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Specification
for

Procedure for III-V Locker Use

REVISION

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1. PURPOSE

- 1.1 This document specifies the scope and procedures governing activities in the controlled access spaces known as the III-V Locker (“Locker”) at SUNY Polytechnic Institute Colleges of Nanoscale Science and Engineering ([SUNY Poly](#)), in NanoFab Extension (NFX) for all floor levels, unless the floor is specifically listed as fab, subfab, or interstitial. [The III-V locker will maintain its current designation with the addition of toxic metalloids \(as defined in Section 3 of this document\) as other potential contaminants.](#)
- 1.2 The purpose of the Locker is to isolate and contain a physical space including a volume of air to protect the employees and equipment beyond the space from an accidental III-V [or toxic metalloid](#) release.
- 1.3 To minimize tool operator exposure to potential Locker hazards, the equipment’s front end Load Ports are accessible from outside the Locker.
- 1.4 Those entering, using, and exiting the Locker must minimize III-V [and/ or toxic metalloid](#) contamination outside the locker. The intent of this document is to provide direction for specific activities.
- 1.5 This document is not a substitute for EHS standard operating procedures or additional training requirements such as Cleanroom Safety, [Toxic Metalloid](#) Awareness, or company specific training requirements. This document is not a substitute for sound hygiene or best judgment.
- 1.6 This document is not a substitute for tool vendor and/or III-V [and/ or toxic metalloid](#) tool specific procedural documents.

2. REFERENCE MATERIALS

- 2.1 **CFM-00004** – Obtaining Work Authorization Permits
- 2.2 **EHS-00005** – Chemical Handling and Storage Procedure
- 2.3 **EHS-00009** – Specifications for Hazardous Waste Management
- 2.4 **EHS-00010** – [SUNY Poly](#) Personal Protective Equipment Requirements
- 2.5 **EHS-00015** – [SUNY Poly](#) Respiratory Protection Program
- 2.6 **EHS-00024** – [Fire Response and Building Emergency Evacuation Plan](#)
- 2.7 **EHS-00045** – Working Alone Policy
- 2.8 **EHS-00049** – Toxic Gas Monitoring System Evacuation Plan

- 2.9 **EHS-00052** – Toxic Metalloid Program
- 2.10 **EHS-00062** – Non-Routine Hazardous Work Permit Procedure
- 2.11 Tool vendor and/or III-V and/ or toxic metalloid tool specific procedural documents.

3. DEFINITIONS

- 3.1 **III-V or III-V Materials:** Compounds (gas, liquid, solid) containing materials located within any of the III, IV, or V designated columns of the periodic table of elements. III-V Materials are considered HPMs.
- 3.2 **Buddy or Buddy System:** All those entering the Locker under Exposure Risk Access circumstances must be accompanied by another qualified and trained employee, tenant, or service-person. They must conform to the requirements listed in this document.
- 3.3 **CTS24 or Locker AAC:** The Toxic Gas Monitoring System's (TGMS) Area Alarm Controller (AAC) that includes Locker ambient gas detection and air pressure notification as well as report level data for tools specific to the Locker.
- 3.4 **Exposure Risk Access:** Access to the Locker when an activity or situation could expose an employee to a hazard. Examples include maintenance tasks (as defined by tool specific procedures) or HPM release such as arsine detection, known III-V and/ or toxic metalloid release, chemical spill.
- 3.5 **Degown Kit:** Each Degown Zone will have "Degown Kits" to minimize the spread of III-V and/ or toxic metalloid contamination outside the fab. Each kit contains: two tacky mats/basin, hazardous materials bags, labels, zip ties, and writing utensil.
- 3.6 **Degown Zone:** Designated areas for removing PPE in the event of white and blue light events to minimize III-V and/ or toxic metalloid contamination outside the Locker. These areas will be equipped with several Degown Kits.
- 3.7 **Locker:** Physically isolated space for III-V and/ or toxic metalloid development activities located within the NFX fab, on fab, subfab, and interstitial levels. The locker fab and locker interstitial levels share the same air volume, but are separate from the remainder of the fab air system in NFX. Subfab locker air is separate from all surrounding areas. All Locker areas operate at a negative air pressure to the surrounding spaces. Access into locker areas requires separate badge access.

- 3.8 **Notification Area:** An area at the entrance to the Locker that includes a whiteboard with Status Card display and permit display. To be used as a communication tool of Locker status and when Exposure Risk Activities take place.
- 3.9 **Restricted Access Area:** An area where employee exposure to airborne inorganic arsenic, without regard to the use of respirators, can exceed the Action Level.
- 3.10 **Standard Protocol Access:** Access to the Locker when no activities leading to potential employee exposure to III-V and/ or toxic metalloid material are or will be taking place.
- 3.11 **Status Card:** A card system providing visual notification when activities are taking place that could expose employees to hazards. The card system is a manual communication device, and is not intended to be a life safety system. Green colored card corresponds to Standard Protocol Access activities. Red colored card corresponds to Exposure Risk Access activities. It is the responsibility of the personnel performing the activities to display the appropriate card.
- 3.12 **Toxic Metalloids:** Elemental toxic metalloids and all of its inorganic compounds. These elements include boron, germanium, antimony, tellurium, selenium, polonium, astatine and arsenic. Even though Silicon, carbon and aluminum are metalloids they are exempt from this policy. Any substance with a total inorganic Toxic Metalloids content of 0.02% or less, by weight, is excluded.

4. LOCKER ACCESS

- 4.1 *Badge Access:* Prior to entry into the Locker areas, those requesting entry must have 1) provided a justifiable request for access to Operations that has resulted in approval, 2) completed all required Training, 3) Self-Certified per this document, and 4) met any additional SUNY Poly requirements necessary to obtain badge access from SUNY Poly Security.
- 4.2 Anyone without access to the locker must be escorted at all times by a person with badge access (trained in locker protocols and procedures). This person will be responsible for ensuring the escorted, unbadged individual follows all requirements in this and any other relevant SUNY Poly document, policy, or procedure.

5. TRAINING

- 5.1 Read, understand, and abide by all [SUNY Poly](#) policies and procedures
- 5.2 [Toxic Metalloid](#) Awareness Training
- 5.3 Review and Self-Certification of this document
- 5.4 Tool-specific Procedures and Trainings
- 5.5 Any other relevant training requirements (outgassing training, respiratory protection, hazardous waste handling, etc.)

6. STANDARD PROTOCOL ACCESS – PRE-ENTRY

- 6.1 **Buddy:** Standard Protocol Access does not require a Buddy to accompany during access.
- 6.2 **Pre-planning:** Prior to entry, those planning entry must have an organized and well-thought out work plan. The work plan shall address all relevant reasons for entrance, define activity involved, itemize materials and hand-tools required to perform the activity, and perform a risk assessment of the activity.
- 6.3 Phones, laptops, related items, personal effects, etc. are not permitted entry, unless under case-specific exception and not during an Exposure Risk Access. Exception may be provided upon written request to Area Owner and [SUNY Poly](#) EHS.
- 6.4 Conform to the PPE requirements for Standard Protocol Access.

7. EXPOSURE RISK ACCESS – PRE-ENTRY

- 7.1 **Buddy:** Utilize the Buddy System.
- 7.2 **Pre-planning:** Prior to entry, those planning entry must have an organized and well-thought out work plan. The work plan shall address all relevant reasons for entrance, define activity involved, itemize materials and hand-tools required to perform the activity, perform a risk assessment of the activity, identify applicable PPE requirements, and define decontamination protocols necessary in event of a III-V [and/ or toxic metalloid](#) release.
- 7.3 **Breathing Air:** All those entering must conform to [SUNY Poly](#) requirements as defined in the EHS-00015 [SUNY Poly](#) Respiratory Protection Program document.

7.4 Permits

- 7.4.1 **Work Authorization Permit:** Prior to entry those entering shall utilize the [SUNY Poly](#) Work Authorization Permit Process, refer to CFM-00004. Upon approval, the work permit shall be displayed at the Notification Area.
- 7.4.2 **Non-Routine Hazardous Work Permit:** This permit should be completed for modifications, experiments or maintenance tasks performed on equipment that house or use HPMS that carry a high level of risk and are considered unusual or non-routine. Refer to EHS-00062 for directions and permit requirements. This permit is submitted with the Work Authorization Permit.
- 7.4.3 **Other applicable permits:** Depending on the work being performed, other permits may be required (e.g., OPS-00005). Refer to the [SUNY Poly](#) EHS Intranet for more information.
- 7.5 **Additional Notification:** Those entering shall provide notification to their management both prior and post activity per requirements dictated by Operations as follows: "Notification prior shall be provided both 24-hrs. AND 1-hr advance notice. Notification post-activity shall immediately follow Locker exit."

8. STANDARD PROTOCOL ACCESS – ENTRANCE AND EXIT REQUIREMENTS

Standard Protocol Access of the Locker is only permitted if no hazardous activities are taking place inside the locker; status tag should be GREEN. If Exposure Risk activities are taking place within the Locker, entry into the locker shall be postponed until Exposure Risk activity is complete and any subsequent hazards are resolved.

8.1 Prior to Entrance:

- 8.1.1 Visually look to see if anyone is working in the locker.
- 8.1.2 Assess the current status of the Locker by confirming a GREEN Status Card in the notification area and the white boards are clear. ([Figure A](#))
- 8.1.3 Review Locker's AAC for tool and Locker status that all is functioning & normal.

8.2 PPE-Dress and Entry:

- 8.2.1 Enter Locker PPE-Dress area. Ensure the door closes completely.

- 8.2.2 Fab level: Remove cleanroom suit and hang on rack closest to PPE-Dress entrance.
- 8.2.3 Subfab or interstitial level: Proceed to next step.
- 8.2.4 Gown Locker Attire: put on first set of gloves, don disposable garment with attached hood and booties, put of second set of gloves and a pair of over booties*

*** These booties and your outermost layer of gloves should be quickly removed as you leave the locker during an emergency evacuation at the locker perimeter.**

- 8.2.5 Re-assess current status of Locker, and that all is normal.
- 8.2.6 Enter the Locker. Ensure the door closes completely.
- 8.3 **Locker Exit:**
- 8.3.1 Once Locker activity and housekeeping activities are completed, exit Locker into the PPE-Removal area, one person at a time. Ensure PPE-Removal entrance door closes completely.
- 8.3.2 Use portion of hand or elbow that has not come in contact with other surfaces while opening door into PPE-Removal.

NOTE: Refer to EHS-00052 for additional techniques and procedures.

- 8.3.3 Ensure all motions during removal of PPE be purposeful and with minimal movement/disturbance. Avoid all contact with any surrounding surfaces. If these concepts are unfamiliar or uncomfortable, practice these techniques for PPE removal prior to entering Locker.
- 8.3.4 Remove top layer of gloves, one (1) at a time. Fold glove over itself so that outer surface is enclosed within the glove once removed. Immediately place in PPE Disposal bin. Repeat for second glove.
- 8.3.5 Remove disposable garment including hood and booties. Fold garment into itself, so that as you are removing, the outer surface is enclosed within itself once removed. Immediately place in PPE Disposal bin.
- 8.3.6 Remove second set of gloves, one (1) at a time. Fold glove over itself so that outer surface is enclosed within the glove once removed. Immediately place in PPE Disposal bin. Repeat for second glove.
- 8.3.7 Wash hands with soap and warm water for minimum of 20 seconds in hygiene sink.

- 8.3.8 Before exiting, ensure the full surface of both feet touch the sticky mat at least twice.
- 8.3.9 Exit PPE-Removal room into the PPE-Dress room. The PPE-Removal room will alarm if both entry and exit doors are open at the same time. Ensure door closes completely.
- 8.4 **Once in PPE-Dress room:**
- 8.5 *If fab level:* Put on new booties, gloves, and hair net. Re-don the cleanroom suit that was previously hung on the rack closest to PPE-Dress entrance.
- 8.6 If interstitial and subfab level: Proceed to next step.
- 8.7 To exit the Locker, depart the PPE-Dress room via the primary entrance/exit door from the Locker. Ensure door closes completely.

9. **EXPOSURE RISK ACCESS – ENTRANCE AND EXIT REQUIREMENTS**

- 9.1 Before you start, you must indicate Exposure Risk activity:
- 9.1.1 At the Notification Area, remove green colored Status Card and replace with red colored Status Card. Place Permits in the sleeve below the status card. Use the white board to provide additional relevant information. This applies to all building levels affected by the activity.
- 9.1.2 All red colored Status Cards should be replaced with green colored Status Cards once activity complete and Locker is safe to return to Standard Protocol. Permits should be removed once activity complete. Erase related information from white board.
- 9.2 This list is not intended to be an all-encompassing, exhaustive listing. Other [SUNY Poly](#) requirements shall apply. Further, tool specific activities and their hazards shall define the protocol required.
- 9.3 PPE shall be selected based upon the activity required to enter the Locker and provide appropriate controls from the related hazards. Reference EHS-00010 and vendor-provided tool or activity-specific requirements. The most stringent requirements shall apply.

10. TOOL SPECIFIC USE STATEMENT

- 10.1 This Section generally describes the III-V [and/ or toxic metalloid](#) hazards on each tool and peripheral components as related to normal operational and maintenance activities.
- 10.2 This Section does not replace or substitute tool specific maintenance procedures.
- 10.3 Reference all hazard communication labels placed on equipment.
- 10.4 The following content identifies III-V [and/ or toxic metalloid](#) hazards common to operations and maintenance activity within the Locker.
- 10.4.1 Arsine out-gassing.
- 10.4.2 Wafer break recovery.
- 10.4.3 Waste collection and transport via the Pass-Thru out of Locker.
- 10.4.4 Pump or abatement maintenance or failure resulting in liquid, solid, or vapor release of III-V [and/ or toxic metalloid](#).
- 10.4.5 Pump foreline or exhaust cleaning resulting in III-V [and/ or toxic metalloid](#) or by-product release.
- 10.4.6 Maintenance activities occurring on III-V [and/ or toxic metalloid](#) contaminated surfaces resulting in release or transfer of III-V [and/ or toxic metalloid](#) materials.
- 10.4.7 [Incorrect or fault in slurry delivery, resulting in III-V and/ or toxic metalloid compound release.](#)
- 10.4.8 [On-board slurry leak.](#)
- 10.4.9 [Solid or airborne release, resulting from an over-polish scenario. Exposing a III-V and/ or toxic metalloid contaminated chamber or interior to Locker atmosphere.](#)
- 10.4.11 [Flammable or pyrophoric runaway scenario, resulting in III-V and/ or toxic metalloid compound release.](#)
- 10.4.12 [Incorrect or fault in precursor loading or loading procedure, resulting in III-V and/ or toxic metalloid compound release.](#)
- 10.4.13 [Contaminated target exposure.](#)

- 10.4.14 Tool specific maintenance activities occurring on III-V and/ or toxic metalloid exposed surfaces, resulting in release or transfer of III-V and/ or toxic metalloid materials.
- 10.4.16 Release of airborne III-V and/ or toxic metalloid materials inside the hood.
- 10.4.17 Release of liquid III-V and/ or toxic metalloid materials inside the sink located within the hood.
- 10.4.18 Tool specific maintenance activities occurring on III-V and/ or toxic metalloid exposed surfaces, resulting in release or transfer of III-V and/ or toxic metalloid materials.
- 10.5 The following content identifies the tools resident to the locker;
 - 10.5.1 CTC01 – AMAT CMP with peripherals
 - 10.5.2 CTF05 – AMAT MO CVD with peripherals
 - 10.5.3 CTI02 – IBS shallow implant with peripherals
 - 10.5.4 CTF08 – Ulvac PVD Tool with peripherals
 - 10.5.5 CTS21 – subfab wet hood
 - 10.5.6 CTS22 – fab wet hood

11. **PASS-THRU**

- 11.1 A pass-thru with opposing interlocked doors in the fab and subfab levels of the Locker. Opposing doors in the Pass-Thru are interlocked and will alarm if both are open at the same time.
- 11.2 Items (i.e., parts, pieces, hand-tools) may be delivered into the locker via pass-thru.
- 11.3 Items may only be removed from the locker after decontamination (wet wipe of exposed surfaces) is performed. This is the responsibility of the person placing the waste into the pass-through.
- 11.4 The pass-thru shall not be used as a storage space.
- 11.5 Drums and bins must be kept sealed when material is not being added.
- 11.6 To *remove* waste drums and bins, including PPE Disposal bins:

- 11.6.1 Waste container/bag must be sealed and labeled appropriately prior to offering for collection.
- 11.6.2 For purposes of decontamination, assume all items are III-V [and/ or toxic metalloid](#) contaminated. All exposed surfaces of the waste container or bag should be wet wiped down and wipes should be placed in nearest III-V [and/ or toxic metalloid](#) contaminated waste bin.
- 11.6.3 Exit the Locker following this procedure or have another person on the other side. Once outside the Locker, retrieve the receptacle from the Pass-Thru for immediate transport to its intended location.
- 11.7 Directions to *replace / install* waste drums and bins:
- 11.7.1 From the Locker's exterior, place the appropriate receptacle into the Pass-Thru.
- 11.7.2 Enter the Locker per this procedure. Once inside the Locker, retrieve the receptacle from the Pass-Thru and place in its intended location.
- 11.7.3 If a hazardous waste label is required on the receptacle and on liner bags for the waste step-on cans, the person who first puts waste into the receptacle must label it before any waste is placed inside.
- 11.8 Directions to *replace* an ampoule:
- 11.8.1 From the Locker's exterior, place the appropriate container carrying an ampoule into the Pass-Thru.
- 11.8.2 Enter the Locker per this procedure. Once inside the Locker, retrieve the receptacle from the Pass-Thru and install in its intended location per the tool specific installation procedure.
- 11.9 Directions to *remove* an ampoule:
- 11.9.1 Place the depleted ampoule inside the appropriate container from the Locker's interior, place the container into the Pass-Thru.
- 11.9.2 For purposes of decontamination, assume all items are III-V [and/ or toxic metalloid](#) contaminated. Wipe down all exposed surfaces and place wipes in nearest III-V [and/ or toxic metalloid](#) contaminated waste bin.
- 11.9.3 Ensure ampoule is clearly marked "Empty" with owner's name and contact information attached.

- 11.9.4 Exit the Locker per this procedure. Once outside the Locker, retrieve the ampoule from the Pass-Thru for immediate transport to its intended location.
- 11.9.5 Loading or unloading of pyrophoric material shall be limited to the hours of Monday-Friday 9:00am-3:00pm and shall be done with the buddy system
- 11.9.6 Pyrophoric ampoules must be directly handed off to designated and qualified waste collector. Pyrophoric ampoules shall not be left unattended in any event, this includes empty ampoules.
- 11.9.7 For purposes of decontamination, the assumption that all exposed surfaces are III-V **and/ or toxic metalloid** contaminated shall prevail. Exceptions granted may stipulate requirements for analytical testing that provide results indicating findings less than allowable limits.
- 11.10 Only those interior to the Locker are allowed to transition items into the Locker from the Pass-Thru. Conversely, only those exterior to the Locker are allowed to transition items from the Pass-Thru into the space exterior to the Locker. In this way, the integrity of each of the separate spaces is preserved.

12. OTHER FEATURES OF THE LOCKER

12.1 Notification Area:

- 12.1.1 At the entrance of the Locker, an area has been designated for permits, notices, and other communication of Locker status.
- 12.1.2 Use the letter size sleeve to display work permits. Be sure to place permits facing outward. Be sure to place permits at all building levels affected by the activity.
- 12.1.3 Use the white-board to provide any clarifications of work, status updates, contact information, etc.
- 12.1.4 The small size sleeve displays the corresponding colored Status Card. Keep in mind this display card is manually updated and will be referenced by all members of the fab community including EHS, ERT, engineering, operations, tool vendors, housekeeping. If you are affecting the status of the Locker, be sure to update Status Card corresponding to your affect. Also, upon completion of work, be sure to return the Status Card to its appropriate condition.

12.2 Evacuation Buttons:

12.2.1 In the event of an emergency that may or may not activate the Building Fire Alarm or zoned Blue Light System, there are evacuation buttons that have been strategically placed at all exits within the Locker.

12.2.2 Depressing any evacuation buttons results in a Blue Light event including immediate notification and response of [SUNY Poly](#) ERT.

12.2.3 Evacuation buttons can be used by anyone witnessing or involved in any life safety or defensible emergency situation including examples of suspected III-V [and/ or toxic metalloid](#) release, electrocution, fire, adverse human health scenario such as heart attack or stroke.

12.3 PTZ Cameras:

12.3.1 Each level of the Locker includes at least two (2) pan-tilt-zoom cameras that are operated by [SUNY Poly](#) Security.

12.4 Two-way Phones:

12.4.1 Phones have been placed inside the Locker in strategic locations.

12.4.2 Each phone inside the Locker is paired with a phone located outside the Locker.

12.4.3 Each phone has push button activation intended for two different uses:

1. Contact to the opposing phone on other side of the Locker containment.
2. *Direct* contact with [SUNY Poly](#) Security

12.5 Tacky Mats:

12.5.1 Tacky mats have been strategically placed in areas considered suspect to collect III-V [and/ or toxic metalloid](#) solids at points of PPE removal or exit.

12.5.2 [SUNY Poly](#) housekeeping shall replace these tacky mats during their regularly schedule rounds and readings or upon request.

12.5.3 Tacky mats do not include tool specific tacky mats. Provision, placement, and waste collection of tool specific tacky mats are the responsibility of the lead person(s) involved in tool specific activity.

12.6 Waste Containment Bins:

- 12.6.1 Red colored aluminum bins (7 or 14 gal) are waste receptacles intended for use as labeled.
- 12.6.2 “Solvent”, including IPA wipes not exposed to or contaminated with III-V and/ or toxic metalloid
- 12.6.3 “III-V Contaminated” and/ or toxic metalloid
- 12.6.4 Red colored aluminum bins (14 gal or larger volume) labeled “PPE Disposal” are intended for disposal of disposable gowns, gloves, or other contaminated PPE.
- 12.6.5 White colored aluminum bins (7 gal) are “General Rubbish” waste receptacles. Use of these bins for III-V and/ or toxic metalloid contaminated waste is strictly prohibited.
- 12.6.6 Metal drums with exhausted lids (55 gal) are waste receptacles intended for disposal of large size materials exposed to or otherwise contaminated by III-V and/ or toxic metalloid.

12.7 PPE-Dress Room:

- 12.7.2 As with the Locker area, PPE-Dress has been outfitted with life safety features such as fire extinguisher, emergency eyewash, safety shower station, and Locker AAC display.
- 12.7.3 PPE-Dress includes Two-way Phones.
- 12.7.4 PPE-Dress includes a hygiene sink in the event transfer of III-V and/ or toxic metalloid materials is expected or if there is an emergency warranting use of the PPE-Dress to de-gown PPE.
- 12.7.5 PPE-Dress includes limited storage via hangers for fab gowns, cabinets for disposable garments and gloves, cabinets for PPE.

NOTE: DO NOT store personal effects in the PPE-Dress Room or otherwise in the Locker.

12.8 Breathing Air System:

- 12.8.1 For use as required during tool specific activities during Exposure Risk Access, a dedicated Breathing Air System (BAS) will be installed for use inside the Locker.

- 12.8.2 BAS is intended to provide two (2) cylinder volumes of certified air for each buddy.
- 12.8.3 In the interim, reference breathing air options and requirements as defined in EHS-00015 and as required per tool specific procedures.
- 12.9 **Vacuums:**
- 12.9.1 Toxic metalloid rated HEPA vacuums with carbon filtration will be provided inside the Locker. Toxic metalloid rated vacuums are not intended for wet use.
- 12.9.2 Wet vacuums are provided inside the Locker to clean-up liquids contaminated with toxic metalloid solids but not gaseous by products.
- 12.9.3 *Service of the vacuums shall only be performed in accordance with EHS-00052 by an authorized service technician within an exhausted and controlled space such as CTS21 or CTS22.*
- 12.10 **Leak Checker:** A dedicated helium leak checker will be provided to the fab and subfab levels of the Locker.
- 12.11 **Storage:** Limited storage (wire cages, tool carts, maintenance carts) has been provided to the fab and subfab levels of the Locker. Storage of essentials should be conservative in consideration of limited available area.

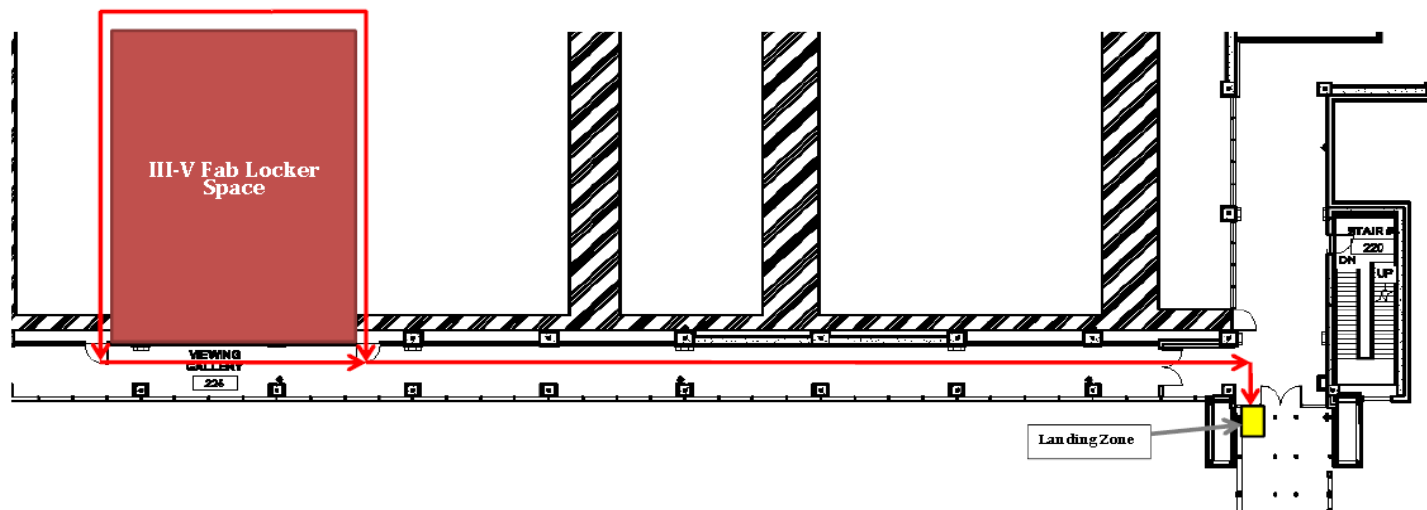
13. HOUSEKEEPING AND RECOVERY

- 13.1 Preserving the purpose of and preventing transfer of III-V **and/ or toxic metalloid** materials outside of the Locker is the responsibility of anyone accessing the Locker. Good hygiene and good housekeeping are essential to preserving the integrity of the Locker and preventing migration of III-V **and/ or toxic metalloid** materials beyond the Locker area.
- 13.2 Immediately after maintenance activities inside the Locker are completed, those participating in the work activity are responsible to thoroughly clean their hand-tools, work surfaces, and equipment. The Locker should be returned to condition as good as or better than before the maintenance activity occurred. Refer to EHS-00052.
- 13.3 On a periodic basis there will be cleaning activities inside PPE-Dress, PPE-Removal, and Pass-Thru. The fab level Locker includes an air return chase and is limited only to those requiring access for specific purposes.
- 13.4 **Recovery** In the event of an III-V **and/ or toxic metalloid** release:

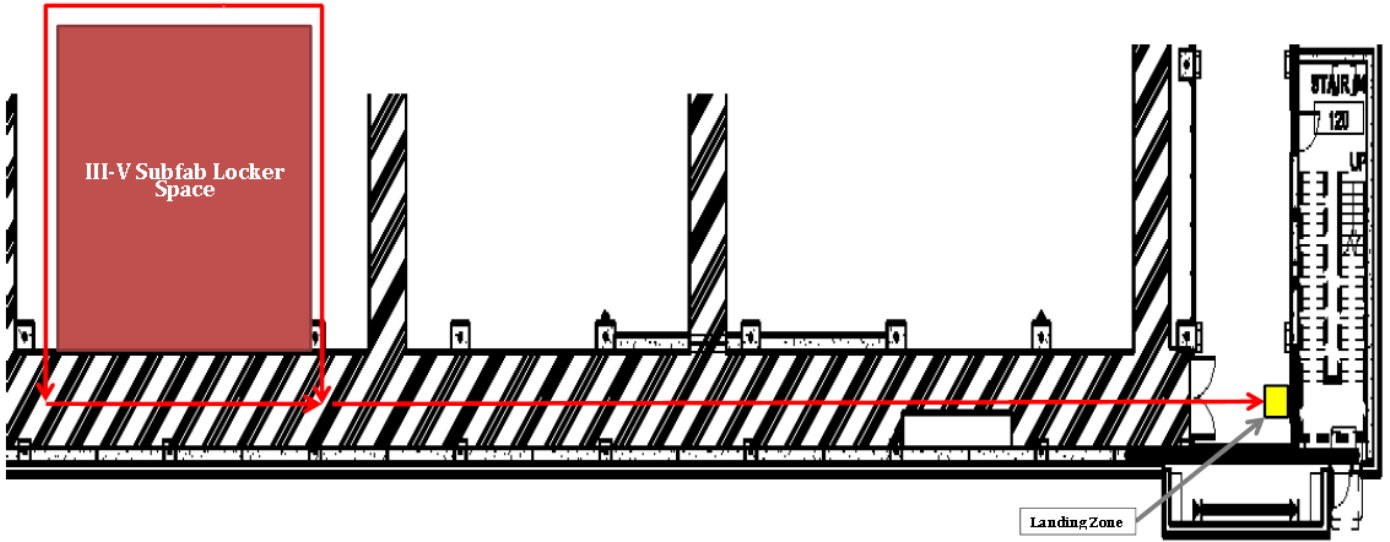
- 13.4.1 Refer to EHS-00049 Toxic Gas Monitoring System Evacuation Plan.
- 13.4.2 After life safety concerns have been addressed a joint assessment of the event will be performed by an elected "Recovery Team".
- 13.4.3 The Recovery Team, which is the responsibility of CSR Operations, will be comprised of and supported by qualified members of SUNY Poly EHS, ERT, Facilities Operations, and CSR Operations.
- 13.4.4 The Recovery Team will lead all recovery activities necessary to return Locker to normal operations.
- 13.4.5 Identification and quantification of the release will be prepared to the greatest degree of confidence possible using AAC data including timestamps and available analytical testing methods.
- 13.4.6 A root cause analysis will be used to conclusively determine the cause of the event. Conditional approval may be provided by the joint Recovery Team on a case-by-case basis. The root cause analysis is the responsibility of CSR Operation and will be supported by SUNY Poly EHS, ERT, and Facilities Operations, as needed.
- 13.4.7 Both the cause and effect will be appropriately addressed via repairs, replacement, or suitable actions.
- 13.4.8 Restoring Locker integrity will be rigorously performed, including multiple cleans of the exposed surfaces followed by wipe samples that will be analytical tested with the results provided to Recovery Team.
- 13.5 *Reporting:* A written incident report shall be prepared and is the responsibility of CSR Operations.
- 13.5.1 Incident report shall be prepared by CSR Operations with the support of the Recovery Team. The report content shall be specific to the event.
- 13.5.2 Report shall document incident and its timeline, identify and quantify the release including methods used, state cause and affect including methods used, include all actions taken and results, provide analytical test results, and provide any lessons learned or future recommendations.
- 13.5.3 The report shall be provided as expeditiously as possible. Use of initial report and final report is at the option of the Recovery Team and will be case-specific.
- 13.6 Resuming regular operations of the Locker will be the judgment call of the joint Recovery Team and final approval resting on the manager of SUNY Poly EHS department or their designee.

14. EMERGENCY EVACUATION

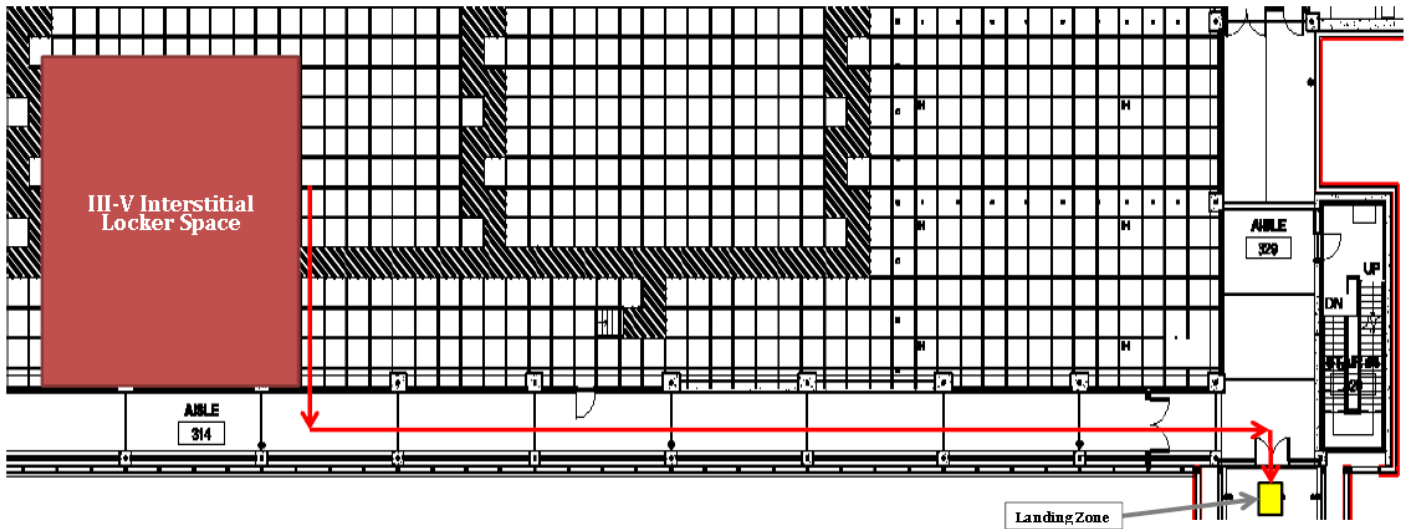
- 14.1 In the event of a building fire (white light) evacuation or TGMS (blue light) evacuation, safely STOP what you are doing.
- 14.2 Immediately proceed to nearest exit. If you are wearing a supplied air respirator, disconnect the airline and leave your mask on as your emergency escape cylinder will activate.
- 14.3 As you move towards the exit, **remove outer layer of gloves and booties** and exit the locker and fab via the nearest exit.
- 14.4 Continuously inspect the exit route for any indication of a hazard. If a hazard is observed, seek an alternate exit path.
- 14.5 Go to the nearest Degown Zone located:
- 14.5.1 **Fab level:** Proceed south towards the viewing corridor and exit the cleanroom via the emergency exit into the viewing corridor. Proceed East (left) to the Degown Zone located at the top of the NFX-NFN link. Once you enter the link (through the fire doors), the Degown Zone is the area immediately to your right. You will find the Degown Kit. Degown, bag your PPE, and proceed to your regrouping location.



- 1.1.1 **Subfab level:** Proceed south to the main corridor. Proceed East (left) to the end of the subfab and through the fire doors. You will see the Degown kits at landing zone across from you. Degown, bag your PPE, and proceed to your regrouping location.



14.5.2 **Interstitial level:** Proceed south to the main corridor then proceed east (left) past the fire doors. Immediately to your right, enter the interstitial walkway (#305), which is a separate 2-hour, fire-rated area. The Degown Zone is located inside that area immediately to your right. Once you have degowned and bagged your PPE, exit via Stairwell #4 and out of the building.



NOTE: The interstitial walkway 305 currently is key entry only. To use this area as a Degown zone, Badge reader will be installed and during white light event, must fail/turn off in with the door unlocked.

14.6 Once at the Degown Zone:

- 14.6.1 Step onto tacky mat or containment basin. If one is not already present, take one from the Degown Kit and place on floor.
- 14.6.2 Remove one bag from the Degown Kit.
- 14.6.3 While standing on the tacky mat, remove your Tyvek head cover and outer garment downward onto the top side of the tacky mat.
- 14.6.4 Step back out of the garment and off the tacky mat.
- 14.6.5 Pull the four corners of the tacky mat towards its center so it covers the head cover and garment and place the entire bundle into the bag and seal the bag with a tie wrap.
- 14.6.6 If you are wearing a respirator and escape bottle; take one bag from the bag dispenser and while standing on the Tacky Mat, remove and place your mask, bottle and support gear into the bag. Seal closed with a tie wrap.
- 14.6.7 Take both bags with you and proceed to your designated regrouping location per EHS-00024 and EHS-00049, as applicable.
- 14.6.8 The Degown Zone Kit should be left as you found it (minus the supplies you used).

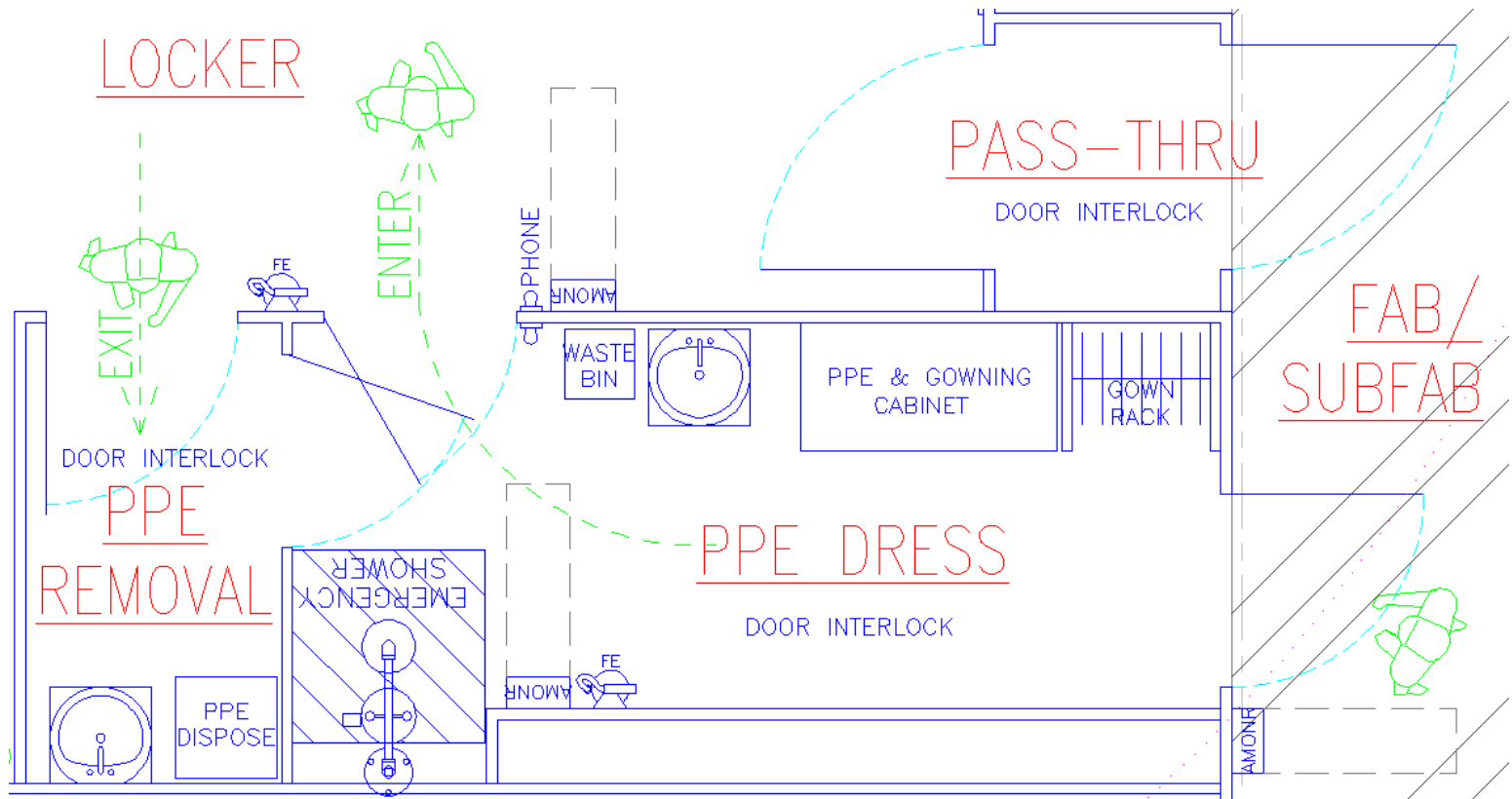
NOTE: In the event that you may have contaminated part of your evacuation route, call [SUNY Poly Security](#) at (518) 437-8600 and inform them of your exit path.

- 14.7 Bagged contaminated PPE should not be left in Degown zones. They are the responsibility of the generator to label and dispose of the bag, and decontaminate non-disposable items appropriately.
- Discard of the Disposable PPE bag: Label with a red hazardous waste sticker and discard in the satellite accumulation area. Closest satellite accumulation locations outside the NFX fab include the NFN HPM Corridor (place the bag on an ALQ cart) or NFN Subfab pass-through.

- Contaminated respirator and escape cylinder: Return to locker and decontaminate in hood. In the event where you cannot return to the locker before your shift ends, the bag should be labeled with the **Toxic Metalloid** Danger sticker and the following label and placed in a secure location.

<p>Toxic Metalloid contaminated equipment Do Not Discard</p> <p>Name: _____</p> <p>Phone #: _____</p>
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15. **FIGURE A. PLAN VIEW OF PPE-DRESS AND REMOVAL AREA (TYPICAL ALL LEVELS)**



16. **SELF CERTIFICATION**

By signing below, I willingly express my knowledge and understanding of the content specific to this document's most recent revision, associated materials, and the content of reference materials noted in this document.

EMPLOYEE:

FULL NAME _____

EMPLOYER _____

SIGNATURE _____

DATE _____

EMPLOYEE'S MANAGER:

FULL NAME _____

SIGNATURE _____

DATE _____