



EHSS North America Business Program

Critical EHS Devices

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1 PURPOSE

The purpose of this program is to provide guidance on critical devices that shall be in place to provide a measure of safety and environmental protection where any physical, chemical or operations change alters a process outside its current safe design or documented safe operating condition. Critical Safety Devices (CSD) and Critical Environmental Devices (CED) are inclusive of this program and will be referred to as Critical EHS Devices (CEHSD).

2 SCOPE

This program applies to all Mosaic North America Business operations facilities and covers all employees and contractors performing work on Mosaic property.

The intent of this program is to focus on the true engineering solutions, that consist of mechanical equipment and programming logic, incorporated into our operating processes, that prevent or warn against an injury or environmental incident.

3 APPENDICES

The following appendices are associated with this Program:

Appendix	Appendix Title
A	Critical EHS Device Bypass Permit
B	Critical EHS Device Program RACI Matrix

4 GENERAL REQUIREMENTS

4.1 Identification and documentation of CEHSD assets.

4.1.1 The general description of what constitutes a **CEHSD** is as follows:


- **Safety** - any device or system that ensures any process condition is contained and maintained within it's designed safety limits, and if it fails or malfunctions may lead to serious injury or death.
--The failure or malfunction of a device or system that would result in an A/B Safety consequence per the Mosaic RAM
- **Environmental** - any device or system that ensures any process condition is contained and maintained within it's designed limits, and if it fails or malfunctions may result in an environmental incident.
--The failure or malfunction of a device or system that would result in an A/B/C environmental consequence per Mosaic RAM




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- CEHSDs typically are or have an associated emergency alarm, shutoff, or suppression action that is part of the operation and can mitigate or prevent an event


 **Note:** A CEHSD may be either a single element or may be part of a multiple element system design.

 **Information:** Refer to the Critical EHS Device Decision Tree, Section 12, for assistance in determining applicability.

4.1.2 Each facility shall identify processes, if out of control, have the potential to result in a safety or environmental incident such as fire, explosion, the release of hazardous substances (into the air, ground or water system), injury or loss of life.

4.1.3 Each facility shall document and maintain an accurate list of CEHSDs they have identified. The documentation process shall include the following:

- Each CEHSD, whether a single element or multi element system (i.e. group of emergency stop pull cords), will have a unique identifier (example – Maximo Asset Number)
- A description of the function
- The location of the CEHSD
- The rationale for categorizing the equipment as a CEHSD based on the process review
- Each CEHSD will have a preventative maintenance and functional inspection / test frequency defined

 **Note:** Maximo is the preferred system to document, categorize and assign inspection and preventive maintenance to these devices. Maximo has four labels that can be used in the “Type” field – CRIT SAFETY DEV, SAFETY DEVICE, CRITICAL ENVIRONMENTAL DEVICE, and ENVIRON DEV.

4.1.4 *It is a best practice, where feasible and practicable, to identify (label / sign) Critical EHS Devices, in order to alert employees of the importance of that particular piece of equipment.*

4.2 Functional CEHSDs, inspections/tests, and preventative maintenance.

4.2.1 Each facility shall ensure identified CEHSDs are properly installed and functioning as designed.



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4.2.2 Each facility shall establish either:

- 1) A functional inspection or test frequency in which the functional tests must be designed to actually test the device(s) and control whenever possible and appropriate. Documentation of the inspection or test shall include:
 - Date of the inspection or test
 - Name of person who performed the inspection or test
 - The identification of the critical device
 - A description of the inspection or test (inspection or test must ensure 100 % functionality of the device)
 - The results of the inspection or test
 - Schedule follow-up maintenance action items to address deficiencies discovered in a timely manner
- 2) A replacement schedule for all CSEDs.

4.2.3 Each facility shall ensure they establish and maintain a preventative maintenance frequency schedule for all CEHSDs.

4.3 Critical EHS Device Bypass.

- 4.3.1 A Critical EHS Device Bypass Permit shall be used whenever the CEHSD is impaired, malfunctioning, fails an inspection, or fails a functional test and it is necessary to operate the equipment or process with alternative safeguards in place. Upon Management approval, the CEHSD Bypass Permit is only valid for up to 7 days. (Refer to Appendix A, Critical EHS Device Bypass Permit). The permit may be extended for an additional 7 days (up to a maximum of 14 days)
- 4.3.2 Any CEHSD that has been in place for greater than 21 days (2 extension approvals) shall require an MOC to be done within 30 days of the original bypass permit date.



- 4.3.3 No employee or contractor has the authority to operate any piece of equipment or system with a CEHSD out of service without an approved Critical EHS Device Bypass Permit.
- 4.3.4 Required posting and communication for a CEHSD Bypass Permit.



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- One copy of the permit shall be provided to the Department Manager and/or the Superintendent.
- A second copy of the permit shall be posted in the Control Room (as applicable) of the Process in which it is being utilized, or in a common area where the document will be readily visible to applicable workers (such as the case for underground mines).
- To the greatest extent possible, the perforated tag of the permit will be placed on the CEHSD being bypassed.
- An email, text message or radio broadcast of the CEHSD bypass may be used as an additional means of communication.

4.4 Bypassing devices not designated as CEHSDs.

- 4.4.1 Follow Mosaic's North America Management of Change Program for temporary and/or permanent changes.

5 PERSONAL PROTECTIVE EQUIPMENT (PPE)

- 5.1 There are no specific PPE requirements for this program.

6 TRAINING

- 6.1 The following table outlines the training required for Critical EHS Devices:

Audience	Training Elements / Topics	Frequency	Method
New Hire employees	Critical Safety devices, Critical Environmental Devices, the Bypass Permitting process, examples	Initial	Instructor Led Training (ILT)
Affected site employees	Site based refresher training on: <ul style="list-style-type: none">• what critical EHS devices are• site specific examples• bypass permit process	Every three (3) years	CBT / ILT / Other

6.2 Retraining

- 6.2.1 In addition, an employee shall receive additional training (or retraining) if any of the following conditions exist:
- Program requirements change;
 - Changes in the workplace render previous training obsolete;
 - Inadequacies in the employee's knowledge is of concern




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6.3 Training records

6.3.1 Training records shall be maintained as per *Mosaic Document and Record Control* policy.

 **Reference:** Mosaic Document and Record Control policy

7 SELF-ASSESSMENTS

7.1 Site self-assessment shall be conducted in accordance with the MMS requirements.

 **Note:** Recommend any changes to the EHSS North America Program Management Office (PMO) via the PMO Change Request form.

8 PROGRAM REVIEW

8.1 The North America Business EHSS team will review this program every seven (7) years and update as required.

9 RECORD RETENTION

9.1 Refer to the *Mosaic Document and Record Control* policy for record retention requirements.

 **Reference:** Mosaic Document and Record Control policy

10 REFERENCES

References
Mosaic Document and Record Control Policy

11 REVISION LOG

Rev. No.	Rev. Date	Revised By	Reason for Revision
0		PMO	Initial release

12 Critical EHS Device Decision Tree (Next page)



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12 CRITICAL EHS DEVICE DECISION TREE

