooting that exposes HV (probing circuit, making/breaking circuit while energized).
- Guest Workers are not authorized to operate circuit breakers at LLE for any reason. No one may open electrical panels (Only LLE electricians).
- Extension cords and power strips may not be daisy chained together.
- Extension cable(s) with suitably rated outlets can be provided upon request.



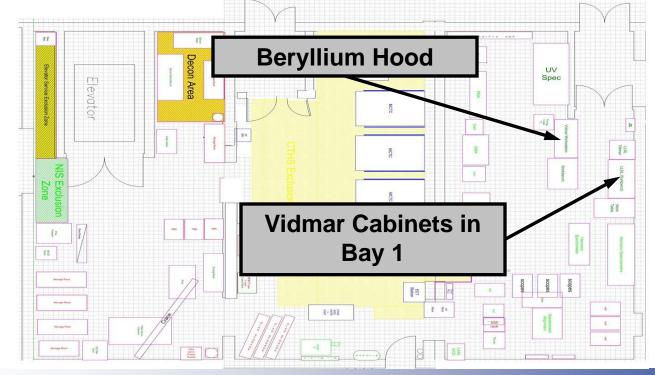
Building electrical systems are not to be opened





Additional training and approval is required to work with Beryllium

- There are Beryllium parts stored in the Vidmar cabinets
- Only personnel with training in Beryllium handling procedures and prior approval may access these drawers
- A Beryllium hood is located in Bay 1





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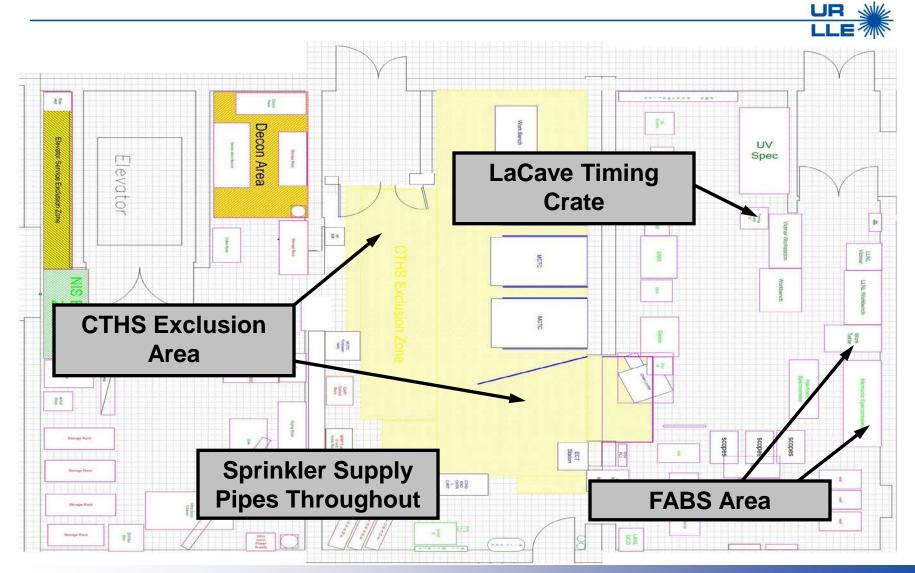
Additional Areas of Precaution



- LaCave Timing Crate only authorized LLE personnel may make or break connections
- Building Sprinkler System nothing should ever be attached to or suspended from the sprinkler system
- FABS equipment and work area in Bay 1
- CTHS exclusion zone keep this area free from clutter
- Be conscientious of traffic around the Chain Locker and around all equipment racks (NTOF, Dante, etc...)
- Maintain open area around double doors for MCTC access and use of the Target Bay Lift

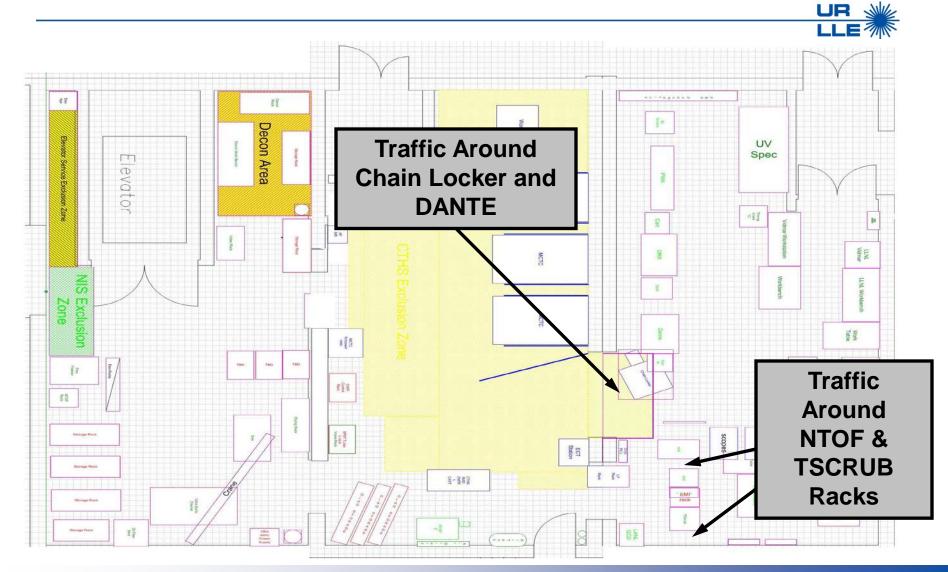


Safety



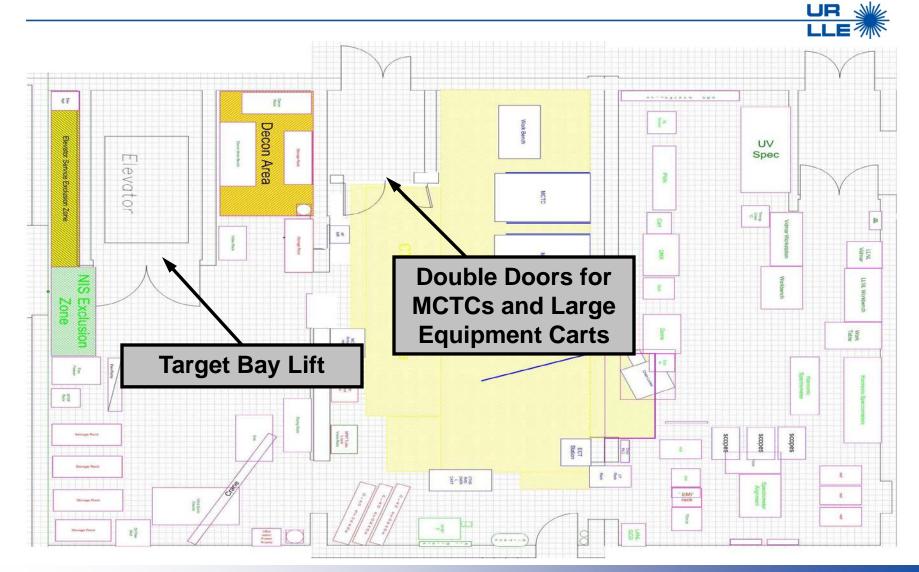


Safety





Safety





Target Bay Lift



- Only trained LLE personnel may operate the lift for the target bay
- Only trained LLE personnel may load the lift, the ramp for this lift is heavy and cumbersome
- Please give plenty of space to personnel loading the target bay lift



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