Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	June 24-28, 2024		
Media:	Air		
Regulatory Program(s)	Clean Air Act Section 112(r) and 40 C.F.R. Part 68 Chemical Accident Prevention Provisions - Risk Management Program (RMP)		
Company Name:	Valero Refining - Texas, L.P.		
Facility Name:	Valero Corpus Christi - West Plant		
Facility Physical Location:	5900 Up River Road		
(city, state, zip code)	Corpus Christi, Texas 78407-1001		
Mailing address:	1300 Cantwell Lane		
(city, state, zip code)	Corpus Christi, Texas 78407-1001		
County/Parish:	Nueces		
Facility Contact:	Joe Almaraz	Health, Safety, and Environmental Director	
FRS Number:	110064636032		
Identification/Permit Number:	1000 0007 9504		
NAICS:	32411 Petroleum Refineries		
Personnel participating in inspection:			
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SECTION I - INTRODUCTION

PURPOSE OF THE INSPECTION

We, United States Environmental Protection Agency (EPA) Region 6 Inspectors Howard Cole and Julia Torres, and Daniel Williams, EPA Inspector, EPA Headquarters, visited the Valero Refining – Texas, L.P.'s Valero Corpus Christi Refineries - West Plant (Valero West) in Corpus Christi, Texas from June 24-28, 2024. We met with Meagan Marquard (Process Safety Manager) for an opening meeting, which was also attended by Valero West staff.

I, EPA Region 6 Inspector Howard Cole, presented my credentials and informed Valero West personnel that this was an EPA inspection to determine compliance with the federal Chemical Accident Prevention Program. The scope of the inspection was a partial compliance evaluation, which included an evaluation of the facility's compliance with the Clean Air Act (CAA) Section 112(r) and the Chemical Accident Prevention Provisions in 40 C.F.R. Part 68. Valero West's Risk Management Plan (RMP) is categorized as a Title V permitted facility with at least one (1) Risk Management Program Level 3 Process. I inquired if an employee representative was available, pursuant to section 112(r)(6)(L) of the CAA, to participate in this inspection and was informed that Valero West is a non-union facility. Valero West employs approximately 328 employees.

FACILITY DESCRIPTION

Valero West is a petroleum refinery, which produces high-quality, premium products from low-value feed stocks using a variety of processing operations. The Valero West refinery uses crude oil as the feed material and makes a variety of petroleum-based products, including gasoline, diesel fuel, and liquefied petroleum gases (such as propane and butane). This highly specialized facility produces an exceptionally high yield of gasoline and gasoline blendstocks and is one of the few refineries in the country that can produce 100 percent of its gasoline as reformulated gasoline (RFG). RFG gasoline has fewer toxics and lower emissions than conventional gasoline. Clean fuels produced at Valero West are marketed in the Northeastern United States and Texas (in areas where the EPA has mandated their use). Ultra low-sulfur diesel fuel and some petrochemical feedstocks are also produced.

The regulated flammable substances at Valero West are contained within the tank farm and process units. Some process units may contain regulated substances that are either in mixtures that do not meet the EPA definition of a flammable mixture or are below the RMP threshold quantity. However, many of the products from Valero West are flammable substances that EPA has specifically listed in the Risk Management Program Rule (40 C.F.R. Part 68) and are present in the process units above the EPA threshold quantity of 10,000 pounds. The covered units are listed in their RMP. Valero West also handles four (4) toxic substances above the threshold quantity, subject to the Risk Management Program Rule, which are anhydrous ammonia, chlorine, hydrofluoric acid, and hydrogen sulfide.

SECTION II - OBSERVATIONS

On Monday, June 24, 2024, accompanied by Valero West staff, we received a driving tour of the facility. A more complete walkthrough inspection of the facility was conducted on June 26, 2024, which included a discussion of the process, interviews with employees, and a visit to the areas where previous incidents had occurred.

INCIDENT SUMMARY

This inspection was initiated as a result of the following incidents:

On October 4, 2023, the Hydrodesulfurization (HDS) Unit (RESID HDS) had a loss of primary containment and a fire occurred at the Unit 12 Resid HDS Unit initiating an emergency unit shutdown, activation of the Emergency Operations Center (EOC), and securing of the unit.

The sour seal oil sight glass assembly on the outboard sour seal oil trap for 12-C-06 Recycle Compressor (Seal Oil System) experienced a loss of primary containment and a subsequent fire. The fire caused damage to pipes, the structure, and instrumentation/electrical components. The same sight glass was worked on October 3, 2023.

On May 17, 2023 in the Gasoline Desulfurization Unit (GDU), the GDU HDS Tower Overhead Condenser experienced a flange leak and a subsequent fire. At the time of the event, the process operated at 290 psi and 600°F. Diesel was circulating and catalyst sulfiding was in progress. The GDU was de-pressurized and emergency crews were called to contain the event. Unit personnel ensured that non-essential personnel remained away from the immediate area. Valero West also classified this fire as a Category III event. No injuries were reported as a result of the fire. The Corpus Christi Fire Department and one of its HAZMAT companies were outside the Valero West refinery to aid, if needed. The Texas Commission on Environmental Quality was on-scene performing air quality testing.

Subpart A - General

40 C.F.R. § 68.10 Applicability – Valero West is the owner/operator of a stationary source that has more than a threshold quantity of the following RMP regulated flammable chemicals: methane, ethane, propane, butane, butene, isobutane, pentane, pentene, isopentane, isoprene, ethylene, propylene, hydrogen, 2-methyl propene, 2,2-dimethylpropane, and 1,3 pentadiene. Also, Valero West has more than a threshold quantity of the following RMP regulated toxic chemicals: ammonia, chlorine, hydrogen sulfide, and hydrogen fluoride, as listed in 40 C.F.R. § 68.130. Therefore, Valero West is subject to the provisions of the Chemical Accident Prevention Program requirements. Valero West has a Clean Air Act (CAA) Title V Air Operating Permit (No. O1458) and has a National American Industry Classification System (NAICS) code of 32411-Petroleum Refinery. Valero West also is subject to the Occupational Safety and Health Administration (OSHA) process safety management standard, 29 C.F.R. § 1910.119 and is an EPA RMP Program Level 3 facility.

40 C.F.R. § 68.12 General requirements – Valero West re-submitted their 5-year updated Risk Management Plan, as required by 40 C.F.R. § 68.190(b)(1), on December 1, 2020. This re-submission listed the covered processes containing the regulated chemicals. The regulations require Valero West to implement the RMP program requirements of 40 C.F.R. §§ 68.65 - 68.87, develop and implement an emergency response program, and submit the data elements from 40 C.F.R. § 68.175.

40 C.F.R. § 68.15 Management – Valero West has overall responsibility for the development and implementation of the Risk Management Program for EPA-regulated processes at this facility. The specific responsibilities for certain aspects of that program have been delegated to personnel who report either directly or through other management personnel. Those relationships are depicted on the Division RMP/PSM Organization Chart. Specific responsibility for the implementation of the Risk Management Program/Process Safety Management and Accident Prevention Programs has been delegated to Kyle Sharon and Meagan Marquard. Similarly, responsibility for the RMP hazard

assessment and risk management plan and the emergency response program (including compliance with the RMP aspects of that effort) is the responsibility of the Meagan Marquard.

Subpart B - Hazard Assessment

40 C.F.R. § 68.20 Applicability – Valero West has 19 RMP Program Level 3 processes subject to this subpart. Valero West is required to prepare an offsite consequence analysis and complete the five-year accident history. The offsite consequence analysis included the flammable butylene and the toxics hydrogen sulfide and hydrogen fluoride.

40 C.F.R. § 68.22 Offsite Consequence Analysis Parameters - I reviewed Valero West's offsite consequence analysis and supporting documentation. Valero West used the appropriate wind speeds and stability classes, ambient temperatures and humidity values, values for height of the release, and surface roughness values for the release scenario analyses. These values are within parameters specified by EPA for the regulated flammable and toxic chemicals. Valero uses RMP*Comp™ as the technique for modeling the release scenarios.

40 C.F.R. § 68.25 Worse-case Release Scenario Analysis – Valero West analyzed and reported in the RMP the worst-case scenario, which is estimated to create the greatest distance to an endpoint from an accidental release of a regulated flammable and toxic substance from a covered process under worst-case conditions. This was determined by analyzing all the regulated toxic chemicals and choosing the chemical with the greatest distance to endpoint.

40 C.F.R. § 68.28 Alternative Release Scenario Analysis – Valero West identified and analyzed at least one alternative release scenario for each regulated flammable and toxic substance stored in a covered process by using a scenario that is more likely to occur and would reach an endpoint offsite.

40 C.F.R. § 68.30 Defining Offsite Impacts - Population – Valero West's offsite impacts documentation did identify the presence of recreational areas, mobile homes, major commercial, offices, or industrial buildings in the RMP. The maps provided identified the receptors within a circle. The original RMP hazard assessment documentation provided during the 2015 RMP inspection included the distance to endpoint based on a circle with the release point at the center.

40 C.F.R. § 68.33 Defining Off-site Impacts - Environment – Valero West's offsite impacts documentation did identify the presence of affected environmental receptors such as the Nueces and Corpus Christi Bay.

40 C.F.R. § 68.36 Review and Update – Valero West's most recent offsite consequence analyses were completed in 2020 during the last RMP re-submission. Valero West ensures that this documentation is reviewed and updated at least once every five years.

40 C.F.R. § 68.39 Documentation - For the worst-case and alternate release scenarios, a description of the vessel or pipeline, the substance selected as worst-case, and the rationale for selection was included; likewise, assumptions included use of any administrative controls and any passive mitigation that were assumed to limit the quantity that could be released, estimated quantity released, release rate, and duration of release. The RMP*Comp™ methodology was used to determine distance to endpoint. RMP*Comp™ was used to verify the distance to endpoint for each scenario.

40 C.F.R. § 68.42(a)/68.168 Five-year accident history – Valero West reported no accidents from a covered process within the last five years in their December 2020 Risk Management Plan re-submission.

Subpart D - Program 3 Prevention Program

40 C.F.R. § 68.65 Process Safety Information – Valero West maintains technical documents used to maintain safe operation of the refinery. These documents address chemical properties and associated hazards, control settings for process parameters and chemical inventories, and equipment design information. Responsibility for maintaining process safety information is assigned to departments within the refinery. A table summarizing the reference documents and their location is readily available to help employees locate any necessary process safety information.

Chemical-specific information, including exposure hazards and emergency response/exposure treatment considerations, is provided in material safety data sheets (MSDS). For specific process areas, the refinery has documented safety-related limits for specific process parameters. The refinery ensures that the process is maintained within these limits using process controls, monitoring instruments, and protective instrument systems. Valero West also maintains numerous technical documents that provide information about the design and construction of process equipment. This information includes materials of construction, design pressure and temperature ratings, electrical rating of equipment, etc. This information, in combination with written procedures and trained personnel, provides a basis for establishing inspection and maintenance activities as well as for evaluating proposed process and facility changes to ensure that safety features in the process are not compromised.

We reviewed written process safety information, which 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 in the process. I reviewed the SDS for eight (8) RMP regulated chemicals used at the facility: hydrogen fluoride, hydrogen sulfide, butane, propane, pentane, isobutane, propylene, and ethylene to confirm toxicity information, flammability, permissible exposure limits, physical data, reactivity data, corrosivity data, thermal and chemical stability data, and the hazardous effects of inadvertent mixing of materials that could foreseeably occur.

I reviewed information that contained materials of construction, piping and instrumentation diagrams (P&IDs), electrical classification, relief system design and design basis, ventilation system design, design codes and standards employed, and safety systems.

Valero West failed to document that process safety information for pressure safety valves was complete and accurate. Process safety information was missing for pressure safety valves in the following: Units 20, 21, 22, 31, 37, 47, and 49. **AOC 1 - 40 C.F.R. § 68.65(d)(1)(iv)**

American Society of Mechanical Engineers (ASME) Section VIII Rules for Construction of Pressure Vessels Division 1 2023 provides requirements applicable to the design, fabrication, inspection, testing, and certification of pressure vessels operating at either internal or external pressures exceeding 15 psig. Pressure safety valves were not installed in a vertical position in accordance with recognized and generally accepted good engineering practices. **AOC 2 - 40 C.F.R. § 68.65(d)(2)**

The current version of the ANSI/ASME A13.1-2020 code uses a color scheme with six standard color combinations and four defined by user combinations. The pipe marker colors are based on the charismatic characteristics of the hazard of the contents of the pipe, as shown in a table found in the standard. In many areas

of the facility process piping was not labeled to comply with this recognized and generally accepted good engineering practice, ASME A13.1-2020, such as but not limited to, the pipe rack between Unit 20 LRU and North of Unit 49 at 955' West. **AOC 2 - 40 C.F.R. § 68.65(d)(2)**

40 C.F.R. § 68.67 Process Hazard Analysis (PHA) – Valero has a comprehensive program to help ensure that hazards associated with the various processes are identified and controlled. Within this program, each process is systematically examined to identify hazards and ensure that adequate controls are in place to manage these hazards.

Valero West primarily uses the hazard and operability (HAZOP) analysis technique to perform these evaluations. HAZOP analysis is recognized as one of the most systematic and thorough hazard evaluation techniques. The analyses are conducted using a team of people who have operating experience as well as engineering expertise. This team identifies and evaluates hazards of the process, accident prevention and mitigation measures, and makes suggestions for additional prevention and/or mitigation measures when necessary.

The PHA team findings are forwarded to management for resolution and approval. The implementation of mitigation options in response to PHA findings are based on a relative risk ranking assigned by the PHA team. To help ensure that the process controls and/or process hazards do not eventually deviate significantly from the original design safety features, Valero West periodically updates and revalidates the hazard analysis results. These periodic reviews are conducted at least every five years and will be conducted at this frequency until the process is no longer operating. The results and findings from these updates are documented and retained.

The PHA facility siting checklists were not appropriate for the complexity of the process in that they do not address the hazards identified in the June 2022 Valero Business Risk Management Facility Siting Study.

The June 2022 Valero Business Risk Management Facility Siting Study was not appropriate to the complexity of the process. The study did not identify, evaluate, and control the hazards posed by toxic chemicals such as anhydrous ammonia, chlorine, hydrogen sulfide, and hydrogen fluoride. The study states that toxic dispersion modeling was not performed, that buildings under consideration for Emergency Operation Shelters should have a toxic evaluation performed, and indicates that a toxic evaluation was performed. However, no toxic evaluation or toxic dispersion modeling has been provided to EPA.

The June 2022 Valero Business Risk Management Facility Siting Study was not appropriate for the complexity of the process. The study considers an existing building suitable for occupancy when the predicted Building Damage Level (BDL) is 2.5 or less or the predicted blast loads do not exceed the design blast rating of the building. Unfortunately building damage level is not correlated to building occupant vulnerability as it does not reflect potential injuries to building occupants at blast loads of 1.0 (or 0.9) psi and above, which exist, as identified in the blast contour map and the tables present in the Facility Siting Study. Recognized and generally accepted criteria for suitable building occupancy is a reflected blast load of 1.0 psi based on tables contained in API 752. The tables indicate buildings undergoing a reflected overpressure of 1.0-3.0 psi would experience glass breaking, glass shattering with body penetrating velocities, wooden frame structural failure and potential collapse, steel cladding buildings with internal damage to walls, ceilings, and furnishings, transite shattering, brick cladding blown-in, and unreinforced masonry wall collapse or possible shattering.

This study predicts that the Powerhouse (i.e., North and South Sections), Powerhouse Control Room, and Demineralizer Control Room will sustain a building collapse (BDL 4). An unoccupied building with two sections,

Powerhouse (North and South sections), was also included in the facility siting study in order to determine the overall building response of the Powerhouse Control Room. The Powerhouse Control Room (an occupied permanent building) is located inside the Powerhouse on the second floor of the North section. The overall response of the Powerhouse Control Room could be impacted should the outer building sustain major damage or collapse.

This study concludes that the Powerhouse (an unoccupied building) would collapse due to the blast loads from an internal vapor cloud explosion (VCE). This building collapse would result in a subsequent collapse of the Powerhouse Control Room, which is located inside the Powerhouse and the Demineralizer Control Room.

The objective of the consequence analysis is to estimate the potential magnitude of an explosion, evaluate its effects on a building, and relate the damage sustained by the building to the degree of potential injury or damage to the occupants and/or equipment inside. **AOC 3 - 40 C.F.R. § 68.67(a)**

The PHA did not address the potential thermal radiation hazard to personnel around the flares located at Valero West or portable building and scaffolding tent siting as identified in the April 2024 Valero West Compliance Audit. Valero has developed corrective actions to address these audit findings and is working towards completion. **AOC 4 - 40 C.F.R. § 68.67(c)(1) and (c)(5)**

The RMP standard requires Valero West to promptly assure that recommendations addressing the hazards are resolved in a timely manner and actions abating these hazards should be completed as soon as possible. While additional studies or developing programs are often necessary to determine the best way to resolve a hazard, a study or program does not represent closure of a PHA recommendation, and the recommendation must continue in subsequent PHAs until there is mitigation of the hazard. The PHA must document what actions are to be taken and develop a written schedule of when these actions are to be completed. Valero West has instances in which the PHA has not promptly assured, that recommendations addressing hazards are resolved in a timely manner and that actions abating these hazards are completed as soon as possible.

Valero West also failed to establish a system to promptly address finding and recommendation in the June 2022 Valero Facility Siting Study, to assure that the recommendations are resolved in a timely manner and that the resolution is documented; document what actions are to be taken; complete actions as soon as possible; develop a written schedule of when these actions are to be completed. **AOC 5 - 40 C.F.R. § 68.67(e)**

40 C.F.R. § 68.69 Operating Procedures – Valero West maintains written procedures that address various modes of process operations such as: unit startup, normal operations, temporary operations, emergency shutdown, normal shutdown, and initial startup of a new process. These procedures are used as a reference by experienced operators and provide a basis for consistent training of new operators. These procedures are periodically reviewed and annually certified as current and accurate. In most cases, Valero West operating manuals were developed by lead production workers and their supervisors. The most current copies of the manuals are available to all employees via computer.

We reviewed the following operating procedures:

- 001-OPS-3004 Startup After Emergency Shutdown Revision 1 and 2,
- 001-OPS-5001 Power Restored Revisions 1 and 2,
- 001-OPS-5003 Loss of Power Revisions 1 and 2,
- 001-OPS-5012 Crude Unit Emergency Shut Down Unit Fire Revisions 1 and 2,
- 031-OPS -5009 HF Acid Release and Response Procedure Revision 1,

- 031-OPS-5060 Alky Fire Revisions 1 and 2,
- 031-OPS- 5131 Loss of Flare Revisions 1 and 2,
- 031-OPS-4011 Alky Unit Normal Shutdown Revisions 1-5,
- 041-OPS-3060 Introduce Acid Gas Feed Revisions 1, 2, and 3,
- 041-OPS-5030 Cooling Water Failure Revisions 1 and 2,
- 041-OPS-5060 Instrument Air Failure Revisions 1 and 2, and
- 041-PPS- 6010 Train 1 and Train 2 Co-Fire Procedure Revisions 1 and 2.

Valero West failed to ensure that the written operating procedures listed above provided clear instructions for safely conducting activities involved in each covered process by addressing operating limits, consequences of deviation, steps required to correct or avoid deviation, safety and health considerations, safety systems and their functions, such as but not limited to startup following a turnaround or after an emergency shutdown.
AOC 6 - 40 C.F.R. § 68.69(a)(1)(vii)

Valero West failed to ensure that hard copies of the current operating procedures were readily accessible to the field operators who work in or maintain the process in the operating shelters/control room.
AOC 7 - 40 C.F.R. § 68.69(b)

Valero West failed to ensure operating procedures were reviewed as often as necessary to assure that they reflect current operating practice and are current and accurate. Valero's 2024 compliance audit identified errors in some operating procedures**. AOC 8 - 40 C.F.R. § 68.69(c)**

Valero West failed to properly address safety and health considerations in the 041-OPS-3060 Introduce Acid Gas Feed operating procedure. The procedure did not include health and safety information such as the chemical hazards associated with the unit and equipment and did not include the proper PPE to be worn for performing the procedure. The procedure identifies other documents for reference such as SDS (online), the Emergency Response Manual, and the Policies and Procedures Manual but this prompts the operator to collect multiple documents that do not appear to be easily accessible prior to performing the procedure.

Valero West failed to develop safe work practices for employees and contractors working around the West Plant Ground Flare. **AOC 9 - 40 C.F.R. § 68.69(d)**

40 C.F.R. § 68.71 Training – To complement the written procedures for process operations, Valero West trains all employees involved in operating a process. New employees receive basic training in refinery operations. After successfully completing this training, a new operator works only under the direct supervision of a senior operator to learn process-specific duties and tasks. After operators demonstrate adequate knowledge and skills to perform the duties and tasks in a safe manner on their own, they can work independently. In addition, all operators periodically receive refresher training on operations and safety procedures to ensure that their skills and knowledge are maintained at an acceptable level. This refresher training is conducted at least every three years for operations and every year for safety training. The training is documented for each operator, which included the means used to verify that the operator understood the training.

Valero West failed to ensure that hydrogen flouride safety and health training was performed annually **for four (4) operators** in accordance with their training requirements. **AOC 10 - 40 C.F.R. § 68.71(b)**

40 C.F.R. § 68.73 Mechanical Integrity – Valero West has established practices and procedures to maintain pressure vessels, piping systems, relief and vent systems, controls, pumps and compressors, and emergency shutdown systems in a safe operating condition. The basic aspects of this program include the following: conducting training, developing written procedures, performing inspections and tests, correcting identified deficiencies, and applying quality assurance measures. In combination, these activities form a system that maintains the mechanical integrity of the process equipment.

Maintenance personnel receive an annual overview of the process, safety and health hazards, and emergency response plans to help ensure that they can perform their job in a safe manner. Inspections and tests are performed to help ensure that the equipment functions as intended and to verify that equipment is within acceptable operating limits. If a deficiency is identified, employees will correct the deficiency before placing the equipment back into service or a Management of Change (MOC) team will review the deficiency and determine what actions are necessary to ensure safe operation of the equipment.

Valero West ensures new equipment is suitable for its intended use and that proper materials and spare parts are used when repairs are made. Valero West has selected American Petroleum Industry (API) standards 510, 521, 570, and 653 as their designated recognized and generally accepted good engineering practices (RAGAGEP).

I conducted interviews with employees who manage the Valero West mechanical integrity program. Inspection and testing history for pressure vessels, pressure relief valves (PRV), storage tanks, and piping was requested, which included Form U-1-Manufacturers's Data Report for Pressure Vessels, external and internal inspections, and ultrasonic testing. Inspection and testing equipment files for the following pressure vessels were reviewed: 01E02, 01E11A, 01L01, 01T01, 01V01, 01V19, 31E23, 31E28, 31T02, 31T05, 31V04, 31V11A, and 31V12.

Valero West performed a temporary repair by installing a clamp on a leaking pipe for the purpose of relieving stress on line C2 in Unit 17 on September 20, 2021. Valero's Mechanical Integrity Inspection and Testing Manual, Temporary Repair Guideline states in section 5.24, "the removal date cannot be extended without the deferral process involving the inspector and mechanical engineer to assure that the repair is fit for continued service until the new removal date. A thorough reinspection of the Temporary Repair and the parent asset shall occur prior to extension of the Inspection Work Request (IWR)". According to the Temporary Repair Approval Form, the planned permanent repair date was October 2023.

Valero West did not implement its written Mechanical Integrity Procedure by not removing a clamp (located on line number 17-E-01 A/B bypass) by the planned permanent repair date of October 2023 or ensuring that an inspection of the clamp was conducted by an inspector and mechanical engineer, which is necessary to defer the removal date. On April 20, 2024, the pipe/clamp (operating at 270 psi) experienced a leak and release of benzene due to a loss of integrity of the clamp.

The following information was included in the 2024 Valero West compliance audit. Approximately 75% of the PHA safeguards selected (32 out of 42) for review for critical instrument status and testing were not included in the critical instrument program. All 13 sampled operator responses to critical alarms, all 7 sampled Basic Process Control System (BPCS) control functions, and 11 of the 19 interlocks and trips (both Safety Instrumented Systems (SIS) and BPCS) selected for review were not observed in the critical instrument program.

Valero West did not ensure that critical instruments identified as safeguards in their PHA were included in the critical instrument program and that inspection and testing were implemented at the established intervals. This issue was identified in the 2024 Valero West Compliance Audit. **AOC 11 - 40 C.F.R. § 68.73(b)**

Valero West failed to inspect PRV 17RV01A in accordance with API 510, which requires inspection intervals not to exceed 5 years. Valero West uses a risk-based inspection (RBI) technique for this PRV but failed to appropriately determine inspection intervals in using economic factors in its risk-based analysis. PRV 17RVO1A was installed on June 17, 2015 and has not received an inspection and test. The first inspection date set by Valero's RBI analysis is for December 8, 2030, which is more than 15 years from its original install date. PRV 17RVO1A has yet to receive an inspection since it was installed on June 17, 2015. Valero West did not ensure that a pressure relief valve was inspected and tested in accordance with API 510, Section 6.6.3.2 which require pressure relief devices be test and inspected at intervals not to exceed five years for typical process services.

API 510 Testing and Inspection Intervals
6.6.3.2 Unless documented experience and/or an RBI assessment indicates a longer interval is acceptable, test and inspection intervals for pressure relief devices (PRDs) in typical process services ***should not exceed five years*** *for typical process services.* **AOC 12 - 40 C.F.R. § 68.73(d)(2)**

Valero West did not ensure that certain Unit 17 Class 1 piping was inspected and tested in accordance with recognized and generally accepted good engineering practices, such as but not limited to, API 570, Section 6.3.3.1 (Table 1- Recommended Maximum Inspection Intervals for Class I Piping), which requires Ultrasonic Testing (UT) every 5 years. **AOC 12 - 40 C.F.R. § 68.73(d)(2)**

The following information was included in the 2024 Valero West compliance audit:

- "The documentation for gas detector calibration was observed to be lacking.
- Gas detectors are credited in hazard analysis on either an individual or by-unit basis, not a by-complex basis.
- The inspection and testing records were not available at the individual or by-unit level to validate that credited safeguards were being properly maintained."

Gas detector calibration SAP records and Valero's internal procedures were reviewed by the Valero compliance audit team. Interviews with instrumentation maintenance personnel were conducted. The following deficiencies were observed:

- "Documentation does not consistently indicate the serial number or identifier of the equipment on which the inspection or test was performed, or the result of the inspection and test for each piece of equipment."
- "Not all complexes were observed to have objects in SAP documented for the individual assets (or gas detectors within units or areas) resulting in no observed documentation of which assets were tested, or the results of the individual calibrations performed.

During the EPA inspection it was determined that Valero West did not calibrate or bump test the chemical monitors/detectors semi-annually in accordance with the manufacture's required intervals.
AOC 13 - 40 C.F.R. § 68.73(d)(3)

Valero West did not correct deficiencies in PRVs that were outside acceptable limits before further use or in a safe and timely manner. Modifications were identified and required for certain valves in the PRV study for Units 1, 2, 8, 11, 12, 18, 20, 20, 47, 48 and have not been completed.

For example, there were 7 instances where field modifications of the pressure safety valves/pressure relief system were required in order for the pressure safety valve/pressure relief system to function properly as designed given various scenarios.

Valero West failed to correct deficiencies for the following:

- West Plant Control Building, Temporary HVAC Unit - 10.19 CCW-FS-2022-19
- H2S gas detection sensor located in the HOC Operator Shelter was found to be displaying a fault on the local display.

Valero West failed to correct deficiencies for the Lower Explosive Limit (LEL) gas detection sensors located in the following buildings:

- BUP Control Building
- HR Operator Shelter
- LEU Operator Shelter

The LEL gas detection sensors identified in recommendation 10.15 CCW-FS-2022-15, Emergency Operations Shelters were found to be displaying a fault on the local displays.

Valero West failed to correct deficiencies in the building pressurization and alarm system. The minimum building pressure should be 0.1 inches H2O (see §9.2) based on the guidance in §3.3 and §4.4 of NFPA 496 (2017). The building pressurization system must be monitored and include a low-pressure alarm available to ensure that building pressure is greater than 0.1 inches of H2O.

The building pressurization and alarm system identified in recommendation 10.14 CCW-FS-2022-14, Maintain Building Pressurization on EOS Buildings from the Valero West June 2022 Facility Siting Study states that Valero West's building pressurization and alarm system was not functional in the Alky Operator Shelter and the West Plant Control Building.

In April and May of 2022, Valero West failed to correct deficiencies in the fire monitor adjacent to Unit 52 (GDU) prior to the May 17, 2023 incident. **AOC 14 - 40 C.F.R. § 68.73(e)**

40 C.F.R. § 68.75 Management of Change (MOC) – Valero West has a comprehensive system to manage changes to processes. This system requires that changes to items such as process equipment, chemicals, technology, process operating conditions, procedures, and other facility changes are properly reviewed and authorized before being implemented. Changes are reviewed to ensure adequate controls are in place to manage any new hazards and to verify existing controls have not been compromised by the change. Affected chemical hazard information, process operating limits, and equipment information, and procedures are updated to incorporate these changes. In addition, operating and maintenance personnel are provided any necessary training on the change. However, the following Areas of Concern were identified:

- The April 2024 Valero West Compliance Audit Internal MOC auditing from Q2, Q3, and Q4 of 2023 revealed (that in more than 25% of the sampled MOCs in each quarter) proper affected personnel notifications were not sent. No refresher training or other means to correct the deficiencies was observed. **AOC 15 - 40 C.F.R. §§ 68.75(a) and 40 C.F.R 68.75(c)**

- Valero West failed to ensure that the changes in the operating procedures were implemented using the MOC process. **AOC 16 - 40 C.F.R. §§ 68.75(b)(3) and 68.75(e)**

40 C.F.R. § 68.77 Pre-startup Safety Review (PSSR) – Valero West conducts a PSSR for any new facility or facility modification that requires a change in the process safety information. The purpose of the PSSR is to ensure safety features, procedures, personnel, and the equipment are appropriately prepared for startup prior to placing the equipment into service. This review provides one additional check to make sure construction is in accordance with the design specifications and all supporting systems are operationally ready. The PSSR review team uses checklists to verify all aspects of readiness. A PSSR involves field verification of the construction and serves a quality assurance function by requiring verification that accident prevention program requirements are properly implemented.

40 C.F.R. § 68.79 Compliance Audits – To ensure that the accident prevention program is functioning properly, Valero West periodically conducts an audit to determine whether the procedures and practices required by the accident prevention program are being implemented. Compliance audits are conducted at least every 3 years. Valero West personnel, including an employee knowledgeable in the process, participate as audit team members. The audit team develops findings that are forwarded to refinery management for resolution approval. Corrective actions taken in response to management approved audit team findings are tracked until they are complete. The final resolution of each finding is documented, and the audit reports are retained for five years. EPA reviewed the two most recent compliance audit reports from March 2021 and March 2024.

Valero West failed to promptly determine and document an appropriate response to several findings relating to MOC notifications and training in the 2021 Valero West compliance audit, and document that deficiencies have been corrected. Valero West failed to ensure that employees involved in operating a process whose job tasks will be affected by a change in the process shall be informed of, and trained in, the change prior to start-up of the process or affected part of the process. The 2021 compliance audit identified 96 MOC notifications that had been open for more than 30 days. This was determined to be an issue in the 2023 Valero West internal audit and the EPA required compliance audit in March 2024. No refresher training or other means to correct the deficiencies was observed. **AOC 17 - 40 C.F.R. § 68.79(c)**

40 C.F.R. § 68.81 Incident Investigation – The following incidents involving an accidental release or potential release of hazardous chemicals occurred between March 2022 to December 2023:

- **March 15, 2022, OLEFLEX UNIT –** The Oleflex 38RX01 top head to shell flange was found leaking with a small hydrogen (H2) fire visible at night. Steam was placed on the flange to keep it snuffed out. The flange was retorqued and rechecked.

- **May 17, 2022, HYDROGEN PLANT** – A Source, Maintenance, and Recoverability (SMR) trip caused a 13RX01A flange to leak resulting in a fire. This event is associated with a West Plant plant-wide power failure. Isolated equipment both on the board and the outside manual valves reducing pressure and extinguishing the fire. Began start up procedure on the unit. Currently at a hold while maintenance replaces gaskets on 13RX01A.

- **May 19, 2022, OLEFLEX UNIT** – A non-reportable air release occurred when a leak was discovered inside of cold box in the Oleflex unit. The cold box was bypassed, isolated, and de-pressurized. An Emergency Operation Center (EOC) was initiated to monitor and coordinate the situation. Flaring emissions due to the

shutdown of the unit at the BUP Flare will be categorized under authorized MSS emissions. During MSS shutdown, visible emissions were observed at the BUP Flare and will be reviewed to determine if the duration was greater than five minutes in a 2-hour period, which would be a deviation. The cold box was bypassed, isolated, de-pressured, drained, and placed under N2 purge.

- **June 17, 2022, OLEFLEX UNIT** – Ice was observed on 38 Oleflex Cold Box panels indicating an internal process leak. Venting to the BUP Flare continues to allow for the maintenance preparation of the Oleflex cold box. This activity is an authorized MSS maintenance activity. Resulting emissions are below the MSS flare sub-cap short-term emission rate (pound/hour) permit limits. These emissions will be evaluated against the annual ton per year MSS flare sub-cap.

  Following a 2nd leak, Valero West bypassed the Cold Box, isolated and shutdown Oleflex. Valero West began purging and clearing butanes from process equipment inside the Cold Box.

  Following a 3rd leak, Valero West began unit shutdown procedures, bypassed the Cold Box, and started de-pressuring and nitrogen purging the Cold Box to begin hydrocarbon freeing internal equipment.

  For follow-up, reference 457621 (FI) on May 19, 2022 and 459544 on July 09, 2022 for similar occurrences.

- **June 23, 2022, HEAVY OIL CRACKER (HOC)** – A small flange fire occurred at the HOC 21-E-08-B slurry/feed exchanger flange during HOC unit startup. An operator found the fire and put it out with a steam lance and a fire extinguisher.

- **July 9, 2022, OLEFLEX UNIT** – The Cold Box top LEL meter went to 100%, indicating a process leak inside the Cold Box. Charge Heater exceedances of Carbon Monoxide (CO) lb./MMBTU limit during MSS startup are not a deviation. The BUP Flare had elevated flow during BUP MSS startup but is not a deviation. At approximately 3:45PM on July 9, 2022, a non-reportable emissions event occurred when a leak was discovered at the Oleflex cold box. The Oleflex feed was out at 6:30pm.

  The Oleflex unit was shut down. Operations began Unit shutdown procedures, bypassed the Cold Box, started de-pressuring and nitrogen purging the Cold Box to begin hydrocarbon freeing the internal equipment.

- **December 12, 2022, HDS UNIT (RESID HDS)** – 12P12B Fractionator Bottoms Pump seal failed causing a fire, a unit upset, and causing 12C15A Off Gas compressor to trip offline. The Off Gas Compressor trip caused flaring and a reportable quantity of SO2 was released. The West Plant experienced elevated H2S in the fuel gas due to recovery of H2S via Field Gas Recovery Unit (FGRU). Operations isolated 12P12B, started 12P12C, and started 12C15B off-gas compressor.

- **January 29, 2023, GASOLINE DESULFURIZATION UNIT (GDU**) – 52P04B GDU CDHDS Reboiler Circulation Pump inboard (DE) seal blew, and vapors caught fire. Operations remotely shut pump down from the Data Control System (DCS) board and isolated the discharge and suction motor operated valve (MOVs) also from the DCS. Outside operators started the nearby fire monitor to capture and control the fire and provide cooling. The deluge monitor was activated from the DCS for additional cooling/control. The fire was extinguished within a few minutes due to the MOVs isolating the pump away from the fuel source.

- **February 1, 2023, GASOLINE DESULFURIZATION UNIT (GDU) –** The GDU Reboiler Circulation Pump outboard non-drive end (NDE) seal failed. For follow-up, reference 464927 investigation findings and

recommendations. Shut down 52P04A and isolated the suction and discharge valves. Directed a fire monitor toward pump to suppress vapors and cool pump. After the vapor cloud was dispersed and the scene was deemed safe. Valero West started 52P04B and re-lit 52H01 to stabilize the tower temperature and pressure.

- **February 10, 2023, GASOLINE DESULFURIZATION UNIT (GDU) –** 52P14B Outboard seal blew out. Shut down GDU and isolated 52P14B. Applied ample amounts of water via two fire hoses until the pump was safe and stable. Started 52P14A and worked unit temperature and pressure down. For follow-up, reference EHSM 464927 investigation for findings and recommendations.

- **April 3, 2023, CRUDE UNIT –** The 01-H-02 Crude Pre-Flash Heater experienced a loss of DCS flow indication. An operator went to investigate and saw the heater on fire. Emissions from this event were non-reportable. Operations notified the shift foreman and the shift foreman activated Emergency Response Team (ERT) protocol. Operations shut down the heater and isolated the fuel sources. Valero West notified all parties.

- **April 9, 2023, OLEFLEX UNIT –** Operations reported a small hydrogen (H2) leak and fire on a 32" flange at the 38RX02 Oleflex reactor inlet. The Lead Operator was notified, and a steam lance was put in place to stop the flame.

- **May 4, 2023, HEAVY OIL CRACKER (HOC)** – Health & Safety employees were in the process of welding on a 3” line when liquid from within the line ignited causing a fire. A nearby fire blanket also caught fire. The welding commenced prior to the fire watch being prepared to perform duties. The fire was extinguished. No injuries were experienced due to this incident. The 3” line will be steamed out and energy isolation will be adjusted.

- **May 17, 2023, GASOLINE DESULFURIZATION UNIT (GDU)** – The GDU HDS Tower Overhead Condenser experienced a flange leak and subsequent fire. At the time of the event, the process conditions were 290 psig and 600°F. Diesel was circulating and catalyst sulfiding was in progress. The GDU was de-pressurized and emergency crews were called to contain the event. Unit personnel ensured that non-essential personnel remained away from the immediate area.

- **June 24, 2023, HF ALKY UNIT** – An operator was conducting his fin-fan rounds when they noticed ice, frost, and butane leaking from the 31-E-037 Alky Debutanizer fin-fan tubes. Operations pulled the Alky feed and put the Alky Unit on circulation, de-inventoried the Debutanizer and overhead drum, and de-pressurized the unit for maintenance to install blinds.

- **July 10, 2023, BUTAMER UNIT** – An operator discovered a pinhole leak on the caustic circulation control valve for the 36-T-002 Butamer Stabilizer Off Gas Scrubber, notified all parties, initiated an exclusion zone, and started unit shutdown per the procedure.

- **October 4, 2023, HDS UNIT (RESID HDS) –** A loss of primary containment and fire occurred at the 12 Resid HDS Unit. Valero West initiated emergency unit shutdown, activated EOC, and secured unit.

- **December 12, 2023, HF ALKY UNIT** – An Alky operator was catching an acid sample when his acid hood was sprayed with acid. The operator immediately rinsed under the safety shower. Upon further inspection, it was found that the Alky breathing air hood had a 1" cut under the right side of the face shield. The operator was rushed to shelter, the burned area was rinsed with water for five minutes, and calcium gluconate was applied to the burned area. Safety and area supervisors were notified and the operator was rushed to

medical for further treatment.

40 C.F.R. § 68.83 Employee Participation – Valero West encourages employees to participate in all aspects of process safety management and accident prevention. Employee participation is attained by direct employee involvement in process hazards analysis teams, new hire and refresher training, updates of written operating procedures, punch list verification for pre-startup safety review, monthly safety meetings, and incident investigation teams. Employees have access to all process safety information including trade secret information.

40 C.F.R. § 68.85 Hot Work Permit – Before hot work begins, an operation's representative inspects the equipment that will be used prior to sign-off. The facility issues hot work permits for hot work operations conducted on or near a covered process for the duration of the current shift. The following shift can revalidate a hot work permit if the work must continue, and the scope of work has not changed.

40 C.F.R. § 68.87 Contractors – Valero West uses contractors to supplement its workforce, especially during periods of increased maintenance or construction activities. Valero West evaluates contractor safety programs and performance during the selection of a contractor. Because some contractors work on or near process equipment, the refinery has procedures in place to ensure that contractors perform their work in a safe manner, have the appropriate knowledge and skills, are aware of the hazards in their workplace, understand what they should do in the event of an emergency, understand and follow site-specific safety rules, and inform refinery personnel of any hazards that they find during their work. This is accomplished by providing contractors with a process overview, information about safety and health hazards, emergency response plan requirements, and safe work practices prior to beginning work. Refinery personnel perform periodic audits of contractor performance to ensure safety obligations are being met.

Subpart E - Emergency Response

Valero West is designated as a "first responder" in case of an accidental release of regulated substances. Valero West maintains an integrated contingency plan, which consolidates all the various federal, state, and local regulatory requirements for emergency response planning. The program provides the essential planning and training for effectively protecting workers, the public, and the environment during emergency situations.

Valero West coordinates the plan with Corpus Christi and Nueces County Emergency Response Agencies (fire department, police department, Refinery Terminal Fire Company, and the Local Emergency Planning Committee). The facility Emergency Response Team operates under the Incident Command System, with the Incident Commander operating from the designated Emergency Command Center. Valero West also maintains an onsite fully trained emergency response team called VALSTAR. In the event of a release, the refinery has well-trained emergency response teams to contain, mitigate, monitor, and stop a release.

Valero West failed to implement procedures for the inspection, testing, and maintenance of emergency response equipment by not following the intervals for inspection and testing as required by their program. In some cases, the documentation for the inspection does not adequately describe the examination or assessment of the emergency response equipment. **AOC 18 - 40 C.F.R. §68.95(a)(2)**

Based on the annual inspection of the deluge system in August 2023 the following deficiencies were identified:

- 5.1.1 2023-CC-HF-01: Elevated Monitor Nozzle Debris (EHSM 5021051) – Monitor #18 and Monitor #20 have debris in the nozzle. Remove debris and function test to verify monitor pattern operates as designed.

- 5.1.2 2023-CC-HF-02: Elevated Monitor Controls (EHSM 5021052) – Monitor #1, #28, #30, and #32 cannot be controlled from any location. Create tasks to address repair of each monitor.

- 5.1.3 2023-CC-HF-03: Impairment procedure (EHSM 5021053) – Monitor #8 and Zone 5 were isolated from the firewater system with no knowledge of the isolation. Review the site impairment procedure for taking firewater systems offline and ensure that mitigations and communication of the impairment is specified in the procedure. If the site does not have an impairment and use procedure for firewater, recommend developing a procedure.

- 5.1.4 2023-CC-HF-04: Elevated Monitor Control Reliability (EHSM 5021054) – The refinery has had control issues with the remote-control elevated monitors in recent years. The refinery should develop a plan to address the reliability of the elevated monitor control systems.

- 5.1.5 2023-CC-HF-05: Zone 6 Activation (EHSM 5021055) – Zone 6 failed to respond when called upon during testing. After troubleshooting the solenoid, the system responded. Recommend evaluating replacing the solenoid. Review if the failure is a failure of a critical instrument and if testing frequencies need to be adjusted accordingly.

- 5.1.6 2023-CC-HF-06: Monitor #27 Spray Pattern (EHSM 5021056) – Monitor #27 is not maintaining a fog pattern. Recommend inspecting/replacing the set screw to hold the monitor nozzle in position.

40 C.F.R. § 68.195 Required corrections – Valero West failed to correct the RMP for any accidental release meeting the five-year accident history reporting criteria of 40 C.F.R. § 68.42 and submit the data required under 40 C.F.R. §§ 68.168, 68.170(j), and 68.175(l). The RMP was not corrected within six months of the following accidental releases which occurred on: December 12, 2023, HF Alky Unit and May 17, 2023, Gasoline Desulfurization Unit (GDU). **AOC 19 - 40 C.F.R. § 68.195(a)**

General Duty Clause, Prevention of Accidental Releases – Clean Air Act Section 112(r)(1)

Valero West failed to maintain a safe facility by not taking such steps as are necessary to prevent the following accidental releases that were discovered inside of the cold box in the Oleflex unit on May 19, 2022, June 17, 2022, and July 9, 2022.

Valero West failed to maintain a safe facility by not taking such steps as are necessary to prevent the following accidental releases resulting in fires on October 4, 2023 in the HDS UNIT and May 17, 2023, in the Gasoline Desulfurization Unit.

Valero West failed to minimize the consequences of accidental releases which do occur by not taking such steps as are necessary to communicate and discuss preparedness with local medical facilities on an annual basis in accordance with API 752-2021. The emphasis on medical transporters and facilities is of relevance since medical personnel will be needed for patient stabilization. Coordinating directly with the medical facility will allow the

medical staff to be immediately ready in the event of a hydrogen fluoride related incident without the need for delay. Having the ability to act quickly in those emergency situations could mean the difference between life and death. **AOC 20 - CAA Section 112(r)(1) General Duty Clause**

Subpart G - Risk Management Plan

40 C.F.R. § 68.190 Updates – The Valero West RMP was re-submitted as a 5-year update on December 1, 2020.

Closing Conference – A closing conference was held on June 28, 2024, at which time a few of the findings resulting from the inspection were presented and we indicated additional Areas of Concern may be identified once the team was able to review all the documents provided. Confidential Business Information criteria were explained and a list of all copies of documents that were collected from the site was prepared.

SECTION III - AREAS OF CONCERN

AOC 1 – 40 C.F.R § 68.65(d)(1)(iv) Process safety information

Information pertaining to the equipment in the process shall include: relief system design and design basis.

Valero West failed to document that process safety information for pressure safety valves was complete and accurate. Valero West has determined that the process safety information is missing for the following pressure safety valves:

Unit 20:

- 20RV05AP and 20RV05BP-model #, spring type, and CDP

Unit 21

- 21RV01A/B isometric drawing;
- 21RV10D-E1 isometric drawing;
- 21RV21TB-A manufacturer, model number;
- 21RV23P-T updated P&ID and isometric drawing.

Unit 22

- 22RV02-L-E1A isometric (xxx to verify);
- 22RV02-L-F2 isometric (xxx to verify);
- 22RV03-V isometric (xxx to verify)
- 22RV06-V isometric (xx to verify);
- 22RV09-E-1 manufacturer, model number (xx to verify);
- 22RV11-V manufacturer, model number, isometric drawing;
- 22RV13-E manufacturer, model number, isometric drawing (xx to verify);
- 22RV22-E-1 manufacturer, model number, isometric drawing (xx to verify);
- 22E18 T manufacturer, model number, isometric drawing, and tag.

Unit 31

- 31RV23-E New manufacturer, model number, isometric drawing;
- 31RV25E2 New manufacturer, model number, isometric drawing.

Unit 37: 37RV13-V

- manufacturer, model number, isometric drawing.

Unit 47: 47RV02413

- manufacturer, model number, isometric drawing (xx to verify).

Unit 49: 49RV01-T and 49RV02-V

- manufacturer, model number, isometric drawing.

AOC 2 – 40 C.F.R. § 68.65(d)(2) Process safety information

The owner or operator shall document that equipment complies with recognized and generally accepted good engineering practices.

i. Valero West failed to document that pressure relief valves comply with recognized and generally accepted good engineering practices such as the American Society of Mechanical Engineers (ASME), Section VIII Rules for Construction of Pressure Vessels Division 1 2023. Valero West failed to ensure that relief valves were installed in a vertical position, such as but not limited to, the following pressure safety valves:

Unit 20:

- 20RV01-E
- 20RV08-E
- 20RV070-P
- 20RV072-P
- 20RV04-LE

Unit 47:

- 47RV14-E

Unit 49:

- 49RV01C-E1A/E1B
- 49RV01-ME1
- 49RV01C-E2
- 49RV02A-C3
- 49RV02B-C3
- 49RV05-E
- 49RV07-E
- 49RV10-E
- 49RV12-E
- 49RV13-E3
- 49RV13-E4
- 49RV95-ET

ii. Valero West failed to document that piping was labeled to comply with recognized and generally accepted good engineering practices such as ASME A13.1-2020. Process piping was not labeled in certain areas of the site, such as but not limited to, the pipe rack between Unit 20 LRU and north of Unit 49 at 955’ W.

AOC 3 - 40 C.F.R. § 68.67(a) Process hazard analysis (PHA)

The process hazard analysis shall be appropriate to the complexity of the process and shall identify, evaluate, and control the hazards involved in the process.

i. The PHA facility siting checklists are not appropriate for the complexity of the process in that they do not address the hazards identified in the June 2022 Valero Business Risk Management Facility Siting Study.

ii. The June 2022 Valero Business Risk Management Facility Siting Study was not appropriate to the complexity of the process as it did not identify, evaluate, and control the hazards posed by toxic chemicals such as hydrogen sulfide and hydrogen fluoride. The facility siting study states that toxic dispersion modeling was not performed, but also states that buildings under consideration for Emergency Operation Shelters should have a toxics

evaluation performed and indicates that a toxics evaluation was performed. However, no toxics evaluation or toxic dispersion modeling study has been provided.

iii. The June 2022 Valero Business Risk Management Facility Siting Study was not appropriate for the complexity of the process. The study considers an existing building suitable for occupancy when the predicted Building Damage Level (BDL) is 2.5 or less or the predicted blast loads do not exceed the design blast rating of the building. The EPA believes this is contrary to the recognized and generally accepted criteria for suitable building occupancy, which is a reflected blast load of 1.0 psi based on tables contained in API 752. These tables indicate that buildings undergoing a reflected overpressure of 1.0-3.0 psi would experience glass breaking, glass shattering with body penetrating velocities, wooden frame structural failure and potential collapse, steel cladding buildings with internal damage to walls, ceilings, and furnishings, transite shattering, brick cladding blown-in, and unreinforced masonry wall collapse or possible shattering. The facility siting study prepared for Valero does not appear to correlate Building Damage Level to the hazards suggested above and building occupant vulnerability. The Building Damage Level does not reflect potential injuries to building occupants at blast loads of 1.0 (or 0.9) psi and above which exist for some buildings identified in the tables and blast contour map for your facility.

AOC 4 - 40 C.F.R. §§ 68.67(c)(1) and (c)(5) Process hazard analysis

The process hazard analysis shall address: (1) The hazards of the process; including (5) stationary source siting.

i. The process hazard analysis did not address the potential thermal radiation hazard to personnel around the flares located in the Valero West facility, which was identified in the April 2024 Valero West Compliance Audit.

Valero West failed to address the potential thermal radiation hazard to personnel around the Valero West Plant Ground Flare. Thermal radiation modeling for the Valero West Plant ground flare was not available.

Valero West failed to address the potential thermal radiation hazard to personnel around the Valero West Plant Main Flare. Flare modeling documentation identified two scenarios in which the West Plant Main Flare radiation could exceed 2000 BTU/h-ft2 at ground level. Personnel were allowed to work in this area.

ii. Valero West failed to address the hazards of the process identified in a recommendation 10.18 CCW-FS-2022-18, SRU and Power Recovery Unit-Portable Building, which was identified in the June 2022 Valero Facility Siting Study.

A portable building was found north of the SRU and Power Recovery Unit which was not sited in accordance with the portable building guidance in CTEMS 2.1.1. Portable buildings are required to be located outside the maximum edge of 0.9 psi and 330 ft. from the edge of the congested volumes to the nearest edge of the portable building (see § 8.5).

iii. Valero West failed to address the hazards of the process identified in a recommendation 10.17 CCW-FS-2022-17, HF Alkylation Unit- Scaffolding Tents, which was identified in the June 2022 Valero Facility Siting Study.

Two scaffolding tents were found in the HF Alkylation Unit which were not sited in accordance with the occupied tent guidance in CTEMS 2.1.1. Scaffolding tents are required to be located outside the maximum edge of 0.9 psi, 80 psi-ms, and 330 ft. from the edge of the congested volumes to the nearest edge of the tent (see § 8.5).

AOC 5 - 40 C.F.R. § 68.67(e) Process Hazard Analysis

The owner or operator shall establish a system to promptly address the team's findings and recommendations; assure that the recommendations are resolved in a timely manner and that the resolution is documented; document what actions are to be taken; complete actions as soon as possible; develop a written schedule of when these actions are to be completed; communicate the actions to operating, maintenance and other employees whose work assignments are in the process and who may be affected by the recommendations or actions.

i. Valero West failed to establish a system to promptly address finding and recommendation 10.19 CCW-FS-2022-19, West Plant Control Building: Temporary HVAC Unit in the June 2022 Valero Facility Siting Study; assure that the recommendations are resolved in a timely manner and that the resolution is documented; document what actions are to be taken; complete actions as soon as possible; and develop a written schedule of when these actions are to be completed.

Recommendation: developing a program for the installation and use of temporary HVAC units to ensure the temporary HVAC unit meets the requirements of the existing building HVAC (e.g., positive pressure for hazardous classification areas) and removing, replacing, or upgrading the temporary HVAC unit accordingly. When developing the program, recommend including an evaluation of the risk associated with blocking an exit.

ii. Valero West failed to establish a system to promptly address finding and recommendation 10.13 CCW-FS-2022-13, Emergency Operations Shelters: Maintain Door Seals and 10.4 CCW-FS-2022-04, Blast Resistant Modules (BRM): Maintain Blast Doors; to assure that the recommendations are resolved in a timely manner and that the resolution is documented; document what actions are to be taken; complete actions as soon as possible; and develop a written schedule of when these actions are to be completed.

The door seals are deteriorated and need to be replaced on several Emergency Operations Shelters (see §9.2) for the following Emergency Operations Shelters:

- BUP Control Building
- HDS Operator Shelter
- HOC Operator Shelter
- HR Operator Shelter
- LEU Operator Shelter
- SRU Operator Shelter
- West Plant Control Building: The west door on the first floor of the building does not close and latch properly. Recommend repairing or replacing the door hardware or doors.

Valero West failed to establish a system to promptly address a finding and recommendation. A target date of November 2023 was set for establishing a preventative maintenance program and repairing the door seals and latches. As of February 2023, no preventative maintenance had been established and no repairs had been completed; it this is not a response to the hazard.

iii. Valero West failed to establish a system to promptly address findings contained in the June 2022 Valero Facility Siting Study which predict that the Powerhouse (i.e., North and South Sections), Powerhouse Control Room, (located inside the Powerhouse), and Demineralizer Control Room will sustain a building collapse (Building Damage Level-4); documenting what actions are to be taken; developing a written schedule of when

these actions are to be completed; assuring that the recommendations are resolved in a timely manner and that the resolution is documented, and completing the actions as soon as possible.

iv. Valero West failed to promptly address PHA Findings & Action Items to assure that the recommendations are resolved in a timely manner and actions are completed as soon as possible.

PHA Action Items	***Initiated date-due date***
4085319 Lower set pressure on 01RV02-E as per S&B Report	*7/18/2020-12/10/2024*
4085320 Upgrade 01RV05-T-1 Relief Valve per S&B Report	*7/18/2020-12/10/2024*
4085323 Upgrade 01RV06-E Relief Valve per S&B Study	*7/18/2020-12/2/2024*
4085390 Upgrade 02RV09-V Relief Valve per S&B Study	*7/18/2020-10/20/2024*
4085397 Upgrade 02RV01-T Relief Valve per S&B Study	*7/18/2020-10/20/2024*
4096476 Execute AFE CC18-0153 - SIS install on 01H02	*7/18/2020-9/15/2026*
4096478 Execute AFE CC20-255 - SIS Install on 01H02	*7/18/2020-5/15/2025*
4076207 complete existing EWR C7 Hydrobon Heater SIS	*7/18/2020-12/14/2027*
4099513/15 execute EWR CC 14068 shell side of 108E051/053	*7/19/2020-12/10/2027*
4094232 Execute EWR-CCEWR14068 Modification to PSV 702	*7/18/2020-11/30/2027*
4123155 Execute EWR-Adequate protection to 47V02	*12/16/2021-7/10/2027*
4123151 Execute EWR Install dual check valves on 47P01A/B	*12/16/2021-7/10/2027*
4130801 Execute EWR Degassing Pot 74-L-08	*8/26/2022-?*
4135645 Execute EWR to replace PSV 106/107 outlet piping	*2/1/2023-2/15/2027*
4144084 Execute findings of S&B report revaluate PSV14 design	*9/22/2023-3/28/2025*
4144086 Execute findings of S&B report revaluate PSV34 design	*9/22/2023-3/28/2025*
4146010 Create MOC to replace rupture disk PSE 1124	*11/14/2023-1/1/2025*
4146011 Create MOC to replace rupture disk PSE 1124	*11/14/2023-9/15/2025*
4146002 Execute MOC to CSO inlet/outlet block valve 141T001	*11/14/2023-6/19/2024*
4146009 Execute MOC to CSO BV between 141V007 and V013	*11/14/2023-6/19/2024*
4147650 Execute 36RV13-V Discharge to a safe location	*1/9/2024-11/18/2025*
4147651 Execute 36RV10-V Discharge to a safe location	*1/9/2024-11/18/2025*
4148252 Execute air gap for 150# steam as a final mitigation	*1/24/2024-12/15/2027*

AOC 6 - 40 C.F.R. § 68.69(a)(1)(vii) Operating Procedures

The owner or operator shall develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and shall address including, but not limit to (vii) startup following a turnaround, or after an emergency shutdown.

Information required by the standard; startup following a turnaround, or after an emergency shutdown was missing from the following Valero West operating procedures:

a. 001-OPS-3004 Startup After Emergency Shutdown Revision 1 and 2.
b. 001-OPS-5001 Power Restored Revisions 1 and 2.
c. 001-OPS-5003 Loss of Power Revisions 1 and 2.
d. 001-OPS-5012 Crude Unit Emergency Shut Down Unit Fire Revisions 1 and 2.
e. 031-OPS-5009 HF Acid Release and Response Procedure Revision 1.
f. 031-OPS-5060 Alky Fire Revisions 1 and 2.
g. 031-OPS-5131 Loss of Flare Revisions 1 and 2.
h. 041-OPS-3060 Introduce Acid Gas Feed Revisions 1, 2, and 3.

i. 041-OPS-5030 Cooling Water Failure Revisions 1 and 2.
j. 041-OPS-5060 Instrument Air Failure Revisions 1 and 2.
k. 041-PPS- 6010 Train 1 and Train 2 Co-Fire Procedure Revisions 1 and 2.
l. 031-OPS-4011 Alky Unit Normal Shutdown Revisions 1-5.

40 C.F.R. § 68.69(a)(2) Operating Procedures

The owner or operator shall develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and shall address at least the following elements…. (2) Operating limits: (i) Consequences of deviation; and (ii) Steps required to correct or avoid deviation.

Valero West failed to ensure that certain written operating procedures listed above provided clear instructions for safely conducting activities involved in each covered process addressing:
i. Operating limits;
ii. Consequences of deviation; and
iii. Steps required to correct or avoid deviation.

40 C.F.R. § 68.69(a)(3) Operating Procedures

The owner or operator shall develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and shall address at least the following elements…. (3) Safety and health considerations: (i) Properties of, and hazards presented by, the chemicals used in the process; (ii) Precautions necessary to prevent exposure, including engineering controls, administrative controls, and personal protective equipment; (iii) Control measures to be taken if physical contact or airborne exposure occurs;(iv) Quality control for raw materials and control of hazardous chemical inventory levels; and,(v) Any special or unique hazards.

Valero West failed to ensure that certain written operating procedures provided clear instructions for safely conducting activities involved in each covered process addressing:

Safety and health considerations:
(i) Properties of, and hazards presented by, the chemicals used in the process;
(ii) Precautions necessary to prevent exposure, including engineering controls, administrative controls, and personal protective equipment;
(iii) Control measures to be taken if physical contact or airborne exposure occurs;
(v) Any special or unique hazards.

40 C.F.R. § 68.69(a)(4) Operating Procedures

The owner or operator shall develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and shall address at least the following elements…. (4) Safety systems and their functions, including documentation when monitoring equipment associated with prevention and detection of accidental releases from covered processes is removed due to safety concerns from imminent natural hazards.

Valero West failed to ensure that certain written operating procedures provided clear instructions for

safely conducting activities involved in each covered process addressing "Safety systems and their functions".

AOC 7- 40 C.F.R. § 68.69(b) Operating Procedures

Operating procedures shall be readily accessible to employees who work in or maintain a process.

i. Valero West failed to ensure that hard copies of the current operating procedures, including but not limited to the emergency operating procedures, were readily accessible to the field operators who work in or maintain the process in the control room.

ii. The Valero West compliance audit identified that the control room hardcopy Emergency Operating Procedures for fourteen (14) West Plant units did not match the official versions within PolicyTech.

AOC 8 - 40 C.F.R. § 68.69(c) Operating Procedures

The operating procedures shall be reviewed as often as necessary to assure that they reflect current operating practice, including changes that result from changes in process chemicals, technology, and equipment, and changes to stationary sources. The owner or operator shall certify annually that these operating procedures are current and accurate.

Valero West failed to ensure the following operating procedures were reviewed as often as necessary to assure that they reflect current operating practice and are current and accurate. Valero's 2024 compliance audit identified errors in the following operating procedures:

- 049-OPS-3001; 049-OPS-3003: 049-OPS-4001: 049-OPS-5002
  a. Three procedures are numbered the same, but each serve a different purpose.

- 049-OPS-5002 and 011-OPS-5003
  a. Procedure is critical risk which requires notification and approval, yet the steps only require notification.

- 049-OPS-5005
  a. Three procedures are all numbered the same, but each serve a different purpose and/or area.
  b. 049-OPS-5005 - steps only cover notifying the Shift Supervisor, steps not observed on what steps to complete afterwards or a note identifying that the Shift Supervisor will determine next steps.

- 049-OPS-6000
  a. Two procedures are all numbered the same, but each serve a different purpose and/or area.

- 049-OPS-8004 and 049-OPS-8006
  a. Two procedures are all numbered the same, but each serve a different purpose and/or area.
  b. There are no steps, only notes.

AOC 9 - 40 C.F.R. § 68.69(d) Operating Procedures Safe Work Practices

The owner or operator shall develop and implement safe work practices to provide for the control of hazards during operations such as lockout/tagout; confined space entry; opening process equipment or piping; and

control over entrance into a stationary source by maintenance, contractor, laboratory, or other support personnel. These safe work practices shall apply to employees and contractor employees.

Between February 26 – March 1, 2024, and potentially at times prior to, Valero West failed to develop safe work practices, for employees and contractors working around the West Plant Ground Flare according to Valero's 2024 compliance audit. During a site walkthrough of the West Plant, auditors observed scaffolding, shipping containers/CONEX and other equipment around both the West Plant Main Flare and the Ground Flare. Flare modeling documentation identified two scenarios in which the West Plant Main Flare radiation could exceed 2000 BTU/h-ft2 at ground level. Per the Valero West, Commitment to Excellence Management System (CTEMS), Flare Thermal Radiation Personnel Exposure Guideline; areas exposed to that level of radiation should develop a procedure that includes: (1) restricting access, (2) adding signage of potential hazards, (3) administratively controlling admittance and work within the area and (4) providing appropriate PPE. Restricted access, signage, and administrative control within the area around West Plant Main flare were not present.

AOC 10- 40 C.F.R. § 68.71(b) Training

Refresher training. Refresher training shall be provided at least every three years, and more often if necessary, to each employee involved in operating a process to assure that the employee understands and adheres to the current operating procedures of the process. The owner or operator, in consultation with the employees involved in operating the process, shall determine the appropriate frequency of refresher training.

Valero West failed to ensure that hydrogen flouride safety and health training was performed annually. Four (4) operators in the Alkylation Unit were four months late in completing the annual training in 2022.

AOC 11 - 40 C.F.R. § 68.73(b) Mechanical Integrity

Written procedures. The owner or operator shall establish and implement written procedures to maintain the on-going integrity of process equipment.

i. Valero West failed to implement its written Mechanical Integrity Procedure by not removing a clamp, located on line number 17-E-01 A/B bypass, by the planned permanent repair date of October 2023 or ensuring that an inspection of the clamp was conducted by an inspector and Mechanical Engineer, which was necessary to defer the removal date. On April 20, 2024, the pipe/clamp, operating at 270 psi, experienced a leak and release of benzene, due to a loss of integrity of the clamp.

Valero West performed a temporary repair by installing a clamp on a leaking pipe for the purpose of relieving stress on line C2 in Unit 17, on September 20, 2021. Valero's Mechanical Integrity Inspection and Testing Manual, Temporary Repair Guideline states in section 5.24, "the removal date cannot be extended without the deferral process involving the inspector and Mechanical Engineer to assure that the repair is fit for continued service until the new removal date. A thorough reinspection of the Temporary Repair and the parent asset shall occur prior to extension of the Inspection Work Request (IWR)". Per the Temporary Repair Approval Form, the planned permanent repair date was October 2023.

ii. Valero West failed to ensure that critical instruments identified as safeguards in their Process Hazard Analysis were included in the critical instrument program and inspection and testing was implemented at established intervals. This issue was identified in the 2024 Valero West Compliance Audit.

AOC 12 - 40 C.F.R. § 68.73(d)(2) Mechanical Integrity

Inspection and testing. Inspection and testing procedures shall follow recognized and generally accepted good engineering practices.

i. Valero West failed to ensure that pressure relief valve 17RV01A was inspected and tested in accordance with recognized and generally accepted good engineering practices, such as but not limited to, API 510, Section 6.6.3.2 which require pressure relief devices be tested and inspected at intervals not to exceed five years for typical process services.

Pressure relief valve 17RV01A was installed on June 17, 2015 and had not been inspected or tested as of June 26, 2024; and the planned inspection and test date was scheduled for December 8, 2030.

ii. Valero West failed to ensure that certain Unit 17 Class 1 piping was inspected and tested in accordance with recognized and generally accepted good engineering practices, such as but not limited to, API 570, Section 6.3.3.1 (Table 1- Recommended Maximum Inspection Intervals for Class I Piping) which requires Ultrasonic Testing (UT) every 5 years.

Ultrasonic testing conducted on Class 1 raw crude piping circuit 17-08973DL1 (deadleg) exceeded the 5-year requirement at the following Condition Monitoring Locations (CML), A0060, B0010, B0020, B0030, B0040 and B0050; all being 3+ months late. For example, CML A0060 had its initial UT on 05/2015 and its next UT on 08/2020.

AOC 13 - 40 C.F.R. § 68.73(d)(3) Mechanical Integrity

The frequency of inspections and tests of process equipment shall be consistent with applicable manufacturers' recommendations and good engineering practices, and more frequently if determined to be necessary by prior operating experience.

i. Valero West failed to calibrate, and bump test the chemical monitors/detectors semi-annually in accordance with the manufactures required intervals. The following chemical monitors were not calibrated semi-annually:

- 41AI4150
- 41AI4151
- 41AI4152
- 41AI4153
- 41AI4154
- 41AI4155
- 41AI4156
- 41AI4157
- 41A14158
- 41A14159
- 41A14160
- 41A14161
- 43A14301
- 43A14302
- 43A14303
- 46A19675
- 46A19676
- 46A19677
- 12AI1230
- 12AI1231
- 12AI1232
- 12AI1233
- 12AI1234
- 12AI1235
- 12AI1236
- 12AI1237
- 12AI1238
- 12AI1239
- 12AI1240
- 12AI1241
- 12AI1242
- 12AI1243
- 12AI1244
- 47AI4780
- 47AI4781
- 47AI4782

ii. Valero West failed to implement written procedures that ensure functional and proof testing of critical safety equipment are performed consistent with applicable manufacturers' recommendations and good engineering practices. Critical instruments in the HF Alkylation Unit 31, such as but not limited to high fuel gas pressure trips,

and in the HOC Units 21/22, such as but not limited to, high temperature shutdowns had not been tested. This issue was identified in the 2024 Valero West Compliance Audit.

AOC 14 - 40 C.F.R. § 68.73(e) Mechanical Integrity

Equipment deficiencies. The owner or operator shall correct deficiencies in equipment that are outside acceptable limits (defined by the process safety information in §68.65) before further use or in a safe and timely manner when necessary, means are taken to assure safe operation.

i. Valero West failed to correct deficiencies in pressure safety valves that were outside acceptable limits before further use or in a safe and timely manner. Valero conducted a study of its pressure relief system/pressure safety valves beginning in 2013. As deficiencies were identified, many of the pressure safety valves required adjustments or the installation or new pressure safety valves. There are 100+ pressure safety valves that still require a field modification such as, but not limited to, replacing a pressure safety valve, installing a new pressure safety valve, adjusting the set pressure, modification to inlet/outlet piping, or installing balanced bellows pressure safety valves.

ii. Valero West did not correct deficiencies in conditions that are outside acceptable limits (as defined by the June-August 2013, Smith & Burgess Relief Systems Documentation Study) before further use or in a safe and timely manner where the set pressure of a pressure relief valve exceeded the maximum allowable working pressure (MAWP) of the pressure vessel for pressure relief valves 01RV02-E and 12RV02-T-1,2,3.

iii. Valero West failed to correct deficiencies in West Plant Control Building, Temporary HVAC Unit - 10.19 CCW-FS-2022-19: The temporary HVAC unit was not designed to maintain positive building pressure, did not have an elevated intake stack, and did not have flammable and/or toxic gas detection on the intake capable of shutting down upon detection of flammable and/or toxic gas. In addition, the temporary HVAC unit duct blocked a building exit. The temporary HVAC unit deficiencies were outside acceptable limits and were not corrected before further use or in a safe and timely manner.

iv. Valero West failed to correct deficiencies in a H2S gas detection sensor located in the HOC Operator Shelter. The H2S gas detection sensor identified in recommendation 10.16 CCW-FS-2022-16, HOC Operator Shelter-H2S Gas Detector, recognized in the Valero West June 2022 Facility Siting Study was found to be displaying a fault on the local display.

v. Valero West failed to correct deficiencies in LEL gas detection sensors located in the following buildings:

- BUP Control Building
- HR Operator Shelter
- LEU Operator Shelter

The LEL gas detection sensors identified in recommendation 10.15 CCW-FS-2022-15, Emergency Operations Shelters: LEL Gas Detectors from the Valero West June 2022 Facility Siting Study were found to be displaying a fault on the local displays. These detectors were defective and the target date for repair or replacement was May 10, 2024; and not before further use or in a safe and timely manner.

vi. Valero West failed to correct deficiencies in the building pressurization and alarm system. The minimum building pressure should be 0.1 inches H2O (see §9.2) based on the guidance in §3.3 and §4.4 of NFPA 496 (2017). The building pressurization system must be monitored and include a low-pressure alarm available to

ensure that building pressure is greater than 0.1 inches of H2O.

The building pressurization/alarm system identified in recommendation 10.14 CCW-FS-2022-14, Maintain Building Pressurization on EOS Buildings from the Valero West June 2022 Facility Siting Study Valero West was not functional in the following Emergency Operation Shelter buildings:

a. Alky Operator Shelter: The building pressure in the Alky Operator Shelter was found to be below 0.1 inches H2O and the low-pressure alarm was not in alarm mode.

b. West Plant Control Building: There was no indication for building pressure or a low building pressure alarm.

AOC 15 - 40 C.F.R. § 68.75(a) and 40 C.F.R § 68.75(c) Management of Change

The owner or operator shall establish and implement written procedures to manage changes (except for "replacements in kind") to process chemicals, technology, equipment, and procedures; and, changes to stationary sources that affect a covered process.

Employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change in the process shall be informed of, and trained in, the change prior to start-up of the process or affected part of the process.

i. Valero West failed to implement the written management of change procedure Section 5.3 of 010-PSM-1000, Management of Change Policy as identified by the MOC/PSSR committee and denoted in the April 2024 Valero West Compliance Audit. Internal MOC auditing from Q2, Q3, and Q4 2023 revealed that in more than 25% of the sampled MOCs in each quarter, proper affected personnel notifications were not sent. The communication section of the meeting forms were observed to be incomplete in 13 of the 16 MOC records reviewed. The communication section of the form identifies the type of communication required to affected personnel, either awareness training or formal training. It also identifies the intended recipients of the communication.

Proper identification and completion of affected personnel notification and communication was observed to be incomplete or lacking in both completed MOCs and on MOC team meeting forms. The observed deficiencies included:

- affected personnel notification not sent;
- restoration notifications not sent;
- restoration checklist attached;
- approval for startup before startup.

AOC 16 - 40 C.F.R § 68.75(b)(3) and § 68.75(e) Management of Change

The owner or operator shall establish and implement written procedures to manage changes (except for "replacements in kind") to procedures that affect a covered process.

68.75(b)(3) The procedures shall assure that modifications to operating procedures are considered prior to any change and;

68.75(e) If a change covered by this paragraph results in a change in the operating procedures or practices required by § 68.69, such procedures or practices shall be updated accordingly.

Valero West failed to ensure that the changes/revisions in the following operating procedures were not implemented using the management of change process.

a. 001-OPS-3004 Startup After Emergency Shutdown Revision 1 and 2.
b. 001-OPS-5001 Power Restored Revisions 1 and 2.
c. 001-OPS-5003 Loss of Power Revisions 1 and 2.
d. 001-OPS-5012 Crude Unit Emergency Shut Down Unit Fire Revisions 1 and 2.
e. 031-OPS -5009 HF Acid Release and Response Procedure Revision 1.
f. 031-OPS-5060 Alky Fire Revisions 1 and 2.
g. 031-OPS- 5131 Loss of Flare Revisions 1 and 2.
h. 041-OPS-3060 Introduce Acid Gas Feed Revisions 1, 2, and 3.
i. 041-OPS-5030 Cooling Water Failure Revisions 1 and 2.
j. 041-OPS-5060 Instrument Air Failure Revisions 1 and 2.
k. 041-PPS- 6010 Train 1 and Train 2 Co-Fire Procedure Revisions 1 and 2.
l. 031-OPS-4011 Alky Unit Normal Shutdown Revisions 1-5.

AOC 17 - 40 C.F.R. § 68.79(d) Compliance Audits

The owner or operator shall promptly determine and document an appropriate response to each of the findings of the compliance audit, and document that deficiencies have been corrected.

Valero West failed to promptly determine and document an appropriate response to each of the findings of the 2021 Valero West compliance audit, and document that deficiencies have been corrected.

Valero West failed to ensure that employees involved in operating a process whose job tasks will be affected by a change in the process shall be informed of, and trained in, the change prior to start-up of the process or affected part of the process.

The 2021 compliance identified 96 management of change (MOC) notifications that had been open for more than thirty days. Valero West failed to ensure that employees were trained in a change prior to start-up of the process or affected part of the process as identified in the 2021 Valero Compliance Audit.

Valero West incorrectly closed this finding as complete on July 19, 2022; as at the time of the February 2023 Valero East RMP inspection, it was determined that approximately fifteen (15) operations employees involved in operating a process had not completed the necessary MOC training for 30+ days and forty-four (44) employees had not completed the necessary MOC training for 15-30 days after the start-up of the process or affected part of the process. This deficiency was identified as an Area of Concern 68.75(c) in the February 2023 RMP inspection report.

Valero West conducted an internal audit of the MOC program in 2023 and identified that 25% of the sampled MOCs indicated that proper communication of MOCs to affected employees was not being performed in accordance with 68.75(c) and the Valero MOC policy.

Valero West conducted an EPA required compliance audit in March 2024 and determined that the findings of the 2023 Valero West internal audit had not been addressed and no refresher training or other means to correct the deficiencies was observed.

AOC 18 - 40 C.F.R § 68.95(a)(2) Emergency Response Program

The owner or operator shall develop and implement an emergency response program for the purpose of protecting public health and the environment. Such program shall include the following elements:

Procedures for the use of emergency response equipment and for its inspection, testing, and maintenance;

1. Valero West failed to use the following forms included in their Inspection, Testing, and Maintenance of Fire Water Protection Systems and Equipment (6/2022) procedure for the inspection and testing of emergency response equipment. The forms describe the items that must be inspected and tested at frequencies identified in the Valero West Procedure and NFPA 25.

i. Fire Water Pump Monthly Inspection and Maintenance.
ii. Fire Water Pump Quarterly Inspection and Maintenance.
iii. Fire Water Pump Annual Inspection and Maintenance.

2. Valero West failed to perform a self-assessment of their ITM program on an annual basis as identified in their Inspection, Testing, and Maintenance of Fire Water Protection Systems and Equipment (6/2022) procedure Section 7.2.1.

3. Valero West failed to provide a form, checklist or procedures to document that the GDU-52 deluge system inspection and tests have been performed as required by Inspection, Testing, and Maintenance of Fire Water Protection Systems and Equipment (6/2022) procedure Section 6.12-6.14.

4. Valero West failed to use Intelac-track to document weekly fire pump inspections in accordance the Inspection, Testing, and Maintenance of Fire Water Protection Systems and Equipment (6/2022) procedure Section 6.16.

5. Valero West for 2023 and 2024, failed to conduct weekly, monthly, and quarterly inspection or semi-annual fire hydrant/pump/monitor inspection and testing located in Units 1, 2, 8, 11, 12, 13, 18, 20, 24, 37, 47, 48, and 49 using the forms present and as required by the Inspection, Testing, and Maintenance of Fire Water Protection Systems and Equipment (6/2022) procedure Appendix A.

6. Valero West, in April/May failed to correct deficiencies in the fire monitor adjacent to Unit 52 (GDU), at the location of the May 17, 2023 release incident prior to the incident.

7. Valero West failed to minimize the consequences of accidental releases which occur by not promptly taking such steps as are necessary to maintain the HF Alky Mitigation System prior to August 2023 based on the August 2023 annual inspection and testing report which identified the following deficiencies:

i. water spray systems- 4 systems were considered poor due to obstructed or damaged nozzles.

ii. elevated and remotely controlled monitor- 5 monitors experienced control issues (no up/down and left/right control).

8. Valero failed to minimize the consequences of accidental releases which occur by not promptly taking such steps as are necessary when it failed to replace fire hydrant/monitor 36264813 and 36264810 from July 2022-September 2023, which were identified in the inspection report as damaged.

i. July 2022-Unit 18
Fire Hydrant 36264813 Location: 18 N. OF UNIT ROADSIDE BY MCC 18-FM-02 Solution-Replace.

ii. September 2023-Unit 18
Fire hydrant 36264813 Location: 18 N. OF UNIT ROADSIDE BY MCC 18-FM-02 Solution-Replace.

iii. July 2022-Unit 36
Fire Hydrant 36264810 Location: 36 S.E. CORNER OF UNIT ROADSIDE 36FM-04 Solution- Replace.

iv. September 2023-Unit 36
Fire Hydrant 36264810 Location: 36 S.E. CORNER OF UNIT ROADSIDE 36-FM-04 Solution-Replace.

9. Valero West failed that procedures were developed and implemented to ensure that repairs were promptly performed in order to maintain fire protection equipment:

i. Water Spray & HF Mitigation Systems Monthly Status Report September 2023
System Air Supply to mitigation system, corrosion at air/surface interface on airline, 4 penetrations exposed.
Date Inspected (identified): 11/2/2022.

ii. Water Spray & HF Mitigation Systems Monthly Status Report June 2024
Inspection- Elevated Monitor Deficiencies
31FM101 (01RC) Will not rotate up/down/left/right.
Date Inspected (identified): 9/13/2023.

31FM132 (32RC) Will not rotate up/down/left/right.
Date Inspected (identified): 9/13/2023.

Water Spray & HF Mitigation Systems Monthly Status Report March 2024
Inspection- Elevated Monitor Deficiencies
31FM128 (28RC) Will not operate up/down/left/right, controller communication error.
Date Inspected (identified): 9/13/2023.

iii. Water Spray & HF Mitigation Systems Monthly Status Report March 2024
Mitigation Ground Monitor Deficiencies

31FM115 (15) System activated from field, will not trip from board operator panel.
Date Inspected (identified) 11/30/2023.

31FM115 (15) Will not rotate up/down/left/right, controller communication error.
Date Inspected (identified): 11/30/2023.

31FM119 (19) Nozzle lock stripped, will not hold pattern, parts have arrived, waiting to install.
Date Inspected (identified): 10/4/2023.

31FM121 (21) Nozzle lock stripped, will not hold pattern, parts have arrived, waiting to install.
Date Inspected (identified): 9/13/2023.

31FM127 (27) Nozzle lock stripped, will not hold pattern, parts have arrived, waiting to install.
Date Inspected (identified) 9/13/2023.
September Status Report indicates this problem was actually identified 9/13/2022.

iv. Water Spray & HF Mitigation Systems Monthly Status Report January 2024 Inspection Mitigation Ground Monitor Deficiencies.
31FM121 (21) Failed inlet valve 6" butterfly valve MOC#211648 Replace valve.
Date Inspected (identified): 4/13/2022.

AOC 19 - 40 C.F.R § 68.195(a) Required Corrections

The owner or operator of a stationary source for which a RMP was submitted shall correct the RMP as follows: For any accidental release meeting the five-year accident history reporting criteria of § 68.42 and occurring after April 9, 2004, the owner or operator shall submit the data required under §§ 68.168, 68.170(j), and 68.175(l) with respect to that accident within six months of the release or by the time the RMP is updated under § 68.190, whichever is earlier.

Valero West failed to correct the RMP for any accidental release meeting the five-year accident history reporting criteria of § 68.42 and submit the data required under §§ 68.168, 68.170(j), and 68.175(l). The RMP was not corrected within six months of the following accidental releases:

December 12, 2023, HF ALKY Unit - Alky operator was catching an acid sample when his acid hood was sprayed with hydrofluoric acid and;

May 17, 2023, Gasoline Desulfurization Unit (GDU) – The GDU HDS Tower Overhead Condenser experienced a flange leak and subsequent fire.

AOC 20 – Clean Air Act (CAA) §112(r)(1) – General Duty Clause

Section 112(r)(1) states: Prevention of Accidental Releases (1) Purpose and General Duty - It shall be the objective of the regulations and programs authorized under this subsection to prevent the accidental release and to minimize the consequences of any such release of any substance listed pursuant to paragraph (3) or any other extremely hazardous substance. The owners and operators of stationary sources producing, processing, handling or storing such substances have a general duty, in the same manner and to the same extent as section 654, title 29 of the United States Code, to identify hazards which may result from such releases using appropriate hazard assessment techniques, to design and maintain a safe facility taking such steps as are necessary to prevent releases, and to minimize the consequences of accidental releases which do occur.

1. Valero West failed to design a safe facility by not taking such steps as are necessary to prevent the following Valero West Category IV incidents:

- May 19, 2022 OLEFLEX Unit - Leak was discovered inside of cold box in the Oleflex unit.

- June 17, 2022 OLEFLEX Unit- Ice was observed on 38 Oleflex Cold Box panels indicating an internal process leak.

- July 9, 2022 emissions Event occurred when a leak was discovered at the Oleflex Cold Box. The Cold Box top LEL meter went to 100%, indicating a process leak inside the Cold Box.

2. Valero West failed to design a safe facility by not taking such steps as are necessary to prevent the following Valero West Category III incidents:

- **October 4, 2023, HDS Unit(RESID HDS)** Loss of primary containment and fire occurred at the 12 Resid HDS Unit. Initiated emergency unit shutdown, activated EOC and secured unit.

- **May 17, 2023, Gasoline Desulfurization Unit (GDU)** - The GDU HDS Tower Overhead Condenser experienced a flange leak and subsequent fire. At the time of the event, the process conditions were 290 psig and 600°F. Diesel was circulating and catalyst sulfiding was in progress. The GDU was de-pressured and emergency crews were called to contain the event. Unit personnel ensured that non-essential personnel remained away from the immediate area.

3. Valero West failed to minimize the consequences of accidental releases which occur by not taking such steps as are necessary to communicate and discuss preparedness with local medical facilities on an annual basis in accordance with API 752-2021.

Section IV - FOLLOW UP

Additional information may be requested where the inspector has determined that there is additional information necessary, missing information, or documents that require clarification.

Section V - LIST OF APPENDICES

Not applicable