

Life Critical Safety & Accountability	Document No.: RSW-SAF-048-DT	Approval Date: 11/26/19	Page 1 of 11
	Revision No.: 12	Next Revision Date: 11/26/24	
	Document Custodian: Environmental, Safety and Security		

1.0 PURPOSE

To establish employee and contractor responsibility and accountability for complying with the Life Critical Safety Standards for the Michigan Refining Division (MRD).

2.0 SCOPE

The Life Critical Safety Rules to all employees and contractors working at MRD.

Through the Life Critical Safety Program, all employees and contractors are held consistently accountable for compliance with the Life Critical Safety Rules including the following:

- (a) **Safe Work Permit** – Obtaining and working under a valid Safe Work Permit when one is required.
- (b) **Fall Protection** – Protect themselves from a fall from elevated locations.
- (c) **Confined Space Entry** – Entering a confined space only after receiving a valid Safe Work Permit and following all requirements of the Safe Work Permit while working in and around the confined space.
- (d) **Energy Isolation** – Complying with MRD's Energy Isolation procedure (Lock Out/Tag Out) by ensuring that all energy sources have been identified, isolated, de-energized, and locked out and tagged when required prior to opening equipment or performing maintenance activities.
- (e) **Hot Work** – Conducting Hot Work only after a Safe Work Permit has been completed, the area has been gas tested and all fire prevention requirements of the Safe Work Permit have been implemented.
- (f) **Process Safety** – Never bypass critical process safety equipment without following the established procedure and obtaining the proper authorization.
- (g) **Alky Unit Personal Protective Equipment** – Strict adherence to PPE requirements is required to prevent serious injuries and illnesses as a result of exposure to the acid catalysts used in alky units.
- (h) **Cranes and Lifting** – Comply with refinery crane and rigging safe work practices.
- (i) **Electrical Safe Work Practices** – Strict adherence to Electrical Safe Work Practices in RSP-1162-000, PPE requirements, and required Work Permits when working on or operating energized electrical equipment.

3.0 LIFE CRITICAL SAFETY RULES

3.1.1 Safe Work Permit

3.1.1 Safe Work Permits serve as a critical tool to ensure that work is well planned and the hazards of the work have been identified.

3.1.2 MRD has established its Safe Work Permit program in [RSW-SAF-004-DT Safe Work Permit](#).

3.1.3 This Life Critical Safety Rule expects the following from affected employees and contractors

3.1.3.1 No employee or contractor will perform work requiring a Safe Work Permit without first obtaining a Safe Work Permit from the Marathon employee or designee having responsibility for the area where the work will be performed.

3.1.3.2 Affected employee and contractor representatives will attend the Joint Job Site Visit (JJSV) and will then brief their employees on the content of the JJSV.

3.1.3.3 Employees and contractors are expected to comply with all requirements specified on the Safe Work Permit in effect for that job.

3.2.1 Fall Protection/ Fall Restraint

3.2.1 MRD has established its comprehensive Fall Protection procedure in [RSW-SAF-066-DT Fall Protection](#). Strict adherence to MRD's Fall Protection procedure is required for all applicable work from heights.

3.2.2 Falls from even short distances can cause serious injuries. All employees and contractors must use an approved form of fall protection when exposed to the following situations:

3.2.2.1 Performing maintenance or construction activities (including truck unloading) 6 feet or higher and are not on a designed working surface or platform, or

3.2.2.2 On elevated working surfaces (e.g., unit platform, loading dock, etc.) 4 or more feet above grade and not protected with guardrails or other equally effective systems, or

3.2.2.3 Within 6 feet of an unguarded edge, or

3.2.2.4 On a yellow tag scaffold, which requires fall protection.

3.2.3 Approved forms of fall protection include, but are not limited to:

3.2.3.1 OSHA compliant guard railing,

3.2.3.2 Full body harness with lanyard and approved anchor point,

3.2.3.3 Horizontal life line, and

3.2.3.4 Retractable life line.

3.2.4 Each person working in boom type personnel lifts must wear a full body harness and be anchored to the approved anchor location at all times.

3.2.5 Employees and contractors shall not exit an elevated boom or scissor lift, except where elevated work areas are otherwise inaccessible or hazardous to reach. Personnel may only exit the platform when it is the safest and last practical alternative. Exiting the platform must only be executed with the knowledge and consent of the Safe Work Permit writer. When personnel

exit to unguarded work areas, a fall protection plan must be in place and personal fall arrest must be used.

3.3.1 Confined Space Entry

3.3.1 MRD has established its comprehensive Confined Spaced Entry program in [RSW-SAF-010-DT Confined Space Entry](#). Strict adherence to MRD's Confined Space Entry Program is required at all times.

3.3.2 Employees and contractors working in and around confined spaces are expected to comply with the following:

3.3.2.1 Obtain a Safe Work Permit for entry into any space defined as a confined space in MRD's Confined Space Entry program.

3.3.2.2 Ensure that all hazards of the confined space have been assessed using the Safe Work Permit Confined Space Entry checklist and the Safe Work Permit has been signed by an MPC Entry Supervisor.

3.3.2.3 Comply with all the requirements specified on the Safe Work Permit before entering any confined space.

3.3.2.4 Ensure that the air in the confined space has been checked with a fully calibrated air monitoring instrument appropriate for the expected hazardous atmospheres inside the confined space. This would include but is not limited to:

- Oxygen,
- Lower Explosive Limit (LEL),
- Hydrogen Sulfide,
- Carbon Monoxide,
- Benzene, and
- Other toxic gasses and fumes.

3.3.2.5 Receive approval from the Entry Attendant (a.k.a., hole watch) and sign the Safe Work Permit before entering the confined space.

3.3.2.6 Notify the Entry Attendant and sign-out on the Safe Work Permit when exiting the confined space.

3.3.3 Energy Isolation (Lock Out/Tag Out)

3.3.3.1 Before performing invasive work on any piece of equipment, it is the responsibility of the "owner" of the equipment to make sure that the equipment has been isolated from all energy sources.

3.3.3.2 MRD has established a comprehensive Energy Isolation (Lock Out/Tag Out or LOTO) procedure in [RSW-SAF-002-DT Energy Isolation](#). Strict adherence to the Energy Isolation procedure is required for all work that would expose employees and contractors to hazardous energy.

3.3.3.3 Employees and contractors who may be exposed to hazardous energy when performing invasive work on equipment are expected to comply with the following:

- 3.3.3.3.1 Obtain or complete a Safe Work Permit once the affected equipment has been identified and prior to beginning invasive work.
- 3.3.3.3.2 Develop and/or review (depending on your role in the Energy Isolation process) the isolation/blind list to ensure that all energy sources and LOTO locations have been identified.
- 3.3.3.3.3 Participate in the Joint Job Site Visit (JJSV) or receive a briefing by equipment owner or your JJSV Representative and verify as necessary all Energy Isolation/LOTO locations have been locked and or tagged as required.
- 3.3.3.3.4 Place a personal lock on the appropriate lock out device (e.g., lock box) or follow equivalent energy isolation controls per [RSW-SAF-002-DT Energy Isolation](#).
- 3.3.3.3.5 Sign the isolation log or otherwise document that you are actively participating in the LOTO of the affected equipment.
- 3.3.3.3.6 Remove your personal lock or sign off the isolation when the job is complete or you are complete with your portion of the job.
- 3.3.3.3.7 When group LOTO is used, the owning group must ensure that all keys for owner locks are inside the group lockout box.
- 3.3.3.3.8 The owning group's lock must be the first lock on the LOTO device and the last LOTO lock off device.
- 3.3.3.3.9 The owning group must never remove a personal lock of an affected employee until it has been verified that that person is clear of the equipment and no longer exposed to hazardous energy and as required in [RSW-SAF-002-DT Energy Isolation](#).

3.3.4 Hot Work

- 3.3.4.1 Before performing any Hot Work, a Safe Work Permit must be completed.
- 3.3.4.2 MRD has established its comprehensive Hot Work procedure in [RSW-SAF-062-DT Hot Work](#). Strict adherence to the Hot Work procedure is required for all work that could be the source of ignition for an explosion or fire.
- 3.3.4.3 Employees and contractors performing Hot Work are expected to comply with the following:

- 3.3.4.3.1 Obtain or complete a Safe Work Permit for all activities identified as hot work in MRD's Hot Work procedure.
- 3.3.4.3.2 All hot work conducted by the owning group shall be authorized with a Safe Work Permit and must be signed by two knowledgeable people.
- 3.3.4.3.3 Ensure that the air in the area where the hot work will be conducted has been checked for oxygen content and LEL with a fully calibrated air monitoring instrument.
- 3.3.4.3.4 Ensure that all hazards of the hot work have been assessed using the Safe Work Permit hot work checklist.
- 3.3.4.3.5 Comply with all of the fire prevention requirements specified on the Safe Work Permit before beginning any hot work.
- 3.3.4.3.6 Ensure that all open flame or spark producing hot work has a dedicated person serving as a "fire watch" and is equipped with the appropriate firefighting equipment.
- 3.3.4.3.7 Ensure that anything produced during the hot work that could smolder (e.g., slag, hot welding rods, etc.) has been extinguished and will not pose a hazard when personnel leave the area.

3.3.5 Alky Unit Personal Protective Equipment (PPE)

- 3.3.5.1 MRD has established a comprehensive Alky Unit PPE procedure in [RSW-SAF-052-DT Personal Protective Equipment](#). Strict adherence to the PPE procedure is required for all applicable work in alky units.
- 3.3.5.2 Alkylation units involve inherent risk due to the properties of hydrofluoric and sulfuric acid. To ensure any risk of personnel exposures is mitigated, each refinery has established comprehensive PPE requirements for work activities performed in Alkylation units. To ensure that personnel are not exposed, strict adherence to the PPE requirements is required.
- 3.3.5.3 Employees and contractors performing work activities in the Alkylation unit are expected to comply with the following:
 - 3.3.5.3.1 Operators should select and utilize the correct PPE classification as specified by the Alky PPE matrix based on the specific operator job task being performed.
 - 3.3.5.3.2 Employees and contractors must utilize the correct Alky PPE classification as specified on the Safe Work Permit based on the defined work scope as written on the Safe Work Permit.

3.3.6 Cranes and Lifting

3.3.6.1 Crane and lifting operations pose special risks to personnel and equipment in a refinery. Crane incidents have the potential to cause employee and contractor fatalities and heavy damage to refining process equipment.

3.3.6.2 MRD has established its comprehensive crane and lifting procedures in [RSW-SAF-029-DT Rigging and Lifting](#). To ensure that personnel are not injured and process equipment is not damaged during crane and lifting operations, strict adherence to MRD's crane procedures is required.

3.3.6.3 Employees and contractors performing crane and lifting operations are expected to comply with the following:

3.3.6.3.1 Fully utilize all pertinent pre-lift approvals and lifting plans per MRD's standards for the safe execution of lifts.

3.3.6.3.2 Only perform lifting activities (crane operation, flagging, etc.) for which they are fully qualified to perform per MRD's procedures.

3.3.6.3.3 Ensure that no lifting operation encroaches the minimum required clearance from live electrical lines.

3.3.6.3.4 Ensure that no crane, lifting device, or rigging is loaded beyond its rated capacity.

3.3.7 Electrical Safe Work Practices

3.3.7.1 Electricity is recognized as a serious workplace hazard. Marathon's [Electrical Safe Work Practices RSP-1162-000](#) are designed to protect employees exposed to dangers such as electric shock, arc flash, arc blast, fires, and explosions.

3.3.7.2 Strict adherence to the Electrical Safe Work Practice RSP-1162-000 is required for all work that could result in injury including operating electrical equipment, diagnostic tests, maintenance repairs, modifications, construction, or new installations when electrical circuits parts are energized.

3.3.7.3 Employees and contractors performing electrical work are expected to comply with the following RSP-1162-000 requirements:

3.3.7.3.1 The installation or repair of any electrical equipment shall be performed by a qualified person only.

3.3.7.3.2 Obtain or complete a Safe Work Permit and/or an Electrical Work Permit as required.

3.3.7.3.3 Adhere to and follow the Energized Electrical Work Matrices including shock protection PPE requirements in Appendix B of [RSP-1162-000](#).

- 3.3.7.3.4 Adhere to and follow Approach Distances to energized electrical equipment in Appendix C of [RSP-1162-000](#).
- 3.3.7.3.5 Adhere to and follow Arc Flash PPE requirement in Appendix D of [RSP-1162-000](#).
- 3.3.7.3.6 Complete and use Electrical Switching Procedure Form in Appendix E of [RSP-1162-000](#) as required per Section 7.2 of RSP-1162-000.
- 3.3.7.3.7 Obtain or complete an Energized Electrical Work Permit in Appendix G of [RSP-1162-000](#) as required per Section 7.0 of RSP-1162-000.
- 3.3.7.3.8 Complete Temporary Power Approval Checklist in Appendix F of [RSP-1162-000](#) as required in Section 6.0 of RSP-1162-000.

3.3.7.4 Employees and contractors shall understand all electrical labeling and adhere to PPE requirements. Arc Flash Labels will include the nominal system voltage, arc flash boundary, and at least one of the following:

- 3.3.7.4.1 Available incident energy and the corresponding working distance,
- 3.3.7.4.2 Minimum arc rating of clothing,
- 3.3.7.4.3 Required level of PPE, or
- 3.3.7.4.4 Highest Arc Flash PPE Category for the equipment.

3.3.8 Process Safety: Bypassing Safety Devices Forbidden

- 3.3.8.1 MRD processes have been designed to operate safely within a specified operating envelope. To prevent potentially catastrophic events, the process units have been equipped with various types of safety devices to monitor critical process variables, monitor atmospheric conditions, provide pressure relief, safely shut-down process equipment during upset or abnormal operations, and mitigate an emergency event.
- 3.3.8.2 Employees and contractors working on and around process equipment are expected to always operate with these safety devices enabled unless an approved bypassing procedure or Management of Change is used.

4.0 REQUIREMENTS

4.1 Life Critical Disciplinary and Accountability Requirements

- 4.1.1 Employees and Contractors are expected to follow all MRD safety rules while working in the refinery.
- 4.1.2 Because of potential consequences of not complying with these Life Critical Safety Standards, the Michigan Refining Division, Corporate Refining, and the

Senior Vice President of Refining have placed special emphasis on these Life Critical Safety Standards and will hold employees and contractors to a high standard of performance.

4.1.3 Employee Disciplinary Procedures

4.1.3.1 Failure to comply with the Refining Life Critical Safety Standards may result in discipline up to and including termination for employees.

4.1.3.2 Application of discipline will be in compliance with the local union contract, refinery work rules.

4.1.3.3 Since non-compliance with the Life Critical Safety Standards can have severe consequences, steps in the MRD's disciplinary program may be skipped.

4.1.4 Contractor Disciplinary Procedures

4.1.4.1 Failure to comply with the Refining Life Critical Safety Standards may result in permanent removal of the contract employee from the refinery.

4.1.4.2 Training and communication must be completed by the contract company to ensure understanding and acceptance of this emphasis by all contractor and subcontractor employees.

4.1.5 Employee Direct Supervisor Accountability for Life Critical Safety Standards

4.1.5.1 Supervisors are expected to ensure that employees follow all MRD safety rules while working in the refinery.

4.1.5.2 Any Supervisor witnessing and not taking immediate action to correct a deviation or not reporting the violation of a Life Critical Safety Rule to their Supervisor or Manager will also be subject to the MRD's Discipline program and may be reflected in their Performance Management Workbook.

4.1.6 Life Critical Safety Standards & the Circle of Safety Program

4.1.6.1 The Circle of Safety process (Behavior Based Safety Program) is critical to the success of the Safety Performance and safety culture at the plant.

4.1.6.2 This Life Critical Safety Standards Procedure is not to circumvent the Circle of Safety process in effect at MRD.

4.1.6.3 Peer-to-peer observations conducted under the auspices of the COS Program are not subject to Life Critical accountability standards.

4.1.6.4 Any activity in a peer-to-peer observation that involves an imminent hazard to the employee or contractor being observed must be stopped to ensure the safety of all persons involved.

4.1.7 Life Critical Safety Audits

4.1.7.1 Life Critical Safety Audits (LCSAs) are audits of the life critical programs conducted by subject matter experts (SMEs).

- 4.1.7.2 LCSAs are conducted at least monthly on the following programs – Energy Isolation, Hot Work, Safe Work Permit, Confined Space, Fall Protection, Rigging and Lifting, Alky PPE, and electrical safe work practices. It is preferred that an audit of each program occurs in each complex if feasible.
- 4.1.7.3 Audit findings are classified as either minor or major findings based on the judgment of the SME and the Safety Supervisor.
- 4.1.7.3.1 Minor findings are those that are administrative in nature or those that would not be likely to result in injury or other serious consequence, such as inadequate documentation but proper execution in the field.
- 4.1.7.3.2 Major findings are those that could result in injury or other serious consequence.
- 4.1.8 Communication of Audit Findings
- 4.1.8.1 Audit findings and recommendations are communicated to the personnel involved and the area supervisor by the SME and summarized in a memo submitted to the Safety Supervisor or tracked through Field ID.
- 4.1.8.2 Most minor and major findings are classified as near misses.
- 4.1.8.3 Major findings are entered into the Knowledge Management System (KMS) and reviewed with the Detroit Leadership Team as they are classified as actual incidents. Judgment is utilized by the SME and the Safety Supervisor to determine the proper classification and entry into Marathon Petroleum Company's systems.
- 4.1.9 LCSA documentation is kept in accordance with the records retention schedule.
- 4.1.10 Corrective/Preventative Actions
- 4.1.10.1 The corrective/preventative actions associated with LCSAs is dependent on the severity and frequency of the finding.
- 4.1.10.2 Major findings are corrected immediately. The work is stopped until the corrective action is implemented.
- 4.1.10.3 Disciplinary action may be taken as described in sections 4.1.3 and 4.1.4.
- 4.1.10.4 Minor findings are communicated to the personnel involved and they are coached on the proper procedures. Additional corrective action may be implemented when an SME observes a trend of similar repeat minor findings or at the request of Refinery Management or Supervision.
- Note: The professionals/SMEs that conduct audits and their supervision must realize that this procedure is not intended to address all types of findings. Their professional judgment is ultimately the key to ensuring findings are properly addressed and entered into MPC's systems as appropriate

5.0 DEFINITIONS

Life Critical: a safety procedure in which failure to comply or malfunction of equipment that may result in death or serious injury to people, loss or severe damage to equipment or environmental harm.

6.0 REFERENCES

[RSP-1700-000 Life Critical Safety Rules & Accountability](#)

[RSW-SAF-002-DT Energy Isolation](#)

[RSW-SAF-004-DT Safe Work Permit](#)

[RSW-SAF-010-DT Confined Space Entry](#)

[RSW-SAF-066-DT Fall Protection](#)

[RSW-SAF-062-DT Hot Work](#)

[RSW-SAF-029-DT Rigging and Lifting](#)

[RSW-SAF-052-DT Personal Protective Equipment](#)

[RSP-1162-000 Electrical Safe Work Practices](#)

7.0 ATTACHMENTS –

There are no attachments relevant to this procedure.

8.0 REVISION HISTORY

Revision number	Description of change	Written by	Approved by	Effective date
8	Removed reference to scantron	Alyse Alston	Sam Windom	07/17/13
9	3 year review: removed term “guidelines” and replaced with requirements. Added “other serious consequences” to description of major and minor findings, updated headers	Jennifer Rabideau	Honor Sheard	11/4/14
10	Updated footer for dating automatic updates	F. Ebbert	J. Rabideau	10/30/15
11	Added all items in 3.0. Edited 4.1.8. to reflect changes to procedure. Administrative changes including renumbering of sections.	T. Riesen	J. Rabideau	04/30/2018

12	Scheduled review, no updates	A. Morales	H. Sheard	11/26/19
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