EPA United States Environmental Protection Agency

Region 6 Compliance Assurance and Enforcement Division

INSPECTION REPORT

Inspection Date(s):	10/23/2017-10/27/2017		
Media:	Air		
Regulatory Program(s)	Clean Air Act Section 112(r) and 40 C.F.R. Part 68 Chemical Accident Prevention Provisions		
Company Name:	**Valero Energy Corporation**		
Facility Name:	**Valero Refining Co. – Texas, L.P. – East Plant**		
Facility Physical Location:	1300 Cantwell Lane		
(city, state, zip code)	Corpus Christi, Texas, 78047		
Mailing address:	P.O. Box 9370		
(city, state, zip code)	Corpus Christi, Texas, 78469		
County/Parish:	Nueces County		
Facility Contact:	Aimée Almaraz	PSM Coordinator	
	Aimee.almazaz@valero.com		
FRS Number:	110000501993		
Identification/Permit Number:	Title V Air Operating Permit: O2238		
Media Number:	RMP EPA Facility Identifier: 100000045033		
NAICS:	32411– Petroleum Refinery		
Personnel participating in inspection:			
Aimée Almaraz	Valero Refining Co.	PSM Manager	(361)231--0345
Benny Perriraz	Valero Refining Co.	PSM Coordinator	(361)289-3146
EPA Lead Inspector Signature/Date	Kayla Buchanan		12/19/2017
	Kayla Buchanan		Date
Supervisor Signature/Date	Samuel Tates		12/19/2017
	Samuel Tates		Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

I, EPA Region 6 Inspector Kayla Buchanan, arrived at the Valero Refining Co. – Texas, L.P. – East Plant (Valero East) at 9:00 AM on October 23, 2017, for an announced inspection. I met with Aimée Almaraz (PSM Manager) and Benny Perriraz (PSM Coordinator) at the opening conference. I presented my credentials to both Ms. Almaraz and Mr. Perriraz and informed them that this was an EPA inspection to determine compliance with Clean Air Act Sections 112(r)(1) and 112(r)(7). The scope of the inspection was a partial compliance evaluation of the facility pursuant to 40 CFR Subpart 68 – Chemical Accident Prevention Provisions. An employee representative was invited to participate in the inspection but did not attend. The facility does not have union representation.

FACILITY DESCRIPTION

Valero East is a 95,000 barrel per day refinery. It is capable of processing heavy, high-sulphur crude oil into light products including: gasoline, jet fuel, petrochemicals, propane, butane, and light naphtha. The refinery also produces multiple grades of asphalt and petroleum coke. Approximately 320 people are employed at Valero East.

Section II – OBSERVATIONS

On Tuesday, October 24, 2017, I conducted a drive-through of the facility accompanied by Kelli Coates, Senior Environmental Engineer, to observe the covered processes, equipment, operations, and emergency equipment.

40 C.F.R. Part 68 – CHEMICAL ACCIDENT PREVENTION PROVISIONS

Subpart A – General

40 C.F.R. § 68.10 Applicability - Valero East is a Title V stationary source facility that has an air operating permit and more than a threshold quantity of regulated substances (flammable mixtures) in its process streams; therefore, these regulations are applicable. Valero East re-submitted a Risk Management Plan (RMP) on January 20, 2014, that described the processes containing regulated chemicals held at more than a threshold quantity. In addition, this facility is subject to the Occupational Safety and Health Administration's (OSHA) Process Safety Management (PSM) Standard (29 CFR 1910.119), categorizing them as a Program 3 facility.

40 C.F.R. § 68.12 General requirements - I reviewed the re-submission of Valero East's RMP that was submitted on January 20, 2014, that listed flammable and toxic chemicals for its Program 3 processes.

40 C.F.R. § 68.15 Management - I reviewed the management system implemented at Valero East that oversees the implementation of the Risk Management Program elements. The responsibility for implementing individual requirements was assigned to multiple people, who are organized into committees. The Safety/PSM Steering Committee was at the top of the management system and consisted of upper management (Directors, Regional VP, and an Executive Secretary). The Risk Management Review Committee fell below the Safety/PSM Steering Committee and was comprised of subject matter experts and mangers. There was a committee for each element of the RMP comprised of personnel from the Safety/PSM Steering Committee and the Risk Management Review Committee, as well as, hourly representatives from various facility departments.

Subpart B – Hazard Assessment

40 C.F.R. § 68.20 Applicability - Valero East is a Program 3 stationary source subject to this subpart; therefore, it is required to prepare a worst-case release scenario analysis and complete the five-year accident history.

40 C.F.R. § 68.22 Offsite Consequence Analysis Parameters – Valero East used the parameters specified by EPA in this rule by using RMP*Comp ™ software. I reviewed the offsite consequence analysis and supporting documentation with Aimée Almaraz to assure the data was accurate and correct. Valero East's most recent RMP submission indicated the use of PHAST modeling software to determine offsite consequences (specifically the alternative release scenario); however, according to Ms. Almaraz, PHAST is no longer used ***(AOC #1)***.

40 C.F.R. § 68.25 Worse-case release scenario analysis - Valero East determined a worst-case release scenario for flammable substances using the RMP* Comp™ software. Hydrogen sulfide was the only toxic substance present at the facility; however, it was not held above threshold quantity in a covered process; therefore, it was not considered in a worst-case release scenario analysis. The substance considered in the flammable worst-case release scenario analysis was propylene (flammable) stored in a storage tank. The worst-case release scenario would occur in a vapor cloud explosion in the tank area.

40 C.F.R. § 68.28 Alternative Release Scenario Analysis - Valero East identified and documented an alternative release scenario for the RMP covered flammable substances. The alternative release scenario for flammable substances was the release of the flammable mixture used in its Light Ends Unit (LEU) Deisobutanizer overhead receiver from a 1" hole of a vessel.

40 C.F.R. § 68.30 Defining offsite impacts- Population - Valero East used the most current (2010) Census Bureau population data and the distance to endpoints, as specified in the regulations, to calculate the population numbers reported in their RMP. Valero East used MARPLOT to define the population surrounding the facility. In addition, Valero East provided a Google Earth image documenting their nearest public receptor.

40 C.F.R. § 68.33 Defining offsite impacts- Environment - Valero East used US Geological Survey maps data to determine the environmental receptors and the distance to endpoints

40 C.F.R. § 68.36 Review and Update - Ms. Almaraz stated that the offsite consequence analyses were updated every five years, as required by this subpart.

40 C.F.R. § 68.39 Documentation- Valero East maintained records on the offsite consequence analyses in accordance with this subpart. These records included:

- documentation of vessels or pipelines and substances selected as worse case and alternative release scenarios,
- documentation of estimated quantity released, release rate, duration of release,
- methodology used to determine distance to endpoint, and
- data used to estimate population and environmental receptors.

40 C.F.R. § 68.42 Five-year accident history- I reviewed Valero East's five-year accident history and I did not observe any accidental releases from covered processes that resulted in deaths, injuries, significant property damage on site, known offsite deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage. I examined Valero East's OSHA's Form 300 logs from 2012 to

present and queried the National Response Center (NRC) database to ensure additional releases from the facility that could possibly be included in the facility's five-year accident history were not omitted. There were no accidental releases included in Valero East's five-year accident history; therefore, a report was not required.

Subpart D- Program 3 Prevention Program

40 C.F.R. § 68.65 Process safety information - Valero, in accordance with this subpart, completed a compilation of written process safety information. Its process safety information included: information pertaining to the hazards of the regulated substances used or produced by the process, information pertaining to the technology of the process, and information pertaining to the equipment of the process. Valero East maintained an electronic document entitled "Compliance Index for OSHA 29 CFR 1910.119 (D) Process Safety Information" that listed the specific process safety information required by this regulation; where the documentation for that information can be located, and a contact person that can provide additional information, if needed. This document was accessible to all employees via the company's intranet.

40 C.F.R. § 68.67 Process hazard analysis (PHA) - Valero purchased the East plant in 2000 and conducted initial PHAs at that time. I reviewed the two most recent PHAs for the Coker, Crude, #2 Hydrodesulfurization(HDS)/Reformer, and Gas Oil Treater (GOT) units. Each PHA reviewed was conducted every five years. Valero provided the PHA schedule for every unit**.** I was informed that prior to 2016, Valero East only addressed PHA nodes that were initiated by a Management of Change (MOC) ***(AOC #2).*** This was also documented in the facility's 2013 compliance audit **(see Appendix #2)**. Currently, all PHA nodes are assessed as a part of the PHA revalidation process.

Each PHA reviewed was performed by a team with appropriate personnel knowledgeable in the process. The PHAs addressed all the elements required by the rule. Valero East presented all recommendations to its PHA committee. That committee decides which recommendations will be accepted. Action items are generated from accepted PHA recommendations and are tracked in the IMPACT system. The IMPACT is an electronic tracking system that captures the status, priority level, and target due date for each action item.

40 C.F.R. § 68.69 Operating Procedures - Valero's Operating Procedure Management Policy outlined how procedures are written and changed and how employees can access them. This policy also outlined the new operating procedure format that the facility is transitioning to. I reviewed this policy, as well as, the operations manual for the Crude, #2 HDS/Reformer, and GOT units. The operating procedures within the operations manual I reviewed addressed the steps for each of the operating phases, consequences of deviation and steps to correct and/or avoid deviation, safety and health considerations**,** the properties of and hazards presented by chemicals used in the process**,** the precautions necessary to prevent exposure, quality control for raw materials**,** and the safety systems and their functions.

Valero's operating procedures were accessible to employees via hard copy, a company-wide electronic shared drive, as well as, Policy Tech, which is an online system found on the facilities intranet that controls the authorship, approval, and distribution of the facility's documents. While on the facility site drive-through, I requested randomly selected process operators to dictate, as well as, demonstrate how to access the operating procedures. All selected process operators were knowledgeable about the various ways to access the procedures.

I observed documentation that verified Valero East certified annually that operating procedures were current and accurate. Each unit supervisor certified the operations manual had been reviewed for their unit. Regular reminders are sent to unit supervisors when an annual certification is approaching to ensure the certification is done on time.

40 C.F.R. § 68.71 Training - The subpart requires that each employee presently operating a process and each employee newly assigned to a covered process has been trained or tested to be competent in the operating procedures provided that pertain to their duties. The training shall include an emphasis on specific health and safety hazards, emergency operations, and safe work practices. In order to meet this requirement, Valero East established a technician progression process. New operators go through a 12-week Basic Operator Training Program. The trainee then undergoes seven levels of progression, with each progression time ranging from three to six months. I reviewed training records for randomly selected employees to ensure that initial training was documented and that each employee involved in operating processes received and understood the training. Valero East maintained paper copies and an electronic records of training for further documentation.

40 C.F.R. § 68.73 Mechanical Integrity - I reviewed the written procedures for Valero East's mechanical integrity program. Their mechanical integrity program conformed to a corporate-wide policy referred to as Commitment to Excellent Management System (CTEMS). This policy ensured that Valero East's mechanical integrity program incorporates recognized and generally accepted engineering practices into their inspection and testing procedures. Each inspection and test performed on process equipment that I reviewed identified the date of inspection or test, the name of the person who performed the inspection, identifier of the equipment on which the test was performed, and the result of the inspection or test. Valero East also documented corrected deficiencies in equipment that were outside acceptable limits

Valero East uses the Plant Condition Management Software (PCMS) to maintain inspection and test records for fixed equipment. Valero East is currently transitioning all inspection and testing to a schedule that follows the American Petroleum Institute's (API) 580 Risk Based Inspection method. There were no inspections overdue, as of the date of this inspection. Preventative maintenance was conducted on all rotating equipment. For larger horse-powered equipment, an online monitoring system was used and provided real time vibration data. If during preventative maintenance an issue was discovered, a work order was generated.

Valero East's mechanical integrity staff was trained in an overview of that process, its hazards, and in the procedures applicable to the employee's job tasks. These training records were maintained in the training department.

40 C.F.R. § 68.75 Management of Change (MOC) - I reviewed Valero East's Management of Change Policy which was the written procedure the facility had implemented to manage changes to process chemicals, technology, equipment, procedures, and changes to stationary sources that effect a covered process. The procedures assured that the following considerations were addressed prior to any change: technical basis for change**,** impact of change on safety and health, modifications to operating procedures, necessary time period for the change, and authorization requirements for a proposed change.

The facility assured employees involved in operating and maintaining the process and contract employees, whose job will be effected by the change, are informed of and trained in the change prior to startup of an effected part of the process by creating, at minimum, a computer based awareness

training that must be completed. For each MOC I reviewed, I also reviewed the training records for randomly selected employees associated with the training generated from that MOC.

If a change resulted in a change to safety information, this subpart requires such information be updated accordingly. I reviewed several MOCs that required an update to safety data sheets. Ms. Almaraz was able to show me that these updates were completed. I also reviewed an MOC that required a procedural change. Ms. Almaraz provided me with that updated procedure.

40 C.F.R. § 68.77 Pre-startup review (PSSR) - I reviewed Valero East's written PSSR procedures, as well as, various PSSRs completed by the facility in the past five years. The PSSRs reviewed confirmed that prior to the introduction of regulated substance into the process, construction and equipment were in accordance with design specifications, and safety, operating, maintenance, and emergency procedures were in place and adequate. The PSSRs also ensured that training of each employee involved in operating a process was complete.

40 C.F.R. § 68.79 Compliance audits - I reviewed Valero East's two most recent compliance audits. The audits were conducted internally by a corporate audit group. The first audit report reviewed encompassed both the East and West Refineries and was completed on February 4, 2013 from an audit that was conducted on July 23-27, 2012. The second audit report I reviewed only encompassed the East Refinery and was completed on October 23, 2015, from an audit that was conducted on June 15-19, 2015. Both audits noted repeat findings from previous audits. Ms. Almaraz explained that action items were generated for all audit findings and tracked in Valero Easts IMPACT system. If an action item exceeds its target completion date, an explanation must be provided to an upper management official at the corporate office. Ms. Almaraz provided the justification for the 2009 and 2012 repeat findings, both of which dealt with API-570 piping inspection activities **(see Appendix #3).**

40 C.F.R. § 68.81 Incident investigation - Valero East provided me a list of all incident investigations that occurred within the past five years. Of those reviewed, the incident investigation teams consisted of at least one person knowledgeable in the process involved. Valero East inputs its incident investigations into its IMPACT System. This subpart requires the facility to prepare a report at the conclusion of each incident investigation. This report must include at a minimum: (1) Date of the incident; (2) Date the investigation began; (3) A description of the incident; (4) The factors that contributed to the incident; and, (5) Any recommendations resulting from the investigation. Each of these requirements were documented in a report except the date the investigation began. Ms. Almaraz informed me that it is a facility practice to initiate incident investigations within 24 hours and that the investigation start date is logged when the incident investigation is created in IMPACT; however, the incident investigation reports I reviewed did not document this date ***(AOC #3)*** **(see Appendix #4)** The facility's written procedure for preparing an incident investigation report does not designate the incident start date to be documented **(see Appendix #5).**

40 C.F.R. § 68.83- Employee Participation - Employee participation was inherent in Valero East's management system; likewise, the site does have a written employee participation plan as required by this subpart. The plan explained how Valero East consults with employees on how to conduct and the development of process hazard analyses and other elements of process safety management. Valero East classified employee participation in three categories: employee involvement, employer-employee consultation, and employee access to information.

40 C.F.R. § 68.85 Hot work permit- I reviewed hot work permits issued by Valero East. Each permit that I observed documented that the fire prevention and protection requirements had been implemented

prior to beginning hot work operations. The permits indicated the dates authorized for hot work and the identity of the object on which the hot work was performed.

40 C.F.R. § 68.87 Contractors- Valero East utilized the ISNetworld online system as an initial screening tool for contractors. Valero East performs quarterly audits on its contactors to ensure they are maintaining all of its requirements and any deficiencies found during these audits are tracked in the IMPACT system. Contractors receive training through the Contractor Safety Council (a local program), as well as, from Valero East. Valero East provides contractors with annual lock out tag out, confined space, and other safe work practices training. It meets with contractors weekly to ensure they are provided with up to date and relevant information regarding the process.

Subpart E- Emergency Response

40 C.F.R. § 68.90 Applicability- Valero East employees are first responders that respond to fires and releases onsite.

40 C.F.R. § 68.95 Emergency response program- I reviewed Valero East's emergency response plan with Joseph Cantu. Mr. Cantu manages the facility's emergency response plan. The emergency response plan was accessible to all employees through Valero East's Policy Tech system. The plan contained procedures for informing the public and local emergency response agencies about accidental releases, documentation of proper first-aid and emergency medical response after an accidental release, procedures for the use of emergency response equipment and for its testing and maintenance, training for all employees in relevant procedures, and procedures to update and review the plan as necessary. Valero East meets regularly with the Local Emergency Planning Committee and has shared its emergency response plan with that group.

Valero East stored breathing air equipment and bunker gear on site. It partnered with the Refinery Terminal Fire Company, which provided Valero East with industrial firefighting equipment and personnel in the event of an emergency. Mr. Cantu provided me with testing and inspection records for the emergency response equipment stored onsite, which included fire extinguishers, pumps, and deluge systems.

Valero East currently has 74 members on its emergency response team (ERT). I reviewed the training records for four randomly selected employees (one from each shift) and each had documentation reflecting the required initial and refresher training. Valero East utilizes the ERT Online Support System, which provides real time data about which ERT members are onsite as ERT members badge in for work each day.

Subpart G- Risk Management Plan

40 C.F.R. § 68.190 Updates- The Risk Management Plan for this facility was re-submitted on January 20, 2014. The next RMP submission is due by January 20, 2019.

40 C.F.R. § 68.195 Required corrections- An update is required and subsequent updates are required every five years or if the facility meets the criteria of 40 C.F.R**.** § 68.190 & 195. Per this requirement, Valero East's RMP should have submitted a correction to its RMP within one month of the departure of its listed emergency contact. ***(AOC #4).***

Section III – AREAS OF CONCERN

1. **40 C.F.R. § 68.185** requires the owner or operator to submit in the RMP a single certification that, to the best of the signer's knowledge, information, and belief formed after reasonable inquiry, the information submitted is true, accurate, and complete. Valero East failed to ensure that the method used for its offsite consequence analysis was accurate.

2. ***40 C.F.R. § 68.67(f)** requires that at least every five (5) years after the completion of the initial process hazard analysis, the process hazard analysis shall be updated and revalidated by a team meeting the requirements, to assure that the process hazard analysis is consistent with the current process. By only reviewing PHA nodes that were affected by a MOC, Valero failed to assure that the process hazard analysis (in its entirety) is consistent with the current process.

3. **40 C.F.R. § 68.81(d)** requires that a report shall be prepared at the conclusion of the investigation which includes at a minimum: (1) Date of incident; (2) Date investigation began; (3) A description of the incident; (4) The factors that contributed to the incident; and, (5) Any recommendations resulting from the investigation. Valero East failed to document in a report the date the incident investigation began.

4. **40 C.F.R. § 68.195(b)** requires that beginning June 21, 2004, within one month of any change in the emergency contact information required under §68.160 (b)(6), the owner or operator shall submit a correction of that information. Valero East failed to submit a correction when its emergency contact information changed.

*Note: AOC #2 was determined subsequent to the closing meeting that occurred on October 27, 2017

Section IV – FOLLOW UP

No information was received by EPA after exiting the Facility on October 27, 2017.

Section V – LIST OF APPENDICES

Appendix 1 – Opening Conference Sign-in Sheet
Appendix 2 -- 2013 Compliance Audit Finding #6 - PHA
Appendix 3 – Compliance Audit Repeat Findings Justification
Appendix 4 – Sample Incident Investigation Report
Appendix 5 – Incident Investigation and Reporting Procedures Sections 6.0 and 7.0

Appendix 1
{Opening Conference Sign-in Sheet}

Valero Refining Co. – Texas, L.P. – East Plant
Opening Conference Sign in Sheet
10/23/2017

opening conference

Name	Title	Phone	E-mail
Aimee Almaraz	PSM Manager	361.231.0345	aimee.almaraz@valero.com
Benny Perriaz	PSM Coordinator	289-3146	Benny.Perriaz@Valero.com

Appendix 2
{2013 Compliance Audit Finding #6 - PHA}

Corporate PSM Compliance Finding # 6

FACILITY: Corpus Christi Refinery

DATE: July 27, 2012

AUDITOR(S): John T. Perez, P.E. / Al Brackey

ELEMENT: Process Hazards Analysis

CHECKLIST QUESTION #: 18, 56

FINDING DETAILS

TYPE: ☒ REGULATORY ☐ SITE SPECIFIC POLICY

DESCRIPTION (conclusion based on data/observation/analysis indicating non-conformance to regulatory or policy requirements): It could not be shown that the site's existing PHA revalidation approach could always confirm that all process hazard analysis revalidations assured that the process hazard analysis was consistent with the current process. Also, certain PHA scenarios listed unmitigated consequences of increased pressure that had already factored in pressure relief device activation.

SUPPORTING INFORMATION (observations, documents/files reviewed, interviews conducted, etc.): Reviewed recently revalidated (March 2012) PHA documentation for Unit 37 (Iso-Octene). Only one (1) of the 78 nodes from the previous PHA (node #60) had been revisited during the March 2012 revalidation effort. There was no indication of assurance that the remaining 77 nodes were consistent with (1) the current operating process, or (2) the current Valero consequence assessment process, as of the revalidation date. Discussions with site personnel indicated that the Unit 37 revalidation generally reflected the site's current PHA revalidation approach (i.e., conducting revalidations "by exception"). Also, several instances (e.g., Unit 47, Unit 147) were found where credit for lifting the pressure relief device had been taken when initially documenting the consequence (a pressure relief device is a safeguard and should not be factored into the initial consequence determination).

REGULATORY/POLICY CITATION (precise regulatory sub-section(s), reference(s), policy number(s), etc.): 29 CFR 1910.119 (e)(3)(iv)/(e)(6)

REGULATORY/POLICY EXPECTATION (copy regulatory/policy expectation(s) relevant to the finding): At least every five (5) years after the completion of the initial process hazard analysis, the process hazard analysis shall be updated and revalidated to assure that the process hazard analysis is consistent with the current process. The process hazard analysis shall ad dress consequences of failure of engineering and administrative controls.

Appendix 3
{Compliance Audit Repeat Findings Justification}

PSM AI 374362

Not all PSM coverage process piping had completed external inspection for corrosion under insulation (CUI). Not all PSM covered underground piping and East Plant flare system piping had been inspected in accordance with API 570.

This action item should be divided into 3 separate action items: (1) External Visual Inspection for CUI, (2) Underground Piping, and (3) East Plant Flare.

CUI External Inspection

This action item will be replaced with an action item stipulating that the CUI program be followed and evergreened as required.

CUI inspection of pressure vessels is currently 83% complete. There are currently 150 vessels remaining to inspect for CUI. These inspections are continuing and can be completed by December 31, 2017. CUI inspection of piping is currently 1.0% complete with a total of 13 susceptible circuits inspected out of 1290 circuits identified. Current production is approximately 2 circuits per week (using 4 inspectors). The current 2017 Budget has $622,000.00 ($51,900.00 per month) for CUI inspection. We intend to increase the budget to $2,000,000.00 per year in 2018 with a target completion of 8 years.

The following milestones have been established for the CUI program:

EOY 2017 – Complete 150 pressure vessel and 12 additional piping circuit inspections (total remaining 1265 – 2%)

EOY 2018 – Complete 180 additional circuit inspections (total remaining 1085 – 16%)

EOY 2019 – Complete 180 additional circuit inspections (total remaining 905 – 30%)

EOY 2020 – Complete 180 additional circuit inspections (total remaining 725 – 44%)

EOY 2021 – Complete 180 additional circuit inspections (total remaining 545 – 58%)

EOY 2022 – Complete 180 additional circuit inspections (total remaining 365 – 72%)

EOY 2023 – Complete 180 additional circuit inspections (total remaining 185 – 86%)

EOY 2024 – Complete 185 additional circuit inspections (total remaining 0 – 100%)

CUI inspections will be prioritized by risk but adjustments will be made to make efficient use of resources. CUI inspection will be incorporated into the evergreen equipment-specific inspection plans upon completion of the initial inspection.

Underground Piping Inspection

This action item will be replaced with an action item concerning the Soil To Air Interface program.

Status of Soil To Air Interface Program

Up to this point, soil to air interface locations have been identified as part of the special emphasis walkdown project which is walking down every piping circuit plant wide.

In order to expedite the soil to air implementation, a search of every P&ID was done to identify AG/UG locations. This effort resulted in 2691 soil to air (STA)/concrete to air (CTA) locations. Each of these locations has now been entered into PCMS as a separate piping circuit as required by *Soil to Air Interface and Buried Piping Standard* (CTEMS) 4.6.1.5.

Appendix 4
{Sample Incident Investigation Report}

VALERO

Valero HE

1. Problem (Incident) Details

Title:	C7 #2 SRU Unit Upsets
Description:	On January 12, 2016 the #2 SRU Thermal Reactor tripped offline due to a loss of combustion air. This occurred at 02:22am. The Tail Gas Treating Unit Heater was by-passed and shutdown as per the trip logic.While attempting to re-light the Thermal RX the #2 Incinerator tripped at 03:38am. The Incinerator was re-lit at 03:53am. The Thermal RX was back on-line at 03:45am. The Tail Gas Treating Unit heater was re-lit at 04:57am and the tail gas was routed back through the TGTU at 05:18am.

What	Impact ID #	163807
	Problem(s)	#2 SRU Thermal Rx and TG Heater tripped offline
When	Date	January 12, 2016
	Time	2:22 AM
	Different, unusual, unique	
Where	Facility, site	East Plant
	Unit, area, equipment	Complex 7 #2 SRU Unit
	Task being performed	

Consequence to Goals

Safety	
Process Safety	
Environmental	Reportable Quantity of SO2 released
Community/Reputation	
Business Interruption	
Equipment Damage	

Cost

Incident (US $)	
Frequency	
Annualized (US $)	

Investigation Team

Leader:	Kelli Coates
Members:	Jeff Swearengin, Jack Kelly, Sunil Kodigarti, Roy Beaty

Appendix 5
{Incident Investigation & Reporting Procedures Sections 6.0 & 7.0}

Process Safety Incident -OSHA: An event which resulted in, or could reasonably have resulted in a catastrophic release of more than 10,000 lbs. of a flammable liquid or gas, or more than a threshold quantity of a highly hazardous chemical (HHC) as listed in 29 CFR 1910.119 Appendix A. OSHA PSM Incidents will be marked in IMPACT with an OSHA PSM Flag.

Process Safety Incident-API

- To be considered a Process Safety Incident under the API Standard, the incident must be the result of a Loss of Primary Containment (LOPC) that affects people, property or the environment.
- A Process Safety Incident is reportable under the API definition if it results in:
- An employee, contractor or subcontractor fatality and /or days away from work or
- A third party fatality or injury/illness that results in a hospital admission
- A fire or explosion that causes $25,000 or more of direct cost, or
- An acute release of:
- 7 Bbls (1 ton) or more of flammable liquids
- 14 Bbls (2 tons) or more of combustible liquids
- Flammable gas or flammable vapor arising from flammable liquid, that is 500 kg (1100 lbs) or more at a facility; or
- Toxic chemical that is greater than the threshold quantities described in a table based on the UN Dangerous Goods List hazard categories. Chemicals of interest include:
- Chlorine 55 lbs.
- Hydrogen Sulfide 55 lbs.
- Hydrofluoric Acid 220 lbs
- Ammonia 440 lbs.
- Sulfuric Acid 2,200 lbs.

Spill/Release

A release of material, from its container, that is not intended or authorized to enter the environment.

6.0 INCIDENT REPORTING AND ANALYSIS

6.1 Initial Response:

6.1.1 The safety and health of employees, on-site visitors, and the public is the immediate concern after an incident occurs. This involves:

6.1.1.1 Ensuring that injured employee(s) receive immediate medical attention (if needed);

6.1.1.2 Taking all actions necessary to prevent or minimize the risk of further incidents, injury, or property damage.

6.1.1.3 Securing, barricading, evacuating or otherwise isolating employees from the vicinity of the incident.

6.1.1.4 Shutting down power sources to equipment to prevent further harm and contain the spread of spills.

6.2 Gathering Incident Information:

6.2.1 Valero employees shall obtain and document the following incident related information:

6.2.1.1 The time, date and location of the event.

6.2.1.2 Identity of all employees, eyewitnesses or those who arrive immediately following the incident.
6.2.1.3 All equipment involved in the incident.
6.2.1.4 Incident type and initial description of the incident.
6.2.1.5 A written statement from all employees and witnesses.

Note: If the incident involves a contractor, obtain employee's occupation, supervisor's name, and name of the contracting company. The coordinating Valero representative shall ensure that contractor submits an incident report to Valero in accordance with this procedure.

6.2.1.6 All documentation associated with work activity (e.g., Work Orders and Work Permits).
6.2.1.7 Names of all personnel notified about the incident.

7.0 IMPACT USAGE AND INCIDENT REPORTING

7.1 If an incident is suspected of violating a Life Saving Rule, contact should be made to Human Resources immediately to start the coordination of the investigation. Human Resources will determine the timing to complete findings and action items from a Life Saving Rule violation.

7.2 All Valero employees have the responsibility to report all incidents/near-miss per the table in Appendix A of this policy to their Supervisor and/or Manager.

7.3 The affected Supervisor and/or Manager must ensure that all incidents are reported in IMPACT within 24hrs..

7.4 The following Incident Report fields must be completed in IMPACT:

7.4.1 Incident Title
7.4.2 Responsible Department/Unit
7.4.3 Responsible Supervisor
7.4.4 Incident Date/Time Occurred/Reported
7.4.5 Incident Type and Subtype
7.4.5.1 All sub-types must be completed before submittal on Injury and Illness cases.
7.4.6 Description of Incident and Immediate Actions Taken.

7.4.6.1 **Note:** Upon completion of the report, an Incident Notification will automatically be sent to the Immediate Supervisor, Safety Department, Supervisors, and other pre-determined Management personnel

7.5 Upon receiving the notification from Impact and/or upon receiving additional information regarding the incident, the responsible Supervisor and/or Manager shall review and update information in the original first report for thoroughness and accuracy and enter any new information into Impact.

7.6 The Impact report may be used by other groups to input information for their respective disciplines.

7.7 If an Incident Investigation is required, all required fields will be filled out by the Incident Investigation Committee Chairperson or their designee.

7.8 Final approval will always include the following positions: EH&S Director, PSM Manager, Health and Safety Manager.

7.9 Once the investigation is completed, the supervisor will ensure action items are completed and close out the incident in Impact.

7.10 All action items that require extensions are required to be approved by the Incident Investigation Committee with notification to the appropriate Manager.

7.11 An incident investigation report will be automatically generated from Impact and sent to the Incident Investigation Committee Chairperson and the EH&S Director weekly.

8.0 INCIDENT CATEGORIES AND INVESTIGATION PROCESS

8.1 Near Misses and Category I Incidents

All near miss and category I incidents will require a field investigation. The investigation shall be completed in IMPACT by first line supervision. Field investigation information will be completed in IMPACT within 48 hours of discovery of the incident by the Supervisor or his designee.

8.2 Category II Incidents

- Category II incidents shall be investigated following an industry recognized formal investigation process unless the Safety/PSM Steering Committee, Safety Manager or PSM Manager will determine if a formal investigation would provide insufficient value. In such cases, an informal investigation may be used.
- Once the determination is made to investigate an incident, the Safety/PSM Steering Committee, Safety Manager or PSM Manager will provide the names of team members and the level of investigation to the Incident Investigation Committee.
- The Incident Investigation Committee will follow the investigation to completion and action item closure.

8.2.1 Informal investigations when used shall meet the following criteria:

8.2.1.1 Initiated by first line supervision no later than the next business day following the incident. This is considered the beginning of the investigation.

8.2.1.2 The affected department Manager or their designee will be required to oversee the gathering and documenting of causal factors and pertinent information if known. All information will need to be documented in Impact.

8.2.1.3 The approval process will follow Appendix B.

8.2.1.4 Every attempt should be made to complete the report no later than 45 days.

8.2.1.5 The final investigation report will be attached in Impact once completed.

8.2.2 Formal investigations shall meet the following criteria:

8.2.2.1 Initiated by first line supervision no later than the next business day following the incident. This is considered the beginning of the investigation.

8.2.2.2 Formal investigations will be conducted outside the IMPACT system until the final report is approved.