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RESPONSIBLE DEPT.	CONTENT STEWARD		APPROVED BY		
Environmental, Safety & Security	Ken Bloch		Nicole Birchall		
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1.0 PURPOSE, SCOPE, REFERENCES, AND TERMS

- 1.1 This standing instruction establishes a uniform procedure for reporting and investigating incidents at the Martinez Refinery (MTZ). The purpose of incident investigation is to learn from incidents and near misses to prevent reoccurrence of the incident or reduce the potential for more serious incidents. The objective of an incident investigation is to uncover which safety system(s) and/or environmental system(s) failed and contributed to the event. The investigation process involves determining the facts surrounding an incident, presenting observations and conclusions, and developing appropriate corrective actions to prevent similar incidents from recurring.
- 1.2 This Incident Investigation Program was also developed to specifically satisfy requirements within the following:
- OSHA 1910.119 Process Safety Management
 - EPA 40 CFR 68.83 Risk Management Program
 - [PSM-1070](#) Corporate PSM Standard
 - [RSP-1310](#) Marathon Refining PSM/RMP Incident Investigation Standard
 - [RSP-1704](#) Marathon Refining Incident Investigation Standard
 - CCR Title 8 Section 5189.1 Cal-OSHA'S Process Safety Management for Petroleum Refineries
 - CCR Title 19 Chapter 4.5 Office of Emergency Services' Cal-ARP Program
 - Contra Costa County's Industrial Safety Ordinance No 98-48 Chapter 450-8 Risk Management
- 1.3 These requirements apply to all employees and contractors who work at or on behalf of the MTZ site, located at 150 Solano Way, Martinez, CA 94553.
- 1.4 This document references the following internal site document, corporate MPC standards, and external industry codes:
- [Corporate Process Safety Standard PSM-1070 Appendix R "Process Safety Performance Indicators"](#)
 - [Corporate Standard GEN-1010 "Risk Calibration Standard"](#)
 - [Corporate Standard ENV-3007 "Designated Environmental Incidents"](#)
 - [Corporate Standard MPC-QUA-00403-PRS "MPC- Quality Incident Reporting and Investigations"](#)
 - American Petroleum Institute (API) Recommended Practice 754 "Process Safety Indicators"
 - [American Fuel & Petrochemical Manufacturers \(AFPM\) Personal Safety Incident Matrix](#)
 - MTZ Witness Statement Form (R&SI 05-01-C)
 - MTZ Environmental Compliance and Release Reporting Requirement R&SI (R&SI 06-01)
 - MTZ Employee Injuries and Illness Management R&SI (R&SI 07-04).
 - MTZ Incident Investigation Guidance Checklist (R&SI 05-01-G)
 - MTZ Corporate Incident Level Table (R&SI 05-01-F)
 - MTZ 5 Whys Table (R&SI 05-01-B)
 - MTZ Hierarchy of Hazard Control Analysis (HCA) form (R&SI 05-01-H)
 - MTZ Non-Major Projects Inherently Safer Reviews (R&SI 14-07) fire
 - MTZ Major Projects Inherently Safer Reviews (R&SI 14-09)
 - [MPC Refining Event Notification form](#)
 - [MPC Refining Event Notification Reference Guide](#)

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- [MPC Refining Event Notification One-Pager](#)
- MPC Refining Accidental Release Reporting to the US CSB [IG-64](#)
- Martinez Master Release Calc Template (Stored on local G Drive)

- 1.5 This document is a Rule & Standing Instruction (R&SI). Any updates to the procedure must follow 04-02-03: Management of Change for Health & Safety R&SI.
- 1.6 For definitions of terms used throughout this document, see Appendix A: Terms and Definitions of this document, [RSP-1310 Appendix A: Terms and Definitions](#), and [RSP-1704 Appendix A: Terms and Definitions](#).
- 1.7 MTZ follows RSP-1310 and RSP-1704, except as noted.

2.0 ROLES AND RESPONSIBILITIES

- 2.1 MTZ follows RSP-1310, with the following addition(s) and clarification(s):

Responsible Person	Responsibilities
29 CFR 1910.119 (m) (1) – Incident Investigations	
Site Manager - Environmental, Safety, & Security	MTZ follows RSP-1310
29 CFR 1910.119 (m) (2), 40 CFR 68.210 – Investigation Timeline	
Site Manager - Environmental, Safety, & Security	MTZ follows RSP-1310
On-shift supervisors, Team leaders, or Designees	<ul style="list-style-type: none"> a) Ensures all Incidents and Near Misses are entered into the electronic database system within 24 hours but no later than 48 hours of occurrence (before the end of the shift when the incident occurred is preferred). b) Ensures completion of witness statements when appropriate (MTZ R&SI 05-01-C Witness Statement Form). c) Ensures that when witness statements are collected at the time of the incident. The expectation is that they are attached to the incident in Intelex by the end of the shift in which the incident occurs. d) Ensures evidence is preserved when appropriate (permits, damaged equipment & tools) and secures incident area with barricading to restrict access
29 CFR 1910.119 (m) (3) – Investigation Team	
Site Manager - Environmental, Safety, & Security	MTZ follows RSP-1310

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29 CFR 1910.119 (m) (4) & (6) – Investigation Reports & Distribution

Site Manager - Environmental, Safety, & Security	MTZ follows RSP-1310
Corporate Manager - Environmental, Safety, & Security	MTZ follows RSP-1310
Senior Vice President of Refining	MTZ follows RSP-1310

GEN-1010 – Risk Assessment

Site PSM Coordinator	<ul style="list-style-type: none"> a) Ensures each Incident Investigation Team completes a risk assessment for each Category 2-4, Incident. b) Conducts risk assessment training for Team members. c) Reports quarterly risk assessment results as required by the Risk Calibration Standard. d) Ensures incident recommendations and risk assessment results are tracked in recommendation management systems. e) Ensures recommendations are entered into the recommendation electronic database. f) Ensures g) Ensures the completion of a Process Safety Flash for PSE-1 incidents, per RSP-1310 Appendix C. h) Ensures incidents deemed as RMP accident reportable per Risk Management Programs (RMP) under the Clean Air Act, Section 112(r)(7), are contained in 40 CFR Part 68.42, Five-Year Accident History. i) Ensures appropriate communications both internal and external to the site are made in accordance with RSP-1310, section 4.6, and RSP-1704, Section 2.11 & 2.12. See Communication Plan Section in this document.
Incident Investigation Team	<ul style="list-style-type: none"> a) Conducts a risk assessment for each Category 2-4 Incident. b) If a risk rank A is discovered, notifies refinery management as soon as possible. c) Develops recommendations to prevent future incidents from similar causes. d) Completes report and review within specified period. e) Completes a Process Safety Advisory for PSE-1 incidents, per RSP-1310 Appendix D, and sends to PSM Coordinator.
Refinery Management	MTZ follows RSP-1310

29 CFR 1910.119(m) (5) – Investigation Findings & Recommendations
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Site Manager - Environmental, Safety, & Security	MTZ follows RSP-1310
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IG-64 Accidental Release Reporting Requirements to the U.S. Chemical Safety Board
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Site Manager - Environmental, Safety, & Security	Notifies CSB and supports organization of a public meeting if applicable.
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Site Specific	
Site PSM Coordinator	Makes the determination of whether or not an incident meets the California and Contra Costa County definitions of Major Incident and/or Major Chemical Accident or Release.
Employee Participation All	a) Participate with and support incident investigation program. b) Participate in the investigation process via leading investigations, interviews, reviews, audits, serve as subject matter experts, make available time for consultation, assist with recommendations writing and complete incident recommendations in the specified time.

3.0 INCIDENT INVESTIGATION SYSTEM

MTZ follows RSP-1310 section 3.0 and RSP-1704 section 2.0, with the following addition(s) and clarification(s):

3.1 INCIDENTS TO BE INVESTIGATED

- MTZ follows RSP-1310 section 3.1.

3.2 IMMEDIATE CORRECTIVE ACTIONS

- MTZ follows RSP-1310 section 3.2.

3.3 REPORT THE INCIDENT

- MTZ follows RSP-1704 section 2.2, with the following addition(s) and clarification(s):
 - Employees should immediately report any incident to their Supervisor. Contractor representatives and visitors must report any incident to their Martinez Refinery Supervisor and to the Health and Safety Department.
 - Initiating Supervisors shall immediately notify the Martinez Refinery Shift Superintendent/Shift Foreman of all incidents. The Shift Superintendent/Shift Foreman enters the incident into the Incident Management System (Intelex), which assigns an investigation number to the incident. The Shift Superintendent/Shift Foreman also enters the following information: the date and time of the incident, a brief description of the incident, the immediate actions taken, the reporter, and any other available information.
 - The Shift Superintendent/Shift Foreman also ensures completion of witness statements when appropriate (MTZ R&SI 05-01-C Witness Statement Form), and that the witness statements are attached to the incident in Intelex.
 - The Incident Management Software (Intelex) sends out a notification email to refinery personnel.
 - Per federal and state regulations and RSP-1310, investigation of a PSM Incident or Near Miss should begin within twenty-four (24) hours unless prevented by mitigating circumstances; however, investigation of the PSM Incident or Near Miss shall begin no later than forty-eight (48) hours after their occurrence. The completion of the initial incident entry into Intelex shall constitute the initiation of the investigation of a PSM Incident or Near Miss.
 - It's preferred that the incident be entered into Intelex before the end of shift when the incident occurred.

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- The [MPC Refining Event Notification form](#) is used for any incidents meeting MPC Incident Category 2, 3 or 4. This form is sent to Corporate for notification of key corporate Refining personnel.
 - Reference: [MPC Refining Event Notification Reference Guide](#) for types of events and communication protocol.
 - Reference: [Refining Event Notification One-Pager](#) for additional event notification and communication details and requirements.
- Initial Agency Reporting:
 - For initial Environmental incident reporting requirements refer to Environmental Compliance and Release Reporting Requirement R&SI (R&SI 06-01).
 - Accidental releases meeting the criteria established by the U.S. Chemical Safety Board (CSB) will be reported within 8 hours of the release. See [IG-64](#) for reporting criteria. [IG-64](#) Appendix B will be used to gather and submit information to Legal prior to submitting to the CSB. Information will be submitted to the CSB via email at report@csb.com; however, if email is not available, the CSB may be contacted at (202)-261-7600.
 - A 72-hour report must be submitted to Contra Costa Health Services for incidents meeting community warning system (CWS) level two or three or incidents meeting the definition of a Major Chemical Accident or Release. The report is due 72 hours after the incident occurred. This report will follow the guidelines issued by Contra Costa Health Services.

3.4 PRELIMINARY INVESTIGATION

- MTZ follows RSP-1704 section 2.3.

3.5 CLASSIFY THE INCIDENT

- MTZ follows RSP-1704 section 2.4, with the following addition(s) and clarification(s):
 - All Incidents shall be categorized according to the process described in RSP 1704 Section 2.4, [RSP 1704, Appendix C](#) or R&SI 05-01-F.

A) Injury/Illness Incidents:

- All injuries sustained at work will follow the Employee Injuries and Illness Management R&SI (R&SI 07-04).
- Injury/illness classification is determined per the [AFPM Personal Safety Incident Matrix](#).
- An injury/illness (OI&I) and safety sub-incident will be created in Intelex by the Incident Coordinator.

B) Loss of Primary Containment and Environmental Incidents:

- Release calculation are made using the Martinez Master Release Calc Template (Stored on local G Drive).
- Upon notification of an environmental incident by Operations, the Environmental department will make appropriate agency notifications according to the Environmental Compliance and Release Reporting Requirement R&SI (R&SI 06-01).

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- DEI incident tiering is determined per Corporate Standard [ENV-3007](#) Designated Environmental Incidents.
- PSE incident tiering is determined per [RSP-1310](#) section A.6 PSE 1-3 Categorization Guide.
- An environmental sub-incident will be created in Intelex by the Incident Coordinator for all Environmental Incidents.
- A process safety sub-incident will be created in Intelex by the Incident Coordinator for all PSEs.

C) H₂S Exposure / Chemical Exposure Incidents:

- A chemical exposure sub-incident will be created in Intelex by the Incident Coordinator for H₂S alarms ≥ 10ppm without respiratory protection and ≥100ppm while wearing an APR.
- A safety sub-incident will be created in Intelex by the Incident Coordinator for H₂S personal alarms (protected or unprotected) >100ppm.
- If an injury or illness occurs as a result of the chemical exposure, the steps for injury/illness incident classification must also be followed.

D) Product Quality Incidents:

- A product quality sub-incident will be created in Intelex by the Incident Coordinator and assigned to the refinery PQ Coordinator for classification utilizing MPC - Quality Incident Reporting and Investigations ([MPC-QUA-00403-PRS](#)).

E) Security or Property Damage Incidents:

- All on-road vehicle related incidents are reported using the Security's Accident Report Form.
- A transport sub-incident will be created in Intelex for all vehicle accidents and assigned to the security supervisor or designee.

3.6 INVESTIGATION GUIDELINES

- MTZ follows table 2.1 in RSP-1704 section 2.1.

3.7 INITIATION OF INCIDENT INVESTIGATION AND ASSEMBLE TEAM

- MTZ follows RSP-1310 sections 3.4 – 3.5 and RSP-1704 section 2.5.
 - MTZ also has USW participation requirements for "Major Incidents". These requirements can be found in the Employee Participation R&SI (R&SI 01-13).

3.8 INVESTIGATION METHOD AND INVESTIGATION

- MTZ follows RSP-1310 section 3.6 and RSP-1704 section 2.6, with the following addition(s) and clarification(s):

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- Cat 1 incidents require an investigation; however, a root cause methodology (TapRoot®) is not required.
 - The MTZ RLT reserves the right to require a root cause analysis be performed for certain “high potential” Cat 1 incidents.
- For Cat 1 incidents, the 5 Whys Table (R&SI 05-01-B) may be utilized for conducting the incident investigation.
 - The 5 Whys table is the analysis method for non-team investigations. Investigators should ask the question “WHY?” five to seven times during the incident analysis.
 - The 5 Whys table should be completed after all the evidence has been gathered and analyzed.
- For Cat 1 incidents, the Incident Investigation Guidance Checklist (R&SI 05-01-G) can be used as a reference tool to provide assistance in determining causal factors of incidents.
 - If this checklist is utilized, it should be attached to the investigation along with the other investigation information.

3.9 RISK ASSESMENT AND RANKING

- MTZ follows RSP-1310 section 3.7 and RSP-1704 section 2.7.

3.10 FINAL INVESTIGATION REPORT & RECOMMENDATIONS

- MTZ follows RSP-1310 sections 4.1 – 4.6 and RSP-1704 sections 2.8 – 2.10.
- Category 1 incidents must be completed within 30 days of the incident. If a Category 1 investigation requires a TapRoot® investigation per the RLT, the due date will be extended to 60 days. This will be documented in Intelx.
- Category 2 incident reports will be considered complete on the date of the RLT presentation. Final close-out in Intelx may occur after this date, pending document review by the PSM Department.
- Due date extensions are requested using the Intelx Extension Request located in the incident’s investigation details.
- For Category 2 incidents and above, communication to relevant personnel in the refinery will occur after the report has been approved by management. For example, a consistent way to communicate incidents would be through the Sequential Safety Meeting.

Additional Requirements:

- A 30-day report must be submitted to Contra Costa Health Services for incidents meeting CWS level two or three or incidents meeting the definition of a Major Chemical Accident or Release. The report is due 30 days after the incident occurred. This report will follow the guidelines issued by Contra Costa Health Services. If the investigation is not complete within 30 days, a follow-up report will be submitted with the investigation findings.

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- A Root Cause report must be submitted to Contra Costa Health Services for incidents involving any of the following: one or more fatalities, greater than 24 hours hospitalization of 3 or more persons, property damage on or off-site initially estimated at \$500,000 or more, flammable vapor clouds of greater than 5000 pounds, CWS level 3 or CWS level 2 (or meeting the definition of a Major Chemical Accident or Release). The report is due 30 days after completion of the investigation and must include the root cause analysis results, corrective actions and a schedule for implementation of corrective actions.
- A Root Cause report must be submitted to Contra Costa Health Services for incidents meeting the Major Incident definition. The report is due 90 days after the incident date and must include the root cause analysis results, corrective actions and a schedule for implementation of corrective actions. If the investigation is not complete in that timeframe, an interim report will be submitted to the agency with an update every 30 days until complete. The final report must be complete within 5 months
- For incidents meeting the Major Incident definition, a list of the Damage Mechanism Reviews (DMRs), Process Hazard Analysis (PHAs), Safeguard Protections Analysis (SPAs) or Inherently Safer System Analysis (ISSA) / Hierarchy of Hazard Control Analysis (HCAs) that were reviewed as part of the investigation must be included in the final report. Any findings from this review related to the causes of the incident should be noted.
- For incidents meeting the Major Incident definition, if a DMR has not been completed, then the investigation team must recommend that the DMR be conducted and completed within a specified timeframe.
- For incidents meeting the Major Incident definition, a Hierarchy of Hazard Control Analysis (HCA) (using form R&SI 05-01-H) is required on the investigation recommendations.
 - A team of at least two people from the investigation team must complete this form together.
- Each Major incident recommendation be completed within 18 months unless it is infeasible to do so. The infeasibility must be documented in writing. Per this requirement, any recommendation that requires complex engineering or a unit shutdown/turnaround to implement meets the requirement of infeasible to complete within 18 months. These items will follow the timeline specified above. When these actions are entered into the tracking system, it should be noted they require the complex engineering or turnaround and cannot meet the 18 month time frame.
- The Environmental Protection Agency (EPA) requires a public meeting to be conducted within 90 days of an RMP event with offsite impacts. The meeting must be an organized public meeting and posting information is not sufficient to meet this requirement. The information can be incorporated into an existing regular public meeting if within the time period. For applicable events, the following information will be reported:
 - (1) Date, time, and approximate duration of the release;
 - (2) Chemical(s) released;
 - (3) Estimated quantity released in pounds and, for mixtures containing regulated toxic substances, percentage concentration by weight of the released regulated toxic substance in the liquid mixture;
 - (4) Five- or six-digit NAICS code that most closely corresponds to the process;
 - (5) The type of release event and its source;
 - (6) Weather conditions, if known;
 - (7) On-site impacts;
 - (8) Known offsite impacts;
 - (9) Initiating event and contributing factors if known;
 - (10) Whether offsite responders were notified if known; and
 - (11) Operational or process changes that resulted from investigation of the release and that have been made by the time this information is submitted in accordance with § 68.168.

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3.11 RECORD RETENTION REQUIREMENTS

- Incident investigation reports must be maintained for a for the life of the process per California regulations. Records for incidents listed in the Safety Plan per the Contra Costa County Industrial Safety Ordinance will be maintained for the life of the facility.

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APPENDIX A: TERMS & DEFINITIONS

For definitions of terms used throughout this document see [RSP-1310 Appendix A: Terms and Definitions](#), [RSP-1704 Appendix A: Terms and Definitions](#), and additional definitions below:

Feasible: Feasible means capable of being accomplished in a successful manner within a reasonable period of time, taking into account health, safety, economic, environmental, legal, social and technological factors. Factors that affect feasibility that can make something infeasible include:

- 1) the recommendation or required design changes would pose a greater safety/process safety risk to personnel than the concern it is addressing,
- 2) the recommendation or required design changes would violate process licensing conditions,
- 3) the recommendation or required design changes would conflict with regulations,
- 4) the recommendation or required design changes would conflict with RAGAGEP,
- 5) the timing for recommendation implementation or design change implementation is greater than 10 years.

Hierarchy of Hazard Control (HCA): Hazard prevention and control measures, in priority order, to eliminate or minimize a hazard. Hazard prevention and control measures ranked from most effective to least effective are: First Order Inherent Safety, Second Order Inherent Safety, and passive, active and procedural protection layers.

Major Incident: Major Incident has been defined by two different California regulations. Definition 1: An event within or affecting a process that causes a fire, explosion or release of a highly hazardous material and has the potential to result in death or serious physical harm. Definition 2: An event within or affecting a process that causes a fire, explosion or release of a highly hazardous material, and has the potential to result in death or serious physical harm (as defined in Labor Code Section 6432(e)), or results in an officially declared public shelter-in-place, or evacuation order. Utilizing these regulatory definitions as well as the established definition of "Major Chemical Accident or Release" from the Contra Costa County Industrial Safety ordinance, a "Major incident" is an event a) involving a process, b) a fire, explosion or a release of a Highly Hazardous Material, and c) that meets any of the following criteria:

1. results in one or more fatalities;
2. results in greater than 24 hours of hospital treatment of three or more persons;
3. causes on and/or off-site property damage (including clean-up and restoration activities) initially estimated at \$500,000 or more. On-site estimates shall be performed by the Stationary Source. (Off-site estimates shall be performed by appropriate agencies and compiled by the Health Services Department.);
4. results in a flammable/combustible vapor cloud of more than 5000 pounds.
5. *Note - the PSM Coordinator or ES&S Manager will make the final determination on any other incidents that involve fires, explosions or highly hazardous materials releases for their potential to result in death or serious physical harm.*

Major Chemical Accident or Release: This definition is a requirement from the the Contra Costa County Industrial Safety Ordinance. Incidents meeting this criteria are required to have a root cause team investigation and to have a root cause report submitted to Contra Costa County. "Major Chemical Accident or Release" means an incident that meets the definition of a Level 3 or Level 2 Incident in the Community Warning System incident level classification or results in the release including, but not limited to, air, water, or soil of a Regulated Substance and meets one or more of the following criteria:

1. results in one or more fatalities;
2. results in greater than 24 hours of hospital treatment of three or more persons;

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3. causes on and/or off-site property damage (including clean-up and restoration activities) initially estimated at \$500,000 or more. On-site estimates shall be performed by the Stationary Source. (Off-site estimates shall be performed by appropriate agencies and compiled by the Health Services Department.);
4. results in a flammable/combustible vapor cloud of more than 5000 pounds.