



Hard copy of this document, if not marked "CONTROLLED" in red,
is by definition uncontrolled and may be out of date.

Procedure
for
Equipment Decommissioning and Removal

REVISION

Rev No.	DCN No.	Change Summary	Release Date	DCN Initiator	Document Owner
6	DCN1318	Revised to strengthen process and improve clarity	6-15-16	D. Greenlee / J. Hellman	T. Diamond

Prior revision history, if applicable, is available from the Document Control Office.

1. PURPOSE AND SCOPE

- 1.1 **Purpose:** The purpose of this process, for decommissioning and/or removal of equipment, is to ensure all equipment decommissioning/removal and support systems decommissioning/removal are executed in a manner consistent with applicable codes, regulations and sound engineering practices.

This process ensures that equipment **and support systems are decommissioned and removed** in a manner that will allow lowest possible risk to employees, **the facility**, operations or maintenance activities. **This process and checklist must be followed and completed.**

- 1.2 **Scope:** This process applies to decommissioning and / or removal of equipment and support systems. Any equipment, which is being decommissioned or removed, must go through the equipment decommissioning and removal sign-off **checklist** process, if any of the following criteria are met:

- 1.2.1 **Any equipment with a hex ID and/or equipment associated with it**, and machinery used directly or indirectly in the testing, **research** and development of products or in the operation of the facility or R& D support systems at the **SUNY Polytechnic Institute (SUNY Poly)** Facility.

- 1.2.2 Any equipment and machinery involving any of the following:

- a) Hazardous Production Materials (HPM)
- b) **Equipment electrically hardwired**
- c) Ionizing or non-ionizing radiation
- d) Mechanical guarding
- e) Thermal hazards
- f) Robotics or Automation
- g) Safety Interlocks
- h) Nanomaterials
- i) **TGMS equipment**
- j) **Chambers**

By necessity, this document is limited in scope. The, Equipment Engineer, or Facilities Engineer shall apply professional judgment and knowledge above that which is included in this specification and shall comply with the equipment specific decontamination procedures, set forth in Procedure for Equipment Decontamination, EHS-00037.

- 1.2.3 **Exceptions:** Equipment replacement in kind, not involving HPM is exempt from this procedure.

2. DEFINITIONS

- 2.1 **DCN** – Design change notification, an upgrade or modification to a current revision of a tool's P&ID installation design package
- 2.2 **Hex ID** – a letter and number sequence that identifies a tools Owner/Tenant, Building Location, Process Tool Type, and Sequence Number
- 2.3 **P&ID** – piping and instrumentation diagram is a diagram which shows the piping of the process flow together with the installed equipment and instrumentation.

3. RESPONSIBILITIES

- 3.1 The **SUNY Polytechnic Institute, Tenant, Contract or Sub-Contract Equipment Engineer/Tool Owner** is responsible for:
- 3.1.1 **Obtaining, completing, and complying with** the Equipment Decommissioning and Removal Sign-off Checklist (EHS-00030-F1) requirements.
- 3.1.2 **Scheduling** the necessary sign-offs.
- 3.1.3 **Obtaining** the signatures from **appropriate parties such as Fab and/or Business Partner Program Management, Facilities Engineering and the EHS Department.**
- 3.1.4 **Posting a copy of the Equipment Decommissioning and Removal Sign-off Checklist document on the equipment. The copy shall remain with the equipment through final destination.**
- 3.1.5 **Complying with the 'Obtaining Work Authorization Permits' (CFM-00004-F1) procedure.**
- 3.1.6 **Determining when the equipment HPMS and TGMS monitoring points can be safely disabled and removed.**
- 3.1.7 **Completing the Pre-Decommissioning section of the Equipment Decommissioning and Removal Sign-off checklist (document # EHS-00030-F1).**

- 3.1.8 Performing the Equipment Decontamination and Equipment Decontamination post Certification (Ref. documents EHS-00037 and EHS-00037-F1).
- 3.1.9 Completing remaining sections of the Equipment Decommissioning and Removal Sign-off checklist.
- 3.1.10 Obtaining approval from TGMS and EHS for idling or bypass of TGMS points.
- 3.1.11 If the equipment is an RF Asset, complying with the SUNY RF policy 'Obsolescence Leading to Surplus or Scrap and complete the RF Property Status Change Request Form (Form F110).
- 3.1.12 Having a formal DCN to the P&ID generated, if decommissioning involves equipment labeled with a Hex ID or associated equipment and a change to piping, duct work, or hard wired to electrical system.
- 3.1.13 Scanning a copy of completed Equipment Decommissioning and Removal Sign-off checklist and send it to EHS for green book closeout.
- 3.1.14 Assessing the effect of decommissioning on neighboring equipment.
- 3.2** **Facilities Engineering** is required to meet with the SUNY Poly, Tenant, Contract or Sub-Contract Equipment Engineer/**Tool Owner** to conduct the necessary sign-offs.
- 3.3** The **EHS Department** is responsible for providing reviews, in a timely manner, and resolving or escalating all issues on a punch list with which a SUNY Poly employee, Tenant, Contract or Sub-Contract Equipment Engineer /**Tool Owner** or Facilities Engineer does not comply.

4. ASSOCIATED DOCUMENTS

- 4.1** **EHS-00008** – Lockout/Tagout LOTO Program
- 4.2** **EHS-00008-F1** – Lockout/Tagout Procedure
- 4.3** **EHS-00009** – Hazardous Waste Management
- 4.4** **EHS-00015** – SUNY Poly Respiratory Protection Program
- 4.5** **EHS-00030-F1** – Equipment Decommissioning and Removal Sign-off Checklist
- 4.6** **EHS-00037** – Procedure for Equipment Decontamination
- 4.7** **EHS-00037-F1** – Equipment Decontamination Certification

- 4.8 **EHS-00062** – Non-Routine Hazardous Work (NRHW) Permit
- 4.9 **CFM-00004-F1** – Instructions for Obtaining Work Authorization Permits, Subpermits, and relevant safety procedures
- 4.10 **SEMI S12-0298 Standard** – “Guidelines for Equipment Decontamination”.
- 4.11 **SEMI S16-0600 Standard** – “EHS Guidelines for Semiconductor Manufacturing Equipment Disposal”.
- 4.12 SUNY Research Foundation (RF) Obsolescence Leading to Surplus or Scrap Policy and RF Property Status Change Request Form (Form F110)

5. SAFETY

- 5.1 Proper Personal Protective Equipment (PPE) must be worn at all times when decontaminating equipment. The following PPE **may be required depending on the type and level of contamination**.
 - Chemical resistant gloves
 - Safety glasses
 - Face shield
 - Arm guards
 - Chemical apron
 - Cartridge respirator- for solvent fumes, acid fumes, dusts
 - Airline respirator or Self Contained Breathing Apparatus- for toxic gases
 - Tyvek Suit and Shoe Covers- for large jobs where the possibility that contamination may touch clothes. Work on potentially contaminated floors is an example.
- 5.2 Safety Data Sheets (SDS) are available for all chemicals used at the **SUNY Polytechnic Institute ([HAZMIN](#))**. Consult the SDS before conducting decontamination to better understand the hazards and needed precautions for chemicals involved.
- 5.3 All hazardous waste materials generated from decontaminations must be properly handled, **bagged, sealed, and labeled** in accordance with Hazardous Waste Management (EHS-00009) requirements. . Examples include decontamination wipes, residues removed from equipment, parts which cannot be cleaned, and used personal protective equipment.

- 5.4 Some decontamination work may require the use of a respirator. Any employee who wears a respirator must [comply with the SUNY Poly Respiratory Protection Program \(EHS-00015\)](#).
- 5.5 All hazardous energy source(s) must be locked out and tagged out so the equipment is isolated from the hazardous energy source(s) (e.g., electrical, chemicals, pneumatic, pressurized pipes). The [Lockout/Tagout Procedure \(EHS-00008-F1\)](#) or equivalent procedure must be followed for the work.
- 5.6 Any questions regarding decommissioning procedures, use of personal protective equipment, chemical hazards, and waste disposal should be referred to the EHS Department at cnseehs@sunypoly.edu.

6. TRAINING

- 6.1 SUNY Poly, Tenant, Contract or Sub-Contract employees can perform decommissioning of tools so long as they have completed and are up to date on proper training such as:
- [Cleanroom Training](#)
 - Hazardous Waste Handling
 - Respirator [Training](#) (if using a respirator or [Self-contained Breathing Apparatus \(SCBA\)](#))
 - [Lockout/Tagout Authorized](#)
 - [Task-specific training](#)