Global EHS - Safety Permit To Work Standard

CONTROL INFORMATION

Control Items	Details
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Contents

Tables

No table of figures entries found.

Table of Figures

No table of figures entries found.

1 Purpose

This Standard establishes the minimum requirements for Micron's EHS permit to work (PTW) program. This is to ensure global consistency in how EHS safety permits are evaluated and implemented.

2 Scope

Items	Details
Site(s) Impacted	All Micron sites
Target Audience	Micron team members and their contractors/vendors
Applicability	Where there are local regulations related to activities requiring a permit to work, sites shall comply with the requirements from the regulations where they are more stringent.

3 Roles and Responsibilities

Roles	Responsibilities
Global EHS	• Review and update this Standard biennially or as needed • Ensure appropriate input from all related parties • Maintain and ensure that this standard is accessible to all Micron sites • Provide direction, consultation, guidance, and requirements in the delivery of this standard • Monitor and evaluate site conformance to this standard
Site EHS	• Ensure site compliance with requirements set out in this standard • Review, update, and/or create site safety procedures in compliance with requirements set in this standard. • Review the requirements and subsequent changes of this standard and identify actions to ensure the requirements are effectively implemented • Evaluate continuous compliance to the updated requirements of this standard at least once every 3 years or more frequently (when risk of noncompliance is present) and implement actions to correct deficiency(ies) identified during the compliance evaluation process
Micron Team Members, Hosts	• Ensure compliance with requirements set out in this standard for all work activities • Participate in review, update, and/or create Risk assessment / Job Hazard Analysis, site safety procedures in compliance with requirements set in this standard • Ensure only TM or contractors that are authorized for the PTW are conducting the work and no unauthorized interferences. • Maintain 6S and/or housekeeping to ensure that the work area is kept clean at all times and in a safe condition. This includes before, during and upon completion of the work activity. • When in doubt or conditions change which could give rise to unsafe or potentially unsafe situations, stop the work
Permit to Work Authority	Ensure the following: • No person shall act as both the PTW Authority and PTW requester for a permit. No person shall authorize a PTW for work that they will carry out themselves • PTW requester understands the requirements of the permit that is applied for and the intended work to be carried out.

Roles	Responsibilities
	• Review any condition where additional hazards are identifies to stop or re-authorize the PTW • Be competent and understand the hazards associated with the work which the permit is applied for and have the power to approve or reject the PTW application without being pressurized to do so. • All foreseeable hazards and the associated control measures for the intended work have been identified in the Risk assessment / Job Hazard Analysis. • Physical site checks, including the verification of the equipment / area conditions and control measures implemented, are to be carried out to ensure work can be done safely. This may be done jointly with the PTW requester. • No incompatible work in the vicinity that could interact with the intended work is carried out concurrently. • Appropriate arrangements for emergencies are considered in the application of PTW. • Effective and appropriate communication to personnel who may be affected by the PTW applied. • PTW requester adheres to the conditions stated on the permit (e.g. physical boundaries, type of work, permit validity period) while executing the work. • Provide the culture of "Empowerment to Stop Work" if anyone feels unsafe or uncertain about any aspect of the work activity
Permit to work Requester	• No person shall act as both the PTW Authority and PTW requester for a permit. No person shall authorize a PTW for work that they will carry out themselves • Understand the work hazards and implement all the safeguards before starting the work. • Review, update, and/or create the Risk assessment / Job Hazard Analysis and its associated safe work procedures prior to application of PTW • Communicate the work-related hazards to the PTW Authority when applying the PTW. • Ensure that all workers are aware and adhere to the conditions stipulated in the PTW. • Ensure that all workers have received the appropriate training to perform the work competently and safely. • Ensure upon completion or suspension of work, the site is left in a safe condition and the PTW Authority is informed. • Stop and reassess the hazards and controls if there are any changes to the initial permit condition and notify the permit to work authority • Provide the culture of "Empowerment to Stop Work" if anyone feels unsafe or uncertain about any aspect of the work activity

4 Terms and Definitions

Terms	Definitions
PTW	**Permit to Work** A formal authorization system used to control selected work activities and ensure their safe execution onsite.
PTW Authority	Team members who will be approving the permit. He/she must have the power to approve or reject the PTW application without being pressurized to do so.
PTW Requester	Team members, host or contractors and vendors who will be applying for a permit.

Terms	Definitions
RA	**Risk Assessment** An analytical process to identify hazards and evaluate the risk of processes throughout their life cycle, to make certain that risks to employees, the public, or the environment are consistently controlled within a reasonable risk tolerance.
JHA	**Job Hazard Analysis** A technique that focuses on job tasks as a way to identify hazards before they cause an accident. A JHA focuses on the relationship between the worker, the task, the tools, and the work environment. Once identified, the hazards can be eliminated or controlled.
Routine Works	Schedule maintenance works (Preventive maintenance works)
Non-Routine Works	Non-schedule maintenance works (Corrective maintenance works)

5 References

Internal References	Link
Global EHS - Work At Heights Standard	2W4373RQWREN-1568922467-48
Global EHS - Confined Space Program Standard	2W4373RQWREN-1568922467-146
Global EHS - Lifting and Rigging Standard	2W4373RQWREN-1568922467-82
Global EHS - Electrical Safety Standard	2W4373RQWREN-1568922467-388
Global EHS - Excavation Standard	2W4373RQWREN-1568922467-695
Global EHS Critical Risk Review Checklist	LINK

External References	Link
Nil	Nil

6 Standard

6.1 General Requirements

All Micron sites shall implement this permit to work (PTW) program for consistent task evaluation to ensure safe execution of work. Sites are to establish a PTW system and ensure sufficient resources for its implementation and maintenance.

6.2 Permit To Work System

The Permit to Work (PTW) program is a formal authorization system used at Micron to control selected work activities and ensure their safe execution onsite. It is a means of hazard communication between different departments, the PTW authority and PTW requesters.

The Permit to work system shall be applied to the following activities:

- Routine
- Non-routine

All permit requests shall include at a minimum:

- Purpose and work description of work activity
- Work location
- Work date and time
- Risk assessment/ Job Hazard Analysis
- Permit to work authority department/name & sign off or acknowledgment entry
- Permit to work requester department/name & sign off or acknowledgment entry
- Completion of work acknowledgment

Micron has identified 9 critical risks (Work at Height, Electrical, Lifting, Confined Space, Excavation, Hot Work, Traffic, Environmental Control, Hazardous Substances) which may require additional verification through the use of Critical Risk Review Checklist to be in line to field management enhancement program before commencement of work.

After the work permit has been applied for, the applicable critical risks checklist needs to be completed.

6.2.1 Work At Height Permit

Work at height is work in any place, including a place at or below ground level where a person could fall from height which may cause bodily injuries.

All site Work at height activities shall comply with the Global EHS - Work at Height Program Standard

Application for a work at height permit shall be applied for all work at height activities above 3 meters or the local regulatory or construction requirements whichever is more stringent. This does not preclude those working at height below the stipulated work-at-height permit limit from applying fall prevention measures.

Following requirements should be considered for the application, but not limited to:

- Fall prevention plan (Including clear individual responsibilities)
- Safe work procedures

- Risk assessment / Job Hazard Analysis
- Fall protection equipment serviceability certificate
- Competent person certificate
- Workers Competency/Qualification certificate
- Workers Training records (if required)
- Emergency and rescue response
- Others safety permit shall be applied if it met the application requirements.

6.2.2 Confined Space Permit

A confined space is a space that has a limited or restricted means for entry or exit from the space, the space must be large enough for a person to enter and the space is not designed for continuous human occupancy.

All site Confined Space activity shall comply with Global EHS - Confined Space Program Standard

All confined space work activities shall require a confined space permit and a copy of the permit shall be displayed at the work site

A confined space permit only allows access and inspection only. When any hot work, work at height or electrical works is to be carried out in the confined space, an additional permit must be applied and cross referenced to the confined space permit.

Following requirements should be considered for the application, but not limited to:

- Safe work procedures
- Risk assessment / Job Hazard Analysis
- Competent person certificate
- Workers Competency/Qualification certificate
- Workers Training records (if required)
- Emergency and rescue response
- Others safety permit shall be applied if it met the application requirements.

6.2.3 Crane Lifting Permit

All site crane lifting activities shall comply with Global EHS - Lifting and Rigging Standard

Application for a crane lifting permit shall be applied for all critical lifts. These include:

- A lift that exceeds 70 percent of the rated capacity of the crane
- A lift that requires the use of more than one crane
- Hosting hazardous materials
- A lift over or near power lines
- A Lift where the center of gravity could change
- A Lift involving non-routine or a technically difficult rigging arrangement

Following requirements should be considered for the application, but not limited to:

- Lifting Plan
  - Weight of the load

  - Weight of the rigging
  - Total weight of the gross load
  - Calculation of percentage of crane capacity used during the lift
  - Crane chart documenting the capacity of the crane in the configuration the crane will be used in
  - Crane maximum radius for the lift in the configuration it will be used in
  - Location the load will be lifted at, and the distance to the location the load will be set at
- Safe work procedures
- Risk assessment / Job Hazard Analysis
- Crane serviceability certificate
- Crane lifting equipment serviceability certificate
- Competent person certificate
- Workers Qualification certificate
- Workers Training records (if required)
- Emergency and rescue response
- Others safety permit shall be applied if it met the application requirements.

6.2.4 Hot Work Permit

Hot work means riveting, welding, flame cutting or burning and includes any other work involving the use or generation of heat or the production of sparks.

Application for Hot work permit shall be applied when any work activities involving open flames or producing heat and/or sparks conducted outside a Hot Work Designated Area. Examples of hot work includes: Grinding (Producing sparks), flame cutting.

Following requirements should be considered for the application, but not limited to:

- Fire extinguisher to be on site
- Fire watchman to be on site during hot work and after work completion. Continuous fire watch for 1 hour after work completion.
- Safe work procedures
- Risk assessment / Job Hazard Analysis
- Hot work equipment serviceability certificate
- Competent person certificate
- Others safety permit shall be applied if it met the application requirements.

6.2.5 Excavation Permit

An excavation means any digging, including driving piles or any other objects into the ground, regardless by human or by machine.

All site Excavation Space activity shall comply with Global EHS - Excavation Standard

Application for Excavation permit shall be applied when:

Excavation works more than 0.3 meter in depth (this applies to all type of excavations, such as trail holes excavation, manual and machine excavation, and driving of any objects into the ground.)

Following requirements should be considered for the application, but not limited to:

- Safe work procedures
- Risk assessment / Job Hazard Analysis
- Competent person certificate
- Others safety permit shall be applied if it fulfills the application requirements

6.2.6 Energized Electrical Works (EEW) Permit

Energized electrical work permit is required when working on live electrical system with >50 Volts (AC, rms)

All site electrical activity shall comply with Global EHS - Electrical Safety Standard

Following requirements should be considered for the application, but not limited to:

- Safe work procedures
- Risk assessment / Job Hazard Analysis
- Buddy System is required
- Others safety permit shall be applied if it fulfills the application requirements.

6.3 Training

Permit to work authority shall be competent and understand the hazards associated with the work which the permit is applied for and have the power to approve or reject the PTW application without being pressurized to do so.

Permit to work requesters shall be competent and understand the hazards associated with the work which the permit is applied for.

Permit to work authority shall complete Global EHS - Health and Safety Risk Management Training (E_LRN 1172427) or any local regulatory risk management courses.

7 Appendices

Nil

8 Document Control

Items	Details
ECN Facility	CORP EHS
ECN Area	EHS SAFETY
Approval	This document is approved by: GLOBAL_EHS_SEAL_LT
Notification	Notification of changes to this document is managed through Micron's Engineering Change Notification (ECN) process to the following: **EHS** • GLOBAL_EHS • GLOBAL_EHS_MANAGERS • GLOBAL_EHS_SEAL_LT • GLOBAL_EHS_TEAM_MEMBERS **Facilities** • GLOBAL_FAC_MANAGERS • GLOBAL_FAC_NOTIFY • GLOBAL_FAC_PM_MANAGERS • GLOBAL_FAC_CONSTRUCTION
Review	This document will be reviewed at least biennially (once per two years) by Global EHS / PSM through the Periodic Document Review (PDR) process.

9 Revision History