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1.0 INTRODUCTION

1.1 Purpose

The purpose of this document is to establish Life Critical Safety Rules and employee and contractor responsibility and accountability for complying with the Life Critical Safety for Marathon Petroleum Company LP's (MPC) Refining Division (Refining).

1.2 Scope

The scope of this document is to establish the requirements for each refinery to implement this Life Critical Safety Rules Program and the accountability for not following these rules.


It is intended to ensure that employees and contractors are held consistently accountable for compliance with the Life Critical Safety Rules including the following:

- Safe Work Permit – Obtaining and working under a valid Safe Work Permit when one is required.
- Fall Protection – Protect themselves from a fall from elevated locations.
- Confined Space Entry – Entering a confined space only after receiving a valid SafeWork Permit and following all requirements of the Safe Work Permit while working in and around the confined space.
- Energy Isolation – Complying with the Refinery'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.
- 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.
- Process Safety – Never bypass critical process safety equipment without following the established procedure and obtaining the proper authorization.
- 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.
- Cranes and Lifting – Comply with refinery crane and rigging safe work practices
- Electrical Safe Work Practices – Strict adherence to R-53-850, R-53-851, PPE requirements, and required Work Permits when working on or operating energized electrical equipment.

2.0 RECORDS RETENTION

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3.0 REFERENCES

3.1 Marathon Standards, Policies & Procedures

- R-11-005, Safe Work Permits
- R-11-033, Fall Protection/Fall Restraint
- R-11-017, Confined Space Entry
- R-11-032, Control of Hazardous Energy (Lockout/Tagout)
- R-11-030, High Energy Hot Work Operations
- D-30-006, Bypassing or Shutdown of Protective Systems
- R-11-023, Personal Protective Equipment
- R-11-008, Crane Operations and Rigging
- R-53-850, Operation of Electrical Distribution System and Plant Electrical Equipment – For Operators
- R-53-851, Operation of Electrical Distribution System and Plant Electrical Equipment – For I/E Personnel

4.0 DEFINITIONS

The following definitions are applicable to this procedure.

Table 1 Definitions

Term	Description
Deliberate	Deliberate is defined as done with or marked by full consciousness of the nature and effects; intentional.
Life Critical	Life Critical is defined as failure to comply or malfunction of equipment may result in: <ul style="list-style-type: none"> • Death or serious injury to people, • Loss or severe damage to equipment, or • Environmental harm.
Willful	Willful is defined as said or done on purpose; deliberate.

5.0 ROLES AND RESPONSIBILITIES


5.1 Corporate Refining ES&S Responsibilities

Corporate Refining Environmental, Safety and Security (ES&S) will establish the Life Critical Safety Rules and the accountability flow chart.

5.2 Refinery Responsibilities

Each Refinery must:

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- A. Adopt at a minimum the established Life Critical Safety Rules developed by Corporate Refining
- B. Establish a consistent accountability and discipline program for the enforcement of the Life Critical Safety Rules
- C. Modify existing safety program manuals and procedures to comply with this standard practice, and
- D. Train employees and contractors on Life Critical Safety Rules and the consequences of not following these rules.

6.0 LIFE CRITICAL SAFETY RULES

6.1 Safe Work Permit (R-11-005)

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

Each Refinery has established a Safe Work Permit program. This Standard Practice does not change or supersede in any way the Refinery Safe Work Permit.

This Life Critical Safety Rule expects the following from affected employees and contractors and therefore refinery programs and systems are to be modified to reinforce and emphasize them:

- No employee or contractor will perform work in the Refinery that requires 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.
- Affected employee and contractor representative will attend the Joint Job Site Visit (JJSV) and will then brief their employees on the content of the JJSV.
- Employees and contractors are expected to comply with all requirements specified on the Safe Work Permit in effect for that job.


6.2 Fall Protection/Fall Restraint (R-11-033)

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:

- Performing maintenance or construction activities (including truck unloading) 6 feet or higher and are not on a designed working surface or platform, or
- 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
- Within 6 feet of an unguarded edge, or on a yellow tag scaffold which requires fall protection.

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

- OSHA compliant guard railing,
- Full body harness with lanyard and approved anchor point,
- Horizontal life line, and

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- Retractable life line.

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.

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.

6.3 Confined Space Entry (R-11-017)


Each Refinery has established a comprehensive Confined Spaced Entry program. Strict adherence to the Refinery Confined Space Entry Program is required at all times.

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

- Obtain a Safe Work Permit for entry into any space defined as a confined space in the Refinery Confined Space Entry program.
- 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.
- Comply with all the requirements specified on the Safe Work Permit before entering any confined space.
- 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.
- Receive approval from the Entry Attendant (a.k.a., hole watch) and sign the Safe Work Permit before entering the confined space.
- Notify the Entry Attendant and sign-out on the Safe Work Permit when exiting the confined space.

6.4 Energy Isolation (R-11-032)

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

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Each Refinery has established a comprehensive Energy Isolation (Lock Out/Tag Out or LOTO) procedure. Strict adherence to the Refinery Energy Isolation/LOTO procedure is required for all work that would expose employees and contractors to hazardous energy.

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

- Obtain or complete a Safe Work Permit once the affected equipment has been identified and prior to beginning invasive work.
- Develop and/or review (depending on your role in the Energy Isolation/LOTO process) the isolation/blind list to ensure that all energy sources and LOTO locations have been identified.
- 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 by the Refinery Energy Isolation/LOTO procedure.
- Place a personal lock on the appropriate lock out device (e.g., lock box) or follow equivalent energy isolation controls as specified in the Refinery Energy Isolation/LOTO procedure (R-11-032) prior to beginning work.
- Sign the isolation log or otherwise document that you are actively participating in the LOTO of the affected equipment.
- Remove your personal lock or sign off the isolation when the job is complete, or you are complete with your portion of the job.
- When Group LOTO is used, equipment owners (Operations and Product Control) must ensure that all keys for owner locks are inside the group lockout box.
- The equipment owner's (Operations and Product Control) lock must be the first lock on the LOTO device and the last LOTO lock off device.
- The equipment owner (Operations and Product Control) 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 by the Refinery Energy Isolation/LOTO procedure.


6.5 Hot Work (R-11-030)

Before performing any Hot Work in the Refinery, a Safe Work Permit must be completed.

Each Refinery has established a comprehensive Hot Work procedure. Strict adherence to the Refinery Hot Work procedure is required for all work that could be the source of ignition for an explosion or fire.

Employees and contractors performing Hot Work are expected to comply with the following:

- Obtain or complete a Safe Work Permit for all activities identified as hot work in the Refinery's Hot Work procedure.
- All hot work conducted by the Owning Department shall be authorized with a Safe Work Permit and must be signed by two knowledgeable people.

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- 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.
- Ensure that all hazards of the hot work have been assessed using the Safe Work Permit hot work checklist.
- Comply with all of the fire prevention requirements specified on the Safe Work Permit before beginning any hot work.
- 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.
- 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.

6.6 Bypassing Safety Devices (R-30-006)

The Refinery has 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.

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.

6.7 Alky Unit Personal Protective Equipment (R-11-023; SDS’s)


Alkylation units involve inherent risk due to the properties of sulfuric acid and caustic. 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 (R-11-023).

Employees and contractors performing work activities in the Alkylation unit are expected to comply with the following:

- Operators should select and utilize the correct PPE classification as specified by the Alky PPE matrix (R-11-023 & SDS) based on the specific operator job task being performed.
- 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.

6.8 Cranes and Lifting (R-11-008)

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.

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Each Refinery has established a comprehensive crane and lifting standard or procedure. To ensure that personnel are not injured, and process equipment is not damaged during crane and lifting operations, strict adherence to the refinery crane procedures is required.

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

- Fully utilize all pertinent pre-lift approvals and lifting plans per the refinery standards for the safe execution of lifts.
- Only perform lifting activities (crane operation, flagging, etc.) for which they are fully qualified to perform per the refinery procedures.
- Ensure that no lifting operation encroaches the minimum required clearance from live electrical lines.
- Ensure that no crane, lifting device, or rigging is loaded beyond its rated capacity.

6.9 Electrical Safe Work Practices (R-53-850 & R-53-851)

Electricity is recognized as a serious workplace hazard in every refinery. Marathon's Energized Electrical Safe Work Practices (R-53-850 & R-53-851) are designed to protect employees exposed to dangers such as electric shock, arc flash, arc blast, fires, and explosions.


The Electrical Safe Work Practice (RSP-1162-000) shall be followed at all MPC refineries. Strict adherence to 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 are energized.

Employees and contractors performing electrical work are expected to comply with the following requirements:

- The installation or repair of any electrical equipment shall be performed by a qualified person only.
- Obtain or complete a Safe Work Permit and/or an Energized Electrical Work Permit as required.
- Adhere to and follow the Energized Electrical Work Matrices including shock protection PPE requirements.
- Adhere to and follow Approach Distances to energized electrical equipment.
- Adhere to and follow Arc Flash PPE requirements.
- Obtain or complete an Energized Electrical Work Permit as required per R-53-850, R-53-851, and R-11-005.
- Complete Temporary Power Approval Checklist as required.

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:

- Available incident energy and the corresponding working distance,
- Minimum arc rating of clothing,

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- Required level of PPE, or
- Highest Arc Flash PPE Category for the equipment.

7.0 LIFE CRITICAL DISCIPLINARY AND ACCOUNTABILITY REQUIREMENTS

7.1 Employee Disciplinary Procedures

Employees are expected to follow all Refinery safety rules while working in the Refinery.

Because of potential consequences of not complying with these Life Critical Safety Rules, Corporate Refining and the Senior Vice President of Refining have placed special emphasis on these Life Critical Safety Rules and will hold employees to a high standard of performance.

- Failure to comply with the Refining Life Critical Safety Rules may result in discipline, up to and including termination for employees.
- Application of discipline will be in compliance with union contracts, local work rules, or local agreements.
- Since non-compliance with the Life Critical Safety Rules can have severe consequences, steps in the Refinery's disciplinary program may be skipped.
- The Life Critical Safety Rules Non-compliance flowchart in Appendix A of this Standard will be used as a guide for discipline decisions.
- Affected Refinery programs and systems must be updated to ensure that this emphasis on Life Critical Safety Rules is clearly stated. Training and communications must be completed to ensure understanding and acceptance of this emphasis by all employees.

7.2 Contractor Disciplinary Procedures

Contractors are expected to follow all Refinery safety rules while working in the Refinery.


Because of the potential consequences of not complying with these Life Critical Safety Rules, Corporate Refining and the Senior Vice President of Refining have placed special emphasis on these Life Critical Safety Rules and will hold contractors to a high standard of performance.

- Failure to comply with the Refining Life Critical Safety Rules may result in permanent removal of the contract employee from the Refinery.
- Training and Communications must be completed to ensure understanding and acceptance of this emphasis by all contractor and subcontractor employees.

7.3 Employee Direct Supervisor Accountability for Life Critical Safety Rules

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

Because of the potential consequences of not complying with these Life Critical Safety Rules, Corporate Refining and the Senior Vice President of Refining is placing special

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emphasis on these Life Critical Safety Rules and will hold Supervisors to a high standard of performance.

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 Refinery's Discipline program and may be reflected in their Performance Evaluations.

8.0 TRAINING LIFE CRITICAL SAFETY RULES

All refining employees must complete a Life Critical Safety Rules & Accountability web-based training module every 36 months (per RSP-1700-000 Section 6.1.1).

9.0 REVIEW AND REVISION HISTORY

Revision #	Preparer	Date	Description
0	Mark Willand	12/12/2021	Reformatted and Numbered per Document Control Policy, R-63-001.

10.0 APPENDIX A – ACCOUNTABILITY FLOWCHART

Life Critical Safety Rules Non-compliance Flowchart

