



INDUSTRIAL SAFETY ORDINANCE
ANNUAL PERFORMANCE REVIEW
AND EVALUATION REPORT

June 11, 2019

By Contra Costa Health Services Hazardous Materials Programs

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Executive Summary

In 1998, Contra Costa County Board of Supervisors adopted a landmark Industrial Safety Ordinance requiring regulated facilities in the County to implement comprehensive safety programs. The requirements of the Industrial Safety Ordinance (ISO) aimed to prevent chemical accidents are some of the most stringent in the United States, if not the world. The goal is for facilities to implement safety programs, instill a safety culture and management systems that prevents incidents that could have detrimental impacts to the surrounding communities. In addition, ISO mandated participation from industries, agencies, elected officials and the public at large.

Three major oil refineries and three chemical facilities are required to comply with the ISO requirements. Two facilities within the City of Richmond are required to comply with the same requirement as stated in the Richmond Industrial Safety Ordinance (RISO). Both ordinances are administered by Contra Costa Hazardous Materials Programs (CCHMP), a division of Contra Costa Health Services, the county health department. CCHMP is required to annually evaluate and report on the performance of the ISO to the Board of Supervisors. In the last two decades, there were Community Warning System (CWS) Level II and CWS Level III incidents that caused some concern; however, there is an overall observable trend of fewer and less severe incidents in the County.

The ISO defines Major Chemical Accidents or Releases (MCAR) and there was only one MCAR incidents at an Industrial Safety Ordinance facility in this reporting period. CCHMP believes that any MCAR event serves as a reminder that implementation of mature prevention programs are challenging and all have to stay vigilant in ensuring continuous safe facility operations.

CCHMP's Accidental Release Prevention (ARP) Program engineers oversees the ISO and RISO. In 2014, the Board of Supervisors adopted amendments to the ISO as recommended by U.S. Chemical Safety and Hazard Investigation Board (CSB). In an effort to improve the audit process, CCHMP staff piloted procedure walk downs and field verifications of Piping and Instrumentation Diagrams (P&IDs) at the ISO facilities in 2015. These field activities have now been incorporated into audits at the ISO and other hazardous materials regulated facilities to further improve the thoroughness and completeness of the audit/inspections.

CCHMP staff continues to work with other agencies such as the U.S. Environmental Protection Agency, the California Occupational Safety and Health Administration and the U.S. Chemical Safety and Hazard Investigation Board (CSB) and other local program agencies for sharing of incident results, regulatory interpretations, inspection results and training. CCHMP worked closely with Department of Industrial Relations, California Office of Emergency Services and California Environmental Protection Agency to develop new petroleum refinery safety regulations for the California Accidental Release Prevention Program (Program 4) and the Process Safety Management requirement for Refineries. The two regulations were developed following the requirements of the ISO and were adopted into regulation in October 2017. CCHMP believes these new regulations will further improve safety programs at all California petroleum refineries as demonstrated here in Contra Costa County. CCHMP is also working closely with other Certified Unified Program Agencies (CUPA) in the development and implementation of these regulations for the Refineries.

Public Participation

Contra Costa Hazardous Materials Programs has an established public outreach process and is continually looking for ways to improve. The following community-engagement efforts took place in this reporting period:

- Public outreach information booths at existing venues
 - Both Phillips 66 Refinery and Air Liquide Large Industries’ Safety Plan and Safety Audits were shared at the:
 - » Rodeo-Hercules Fire District Open House on November 18, 2018.
 - » Sugartown Festival & Street Fair, on Crockett Blvd in Crockett, on July 15, 2018
- Tesoro Golden Eagle Refinery Safety Audit at National Night Out, Alhambra Christmas Tree Farm, Martinez, on August 7, 2018
- Answer questions and share information regarding the CalARP/ISO/RISO Programs
 - » John Muir Birthday/Earth Day celebration at the John Muir National Historic Site in Martinez on April 21, 2018
- Presentations to Interested Groups
 - Both Phillips 66 Refinery and Air Liquide Large Industries’ Safety Plan and Safety Audits at the Crockett Community Center on August 16, 2018.
 - Presentation of the Safety Audit to the Phillips 66 Community Advisory Panel (CAP) on August 27, 2018
- Attend public meetings after major incidents:
 - There were no severity III incidents in this reporting period.
- Most recent audit findings summarized in an easily read format in English and Spanish
- Information on regulated businesses are presented in an easily read format in English and Spanish
- Industrial Safety Ordinance Information Sheets are prepared in English and Spanish

The Board of Supervisors also requested that staff provide copies of the Annual Report to communities through the Community Advisory Panels (CAP). This 2018 Annual Report is available on our website and will be sent to CAP representatives for distribution.

Audits

Audits of the regulated businesses are required at least once every three years to ensure that the facilities have the required programs in place and are implementing the programs. We completed three County ISO audits in 2018:

- Air Products @ Shell—January 2018
- Air Products @ Tesoro—January 2018
- Shell Martinez Refinery—March 2018

Major Chemical Accidents or Releases

There was one Major Chemical Accident or Release (MCAR) event for the County Industrial Safety Ordinance (ISO) facilities in July 2018 at the Shell Oil Refinery.

Conclusion

There is an overall declining trend for the severity of the Major Chemical Accidents or Releases in Contra Costa County since the implementation of the Industrial Safety Ordinance with minor irregularities. The implementation of the Industrial Safety Ordinance has improved regulated facilities’ safety programs and operations. Additionally, CCHMP has sought assistance from stakeholders, including the regulated facilities, workers and community members to include the additional measures that was recommended by the CSB. These would further reduce likelihood of chemical accidents at these industrial facilities.

Introduction

The Contra Costa County Board of Supervisors adopted the Industrial Safety Ordinance due to significant accidents that occurred at oil refineries and chemical plants in Contra Costa County in the 1990s. The effective date of the Industrial Safety Ordinance was January 15, 1999. The ordinance applies to oil refineries and chemical plants with specified North American Industry Classification System (NAICS) codes that were required to submit a Risk Management Plan to the U.S. EPA and are program level 3 stationary sources as defined by the U. S. EPA Risk Management Program. The ordinance specifies the following:

- Stationary sources had one year to submit a Safety Plan to Contra Costa Hazardous Materials Programs (CCHMP) stating how the stationary source is complying with the ordinance, except the Human Factors portion (completed January 15, 2000)
- CCHMP to develop a Human Factors Guidance Document (completed January 15, 2000)
- Stationary sources had one year to comply with the requirements of the Human Factor Guidance Document that was developed by CCHMP (compliance date: January 15, 2000)
- For Major Chemical Accidents or Releases, the stationary sources are required to perform a root cause analysis as part of their incident investigations (ongoing)
- CCHMP may perform its own incident investigation, including a root cause analysis (ongoing)
- All of the processes at the stationary source are covered as program level 3 or now for petroleum refineries program level 4 processes as defined by the California Accidental Release Prevention (CalARP) Program
- The stationary sources are required to consider Inherently Safer Systems for new processes or facilities and for mitigations identified in a process hazard analysis
- CCHMP reviewed all the submitted Safety Plans and audit/inspect all of the stationary sources' Safety Programs within one year of the receipt of the Safety Plan (completed January 15, 2001) and every three years after the initial audit/inspection (ongoing)

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Contra Costa Hazardous Materials Programs completed and issued the first Contra Costa County Safety Program Guidance Document on January 15, 2000. The stationary sources were required to comply with the Human Factors section of this guidance document by January 15, 2001. CCHMP performed a specialized audit for all the stationary sources for their Human Factors programs and for Inherently Safer Systems in 2002.

The 2006 amendments to the Industrial Safety Ordinance require or expand the following:

1. Expand the Human Factors Program to include Maintenance
2. Expand the Management of Organizational Change to include Maintenance and all of Health and Safety positions
3. Require the stationary sources to perform Safety Culture Assessments one year after CCHMP develop guidance on performing a Safety Culture Assessment (completed November 2009)
4. Require the stationary sources to perform Security Vulnerability Analysis

Hazardous Materials Programs staff has worked with the regulated facilities to develop a Safety Culture Assessment Guidance Document, which was finalized and issued on November 10, 2009. Staff began reviewing these Safety Culture Assessments in December 2010. A revised Safety Program Guidance Document that reflects the ISO amendments, and additional clarifications based on the audit findings was issued in July 2011.

In June 2014, the Board of Supervisors approved an amendment to the Industrial Safety Ordinance to address recommendations by CSB set forth in the Chevron refinery fire interim investigation report (August 2012) which further broadens the goals of the regulation by requiring the following:

1. Use of process safety performance indicators in the evaluation of the performance of process safety systems and to provide required contents in the annual performance review and evaluation report that is provided to the board of supervisors
2. Expand the implementation of inherently safer systems to be implemented to the greatest extent feasible and as soon as administratively practicable. Stationary source is now required to evaluate and document inherently safer system analysis:
 - a. Every five years for existing covered processes,
 - b. In the development and analysis of recommended action items identified in a process hazard analysis,
 - c. As part of a management of change review, whenever a major change is proposed at a facility that could reasonably result in a major chemical accident or release,
 - d. When an incident investigation report recommends a major change that could reasonably result in a major chemical accident or release,
 - e. When a root cause analysis report recommends a major change that could reasonably result in a major chemical accident or release, and
 - f. During the design of new processes, process units and facilities.
3. Conduct, document and complete a safeguard protection analysis for all processes by June 30, 2019, and every five years thereafter.

Regulated Stationary Sources Listing

The six stationary sources now covered by the Industrial Safety Ordinance are:

1. Air Liquide Rodeo Hydrogen Plant at Phillips 66
2. Air Products at the Shell Martinez Refining Company
3. Air Products at the Tesoro Golden Eagle Refinery
4. Shell Martinez Refining Company
5. Phillips 66 Rodeo Refinery
6. Tesoro Golden Eagle Refinery

The Air Liquide Rodeo Hydrogen Plant began operation in July 2009 and is located adjacent to the operating units on the refinery property. The facility produces purified hydrogen for Phillips 66 Refinery and other industrial customers. It also produces steam and electricity for the Phillips 66 Refinery.

Two facilities are covered by Richmond's ISO and they are:

- Chevron Richmond Refinery
- ChemtradeWest Richmond Works

The Status of the Regulated Stationary Sources' Safety Plans and Programs

All stationary sources regulated by the Industrial Safety Ordinance were required to submit their Safety Plans to CCHMP by January 15, 2000 and to have their Safety Programs completed and implemented. The stationary sources were also required to have a Human Factors Program in place that follows the County's Safety Program Guidance Document by January 15, 2001. The status of each of the regulated stationary sources is given in Table I and includes the following:

- When the latest updated Safety Plan was submitted
- When the Notice of Deficiencies was issued
- When the plan was determined to be complete by Hazardous Materials Programs
- When the public meeting was held on the Safety Plan
- When the audits were complete
- When the public meetings were held on the preliminary audit findings
- When the Human Factors to the Safety Plan were revised
- When the Notice of Deficiencies was issued for the Human Factors revised Safety Plan
- When the Human Factors Safety Plan was determined to be complete
- When the Audit/Inspection was completed
- When the Human Factors Audit preliminary findings public meeting was held

**Table I
Industrial Safety Ordinance Stationary Source Status**

NAME	Safety Plan (SP) Received	Notice of Deficiencies (NOD) Issued-SP	Safety Plan Complete	SP Public Meeting Date	Audit/ Inspection	Audit Public Meeting
Air Liquide Rodeo Hydrogen Plant	7/10/09 7/14/2010 11/3/2013 1/23/2017	12/13/2012 1/3/2013	3/1/2013 11/12/2013	7/21/2013 10/5/2013 10/14/2017	6/1/2010 5/28/2013 2/29/2016	10/8/11 10/5/2013 10/14/2017
Air Products— Shell & Tesoro	1/14/00 1/16/01 (HF update) 6/26/03 7/14/05 12/01/06 6/20/2008 6/30/2010 6/30/2014 12/1/17	6/15/00 5/10/01 (HF update) 8/24/07 3/14/2011 7/11/2014	8/30/00 6/19/01 (HF update) 9/14/07 7/1/2008 7/14/2014	9/13/00 5/8/03 9/23/07 6/19/2010 4/21/2012 4/15/2015	11/22/00 5/3/02 (HF) 2/27/04 1/22/07 7/20/09 4/16/2012 3/30/2015 1/11/2018	5/8/03 9/24/06 9/23/07 6/19/2010 4/20/2013 4/23/2015 4/23/2016
Phillips 66 (formerly ConocoPhillips) – Rodeo	1/15/00 1/12/01 (HF update) 8/10/05 8/7/09 8/7/2012 8/7/2015 8/6/2018	3/14/00 9/10/01 (HF update) 3/28/06 11/22/2010 6/5/2017	5/30/00 3/18/02 (HF update) 8/9/02 11/5/07 1/27/2011 7/3/2013 8/4/2017	6/15/00 5/9/02 10/7 & 10/13/07 10/8/2011 10/5/2013 7/21/2013 10/14/2017	6/30/00 11/5/01 (HF) 8/1/03 8/15/06 10/6/08 8/1/11 4/28/2014 1/4/2017	4/9/02 6/22/04 7/8/04 10/7 & 10/13/07 7/18/10, 10/9/10 10/8/11 7/21/2013 10/5/2013 10/24/2015 10/14/2017
Shell Martinez Refinery	1/14/00 1/16/01 (HF update) 7/22/02 1/11/06 9/3/2010 9/3/2013 8/26/2016	7/19/00 11/9/01 (HF update) 3/21/03 8/15/06 10/25/2011	4/9/01 1/3/02 (HF update) 9/15/03 11/2/06 3/27/2012 3/30/2017	5/8/03 9/24/06 9/23/07 4/21/2012 4/18/2015 4/22/2017	10/31/00 4/29/02 (HF) 11/26/04 10/23/06 4/30/09 2/13/2012 5/11/2015 2/28/2018	5/8/03 9/24/2006 9/23/07 6/19/2010 4/20/2013 4/23/2016
Tesoro Golden Eagle Refinery	1/14/00 1/12/01 (HF update) 6/21/02 6/22/07 12/11/09 6/1/2012 6/30/2015 6/13/2017	8/16/00 9/18/01 (HF update) 7/30/07 8/6/2012	1/31/01 12/14/01 (HF update) 6/21/03 11/5/07 6/4/10 8/27/2012	5/6/03 9/23/07 6/10/10 9/6/2012 4/22/2017	9/15/00 12/3/01 (HF) 9/8/03 11/07/05 8/18/08 4/18/2011 1/6/2014 10/5/2016	5/6/03 9/24/06 9/23/07 6/10/2010 9/6/2012 4/18/2015 8/7/2018

Locations of the Regulated Stationary Sources Safety Plans

Each of the regulated stationary sources was required to submit a Safety Plan to Hazardous Materials Program on January 15, 2000 and an updated Safety Plan that includes the implementation of the stationary source’s Human Factors Program by January 15, 2001. The regulated stationary sources are required to update their Safety Plan at least once every three years. These plans are available for public review at the Hazardous Materials Programs Offices at 4585 Pacheco Blvd., Suite 100, Martinez. When Hazardous Materials Programs determines that the Safety Plan is complete, and prior to going out for a 45-day public comment period, Hazardous Materials Programs staff will place the plan in the library(ies) closest to the regulated stationary source so it is easily accessible for review by the general public. Table II lists the regulated stationary sources with the location of each Safety Plan.

**Table II
Location of Safety Plans—Libraries**

Regulated Stationary Source	Location 1	Location 2	Location 3
Air Liquide Large Industries	Hazardous Materials Programs Office	Rodeo Public Library	Crockett Public Library
Air Products at Shell	Hazardous Materials Programs Office	Martinez Public Library	
Air Products at Tesoro	Hazardous Materials Programs Office	Martinez Public Library	
Shell Refining-Martinez	Hazardous Materials Programs Office	Martinez Public Library	
Phillips 66 (formerly ConocoPhillips) Rodeo Refinery	Hazardous Materials Programs Office	Rodeo Public Library	Crockett Public Library
Tesoro Golden Eagle Refinery	Hazardous Materials Programs Office	Martinez Public Library	

Effectiveness of Contra Costa Hazardous Materials Programs’ Implementation of the Industrial Safety Ordinance

Contra Costa Hazardous Materials Programs has developed policies, procedures, protocols and questionnaires to implement the California Accidental Release Prevention (CalARP) Program and the Industrial Safety Ordinance. The policies, procedures, protocols and questionnaires for these programs are listed below:

- Audits/Inspections Policy
- Conducting the Risk Management Plan/Safety Plan Completeness Review Protocol
- Risk Management Plan Completeness Review Questionnaires
- Safety Plan Completeness Review Questionnaires
- Conducting Audits/Inspections Protocol
- Safe Work Practices Questionnaires
- CalARP Program Audit Questionnaires
- Safety Program Audit Questionnaires
- Conducting Employee Interviews Protocol
- Employee Interview Questionnaires

- Procedure Field verification protocol
- Piping and Instrumentation Diagram Field Verification protocol
- Public Participation Policy
- Dispute Resolution Policy
- Reclassification Policy
- Covered Process Modification Policy
- CalARP Internal Performance Audit Policy
- Conducting the Internal Performance Audit
- CalARP Internal Audit Performance Audit Submission
- Fee Policy
- Notification Policy
- Unannounced Inspection Policy
- Risk Management Plan Public Review Policy

Hazardous Materials Programs has developed the Contra Costa County CalARP Program Guidance Document and the Contra Costa County Safety Program Guidance Document (including the Safety Culture Assessment). An updated Contra Costa County Safety Program Guidance Document, which incorporated updates from the ISO amendments and additional clarifications from all the audits, was issued July 22, 2011, to the regulated facilities. These documents give guidance to the stationary sources for complying with the Industrial Safety Ordinance. The policies, procedures, protocols and questionnaires are available through Hazardous Materials Programs office. The guidance documents can be downloaded through Health Services' website: <http://cchealth.org/hazmat/calarp/guidance-document.php> and http://cchealth.org/groups/hazmat/industrial_safety_ordinance_guidance.php

Currently, CCHMP staff is working with the regulated facilities and labor representatives to revise the Safety Program Guidance Document to provide additional guidance and set expectations for compliance that incorporate the 2015 ISO amendment requirements.

Effectiveness of the Procedures for Records Management

Hazardous Materials Program has set up digital files for each stationary source. The files include the following folders:

1. Annual status reports
2. Audits & Inspections
3. Communications
4. Completeness Review
5. Emergency Response
6. Incident Investigation
7. Trade Secret Information

Digital copies of the files are stored on the Hazardous Materials Programs network and are accessible to the Accidental Release Prevention Programs Engineers, Supervisor and the Environmental Health and Hazardous Materials Chief. Portable document format (PDF) versions of these files are also stored on the Hazardous Materials Programs network and available for public access and viewing at the office. The Accidental Release Prevention Program files contain regulations, policies, information from the U.S. EPA, the Governor's Office of Emergency Services, the U.S. Chemical Safety and Hazards Investigation Board, and other information pertinent to the engineers. The risk management and safety plans are received in hard copies, scanned and are kept at the Hazardous Materials Programs office.

Number and Type of Audits and Inspections Conducted

The Hazardous Materials Programs staff was required to audit and inspect all stationary sources regulated under the Industrial Safety Ordinance within one year after the initial submittal of their Safety Plans. Hazardous Materials Programs reviewed all of the Safety Plans and audited/inspected all of the stationary sources' Safety Programs within that year (2000). CCHMP performed focused audits of the stationary sources for their Human Factors Programs (this was not included in the original audit/inspection since the stationary sources were not required to have their Human Factors Program in place until January 2001) and Inherently Safer Systems in 2001 and 2002. Additional focused audits were performed to look at how two stationary sources would manage organizational change in case there was a strike and non-striking personnel were used instead of the striking personnel (2002). CCHMP completed the second round of audits for the Industrial Safety Ordinance stationary sources in 2003 and 2004 and began a third round of audits in the autumn of 2005, which were completed in the spring of 2007. The fourth round of audits was completed in August 2009. Air Liquide submitted a Risk Management Plan and Safety Plan to Hazardous Materials Program in July 2009 and was audited for the first time in June 2010 and subsequently in 2013 and 2016. CCHMP completed the fifth round of audits of ISO facilities in spring of 2012 and completed the sixth round of audits in summer of 2015. CCHMP started the seventh round of audits in fall of 2016 and completed the ISO facilities audits by March of 2018. In fall of 2019, CCHMP will begin the eighth round of audits at the ISO facilities

When CCHMP ARP engineers review a Safety Plan, a Notice of Deficiencies is issued that documents what changes to a Safety Plan the stationary source is required to make before the Safety Plan is determined to be complete. The stationary source has 60 to 90 days to respond to the Notice of Deficiencies. When the stationary source has responded to this Notice of Deficiencies, the ARP engineer will review the responses. The ARP engineer will work with the stationary source until the Safety Plan contains the required information for it to be considered complete. When the Safety Plan is deemed complete, the ARP engineer will open a public comment period on the Safety Plan and will make the plan available in a public meeting or venue as well as at the public library closest to the stationary source. The ARP engineer will respond to all written comments in writing and, when appropriate, use the comments in upcoming audit/inspection of the regulated stationary sources.

At the conclusion of a facility audit/inspection, an ARP engineer will issue a Preliminary Audit Findings report. The stationary source will have 90 days to respond to these findings. The ARP engineer will review the response from the stationary source regarding the findings from the audit. After the review and the ARP Engineer is in agreement with the action plan developed by the stationary source to come into compliance with the regulations, the ARP Engineer will issue the Preliminary Audit Findings for public comment and will make available the findings in a public meeting or venue as well as at the public library closest to the stationary source. The ARP engineer will consider any public comments that were received during the public comment period and if appropriate will revise the Preliminary Audit Findings. When this is complete, the ARP engineer will issue the Final Audit Findings and will respond in writing to any written public comments received. Table I lists the status of each stationary source's Safety Plan, audit and inspections of their Safety Programs and the public meetings.

Number of Root Cause Analyses and/or Incident Investigations Conducted by Hazardous Materials Program

CCHMP has not performed any root cause analyses or incident investigations in the past year. A historical listing of Major Chemical Accidents or Releases starting in 1992 is on the Health Services website at http://cchealth.org/groups/hazmat/accident_history.php. This list includes major accidents that occurred prior to the adoption of the Industrial Safety Ordinance.

Annual Performance Review and Evaluation Report

The Industrial Safety Ordinance specifies that the contents of the annual performance review and evaluation report contain the following:

- A brief description of how CCHMP is meeting the requirements of the ordinance as follows:
 - The program's effectiveness in getting regulated businesses to comply with the ordinance
 - Effectiveness of the procedures for records management
 - Number and type of audits and inspections conducted by Hazardous Materials Programs as required by the ordinance
 - Number of root cause analyses and/or incident investigations conducted by Hazardous Materials Programs
 - Hazardous Materials Programs' process for public participation
 - Effectiveness of the Public Information Bank
 - Effectiveness of the Hazardous Materials Ombudsperson
 - Other required program elements necessary to implement and manage the ordinance
- A listing of stationary sources covered by the ordinance, including for each:
 - The status of the stationary source's Safety Plan and Program
 - A summary of the stationary source's Safety Plan updates and a listing of where the Safety Plans are publicly available
 - The annual accident history report submitted by the regulated stationary sources and required by the ordinance
 - A summary, including the status, of any root cause analyses and incident investigations conducted or being conducted by the stationary sources and required by the ordinance, including the status of implementation of recommendations
 - A summary, including the status, of any audits, inspections, root cause analyses and/or incident investigations conducted by Hazardous Materials Programs, including the status for implementing the recommendations
 - Description of Inherently Safer Systems implemented by the regulated stationary source
 - Legal enforcement actions initiated by Hazardous Materials Programs, including administrative, civil and criminal actions
- Total fees, service charges and other assessments collected specifically for the support of the ordinance
- Total personnel and personnel years used by the jurisdiction to directly implement or administer the ordinance
- Comments that raise public safety issues from interested parties regarding the effectiveness of the local program
- The impact of the ordinance in improving industrial safety

Hazardous Materials Programs' Process for Public Participation

In 2005, CCHMP worked with the community and developed materials that would describe the Industrial Safety Ordinance using a number of different approaches. The community representatives suggested that the Hazardous Materials Programs staff look at existing venues that are attended by the public. This will allow Hazardous Materials Programs staff to share and receive comments on the stationary source's Safety Plans and Preliminary Audit Findings rather than asking the public to attend a special meeting. Additionally, based on Board recommendation in 2012, CCHMP are making presentations to Community Advisory Panel members and sharing the ISO annual reports.

Effectiveness of the Public Information Bank

The Hazardous Materials Programs section of Health Services website <http://cchealth.org/groups/hazmat> includes the following information:

- Industrial Safety Ordinance
 - Description of covered facilities
 - Risk Management Chapter discussion
 - » Copy of the ordinance
 - Land Use Permit Chapter discussion
 - » Copy of the ordinance
 - Safety Program Guidance Document
 - Frequently Asked Questions
 - Public Outreach strategies
- California Accidental Release Prevention (CalARP) Program
 - Contra Costa County's California Accidental Release Prevention Program Guidance Document
 - Program Level description
 - Discussion on Public Participation for both CalARP Program and the Industrial Safety Ordinance
 - A map locating the facilities that are subject to the CalARP Program and are required to submit a Risk Management Plan to Hazardous Materials Program. The map links to a description of each of the facilities and the regulated substances handled
 - A link to the Office of Emergency Services (OES) website for the CalARP regulation
- Hazardous Materials Inventories and Emergency Response Program
 - Descriptions
 - Forms
- Underground Storage Tanks
 - Description of the program
 - Copies of the Underground Storage Tanks Health & Safety Code sections
 - Underground Storage Tanks forms
- Green Business Program
 - Description of the Green Business Program with a link to the Association of Bay Area Government's website on the Green Business Program
- Hazardous Materials Incident Response Team
 - Including information of the Major Chemical Accidents or Releases that have occurred
 - The County's Hazardous Materials Incident Notification Policy

- A link to the Phillips 66 and Chevron Fenceline Monitors
- Unannounced Inspection Program
 - Lists the facilities that are subject to unannounced inspections under the Unannounced Inspection Program
- Hazardous Materials Interagency Task Force
 - Includes a matrix of who has what hazardous materials and regulatory responsibilities
 - Minutes from past meetings
 - Presentations from past meetings
- Incident Response
 - Accident history that lists summaries of major accidents from industrial facilities in Contra Costa County from 1992 to the most recent
 - Additional resource links for more information
- Incidents
 - Information on the July 6, 2018 Shell flaring incident, including the Root Cause report
 - Relevant 72-hours and 30-day incident report for MCAR events

Effectiveness of the Hazardous Materials Ombudsperson

The County Board of Supervisors created the Hazardous Materials Ombudsperson position in 1997. This position was filled in April 1998. The Board believed that the ombudsperson would be a conduit for the public to express their concerns about how Hazardous Materials Programs personnel are performing their duties. Attachment A is a report from the Hazardous Materials Ombudsperson on the effectiveness of the position for this reporting period.

Other Required Program Elements Necessary to Implement and Manage the Industrial Safety Ordinance

The California Accidental Release Prevention (CalARP) Program is administered in Contra Costa County by CCHMP. The Industrial Safety Ordinance expands on this program. Stationary sources are required to submit a Risk Management Plan that is similar to the Safety Plans that are submitted. An ARP engineer reviews these Risk Management Plans and performs the CalARP Program audit simultaneously with the Industrial Safety Ordinance audit.

Hazardous Materials Program staff also performs unannounced inspections of CalARP program stationary sources that are also required to submit a Risk Management Plan to the U.S. EPA. These inspections aim to exercise how a facility will respond to an incident, including notifying emergency response agencies and CCHMP.

Annual Accident History Report and Inherently Safer Systems Implemented as Submitted by the Regulated Stationary Sources

The Industrial Safety Ordinance requires the stationary sources to update the information on their accident history in their Safety Plans and include how they have used inherently safer processes within the last year. Table III summarizes Inherently Safer Systems that have been implemented by the different stationary sources during the same period. Attachment B includes the individual reports from the stationary sources that also includes the required reporting of four common process safety performance indicators.



**Table III
Inherently Safer Systems Contra Costa County Facilities**

Regulated Stationary Source	Inherently Safer System Implemented	Design Strategy	Approach
Air Liquide Large Industries	No new inherently safer systems have been implemented; project in progress for 2019		
Air Products at Shell	No new inherently safer systems have been implemented		
Air Products at Tesoro	No new inherently safer systems have been implemented		
Phillips 66 (formerly ConocoPhillips) —Rodeo Refinery	Reduced inventory by changing equipment in process	Inherent	Moderate
	Reduced potential of exposure by changing layout or design, equipment (6 times)	Passive	Moderate
	Reduced potential unit upset by changing equipment or adding alarms (7 times)	Active	Moderate
	Reduced potential of exposure by changing equipment layout or design	Active	Simplify
	Reduced potential of error by adding administrative controls such as locks (2 times)		
Shell Martinez Refinery	Eliminated equipment from process	Inherent	Minimize
	Reduced potential of exposure by changing design, equipment metallurgy (12 times)	Passive	Moderate
	Simplified unit design and chemical by changing/re-routing equipment (4 times)	Active	Moderate
	Reduced potential of error in procedure	Procedural	Moderate
	Reduced potential of error by changing service in procedure	Procedural	Simplify
	Reduced potential of error by changing equipment function	Procedural	Minimize
Tesoro Golden Eagle Refinery	Reduced potential of the hazardous condition by equipment design features (3 times)	Passive	Moderate

Status of the Incident Investigations, Including the Root Cause Analyses Conducted by the Regulated Stationary Sources

The Industrial Safety Ordinance requires the regulated stationary sources to do an incident investigation with a root cause analysis for each of the major chemical accidents or releases as defined by the following: “Major Chemical Accident or Release” means an incident that meets the definition of a Level 3 or Level 2 incident in the Community Warning System incident level classification system defined in the Hazardous Materials Incident Notification Policy, as determined by Contra Costa Health Services; or results in the release of a regulated substance and meets one or more of the following criteria:

- Results in one or more fatalities

- Results in greater than 24 hours of hospital treatment of three or more persons
- Causes on–and/or off-site property damage (including cleanup and restoration activities) initially estimated at \$500,000 or more. On-site estimates shall be performed by the regulated stationary source. Off-site estimates shall be performed by appropriate agencies and compiled by Health Services
- Results in a vapor cloud of flammables and/or combustibles that is more than 5,000 pounds

The regulated stationary source is required to submit a report to Hazardous Materials Programs 30 days after the root cause analysis is complete. There was one Major Chemical Accidents or Releases that occurred within this reporting period in Contra Costa County at an ISO facilities. The Shell Martinez Refinery released unburned flare gas from an elevated flare on July 6, 2018 which resulted in flaring and CWS 2 activation. The status of this incident investigation is listed in Table IV below. This and other final RCA reports for previous MCAR incident reports are available at the Hazardous Materials Programs office and website.

Table IV MCAR Status

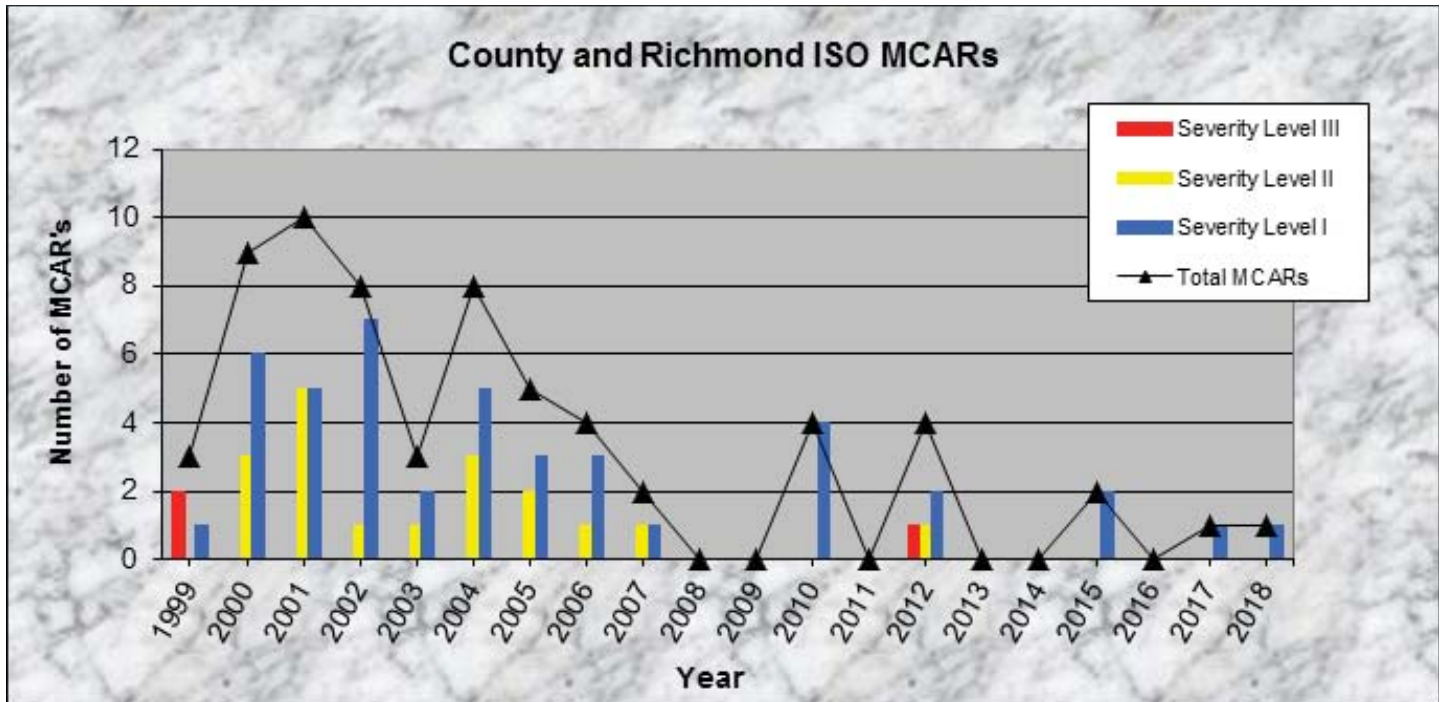
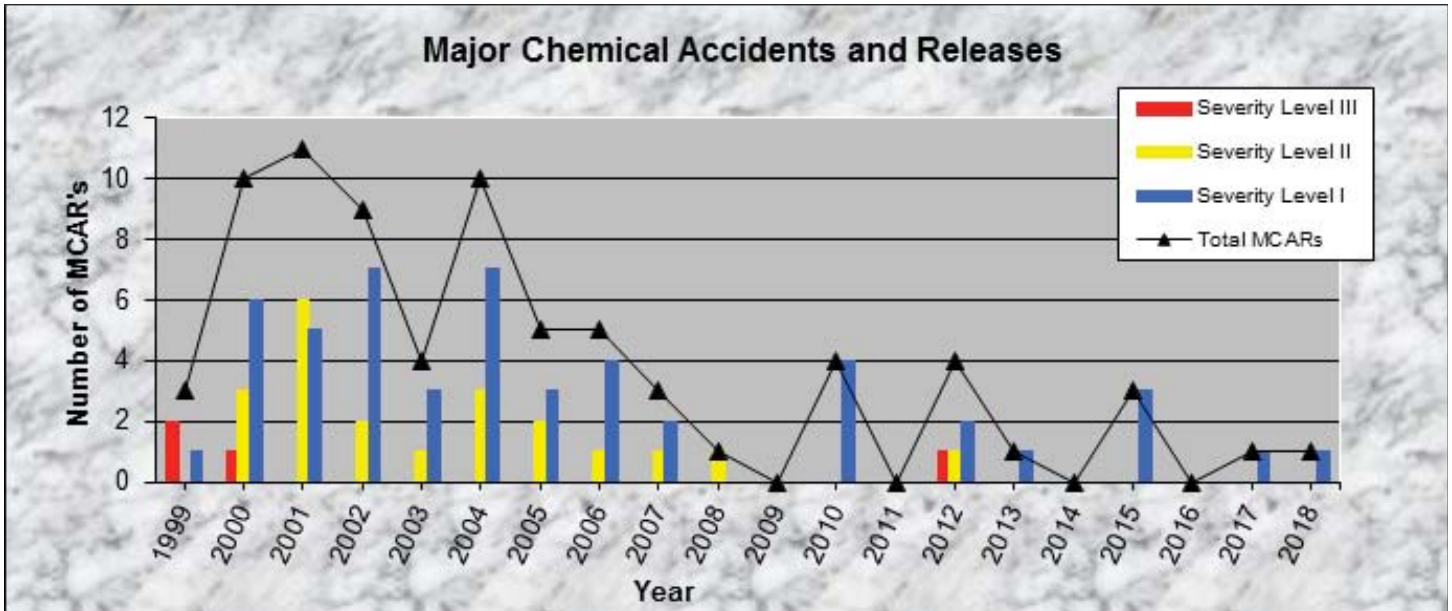
Facility	MCAR Date	CWS Severity	MCAR Description	Onsite Impact	Offsite Impact
Shell Martinez Refinery– LOP flaring	7/6/2018	1	Two separate events on this day. 1) 1:00am-Drop in pressure of refinery instrument air resulted in flaring and extinguishing of LOP flare pilots 2) 2:20am-Small lube oil fire in Hydrocracker Unit forced shutdown of unit. At 3:20am, Hydrocracker depressured to LOP Flare and flare pilots remained unlit. By 3:45am Hydrocracker depressurization stopped, and flaring stopped. Flare pilots were relit by 8:45am.	Small fire resulted in unit shutdown that sent material to LOP Flare and flare pilots were unlit.	HAZMAT personnel in field report slight to no odors in area. Only one field detection of H2S was 0.001 ppm at Shell Ave and Marina Vista.

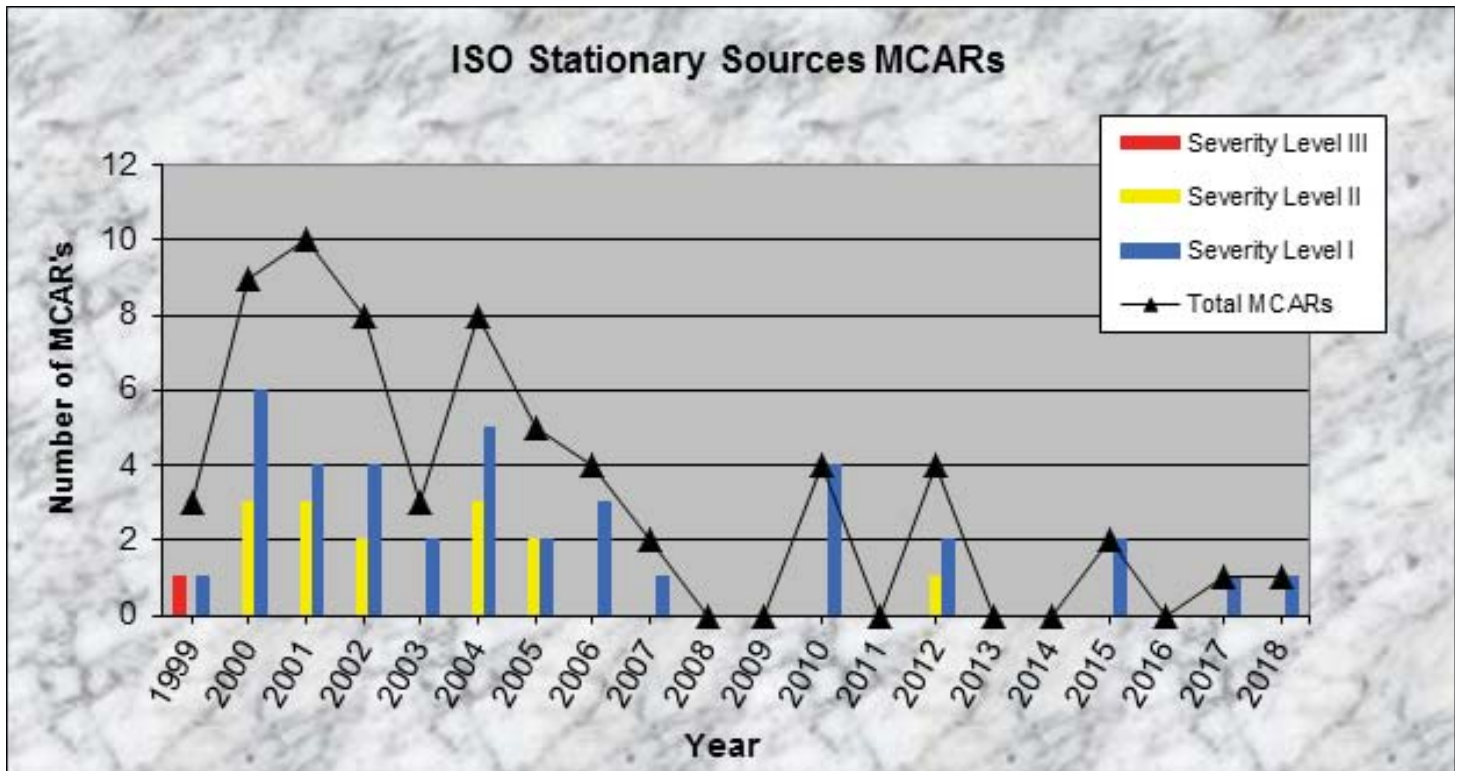
Major Chemical Accidents or Releases

Hazardous Materials Programs analyzed the Major Chemical Accidents or Releases (MCAR) that occurred since the implementation of the Industrial Safety Ordinance. The analysis includes the number of MCARs and the severity of the MCARs. Three different levels of severity were assigned:

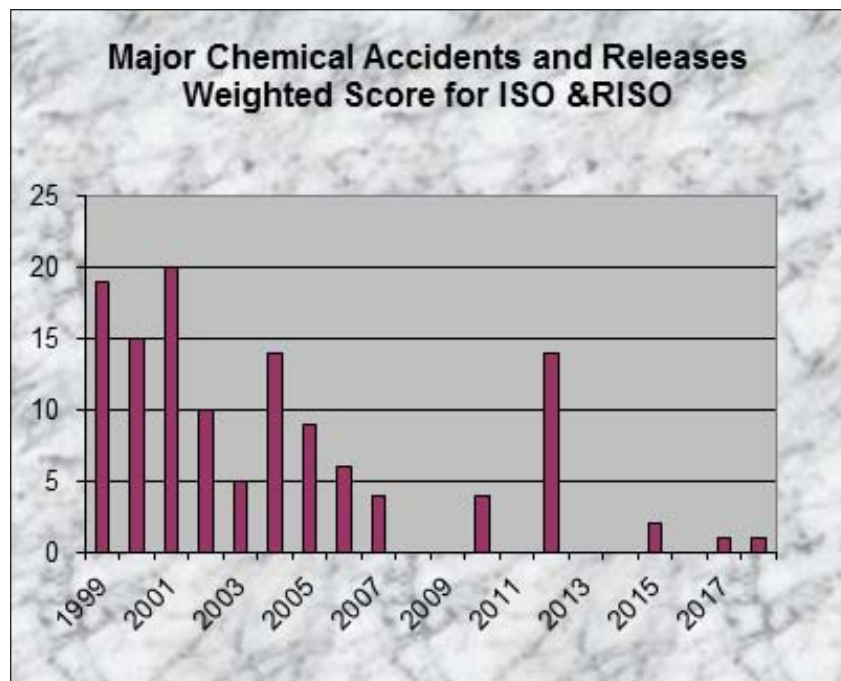
- *Severity Level III*—A fatality, serious injuries or major on-site and/or off-site damage occurred
- *Severity Level II*—An impact to the community occurred, or if the situation was slightly different the accident may have been considered major, or there is a recurring type of incident at that facility
- *Severity Level I*—A release where there was no or minor injuries, the release had no or slight impact to the community, or there was no or minor onsite damage

Below are charts showing the number of MCARs from January 1999 through October 2017 for all stationary sources in Contra Costa County, the MCARs that occurred at stationary sources regulated by the County’s Industrial Safety Ordinance, and a chart showing the MCARs that have occurred at the County and the City of Richmond’s Industrial Safety Ordinance stationary sources. **NOTE: The charts do not include any transportation MCARs that have occurred.**





A weighted score has been developed giving more weight to the higher severity incidents and a lower weight to the less severe incidents. The purpose is to develop a metric of the overall process safety of facilities in the County, the facilities that are covered by the County and the City of Richmond Industrial Safety Ordinances, and the facilities that are covered by the County's Industrial Safety Ordinance. A severity level III incident is given 9 points, severity level II is given 3 points and severity level I is given 1 point. Below is a graph of this weighted scoring.



Legal Enforcement Actions Initiated by Contra Costa Hazardous Materials Programs

As part of the enforcement of the Industrial Safety Ordinance and the CalARP Program, Hazardous Materials Programs staff issue, Notices of Deficiencies on the Safety and Risk Management Plans and issues Audit Findings on what a stationary source is required to change to come into compliance with the regulations. Table I shows the action that has been taken by Hazardous Materials Programs. Hazardous Materials Programs staff has not taken any action through the District Attorney's Office for noncompliance with the requirements of the Industrial Safety Ordinance.

Penalties Assessed as a Result of Enforcement

No penalties have been assessed in this period for noncompliance with the Industrial Safety Ordinance.

Total Fees, Service Charges and Other Assessments Collected Specifically for the Industrial Safety Ordinance

The fees charged for the Industrial Safety Ordinance are to cover the time that the ARP engineers use to enforce the ordinance, the position of the Hazardous Materials Ombudsperson, outreach material and to cover a portion of the overhead for the Hazardous Materials Programs. The fees charged for administering this ordinance for the past fiscal year 2017–2018 \$578,390.

Total Personnel and Personnel Years Used by Hazardous Materials Program to Implement the Industrial Safety Ordinance

The ARP engineers have reviewed resubmitted Safety Plans, prepared and presented information for public meetings, performed audits of the stationary sources for compliance with both the California Accidental Release Prevention Program and Industrial Safety Ordinance and did follow-up work after a Major Chemical Accident or Release. The following is a breakdown of the time that was spent on the County's and the City of Richmond's Industrial Safety Ordinances:

- Three ISO/CalARP Program facility audits were performed in 2018. It takes four to five engineers four weeks to perform the on-site portion of an ISO/CalARP Program audit. The audit process encompasses off-site time that includes report preparation, a quality assurance review process, working with the facility to address any questions and assessing the facility's proposed remedies for completeness, preparing communication materials and posting public notices, attending a public forum to share audit findings, addressing any questions from the public and issuing the final report. The total time taken to perform these audits each year was 3,600 hours. Approximately one-third of the time was dedicated to the Industrial Safety Ordinance, for a total of 1, 200 hours. This year larger teams included recently hired ARP engineers, as part of their training, participated in the ISO audits for a total of 850 additional hours.
- Reviewing information for the website—180 hours
- Reviewing Safety Plans and following up with the facilities on any deficiencies—650 hours
- Review and participate in investigation, root cause analysis and proposed recommendations—500 hours
- Prepare material for presentations and public meetings – total approximately 450 personnel hours.
- Total of 3,828 hours is the approximate personnel time spent on the Industrial Safety Ordinance.

This is not including the Ombudsperson time spent helping prepare for the public meetings, working with the engineers on questions arising from the Industrial Safety Ordinance, and answering questions from the public on the Industrial Safety Ordinance.

In 2015 and 2016, CCHMP worked with the ISO-working group which included regulated facilities, employee and community representatives to address changes in the Safety Plan Guidance document to accommodate recommendations from CSB.

Additionally, CCHMP worked extensively with both the Department of Industrial Relations and CalEPA on improved Safety regulations for refineries in California as a result of the Governor's Intra-Agency Task Force Report.

Comments from Interested Parties Regarding the Effectiveness of the Industrial Safety Ordinance

No comments were received on the County's or the City of Richmond's Industrial Safety Ordinances during the last year.

The Impact of the Industrial Safety Ordinance on Improving Industrial Safety

Four programs are in place to reduce the potential of an accidental release from a regulated stationary source that could impact the surrounding community. The four programs are the Process Safety Management Program administered by Cal/OSHA, the federal Accidental Release Prevention Program administered by the U.S. EPA, the California Accidental Release Prevention Program administered locally by CCHMP, and the Industrial Safety Ordinance, which is also administered by CCHMP. Each of the programs is very similar in requirements. On October 1, 2017, California petroleum refineries are required to comply with requirements of CalARP Program 4 and OSHA PSM for refineries. Both are based on the ISO. CalARP Program 3 differs from the Federal Accidental Release Prevention Program in the following ways:

- The number of chemicals regulated
- The threshold quantity of these chemicals
- An external events analysis, including seismic and security and vulnerability analysis, is required
- Additional information in the Risk Management Plan
- CCHMP is required to audit and inspect stationary sources at least once every three years
- The interaction required between the stationary source and CCHMP

The ISO differs from CalARP Program 3, which the chemical facilities are required to follow, in the following ways:

- Stationary sources are required to include a root cause analysis with the incident investigations for Major Chemical Accidents or Releases
- The stationary sources are required to consider inherently safer systems for existing processes, in the development and analysis of recommended action items identified in a process hazard analysis, as part of a management of change review, as part of incident investigation or root cause analysis development of recommendation, and during the design of new processes, process units and facilities.
- All of the processes at the regulated stationary sources are covered
- The implementation of a Human Factors Program evaluation of latent conditions in existing units, operating and maintenance procedures and in root cause analysis
- Managing changes in the organization for operations, maintenance and emergency response
- A requirement that the stationary sources perform a Security and Vulnerability Analysis and test the effectiveness of the changes made as a result of the Security and Vulnerability Analysis
- The stationary sources perform Safety Culture Assessments
- Conduct, document and complete safeguard protection analysis for process hazard analysis to reduce catastrophic releases
- Use and report of process safety performance indicators in the annual performance review and evaluation report

Major Program difference of ISO from CalARP Program 4 and PSM for Refineries is that the Program 4 requirements include:

- Mechanical Integrity must include assessment of Damage Mechanism Review base on operating history and industry experience
- Process Hazard Analysis must include review of Damage Mechanism Review report compiled as part of process safety information
- Contractor and any subcontractors use a skilled and trained workforce pursuant to Health and Safety Code Section 25536.7
- Require a Management system with specific requirement for managing and communicating recommendations from the prevention program elements
- Require a Stop Work procedure and an anonymous hazard reporting system

The Safety Culture Assessment guidance chapter was finalized in November 2009. The Industrial Safety Ordinance Guidance Document was updated to reflect all the updates in September 2010. The Accidental Release Prevention Engineers have participated with the Center for Chemical Process Safety on developing the second edition of *Inherently Safer Chemical Processes*, a book that is referenced in the ordinance and with the Center for Chemical Process Safety on developing process safety metrics for leading and lagging indicators. CCHMP is currently participating in the third edition of *CCPS: Inherently Safer Chemical Processes* to further clarify and promote the practice and consideration of Inherently Safer System.

All of these requirements have lowered the probability of an accident occurring.

Contra Costa County was recognized as an alternative model for doing process-safety inspections by the Chemical Safety and Hazard Investigation Board in its report on a 2005 refinery accident in Texas City. The report states, *“Contra Costa County and the U.K. Health and Safety Executive conduct frequent scheduled inspections of PSM and major hazard facilities with highly qualified staff.”* This was done to compare to the number of OSHA process safety management audits. The Chemical Safety and Hazard Investigation Board also mentions Contra Costa County in a DVD, *Anatomy of a Disaster: Explosion at BP Texas City Refinery*, on the resources given to audit and ensure facilities are complying with regulations.

Carolyn W. Merritt, the Chemical Safety and Hazard Investigation Board Chair at that time, also recognized Contra Costa County in testimony to the House of Representatives Committee on Education and Labor chaired by U.S. Rep. George Miller. Senator Barbara Boxer, during a 2007 hearing to consider John Bresland’s nomination to the Chemical Safety and Hazard Investigation Board as the Chair (replacing Carolyn Merritt), asked Mr. Bresland about the Contra Costa County program for process safety audits of refineries and chemical companies.

In its final investigation report on an incident that occurred in 2008 at the Bayer Crop Science, Institute, West Virginia, the CSB recommended that regulatory agencies in the area audit their chemical facilities using Contra Costa County’s auditing process. CCHMP staff and a representative from the local United Steelworkers Union were part of a panel when the Chemical Safety and Hazard Investigation Board presented this report to the Kanawha Valley community.

Contra Costa Hazardous Materials Programs in June 2010 was asked to give testimony at the hearing on “Work Place Safety and Worker Protections in the Gas and Oil Industry” before the U.S. Senate Committee on Health, Education, Labor, and Pensions Subcommittee on Employment and Workplace Safety. The testimony was on the success of the Accidental Release Prevention Programs that are in place in Contra Costa County. The hearing was specific on two

major incidents that occurred one in Anacortes, WA. at a Tesoro Refinery and the other, Deepwater Horizon incident in the Gulf of Mexico. A link to the testimony is posted on the Health Services website (<http://www.help.senate.gov/hearings/production-over-protections-a-review-of-process-safety-management-in-the-oil-and-gas-industry>) and the written testimony can be found at <http://www.help.senate.gov/imo/media/doc/Sawyer.pdf>

In September 2012, Contra Costa Hazardous Materials Programs was asked to be a presenter at the “Expert Forum on the Use of Performance-based Regulatory Models in the U.S. Oil and Gas Industry: Offshore and Onshore” in Texas City, Texas to share the regulatory experience at Contra Costa County. And give testimony on how local, state and Federal agencies can work together and have an unprecedented alignment on regulations that is required for the same facilities. This informational meeting was spearheaded by Federal Occupational Safety and Health Administration and attended by Bureau of Safety and Environmental Enforcement, United States Coast Guard, United States Environmental Protection Agency, Pipeline and Hazardous Materials Safety Administration, United Steelworkers, American Petroleum Institute, academia and industry representatives.

CCHMP staff also testified at a hearing on “Oversight of Federal Risk Management and Emergency Planning Programs to Prevent and Address Chemical Threats, Including the Events Leading up to the Explosions in West, TX and Geismar, LA”; before the Committee on Environment and Public Works, United States Senate, June 27, 2013. Following is a link to the transcript of the hearing: <https://www.gpo.gov/fdsys/pkg/CHRG-113shrg95874/pdf/CHRG-113shrg95874.pdf>

City of Richmond Industrial Safety Ordinance

The City of Richmond on December 18, 2001 passed its version of the Industrial Safety Ordinance, which became effective January 17, 2002. Richmond’s Industrial Safety Ordinance (RISO) mirrors the County’s Industrial Safety Ordinance. Richmond’s Industrial Safety Ordinance covers two stationary sources: Chevron Richmond Refinery and General Chemical West Richmond Works. CCHMP administers the Richmond ISO for the City.

West Richmond, Chemtrade (formerly General Chemical) and Chevron submitted their Safety Plans to Hazardous Materials Programs in 2003, which have been reviewed and were considered complete. The public comment period for these plans ended in January 2004. Public meetings held in 2004 in North Richmond and Richmond discussed Chevron and Chemtrade West Richmond (Chemtrade) audit findings. The second Richmond Industrial Safety Ordinance/CalARP Program audits for these facilities occurred in 2006 and public meetings were held in June 2007 at Hilltop Mall at “Lessons from Katrina,” the 2007 Neighbor Works Week Homeownership Faire & Disaster Preparedness Expo.

CCHMP followed up on the January 15, 2007 fire at the Chevron Refinery. The follow-up included a public meeting, City Council meetings, meetings with Chevron on the investigation and the root cause analysis. Chevron Richmond Refinery was audited for the third time for RISO/CalARP program in April 2008. The report was finalized and results were available at the Recycle More Earth Day Event in Richmond in June 2009. Copies of the audit results are available at the Richmond Library and a summary of the audit is also available on Hazardous Materials Programs’ website.

CCHMP performed an RISO/CalARP program audit at General Chemical Richmond in January 2009, January 2012 and in September 2014. CCHMP performed the RISO/CalARP program audit at Chevron Richmond Refinery in April 2008, February 2011, and October 2013. CCHMP also made presentation to Point Richmond Neighborhood Council at the Point Richmond Firehouse about General Chemical Richmond Works and Chevron Richmond Refinery’s audit history, incidents and general Industrial Safety Ordinance information on January 25, 2012. The 2013 final audit report for Chevron and the 2014 final audit report for Chemtrade Richmond was shared on Food Day in Richmond in October 2015. The sixth RISO/CalARP audit at Chevron was completed in August 2016 and in July 2017 for Chemtrade Richmond. The detail status and location of the Safety plan and audits is listed in Table V. CCHMP will begin the seventh RISO/CalARP audit at Chevron this coming June.

Table V Richmond Industrial Safety Ordinance Stationary Source Status

Name/ Location of copies	Safety Plan (SP) Received	Notice of Deficiencies (NOD) Issued-SP	Safety Plan Complete	SP Public Meeting Date	Audit/ Inspection	Audit Public Meeting
Chevron Richmond/ Point Richmond and Richmond Main Public Library	1/21/03 6/21/04 9/29/06 9/25/09 9/24/12 9/30/15 6/28/18	4/23/03 11/8/12	10/10/03 6/22/04 5/21/07 11/4/09 11/12/13 7/25/18	10/14/03 6/24/04 6/2/07 9/25/10 10/5/13	1/11/01 (Non- RISO) 9/29/03 2/13/06 4/14/08 2/8/11 10/3/13 7/18/16	6/24/04 6/2/07 4/25/09 9/24/11 10/24/15
Chemtrade Richmond Works/Point Richmond and Richmond Main Public Library	1/17/03 6/21/04 4/17/09 8/5/14 11/26/18	4/11/03 2/18/10 7/10/15	10/10/03 4/17/06 5/26/10	10/14/03 6/2/07 9/25/10 5/1/16	5/29/01 (Non-RISO) 4/24/06 8/18/03 1/5/09 1/5/12 9/8/14 7/17/17	6/24/04 6/2/07 9/25/10 10/5/13 10/24/15

CCHMP worked with U.S. EPA, Cal OSHA, BAAQMD and CSB's in their independent investigation of the August 6, 2012 fire at the No. 4 Crude Unit Chevron. CCHMP co-hosted two public meetings in conjunction with the City of Richmond to share information regarding this severity level III incident. CCHMP, City of Richmond and representatives of the agencies performing the investigation shared preliminary results and addressed public issues and concerns. Written comments were gathered and are posted on the Health Services' website. CCHMP hired a third party to perform a safety evaluation of the Chevron Richmond Refinery after the August 6, 2012 fire. The evaluation reviewed the safety culture of the refinery, the process safety management systems, and human factors. The final report is complete and is posted on the county's website.

CCHMP staff worked closely with the City of Richmond staff in preparation of the Richmond Industrial Safety Ordinance amendment (adopted in Jan 2013) that made the Richmond Industrial Safety Ordinance consistent with the Contra Costa County Industrial Safety Ordinance (with the amendments). In 2014, CCHMP again worked with the City of Richmond staff to amend the Richmond Industrial Safety Ordinance and the County Industrial Safety Ordinance aimed to address recommendations by the US Chemical Safety and Investigation Board following the August 6, 2012 Chevron fire to further improve process safety operations in Contra Costa County refineries and chemical facilities.

CCHMP presented the 2014 annual RISO report to the Richmond City Council on April 28, 2015. Copies of the 2014 RISO report were submitted to the Richmond City Council and posted on cchealth.org. Select community members/ organizations were also included in the distribution. CCHMP received annual performance update from Chevron and Chemtrade in June 2017. The complete annual status is included as Attachment C. A summary of Inherently Safer Systems from both facilities are summarized in Table V below.

Inherently Safer Systems Richmond Facilities

Regulated Stationary source	Inherently Safer System Implemented	Design Strategy	Approach
Chevron	Reduce the inventory of hazardous substance by eliminating piping and equipment (2 times)	Inherent	Minimization
	Eliminated equipment from process	Inherent	Simplify
	Reduced potential of exposure and hazard by simplifying equipment design	Passive	Simplify
	Reduced potential of exposure and hazard by metallurgy upgrade and equipment design	Passive	Moderate
	Reduced potential of error simplification of steps to include duration	Procedural	Simplify
Chemtrade Richmond Works	Reduced potential of exposure and hazard by metallurgy upgrade and equipment design (2 times)	Passive	Moderate



ATTACHMENT A
HAZARDOUS MATERIALS
OMBUDSMAN REPORT
Hazardous Materials
Ombudsperson Evaluation

NOVEMBER 2017
THROUGH
OCTOBER 2018

I. INTRODUCTION

On July 15, 1997 the Contra Costa County Board of Supervisors authorized creation of an Ombudsman position for the County's Hazardous Materials Programs. The first Hazardous Materials Ombudsman began work on May 1, 1998. The Contra Costa County Board of Supervisors adopted an Industrial Safety Ordinance on December 15, 1998. Section 450-8.022 of the Industrial Safety Ordinance requires the Health Services Department to continue to employ an Ombudsman for the Hazardous Materials Programs. Section 450-8.030(B)(vii) of the Industrial Safety Ordinance requires an annual evaluation of the effectiveness of the Hazardous Materials Ombudsman, with the first evaluation to be completed on or before October 31, 2000.

The goals of section 450-8.022 of the Industrial Safety Ordinance for the Hazardous Materials Ombudsman are:

1. To serve as a single point of contact for people who live or work in Contra Costa County regarding environmental health concerns, and questions and complaints about the Hazardous Materials Programs.
2. To investigate concerns and complaints, facilitate their resolution, and assist people in gathering information about programs, procedures, or issues.
3. To provide technical assistance to the public.

The Hazardous Materials Ombudsman currently accomplishes these goals through the following program elements:

1. Continuing an outreach strategy so that the people who live and work in Contra Costa County can know about and utilize the program.
2. Investigating and responding to questions and complaints, and assisting people in gathering information about programs, procedures, or issues.
3. Participating in a network of environmental programs for the purpose of providing technical assistance.

This evaluation covers the period from November 2017 through October 2018 for the Hazardous Materials Ombudsman program. The effectiveness of the program shall be demonstrated by showing that the activities of the Hazardous Materials Ombudsman meet the goals established in the Industrial Safety Ordinance.

II. PROGRAM ELEMENTS

1. Continuing an Outreach Strategy

This period efforts were focused on maintaining the outreach tools currently available. The web page was maintained for the program as part of Contra Costa Health Services web site. This page contains information about the program, links to other related web sites, and information about upcoming meetings and events. A toll-free phone number is published in all three Contra Costa County phone books in the Government section.

2. Investigating and Responding to Questions and Complaints, and Assisting in Information Gathering

During this period, the Hazardous Materials Ombudsman received 124 information requests. Over 95 percent of these requests occurred via the telephone, and have been requests for information about environmental issues. Requests via e-mail are slowly increasing, mainly through referrals from Health Services main web page. Most of these requests concern problems around the home such as asbestos removal, household hazardous waste disposal, pesticide misuse, mold and lead contamination.

Information requests about environmental issues received via the telephone were generally responded to within one business day of being received. Many of the information requests were answered during the initial call. Some requests required the collection of information or written materials that often took several days to compile. Telephone requests were responded to by telephone unless written materials needed to be sent as part of the response.

This year the Ombudsman facilitated two public meetings – one concerning the results of the Industrial Safety Ordinance Safety Audit of the Philips 66 refinery, and the other about the investigation of potential radiation contamination at the Keller Canyon Landfill.

3. Participating in a Network of Environmental Programs for the Purpose of Providing Technical Assistance.

Technical assistance means helping the public understand the regulatory, scientific, political, and legal aspects of issues. It also means helping them understand how to effectively communicate their concerns within these different arenas. This year, the Ombudsman continued to staff a number of County programs and participate in other programs to be able to provide technical assistance to the participants and the public.

- **CAER (Community Awareness and Emergency Response)**—This non-profit organization addresses industrial accident prevention, response and communication. The Ombudsman participated in the Emergency Notification subcommittee of CAER.
- **Hazardous Materials Commission**—In 2001, the Ombudsman took over as staff for the Commission. As staff to the Commission, the Ombudsman conducts research, prepares reports, drafts letters and provides support for 3 monthly Commission meetings. During this period the Commission sent letters to the Board of Supervisors concerning school siting issues and the US Chemical Safety Board, investigated hazardous materials issues at three sites in the County and provided feedback on a fact sheet about hazardous materials usage being prepared by a local environmental organization.

In addition, during this period the Ombudsman represented the Commission at meetings of the Contra Costa County Prescription Drug Abuse Prevention Task Force and the Northern Waterfront Economic Development Initiative. The Ombudsman also reached out to local Chambers of Commerce to assess their interest in promoting a workshop for local businesses on cybersecurity. The Ombudsman also assisted the Alamo Improvement Association in implementing a Federal Department of Transportation Grant to conduct three public workshops about pipeline safety issues.

- **Integrated Pest Management Advisory Committee**—During this period the Ombudsman represented the Health Department on the County Integrated Pest Management Advisory Committee. This Committee brings Department representatives and members of the public together to help implement the County’s Integrated Pest Management policy. The Ombudsman served on the outreach committee and helped prepare articles about pest management for publication in local newspapers.
- **Asthma Program**—The Ombudsman participated in the Public Health Department’s Asthma Program as a resource on environmental health issues. The Ombudsman represented the Asthma Program in two regional collaboratives related to asthma issues, particularly diesel pollution —the Ditching Dirty Diesel Collaborative and the Bay Area Environmental Health Collaborative. The Ombudsman served on the Technical Advisory Board for RAMP, the Regional Asthma Management Prevention program. The Ombudsman also provided technical assistance to a quality improvement program for families with asthma being conducted by the Contra Costa Health Plan and a scientific research project being conducted by the University of California on asthma in West County. The Ombudsman provided two presentations to after-school High School programs about air pollution and asthma. The Ombudsman also applied for a Technical Assistance grant with MCE, the new energy provider for 14 of the 19 jurisdictions in Contra Costa County, to develop a business plan for addressing in-home asthma triggers.
- **Climate Change**
During this period the Ombudsman completed a pilot project with the Public Health Nursing program to help their clients apply to the County’s Weatherization program. The Ombudsman, together with the Energy Efficiency Program in the Department of Conservation and Development, hired a Civic Spark intern to expand this effort to 15 other programs in CCHS and EHSD. The Ombudsman coordinated the effort to develop an Excessive Heat Response Plan for Contra Costa Health Services. The Ombudsman also represented the Public Health Department in regional and state efforts to address the impacts of Climate Change, including a Bay Conservation and Development Commission-led effort to address sea level rise issues in Contra Costa County and regionally, the Bay Area Regional Health Inequities Initiative’s Built Environment committee which addresses climate change, the Contra Costa Sustainability Exchange and the California Department of Public Health Climate Change Community of Learning.
- **Bay Delta Stakeholder Advisory Group for Contaminated Fish Consumption**
The Ombudsman served on the California Department of Public Health’s Bay Delta Stakeholder Advisory Group for Contaminated Fish Consumption. This is a two year effort to develop updated and effective public messaging for the new fish consumption advisories for the Bay Delta that have been developed by the State.

The Hazardous Materials Ombudsman also attended workshops, presentations, meetings and trainings on a variety of environmental issues to be better able to provide technical assistance to the public. Topics included Environmental Justice, Air Quality, emergency management, energy policy and land-use planning for greenhouse gas reduction.

III. PROGRAM MANAGEMENT

The Hazardous Material Ombudsman continued to report to the Public Health Director on a day-to-day basis during this period, while still handling complaints and recommendations about the Hazardous Materials Programs through the Health Services Director. The Ombudsman was also a member of Health Services Emergency Management Team (EMT), participated in EMT trainings and drills, and participated on its HEEP management team.

IV. GOALS FOR THE 2018-2019 PERIOD

In this period, the Ombudsman will provide essentially the same services to Contra Costa residents as was provided in the last period. The Ombudsman will continue respond to questions and complaints about the actions of the Hazardous Materials Programs; answer general questions that come from the public and assist them in understanding regulatory programs; staff the Hazardous Materials Commission; represent the Public Health Department on the Ditching Dirty Diesel Collaborative, the Bay Area Regional Health Inequities Initiative, the Bay Area Environmental Health Collaborative, the Integrated Pest Management Advisory Committee, and participate in the CAER Emergency Notification committee. The Ombudsman will represent the Hazardous Materials Commission in the Northern Shoreline Economic Development Initiative. The Ombudsman will continue to be part of the Health Department's HEEP team and be part of the Emergency Management Team.

During this period the Ombudsman will continue to work with the Public Health Department on Climate Change issues by expanding the pilot weatherization program with the Public Health Nurses to other programs, being on the County-wide work group updating the Climate Action Plan, and by providing input on the BCDC East County ART project and regional ART project. The Ombudsman will continue to work with collaboratives at the local, regional and state level. If the Health Department is successful in receiving the Technical Assistance grant to develop a business plan for addressing in-home asthma triggers the Ombudsman will take a lead role in implementing the grant.



2018–19

ATTACHMENT B
COUNTY REGULATED
SOURCES ANNUAL
PERFORMANCE
With accident history and
inherent safety implementation

Annual Performance Review and Evaluation Submittal

October 1, 2018

*Attach additional pages as necessary

1. **Name and address of Stationary Source:** Air Liquide Rodeo Hydrogen Plant, 1391 San Pablo Ave., Rodeo, California 94572
2. **Contact name and telephone number (should CCHMP have questions):** Dave Steffens (510) 245-7285 x-2204
3. **Summarize the status of the Stationary Source's Safety Plan and Program (450-8.030(B)(2)(i)):** Improvements in the Rodeo site safety program continue as recommendations from CCC ISO and internal Air Liquide audits are incorporated..
4. **Summarize Safety Plan updates (i.e., brief explanation of update and corresponding date) (450-8.030(B)(2)(ii)):** No revisions to the Safety Plan have been submitted, but changes to internal Air Liquide processes merit a revision. Next scheduled revision due date is 1/27/2020.
5. **List of locations where Safety Plans are/will be available for review, including contact telephone numbers if the source will provide individuals with copies of the document (450-8.030(B)(2)(ii)):** CCHMP Office at 4585 Pacheco Boulevard, Suite 100, Martinez; Crockett and Rodeo Libraries (libraries closest to the stationary source).
6. **Provide any additions to the annual accident history reports (i.e. updates) submitted pursuant to Section 450-8.016(E)(2) of County Ordinance 98-48 (450-8.030(B)(2)(iii)) (i.e., provide information identified in Section 450-8.016(E)(1) for all major chemical accidents or releases occurring between the last annual performance review report and the current annual performance review and evaluation submittal (12-month history)):** There were no major chemical accidents or releases during the past 12 months.
7. **Summary of each Root Cause Analysis (Section 450-8.016(C)) including the status of the analysis and the status of implementation of recommendations formulated during the analysis (450-8.030(B)(2)(iv)):** There were no Root Cause Analyses performed specific to major chemical accidents or releases during the last 12 months.
8. **Summary of the status of implementation of recommendations formulated during audits, inspections, Root Cause Analyses, or Incident Investigations conducted by the Department (450-8.030(B)(2)(v)):** Rodeo site personnel with assistance from Air Liquide continue to work on incorporating NOD's from the last CCC ISO audit. In addition, we continue to incorporate other action items/recommendations resulting from internal Air Liquide process safety audits.
9. **Summary of inherently safer systems implemented by the source including but not limited to inventory reduction (i.e., intensification) and substitution (450-8.030(B)(2)(vi)):** ISS review was completed on the Transfer Line Replacement project scheduled for installation during the November, 2019 TAR.

- 10. Summarize the enforcement actions (including Notice of Deficiencies, Audit Reports, and any actions turned over to the Contra Costa County District Attorney's Office) taken with the Stationary Source pursuant to Section 450-8.028 of County Ordinance 98-48 (450-8.030(B)(2)(vii)):** There were no enforcement actions during this period.
- 11. Summarize total penalties assessed as a result of enforcement of this Chapter (450-8.030(3)):**
No penalties have been assessed against this facility.
- 12. Summarize the total fees, service charges, and other assessments collected specifically for the support of the ISO (450-8.030(B)(4)):** The total CalARP Program fees for the eight facilities subject to the Industrial Safety Ordinance was \$822,604. The total Industrial Safety Ordinance program fees for these eight facilities was \$578,390. (NOTE: These fees include those for the County and City of Richmond ISO facilities).
- 13. Summarize total personnel and personnel years utilized by the jurisdiction to directly implement or administer this Chapter (450-8.030(B)(5)):** 3,828 hours were used to audit/inspect and issue reports on the Risk Management Chapter of the Industrial Safety Ordinance.
- 14. Copies of any comments received by the source (that may not have been received by the Department) regarding the effectiveness of the local program that raise public safety issues(450-8.030(B)(6)):** None
- 15. Summarize how this Chapter improves industrial safety at your stationary source (450-8.030(B)(7)):** This chapter reinforces the need to maintain, follow, and continuously improve our structured safety program to help ensure the safety of our employees and the community in which we operate.
- 16. List examples of changes made at your stationary source due to implementation of the Industrial Safety Ordinance (e.g., recommendations from PHA's, Compliance Audits, and Incident Investigations in units not subject to CalARP regulations; recommendations from RCA's) that significantly decrease the severity or likelihood of accidental releases. (1)**
Implementing the RBI (Risk Based Inspection) program to evaluate and prioritize mechanical inspections prior-to and during the scheduled 2019 TAR, 2) Conducting Procedural HazOps on procedures that have a direct affect on facility personnel safety and/or community process safety; Ammonia Offloading SOP, 4160 VAC Switching SOP, 3) Air Liquide completed recertification of 5 contractors as part of a supply chain risk management program. The audits were conducted by Avetta. 4) Employee "Safety Champions" conduct monthly Life Critical Assessments (Safe Work, LOTO, Elevated Work, Confined Space) and provide feedback to plant and Air Liquide personnel. 6) Plant-wide personnel conduct "Safe Trak" observations and contractor safety assessments, and document in Air Liquide's Intellex system.
- 17. Summarize the emergency response activities conducted at the source (e.g., CWS or TEN activation) in response to major chemical accidents or releases:** None
- 18. Common Process Safety Performance Indicators:** Written questionnaire.

19. Date the results of the Safety Culture Assessment were reported to the workforce: unknown management: 9/22/2016.

20. Answer the following regarding the Safety Culture Evaluation for no. 18:

- Areas of improvements being addressed: Living HSE
- Did the action plan from the previous (before no. 18) SCA make progress on the identified areas of improvement? (Yes or No) This was the first Safety Assessment of the Rodeo site..
 - » If Yes, did the improvements meet the goals and if not was the action plan amended to address what is being done to meet the goals? N/A
 - » If No, has a new action plan been developed to address the identified areas of improvement? (Yes or No) N/A

21. Have milestones and metrics been developed to determine how the Safety Culture Assessment actions are being implemented? Yes or if no, Why not?: T? Living HSE is discussed in the morning 0830 meeting as the opportunity presents itself. Additionally, employees are allowed to take some PPE home for personal use, and Air Liquide offers a 9x80 work schedule for certain job positions.

22. Describe the process that included employees and their representatives used to determine if the action items effectively changed the expected culture items: General discussions during morning safety meetings and monthly SSM's.

23. Date of the mid-cycle progress evaluation: _____ **for SCA dated:** _____

- » Based on the mid-cycle evaluation, did the action plan for the SCA make progress on the identified areas of improvement? (Yes or No) _____
- » If not, has a new action plan been developed? (Yes or No) _____

24. Describe the process that included participation of employees or their representatives used to determine whether the action items from the SCA and the mid-cycle progress effectively changed the expected culture items:

25. Common Process Safety Performance Indicators:

Annual Performance Review and Evaluation Submittal–October 1, 2018

*Attach additional pages as necessary

Annual Performance Review and Evaluation Submittal

Overdue inspection for piping and pressure vessels based on total number of circuits

2018	Overdue	Repeat
January	16	0
February	16	0
March	16	0
April	16	0
May	16	0
June	16	0
July	16	0
August	16	0
September	16	0
October	16	0
November	16	0
December	16	0

Total number of circuits: 22 piping circuits, 37 vessels

Total number of annual planned circuit inspections: 27, Vessel Inspections–49 (planned for 2019)

Past due PHA recommended actions, includes seismic and LCC recommended actions

2018	Overdue	Repeat
January	37	0
February	37	0
March	34	0
April	33	0
May	24	0
June	21	0
July	19	0
August	17	0
September	14	0
October	11	0
November	8	0
December	3	0

Past due investigation recommended actions for API/ACC Tier 1 and Tier 2 incidents

2017	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

API/ACC TIER 1 & TIER 2 INCIDENTS AND RATES STARTING 2011

Year	2011	2012	2013	2014	2015	2016	2017	2018
No. Tier 1 LOPC	0	0	0	0	0	0	0	0
Incident rate for Tier 1	0	0	0	0	0	0	0	0
Refinery or Industry Rate ¹	0.15	0.09	0.09	0.09	0.10	0.06		
Refinery or Industry Mean ²	*	1.49	1.30	1.38	1.55	1.01		
Tier 2 LOPC	0	0	0	0	0	0	0	0
Incident rate for Tier 2	0	0	0	0	0	0	0	0
Refinery Rate ¹	*	0.24	0.25	0.23	0.20	0.17		
Refinery Mean ²	*	*	*	*	3.08	2.78		

¹Petroleum refineries to report publicly available refinery rate for API Tier 1 and Tier 2 classification. Chemical plants to report publicly available mean only for ACC Tier 1

²Petroleum refineries to report publicly available refinery mean for API Tier 1 and Tier 2 classification. Chemical plants to report publicly available mean only for ACC Tier 1

*Refinery Industry rates or means are not publicly available

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*Attach additional pages as necessary

1. Name and address of Stationary Source:

Air Products—Shell Martinez Refinery, 110 Waterfront Road, Martinez, CA 94553

2. Contact name and telephone number (should CCHMP have questions):

Harold Allen 925-372-9302 x15

3. Summarize the status of the Stationary Source's Safety Plan and Program (450-8.030(B)(2)(i)):

The stationary source's safety plan is complete per the CCHS requirement. The program was audited in January 2018 by CCHS as part of the three year CCHS site audit. Recommended updates are pending completion.

4. Summarize Safety Plan updates (i.e., brief explanation of update and corresponding date) (450-8.030(B)(2)(ii)): The three year periodic audit completed in January 2018 recommended some updates to the site safety plan. These are currently pending review and resubmittal.

5. List of locations where Safety Plans are/will be available for review, including contact telephone numbers if the source will provide individuals with copies of the document (450-8.030(B)(2)(ii)): CCHMP Office at 4585 Pacheco Boulevard, Suite 100, Martinez; Martinez Library (libraries closest to the stationary source).

6. Provide any additions to the annual accident history reports (i.e. updates) submitted pursuant to Section 450-8.016(E)(2) of County Ordinance 98-48 (450-8.030(B)(2)(iii)) (i.e., provide information identified in Section 450-8.016(E)(1) for all major chemical accidents or releases occurring between the last annual performance review report and the current annual performance review and evaluation submittal (12-month history)): There were no major accidents or releases to report.

7. Summary of each Root Cause Analysis (Section 450-8.016(C)) including the status of the analysis and the status of implementation of recommendations formulated during the analysis (450-8.030(B)(2)(iv)): No RCAs subject to MCAR events have been performed due to no major accidents or releases. The site does not have any overdue action items.

8. Summary of the status of implementation of recommendations formulated during audits, inspections, Root Cause Analyses, or Incident Investigations conducted by the Department (450-8.030(B)(2)(v)): Final recommendations from the 3 year CCCHS audit are under review, specifically adjustments to the safety culture assessment and MCAR LOPA study and Safeguard Protection analysis. A series of larger teams have been compiled to address these two specific areas as they required more resources than the staff has readily available.

9. Summary of inherently safer systems implemented by the source including but not limited to inventory reduction (i.e., intensification) and substitution (450-8.030(B)(2)(vi)): In 2018: C101A/B and C200 outfitted with double blocks with bleeds to avoid rolling feedgas blinds during compressor isolation (worker safety and process safety); elevated chemical addition tanks atop engineered stands to both improve chemical usage productivity and worker body position; Replacement of the entire condensate line (worker safety); replacement of reformer peephole refractory (worker safety); major electrical updates to switch gear and improvement to remote monitoring of high voltage electrical equipment (process safety); major motor replacements (process safety); significant

replacements of convection section piping, coils and expansion joints (process safety); full undercarriage replacement with tube inspection with limited replacement based on diametric growth and observed creep; PSA overtemperature protection; full HMI upgrade.

- 10. Summarize the enforcement actions (including Notice of Deficiencies, Audit Reports, and any actions turned over to the Contra Costa County District Attorney's Office) taken with the Stationary Source pursuant to Section 450-8.028 of County Ordinance 98-48 (450-8.030(B)(2) (vii)):** There were no enforcement actions during this period.
- 11. Summarize total penalties assessed as a result of enforcement of this Chapter (450-8.030(3)):** No penalties have been assessed against this facility.
- 12. Summarize the total fees, service charges, and other assessments collected specifically for the support of the ISO (450-8.030(B)(4)):** The total CalARP Program fees for the eight facilities subject to the Industrial Safety Ordinance was \$822,604. The total Industrial Safety Ordinance program fees for these eight facilities was—\$578,390. (NOTE: These fees include those for the County and City of Richmond ISO facilities).
- 13. Summarize total personnel and personnel years utilized by the jurisdiction to directly implement or administer this Chapter (450-8.030(B)(5)):** 3,828 hours were used to audit/inspect and issue reports on the Risk Management Chapter of the Industrial Safety Ordinance.
- 14. Copies of any comments received by the source (that may not have been received by the Department) regarding the effectiveness of the local program that raise public safety issues(450-8.030(B)(6)):** None.
- 15. Summarize how this Chapter improves industrial safety at your stationary source (450-8.030(B)(7)):** Air Products is committed to the safer operation of our facilities and has implemented applicable requirements outlined in the ISO and CalARP regulations. Both the ISO and Human Factors programs are an integral part of our five year Operating Hazard Review revalidations and ongoing management of change process. There have been no incidents resulting in an offsite impact. The Chapter has helped reinforce the need to maintain and follow a structured safety program to help ensure the safety of our employees and the communities in which we operate.
- 16. List examples of changes made at your stationary source due to implementation of the Industrial Safety Ordinance (e.g., recommendations from PHA's, Compliance Audits, and Incident Investigations in units not subject to CalARP regulations; recommendations from RCA's) that significantly decrease the severity or likelihood of accidental releases.**
The Air Products facility is tracking various metrics (leading and lagging). These include those called out in ISO API/ACC Tier 1 and 2 events, past due PHA recommendations and past due incident investigation recommendations. A baseline was developed and metrics are tracked for the facility on a company share site.
- 17. Summarize the emergency response activities conducted at the source (e.g., CWS or TEN activation) in response to major chemical accidents or releases:** A joint emergency response activity requiring shelter in place, muster and accountability ws performed with the customer—Shell Oil in 2017 and 2018. Additionally, a full site evacuation drill was conducted at the onset of the May 2018 outage with the full participation of 300+ contractors and Air Products personnel. The site will coordinate 1.5 months in advance for any additional emergency response scenarios and tabletop drills

18. Date the last Safety Culture Assessment was completed: January 2015 **Survey method:**Written

19. Date the results of the Safety Culture Assessment were reported to the workforce: 90 days
Management: 60 days.

20. Answer the following regarding the Safety Culture Evaluation for no. 18:

- Areas of improvements being addressed: Overall execution and compliance, safety program performance and personal responsibility among each team member; incorporating more interviews as a means of collecting additional qualitative information
- Did the action plan from the previous (before no. 18) SCA make progress on the identified areas of improvement? No
 - » If Yes, did the improvements meet the goals and if not was the action plan amended to address what is being done to meet the goals?
 - » If No, has a new action plan been developed to address the identified areas of improvement?
Currently under development

21. Have milestones and metrics been developed to determine how the Safety Culture Assessment actions are being implemented? Yes or if not, Why not? Milestone reviews and metrics are currently under development. A similar effort was recently conducted during the 2018 calendar year entitled Operational discipline, which shares many of the same functions of Safety Culture assessment. Employee participation was greater, a facilitator was used to coordinate the training, and employee feedback/data was gathered to determine the path forward.

22. Describe the process that included employees and their representatives used to determine if the action items effectively changed the expected culture items: Additional data needs to be collected before the team can report out on this effectively.

23. Date of the mid-cycle progress evaluation: February 2019 **for SCA dated:** Jan 2015

- » Based on the mid-cycle evaluation, did the action plan for the SCA make progress on the identified areas of improvement? (Yes or No) Too soon to determine
- » If not, has a new action plan been developed? (Yes or No) Presently under development

24. Describe the process that included participation of employees or their representatives used to determine whether the action items from the SCA and the mid-cycle progress effectively changed the expected culture items: Not applicable.

25. Common Process Safety Performance Indicators:

Overdue inspection for piping and pressure vessels based on total number of circuits

2018	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

Total number of circuits: 91 completed during calendar year 2018

Total number of annual planned circuit inspections: 91

Past due PHA recommended actions, includes seismic and LCC recommended actions

2018	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

Past due investigation recommended actions for API/ACC Tier 1 and Tier 2 incidents

2018	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

API/ACC TIER 1 & TIER 2 INCIDENTS AND RATES STARTING 2011

Year	2011	2012	2013	2014	2015	2016	2017	2018
No. Tier 1 LOPC	0	0	0	0	0	0	0	0
Incident rate for Tier 1	0	0	0	0	0	0	0	0
Refinery or Industry Rate ¹	0.1553	0.0995	0.0947	0.0925	0.1038	0.0627		
Refinery or Industry Mean ²	*	1.49	1.30	1.38	1.55	1.01		
Tier 2 LOPC	0	0	0	0	0	0	0	0
Incident rate for Tier 2	0	0	0	0	0	0	0	0
Refinery Rate ¹	*	0.2405	0.2531	0.2380	0.2063	0.1726		
Refinery Mean ²	*	*	*	*	3.08	2.78		

¹Petroleum refineries to report publicly available refinery rate for API Tier 1 and Tier 2 classification. Chemical plants to report publicly available mean only for ACC Tier 1

²Petroleum refineries to report publicly available refinery mean for API Tier 1 and Tier 2 classification. Chemical plants to report publicly available mean only for ACC Tier 1

*Refinery Industry rates or means are not publicly available

October 1, 2018

*Attach additional pages as necessary

1. Name and address of Stationary Source:

Marathon Martinez Refinery, 150 Solano Way, 3rd & F Streets, Inside Tesoro Refinery, CA 94553

2. Contact name and telephone number (should CCHMP have questions):

Harold Allen (925)372-9302 x15 or Andrew Celin 925-313-8990 x10

3. Summarize the status of the Stationary Source's Safety Plan and Program (450-8.030(B)(2)(i)):

The stationary source's safety plan is complete per the CCHS requirement. The program was audited in January 2018 by CCHS as part of the three year CCHS site audit. Recommended updates are pending completion.

4. Summarize Safety Plan updates (i.e., brief explanation of update and corresponding date)

(450-8.030(B)(2)(ii)): The three year periodic audit completed in January 2018 recommended some updates to the site safety plan. These are currently pending review and resubmittal.

5. List of locations where Safety Plans are/will be available for review, including contact telephone numbers if the source will provide individuals with copies of the document (450-8.030(B)(2)(ii)):

CCHMP Office at 4585 Pacheco Boulevard, Suite 100, Martinez; Martinez Library (libraries closest to the stationary source).

6. Provide any additions to the annual accident history reports (i.e. updates) submitted pursuant to Section 450-8.016(E)(2) of County Ordinance 98-48 (450-8.030(B)(2)(iii)) (i.e., provide information identified in Section 450-8.016(E)(1) for all major chemical accidents or releases occurring between the last annual performance review report and the current annual performance review and evaluation submittal (12-month history)):

There were no major accidents or releases to report.

7. Summary of each Root Cause Analysis (Section 450-8.016(C)) including the status of the analysis and the status of implementation of recommendations formulated during the analysis (450-8.030(B)(2)(iv)):

No RCAs subject to MCAR events have been performed due to no major accidents or releases. The site does not have any overdue action items.

8. Summary of the status of implementation of recommendations formulated during audits, inspections, Root Cause Analyses, or Incident Investigations conducted by the Department (450-8.030(B)(2)(v)):

Final recommendations from the 3 year CCCHS audit are under review, specifically adjustments to the safety culture assessment and MCAR LOPA study and Safeguard Protection analysis. A series of larger teams have been compiled to address these two specific areas as they required more resources than the staff has readily available.

9. Summary of inherently safer systems implemented by the source including but not limited to inventory reduction (i.e., intensification) and substitution (450-8.030(B)(2)(vi)):

In 2017: PSA Over Temperature Protection (Process Safety), Double blocks to Steam system for use during Plant Startup (Worker Safety), Install Process Gas Boiler Intermittent Blowdown Drum (Worker Safety); completion of chemical addition berm for secondary containment (2018).

- 10. Summarize the enforcement actions (including Notice of Deficiencies, Audit Reports, and any actions turned over to the Contra Costa County District Attorney's Office) taken with the Stationary Source pursuant to Section 450-8.028 of County Ordinance 98-48 (450-8.030(B)(2) (vii)):** There were no enforcement actions during this period.
- 11. Summarize total penalties assessed as a result of enforcement of this Chapter (450-8.030(3)):**
No penalties have been assessed against this facility.
- 12. Summarize the total fees, service charges, and other assessments collected specifically for the support of the ISO (450-8.030(B)(4)):** The total CalARP Program fees for the eight facilities subject to the Industrial Safety Ordinance was \$822,604. The total Industrial Safety Ordinance program fees for these eight facilities was - \$578,390. (NOTE: These fees include those for the County and City of Richmond ISO facilities).
- 13. Summarize total personnel and personnel years utilized by the jurisdiction to directly implement or administer this Chapter (450-8.030(B)(5)):** 3,828 hours were used to audit/inspect and issue reports on the Risk Management Chapter of the Industrial Safety Ordinance.
- 14. Copies of any comments received by the source (that may not have been received by the Department) regarding the effectiveness of the local program that raise public safety issues(450-8.030(B)(6)):** None.
- 15. Summarize how this Chapter improves industrial safety at your stationary source (450-8.030(B)(7)):**
Air Products is committed to the safer operation of our facilities and has implemented applicable requirements outlined in the ISO and CalARP regulations. Both the ISO and Human Factors programs are an integral part of our five year Operating Hazard Review revalidations and on going management of change process. The most recent OPHR was completed in April 2018, and attended by CCHS personnel. There have been no incidents resulting in an offsite impact. The Chapter has helped reinforce the need to maintain and follow a structured safety program to help ensure the safety of our employees and the communities in which we operate.
- 16. List examples of changes made at your stationary source due to implementation of the Industrial Safety Ordinance (e.g., recommendations from PHA's, Compliance Audits, and Incident Investigations in units not subject to CalARP regulations; recommendations from RCA's) that significantly decrease the severity or likelihood of accidental releases.**
The Air Products facility is tracking various metrics (leading and lagging). These include those called out in ISO API/ ACC Tier 1 and 2 events, past due PHA recommendations and past due incident investigation recommendations. A baseline was developed, and metrics are tracked for the facility on a company share site.
- 17. Summarize the emergency response activities conducted at the source (e.g., CWS or TEN activation) in response to major chemical accidents or releases:** An emergency drill was conducted along with first responders from Marathon oil on November 7, 2018 as a result of a personal medical. Responders were called to site, attended to a visitor, and escorted him to the medical unit for observation.
- 18. Date the last Safety Culture Assessment was completed:** January 2015 **Survey method:**Written

19. Date the results of the Safety Culture Assessment were reported to the workforce: 90 days
Management: 60 days

20. Answer the following regarding the Safety Culture Evaluation for no. 18:

- Areas of improvements being addressed: Overall execution and compliance, safety program performance and personal responsibility among each team member; incorporating more interviews as a means of collecting additional qualitative information
- Did the action plan from the previous (before no. 18) SCA make progress on the identified areas of improvement? No
 - » If Yes, did the improvements meet the goals and if not was the action plan amended to address what is being done to meet the goals?
 - » If No, has a new action plan been developed to address the identified areas of improvement?
Currently under development

21. Have milestones and metrics been developed to determine how the Safety Culture Assessment actions are being implemented? Yes or if not, Why not? Milestone reviews and metrics are currently under development. A similar effort was recently conducted during the 2018 calendar year entitled Operational discipline, which shares many of the same functions of Safety Culture assessment. Employee participation was greater, a facilitator was used to coordinate the training, and employee feedback/data was gathered to determine the path forward.

22. Describe the process that included employees and their representatives used to determine if the action items effectively changed the expected culture items: Additional data needs to be collected before the team can report out on this effectively.

23. Date of the mid-cycle progress evaluation: February 2019 **for SCA dated:** Jan 2015

- » Based on the mid-cycle evaluation, did the action plan for the SCA make progress on the identified areas of improvement? (Yes or No) Too soon to determine
- » If not, has a new action plan been developed? (Yes or No) Presently under development

24. Describe the process that included participation of employees or their representatives used to determine whether the action items from the SCA and the mid-cycle progress effectively changed the expected culture items: Not applicable.

25. Common Process Safety Performance Indicators:

Overdue inspection for piping and pressure vessels based on total number of circuits

2018	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

Total number of circuits: 660

Total number of annual planned circuit inspections: 131 during calendar year 2018

Past due PHA recommended actions, includes seismic and LCC recommended actions

2018	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

Past due investigation recommended actions for API/ACC Tier 1 and Tier 2 incidents

2018	Overdue	Repeat
January	0	0
February	0	0
March	0	1
April	0	1
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

API/ACC TIER 1 & TIER 2 INCIDENTS AND RATES STARTING 2011

Year	2011	2012	2013	2014	2015	2016	2017	2018
No. Tier 1 LOPC	0	0	0	0	0	0	0	0
Incident rate for Tier 1	0	0	0	0	0	0	0	0
Refinery or Industry Rate ¹	0.1553	0.0995	0.0947	0.0925	0.1038	0.0627		
Refinery or Industry Mean ²	*	1.49	1.30	1.38	1.55	1.01		
Tier 2 LOPC	0	0	0	0	0	0	0	0
Incident rate for Tier 2	0	0	0	0	0	0	0	0
Refinery Rate ¹	*	0.2405	0.2531	0.2380	0.2063	0.1726		
Refinery Mean ²	*	*	*	*	3.08	2.78		

¹Petroleum refineries to report publically available refinery rate for API Tier 1 and Tier 2 classification. Chemical plants to report publically available mean only for ACC Tier 1

²Petroleum refineries to report publically available refinery mean for API Tier 1 and Tier 2 classification. Chemical plants to report publically available mean only for ACC Tier 1

*Refinery Industry rates or means are not publicly available

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*Attach additional pages as necessary

- 1. Name and address of Stationary Source:** Phillips 66 Rodeo Refinery, 1380 San Pablo Avenue, Rodeo, CA 94572
- 2. Contact name and telephone number (should CCHMP have questions):** Morgan Walker 510-245-4665
- 3. Summarize the status of the Stationary Source's Safety Plan and Program (450-8.030(B)(2)(i)):**
The Safety Plan was last updated in August of 2015.
- 4. Summarize Safety Plan updates (i.e., brief explanation of update and corresponding date) (450-8.030(B)(2)(ii)):** The original Safety Plan for this facility was filed with Contra Costa Health Services on January 14, 2000. A revised plan was filed on April 7, 2000 with the updated recommendations requested by CCHS. A Human Factors Amendment was submitted on January 15, 2001. In conjunction with CCHSs required 2nd public meeting on our plan and audit findings, we submitted a complete revision of the plan to reflect the change in ownership of our facility and to update where needed. We took this opportunity to include Human Factors within the plan instead of having it as an amendment. On August 9, 2002 the plan was resubmitted. Public meetings for our plans were held on June 22, 2004 in Rodeo and July 8, 2004 in Crockett. As required the Plan was fully updated in August 2005 on the 3 year cycle. The Plan was reviewed by CCHS and was revised on July 28, 2006 with recommended changes. The Safety Plan was updated in July 2009 per the 3 year cycle.. Recommendations requested by CCHMP were incorporated into the Safety Plan on November 4, 2010. Safety Plan was updated in August 2012 and August 2015 per the 3 year cycle. Recommendations requested by CCHMP on May 22, 2017 were incorporated into the plan on August 4, 2017.
- 5. List of locations where Safety Plans are/will be available for review, including contact telephone numbers if the source will provide individuals with copies of the document (450-8.030(B)(2)(ii)):** CCHMP Office at 4585 Pacheco Boulevard, Suite 100, Martinez; Crockett and Rodeo Libraries (libraries closest to the stationary source).
- 6. Provide any additions to the annual accident history reports (i.e. updates) submitted pursuant to Section 450-8.016(E)(2) of County Ordinance 98-48 (450-8.030(B)(2)(iii)) (i.e., provide information identified in Section 450-8.016(E)(1) for all major chemical accidents or releases occurring between the last annual performance review report and the current annual performance review and evaluation submittal (12-month history)):** There were no major chemical accidents or releases at the Rodeo Refinery in the 2017-2018 time period.
- 7. Summary of each Root Cause Analysis (Section 450-8.016(C)) including the status of the analysis and the status of implementation of recommendations formulated during the analysis (450-8.030(B)(2)(iv)):** There were no root cause analysis of major chemical accidents or releases at the Rodeo Refinery in the 2017-2018 time period.

- 8. Summary of the status of implementation of recommendations formulated during audits, inspections, Root Cause Analyses, or Incident Investigations conducted by the Department (450-8.030(B)(2)(v)):** There are 6 remaining “ensure” open items from the 2017 CalARP ISO Audit. They are scheduled to close in October 2018. There are 7 remaining “consider” items from the 2017 CalARP ISO audit. All but one item are scheduled to close in 2018. The last item will be closed with the 2019 RMP submittal.
- 9. Summary of inherently safer systems implemented by the source including but not limited to inventory reduction (i.e., intensification) and substitution (450-8.030(B)(2)(vi)):** See ATTACHMENT 1 for the listing of Inherently Safer Systems Improvements.
- 10. Summarize the enforcement actions (including Notice of Deficiencies, Audit Reports, and any actions turned over to the Contra Costa County District Attorney’s Office) taken with the Stationary Source pursuant to Section 450-8.028 of County Ordinance 98-48 (450-8.030(B)(2)(vii)):** There were no enforcement actions during this period.
- 11. Summarize total penalties assessed as a result of enforcement of this Chapter (450-8.030(3)):** No penalties have been assessed against this facility.
- 12. Summarize the total fees, service charges, and other assessments collected specifically for the support of the ISO (450-8.030(B)(4)):** The total CalARP Program fees for the eight facilities subject to the Industrial Safety Ordinance was \$822,604. The total Industrial Safety Ordinance program fees for these eight facilities was—\$578,390. (NOTE: These fees include those for the County and City of Richmond ISO facilities).
- 13. Summarize total personnel and personnel years utilized by the jurisdiction to directly implement or administer this Chapter (450-8.030(B)(5)):** 3,828 hours were used to audit/inspect and issue reports on the Risk Management Chapter of the Industrial Safety Ordinance.
- 14. Copies of any comments received by the source (that may not have been received by the Department) regarding the effectiveness of the local program that raise public safety issues(450-8.030(B)(6)):** No comments were received.
- 15. Summarize how this Chapter improves industrial safety at your stationary source (450-8.030(B)(7)):** In addition to the Phillips 66 Corporate Health Safety Environment Management Systems the ISO provides another tool for the improvement of process safety performance.
- 16. List examples of changes made at your stationary source due to implementation of the Industrial Safety Ordinance (e.g., recommendations from PHA’s, Compliance Audits, and Incident Investigations in units not subject to CalARP regulations; recommendations from RCA’s) that significantly decrease the severity or likelihood of accidental releases.** Units that were not covered by RMP, CalARP, and PSM are covered under the ISO and PHAs are scheduled and performed on all these units. Recommendations from the PHAs are implemented at an accelerated rate. A list of inherently safer system improvements, required by the ISO for PHA recommendations and projects, are listed in Attachment 1.

- 17. Summarize the emergency response activities conducted at the source (e.g., CWS or TEN activation) in response to major chemical accidents or releases:** There were no major chemical accidents or releases at the Rodeo Refinery in the 2017–2018 time period.
- 18. Date the last Safety Culture Assessment was completed:** 4/15/2016 **Survey method:** written survey
- 19. Date the results of the Safety Culture Assessment were reported to the workforce:** 6/24/16
management: 4/15/16
- 20. Answer the following regarding the Safety Culture Evaluation for no. 18:**
- Areas of improvements being addressed:
 1. No areas were identified as scoring significantly below normal values.
 2. Improvements require too many reviews/approvals.
 3. Employees are reluctant to reveal problems or errors.
 4. Having enough qualified people to do the work in their area.
 - Did the action plan from the previous (before no. 18) SCA make progress on the identified areas of improvement? (Yes or No) YES
 - 1. **If Yes, did the improvements meet the goals and if not was the action plan amended to address what is being done to meet the goals?** Yes, Progress was made and improvements observed in the subsequent SCA. Improvement opportunities were identified in the most recent SCA and recommendations identified.
 - 2. If No, has a new action plan been developed to address the identified areas of improvement? (Yes or No)
- 21. Have milestones and metrics been developed to determine how the Safety Culture Assessment actions are being implemented? Yes or if not, Why not?** YES. Specific improvements were identified by a management & union team and implemented.
- 22. Describe the process that included employees and their representatives used to determine if the action items effectively changed the expected culture items:** A midcycle written survey will be utilized to evaluate the effects on the culture.
- 23. Date of the mid-cycle progress evaluation:** 4/2019 for **SCA dated:** 4/2016
- » Based on the mid-cycle evaluation, did the action plan for the SCA make progress on the identified areas of improvement? (Yes or No) To be determined.
 - » If not, has a new action pan been developed? (Yes or No)
- 24. Describe the process that included participation of employees or their representatives used to determine whether the action items from the SCA and the mid-cycle progress effectively changed the expected culture items:** Joint Management and union team used to evaluate results and develop modified recommendations as appropriate.

25. Common Process Safety Performance Indicators:

Overdue inspection for piping and pressure vessels based on total number of circuits

2018	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

Total number of circuits: 22,193

Total number of annual planned circuit inspections: 4,795

Past due PHA recommended actions, includes seismic and LCC recommended actions

2018	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

Past due investigation recommended actions for API/ACC Tier 1 and Tier 2 incidents

2018	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

API/ACC TIER 1 & TIER 2 INCIDENTS AND RATES STARTING 2011

Year	2011	2012	2013	2014	2015	2016	2017	2018
No. Tier 1 LOPC	2	3	0	0	2	0	0	0
Incident rate for Tier 1	0.17	0.29	0	0	0.21	0	0	0
Refinery or Industry Rate ¹	0.1553	0.0995	0.0947	0.0925	0.1038	0.0627	0.0761	*
Refinery or Industry Mean ²	*	1.49	1.30	1.38	1.55	1.01	1.13	*
Tier 2 LOPC	5	3	0	1	2	2	2	0
Incident rate for Tier 2	0.43	0.29	0	0.10	0.21	0.17	0.22	0
Refinery Rate ¹	*	0.2405	0.2531	0.2380	0.2063	0.1726	0.1843	*
Refinery Mean ²	*	*	*	*	3.08	2.78	2.73	*

¹ Petroleum refineries to report publicly available refinery rate for API Tier 1 and Tier 2 classification.

Chemical plants to report publicly available mean only for ACC Tier 1

²Petroleum refineries to report publically available refinery mean for API Tier 1 and Tier 2 classification. Chemical plants to report publically available mean only for ACC Tier 1

*At the time of the submittal, these Refinery Industry rates or means are not publicly available. A revised report will be sent when they are published to the public.

Attachment 1: June 2017–June 2018 ISS improvements

Reference	Approach	ISS Category	MOC Description
M20163878-001	Moderate	Active	Locked open a block valve to minimize the likelihood for liquid thermal expansion due to inadvertent closure of valve..
M20163946-001	Moderate	Passive	Upgraded schedule 40 piping at compressor discharge with schedule 80 piping to be able to withstand higher pressures.
M20171358-001	Moderate	Passive	Upgraded heat exchanger tube bundle wall thickness from 0.085" to 0.095" to minimize likelihood of loss of containment due to corrosion.
M20163986-001	Moderate	Passive	Upgraded the thickness of a segment of line from schedule 80 to schedule 160 and upgraded the thickness of a segment of line from schedule 40 to schedule 80, this would minimize likelihood of loss of containment due to corrosion.
M20162364-002	Moderate	Passive	Installed alarms (pre-alarm and alarm) to indicate approach of process conditions to Safety Operating Limit (SOL), which would minimize the likelihood of exceeding equipment design limit to result in a hazardous consequence..
M20163425-001	Moderate	Active	Installed a SIL-1 rated shutdown to mitigate potential overpressure scenario that was identified in a PHA.
M20165971-001	Moderate	Active	Locked open a block valve to ensure opened pressure relief path in an overpressure scenario.
M20154566-001	Moderate	Active	Replaced existing pressure relief device to reduce inlet pressure losses in an overpressure scenario.
M20165744-001	Moderate	Passive	Upgraded schedule 40 piping at compressor discharge with schedule 80 piping to be able to withstand higher pressures.
M20161873-001	Simplify	Active	Steps in emergency procedure were automated by installing new control schemes.
MM20172599-001	Moderate	Active	New process control instrumentation was installed on 4 furnaces to prevent fuel rich fire box condition.
M20151512-001	Moderate	Active	Replaced existing pressure relief device to mitigate additional overpressure scenarios.
M20164651-001	Moderate	Active	Replaced existing pressure relief device to reduce backpressure in an overpressure scenario.
M20144571-001	Moderate	Passive	An existing tower was replaced with a smaller diameter tower thereby reducing inventory volume. Additionally, this project decreased the volume of hydrocarbon feed to a furnace by 20% which reduces the furnace firing rate and carbon footprint.
M20167494-001	Moderate	Passive	A pump impeller size was reduced, thereby derating the pump's maximum discharge pressure below piping pressure rating at the discharge.
M20164710-001	Moderate	Active	Replaced existing pressure relief device with a liquid trim device to properly mitigate identified overpressure scenario for protected vessel.

Annual Performance Review and Evaluation Submittal October 1, 2018

*Attach additional pages as necessary

- 1. Name and address of Stationary Source:** Shell Oil Products U.S. Martinez Refinery, 3485 Pacheco Blvd., Martinez, CA 94553
- 2. Contact name and telephone number (should CCHMP have questions):** Nicola Maher:
925-229-6175
- 3. Summarize the status of the Stationary Source's Safety Plan and Program (450-8.030(B)(2)(i)):**
SMR's Safety Plan was last updated in August 2016. SMR's Safety Plan is due for update in August 2019.
- 4. Summarize Safety Plan updates (i.e., brief explanation of update and corresponding date) (450-8.030(B)(2)(ii)):** SMR's Safety Plan was last updated in August 2016. The changes addressed actions from the CCHS 2015 audit.
- 5. List of locations where Safety Plans are/will be available for review, including contact telephone numbers if the source will provide individuals with copies of the document (450-8.030(B)(2)(ii)):** CCHMP Office at 4585 Pacheco Boulevard, Suite 100, Martinez; Martinez Library (libraries closest to the stationary source).
- 6. Provide any additions to the annual accident history reports (i.e. updates) submitted pursuant to Section 450-8.016(E)(2) of County Ordinance 98-48 (450-8.030(B)(2)(iii)) (i.e., provide information identified in Section 450-8.016(E)(1) for all major chemical accidents or releases occurring between the last annual performance review report and the current annual performance review and evaluation submittal (12-month history)):** None.
- 7. Summary of each Root Cause Analysis (Section 450-8.016(C)) including the status of the analysis and the status of implementation of recommendations formulated during the analysis (450-8.030(B)(2)(iv)):** No outstanding actions. Last MCAR was 12/19/16—Loss of power to substations 1203 and 1206—The Root Cause Analysis was completed and the report was submitted to the CCHMD in 2017. Action items with a 2017 due date were completed on schedule and the remaining actions that had a 2018 due date were completed by the 2/28/2018 due date.
- 8. Summary of the status of implementation of recommendations formulated during audits, inspections, Root Cause Analyses, or Incident Investigations conducted by the Department (450-8.030(B)(2)(v)):** There have been no RCA's or Incident Investigations conducted by the Department. Action Items from the 2018 CCHS Audit are pending finalization at this time. All action items from 2015 CCHS Audit are completed.
- 9. Summary of inherently safer systems implemented by the source including but not limited to inventory reduction (i.e., intensification) and substitution (450-8.030(B)(2)(vi)):** See Attachment 1, Table 1

10. **Summarize the enforcement actions (including Notice of Deficiencies, Audit Reports, and any actions turned over to the Contra Costa County District Attorney's Office) taken with the Stationary Source pursuant to Section 450-8.028 of County Ordinance 98-48 (450-8.030(B)(2) (vii)):** There were no enforcement actions during this period.
11. **Summarize total penalties assessed as a result of enforcement of this Chapter (450-8.030(3)):** No penalties have been assessed against this facility.
12. **Summarize the total fees, service charges, and other assessments collected specifically for the support of the ISO (450-8.030(B)(4)):** The total CalARP Program fees for the eight facilities subject to the Industrial Safety Ordinance was \$822,604. The total Industrial Safety Ordinance program fees for these eight facilities was—\$578,390. (NOTE: These fees include those for the County and City of Richmond ISO facilities).
13. **Summarize total personnel and personnel years utilized by the jurisdiction to directly implement or administer this Chapter (450-8.030(B)(5)):** 3,828 hours were used to audit/inspect and issue reports on the Risk Management Chapter of the Industrial Safety Ordinance.
14. **Copies of any comments received by the source (that may not have been received by the Department) regarding the effectiveness of the local program that raise public safety issues(450-8.030(B)(6)):** None received
15. **Summarize how this Chapter improves industrial safety at your stationary source (450-8.030(B)(7)):** SMR has integrated requirements of the Industrial Safety Ordinance into our Health, Safety, and Environment Management System; in the context of our HSE MS, the ISO requirements drive continual improvement in our HSE performance.
16. **List examples of changes made at your stationary source due to implementation of the Industrial Safety Ordinance (e.g., recommendations from PHA's, Compliance Audits, and Incident Investigations in units not subject to CalARP regulations; recommendations from RCA's) that significantly decrease the severity or likelihood of accidental releases.** All process units are now covered under CalARP Program 4. Examples of changes made to the stationary source are summarized in Table 1 (see question 9).
17. **Summarize the emergency response activities conducted at the source (e.g., CWS or TEN activation) in response to major chemical accidents or releases:** None.
18. **Date the last Safety Culture Assessment was completed:** 4th Quarter 2015 **Survey method:** Anonymous Paper and computer based questions with multiple choice answers
19. **Date the results of the Safety Culture Assessment were reported to the workforce:** 12/7/15–1/31/16 **management:** 12/7/15–1/31/16

20. Answer the following regarding the Safety Culture Evaluation for no. 18:

- Areas of improvements being addressed: Feedback on safety incident investigations or near miss reports, rewarding good HSE performance and safety communications.
- Did the action plan from the previous (before no. 18) SCA make progress on the identified areas of improvement? (Yes or No) yes
 - » If Yes, did the improvements meet the goals and if not was the action plan amended to address what is being done to meet the goals?
 - » There was no defined action plan created for the 2010 survey, however as a result of actions taken after the 2010 survey there were changes in the 2015 results. The 2010 survey identified actions to address Management Commitment and Leadership and for rewarding good HSE performance. There were no questions with a decrease in “Favorable” responses between 2010 and 2015 (9 questions were repeated). This showed improvement. Rewarding good HSE performance was a repeat area of improvement in 2010 and 2015. New actions came out of the 2015 survey but were incorporated into department, sub-team or individual goals and not summarized and tracked as part of the survey. Going forward with our 2018 report we will make sure to track our actions.
 - » If No, has a new action plan been developed to address the identified areas of improvement? (Yes or No)

21. Have milestones and metrics been developed to determine how the Safety Culture Assessment actions are being implemented? Yes or if not, Why not? No, as per question above, 2015 survey milestones and metrics were not set at a site level and not tracked with the survey. 2018 survey milestones and metrics will be tracked.

22. Describe the process that included employees and their representatives used to determine if the action items effectively changed the expected culture items: The 2018 safety culture was developed with the USW representatives in Process Safety, Health and Safety and Environmental and staff members. The team have worked together on all aspects of the survey (creation, delivery, and analysis) and will be working on action plans and action tracking soon. (based on survey timing at the end of 2018 for data collection).

23. Date of the mid-cycle progress evaluation: None for **SCA dated:** 12/2015

- » Based on the mid-cycle evaluation, did the action plan for the SCA make progress on the identified areas of improvement? (Yes or No) No
- » If not, has a new action plan been developed? (Yes or No) As above, action plans for the 2015 survey were not collated and managed with the survey. This will be rectified with the action plan for the 12/2018 survey with a mid-cycle evaluation in 2021–2022

24. Describe the process that included participation of employees or their representatives used to determine whether the action items from the SCA and the mid-cycle progress effectively changed the expected culture items: For the 2015 survey the results and potential action items were discussed in a number of forums: Leading for safety meetings, Site Newsletter, Joint Health and Safety Committee, Contractors safety meetings. There was no mid-cycle review meeting. For the 2018 survey, as stated above, the USW HSE representatives participate in all phases of this survey.

25. Common Process Safety Performance Indicators:

Overdue inspection for piping and pressure vessels based on total number of circuits

2018	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

Total number of circuits: 12,251

Total number of annual planned circuit inspections: 1,501

Past due PHA recommended actions, includes seismic and LCC recommended actions

2018	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

Past due investigation recommended actions for API/ACC Tier 1 and Tier 2 incidents

2018	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

API/ACC TIER 1 & TIER 2 INCIDENTS AND RATES STARTING 2011

Year	2011	2012	2013	2014	2015	2016	2017	2018
No. Tier 1 LOPC	1	1	1	0	1	0	2	
Incident rate for Tier 1	0.07	0.07	0.08	0.00	0.07	0.00	0.11	
Refinery or Industry rate ¹	0.15	0.09	0.09	0.09	0.10	0.06	0.07	
Refinery or Industry mean ²	*	1.49	1.30	1.38	1.55	1.01	1.13	
No. Tier 2 LOPC	2	0	5	2	5	1	2	
Incident rate for Tier 2	0.14	0	.41	0.11	0.42	0.06	0.11	
Refinery rate ¹	*	0.24	0.25	0.23	0.20	0.17	0.18	
Refinery mean ²	*	*	*	*	3.08	2.78	2.73	

¹Petroleum refineries to report publically available refinery rate for API Tier 1 and Tier 2 classification.

Chemical plants to report publically available mean only for ACC Tier 1

²Petroleum refineries to report publically available refinery mean for API Tier 1 and Tier 2 classification.

Chemical plants to report publically available mean only for ACC Tier 1

* Refinery Industry rates or means are not publicly available.

Attachment 1

Table 1: Summary of Implemented ISS		
Approach	ISS Category	MOC Description
Moderate	Passive	Upgraded metallurgy and Design of filter housings in lube oil service
Moderate	Passive	Upgraded metallurgy of piping and valves in DCU heater service
Moderate	Passive	Upgraded Converter reheater condensate piping
Moderate	Passive	Upgraded gas caustic wash cooler
Moderate	Passive	Upgraded piping and bundles in hydrocracker unit
Moderate	Passive	Upgraded materials in heat exchanger in hydrogen plant
Moderate	Passive	Upgraded piping in Flexicoker coke service
Moderate	Passive	Added liner and upgraded components of distributor in alkynation service
Moderate	Passive	Upgraded piping in hydrogen plant
Moderate	Passive	Upgraded Mechanical seal O-rings in alkynation plant
Simplify	Inherent	Deadleg removal in sulfur plant
Moderate	Passive	Upgrade nitrogen piping in crude uit
Moderate	Passive	Upgraded materials in heat exchanger in delayed coker
Simplify	Procedural	Change in procedure for vaporizer use in propane service
Moderate	Procedural	Change in procedure to prevent incorrect line up.
Moderate	Active	Installation of heater trips on high/low pressure in DSU
Moderate	Active	Installtion of vibration shutdown system in SRHT heater
Moderate	Active	Installtion of vibration shutdown system in HCU heater
Moderate	Active	Installation of heater trips for loss of flame, high pressure for CO/CH4 service

Annual Performance Review and Evaluation Submittal June 30, 2019

*Attach additional pages as necessary

- 1. Name and address of Stationary Source:** Tesoro Golden Eagle Refinery, 150 Solano Avenue, Martinez, CA 94553
- 2. Contact name and telephone number (should CCHS have questions):** James Jeter 925-370-3279 or Sabiha Gokcen at 925- 370-3620 .
- 3. Summarize the status of the Stationary Source's Safety Plan and Program (450-8.030(B)(2)(i)):** The most recent Safety Plan was submitted to Contra Costa Hazardous Materials Program (CCHMP) in June 2017. CCHMP has completed seven audits on the safety programs. The first audit was in September 2000 on the Inherently Safety Systems and Human Factors. CalARP/ISO audits were conducted in August 2003, November-December 2005, August-October 2008, April-May 2011, January 2014 and most recently October 2016. All safety program elements required by the ISO have been developed and are implemented.
- 4. Summarize Safety Plan updates (i.e., brief explanation of update and corresponding date) (450-8.030(B)(2) (ii)):** The original Safety Plan for this facility was filed with CCHMP on January 14, 2000. An amended plan, updated to reflect CCHS recommendations and ownership change , was filed on November 30, 2000. A Human Factors Amendment was submitted on January 15, 2001. A Power Disruption Plan was submitted, per Board of Supervisor request, on June 1, 2001. An amended Safety Plan, updated to reflect ownership change was submitted on June 17, 2002

The Safety Plan for this facility is updated whenever changes at the facility warrant an update or every three years. In addition, the accident history along with other information is updated every year on June 30 in the Annual ISO Update to CCHMP. The most recent Safety Plan was submitted in June, 2017.
- 5. List of locations where Safety Plans are/will be available for review, including contact telephone numbers if the source will provide individuals with copies of the document (450-8.030(B)(2)(ii)):** CCHMP Office at 4585 Pacheco Boulevard, Suite 100, Martinez; Martinez Library (libraries closest to the stationary source).
- 6. Provide any additions to the annual accident history reports (i.e. updates) submitted pursuant to Section 450-8.016(£)(2) of County Ordinance 98-48 (450-8.030(B)(2)(iii)) (i.e., provide information identified in Section 450-8.016(£)(1) for all major chemical accidents or releases occurring between the last accident history report submittal (January 15) and the annual performance review and evaluation submittal (June 30)):** There have been no MCARS during the last year.
- 7. Summary of each Root Cause Analysis (Section 450-8.016(C)) including the status of the analysis and the status of implementation of recommendations formulated during the analysis (450-8.030(B)(2)(iv)):** The recommended action items for all MCARS are closed.

8. **Summary of the status of implementation of recommendations formulated during audits, inspections, Root Cause Analyses, or Incident Investigations conducted by the Department (450-8.030(B)(2)(v)):** "CCHS Informaton": CCHS completed an audit on September 15, 2000. December 2001, August 2003, November/December 2005. August-October 2008. April-May 2011, January 2014 and October 2016. There are no RCA or Incident Investigations that have been conducted by the Department.
Facility status of audit recommendations: All recommendations from CCHMP audits prior to 2016 are closed. The facility has not received the 2016 recommendations.
9. **Summary of inherently safer systems implemented by the source including but not limited to inventory reduction (i.e., intensification) and substitution (450-8.030(B)(2)(vi)):** Tesoro is submitting a list of the Inherenty Safer Systems (ISS) that meet the criteria for Inherent or Passive levels only and that wer ecompelcted within the last year (see attached).
10. **Summarize the enforcement actions (including Notice of Deficiencies, Audit Reports, and any actions turned over to the Contra Costa County District Attorney's Office) taken with the Stationary Source pursuant to Section 450-8.028 of County Ordinance 98-48 (450-8.030(B)(2)(vii)):** There were no enforcement actions during this period. "CCHMP Information": There were no enforcement actions during this period.
11. **Summarize total penalties assessed as a result of enforcement of this Chapter (450-8.030(3)):** No penalties have been assessed against this facility.
12. **Summarize the total fees, service charges, and other assessments collected specifically for the support of the ISO (450-8.030(B)(4)):** "CHCMP Information":The total CalARP Program fees for the eight facilities subject to the Industrial Safety Ordinance was \$822,604. The total Industrial Safety Ordinance program fees for these eight facilities was—\$578,390. (NOTE: These fees include those for the County and City of Richmond ISO facilities).
13. **Summarize total personnel and personnel years utilized by the jurisdiction to directly implement or administer this Chapter (450-8.030(B)(5)):** "CCHMP Informaiton": 3828 hours were used to audit/inspect and issue reports on the Risk Management Chapter of the Industrial Safety Ordinance.
14. **Copies of any comments received by the source (that may not have been received by the Department) regarding the effectiveness of the local program that raise public safety issues(450-8.030(B)(6)):** The facility has not received any comments to date regarding the effectiveness of the local program.
15. **Summarize how this Chapter improves industrial safety at your stationary source (450-8.030(B)(7)):** Chapter 450-8 improves industrial safety by expanding the safety program to all units in the refinery. In additio, the timeframe is shorter to implement recommendations generated from the Process Hazard Analysis (PHA) safety progam than state or federal law. This has resulted in a faster implementation of these recommendations. Chapter 450-8 also inclues requirements for inherently

safety systems as part of implementing inherently safer systems in these areas. Chapter 450-8 has requirement to perform root cause analyses on any major chemical accidents or releases (MCAR). This facility has applied that rigorous methodology to investigate any MCARs that have occurred since January, 1999. Chapter 450-8 requires a human factors program. This facility has developed a comprehensive human factors program and is in the process of implementing the program. Chapter 450-8 requires a safety culture assessment. This facility has developed a safety culture assessment program that meets the requirements in the ordinance.

16. List examples of changes made at your stationary source due to implementation of the Industrial Safety Ordinance (e.g., recommendations from PHA's, Compliance Audits, and Incident Investigations in units not subject to CalARP regulations; recommendations from RCAs) that significantly decrease the severity or likelihood of accidental releases.

This question was broadly answered under question 15 above. Some examples of changes that have been made due to implementation of the ordinance are as follows. There are some units that were not covered by RMP, CalARP or PSM. Those units are now subject to the same safety program as the units covered by RMP, CalARP, and PSM. They have had PHAs performed on them according to the timeline specified in the ISO and the PHA recommendations have been resolved on the timeline specified in the ISO. A list of inherently safety systems as required by the ISO for PHA recommendations and new construction is attached to this filing as mentioned in the response to question 9. With respect to Compliance Audits, there was a compliance audit performed in April 2015 in addition to the CCHMP audits mentioned above. All audit findings are being actively resolved. Root Cause Analysis findings and recommendations for MCARs are listed in the response under question 6.

17. Summarize the emergency response activities conducted at the source (e.g., CWS or TEN activation) in response to major chemical accidents or releases: Please refer to #6 which has the CWS classifications for the major chemical accidents and releases as well as any information regarding emergency responses by agency personnel.

18. Common Process Safety Performance Indicators: 8/8/16-9/1/16

19. Date the results of the Safety Culture Assessment were reported to the workforce and management: 4/4/17-5/15/16 (workforce) and 11/17/16 (management)

20. Answer the following regarding the Safety Culture Evaluation Previous to the one listed in 18:

- » Survey method: Survey
- » Areas of improvements being addressed: The safety culture areas of improvement identified are: the maintenance work process, procedures, leadership of process safety, resources for process safety, and new hire training
- » Action Plan made Progress on the identified areas of improvement?: (Yes or No)
 - If Yes, did the improvements meet the goals and if not was the action plan amended to address what is being done to meet the goals? There was improvement from 2013-2016 in some of the identified areas. The action plan for 2016 included the work that was performed previously and addressed continuing the effort to completion
 - If No, has a new action plan been developed to address the identified areas of improvement? (Yes or No)

21. Have milestones and metrics been developed to determine how the Safety Culture Assessment actions are being implemented? Yes or if not, Why not? Yes

22. Describe the process in place that includes employees and their representatives that will determine if

the action items effectively changed the expected culture items: Once the initial report was received on the survey from the 3rd party consultant, the PSM Superintendent and USW Process Safety Representative reviewed the data and recommendations from the consultant in great detail as well as the 2013 survey. A preliminary action plan was developed from the in-depth analysis. The consultant’s report and the preliminary action plan were reviewed with management, the Jt. H&S Committee and the union negotiation committee for input. In addition, the USW Process Safety Representative held several sessions with USW leadership to review the data in more detail. After this process was completed, it was determined the preliminary action plan was the final action plan.

23. Date of the mid-cycle progress evaluation: 2019 for SCA dated 2016

- » Did the action plan (for no 18) make progress on the identified areas of improvement? Yes or if not, has a new action pan been developed? (Yes or No) N/A mid-cycle scheduled for this year

24. If a mid-cycle progress evaluation was performed during this reporting year, describe the process that included participation of employees or their representatives that determined whether the action items effectively changed the expected culture items: Please refer to above question detailing development of action plan. Mid-cycle will occur in 2019.

25. Common Process Safety Performance Indicators:

Overdue inspection for piping and pressure vessels based on total number of circuits

2017	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

Total number of circuits: 7,396

Total number of annual planned circuit inspections: 484 in the year 2017

Past due PHA recommended actions, includes seismic and LCC recommended actions

2016	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

Past due investigation recommended actions for API/ACC Tier 1 and Tier 2 incidents

2016	Overdue	Repeat
January	0	2
February	1	0
March	0	1
April	0	1
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	1	0
November	0	1
December	0	1

¹Petroleum refineries to report publically available refinery rate for API Tier 1 and Tier 2 classification. Chemical plants to report publically available mean only for ACC Tier 1

²Petroleum refineries to report publically available refinery mean for API Tier 1 and Tier 2 classification. Chemical plants to report publically available mean only for ACC Tier 1

API/ACC TIER 1 & TIER 2 INCIDENTS AND RATES STARTING 2011

Year	2011	2012	2013	2014	2015	2016	2017
No. Tier 1 LOPC	0	0	0	0	0	0	1
Incident rate for Tier 1	0	0	0	0.05	0.06	0	0.04
Refinery or Industry mean ²	**	.0995	.0947	.0925	.1038	.0627	.0761
No. Tier 2 LOPC	1	1	2	3	3	0	3
Incident rate for Tier 2	0.06	0.05	0.12	0.16	0.17	0	0.12
Refinery mean ²	**	0.2405	0.2531	0.2380	0.2063	0.1726	0.1843

¹Petroleum refineries to report publically available refinery rate for API Tier 1 and Tier 2 classification. Chemical plants to report publically available mean only for ACC Tier 1

²Petroleum refineries to report publically available refinery mean for API Tier 1 and Tier 2 classification. Chemical plants to report publically available mean only for ACC Tier 1

26. Process Safety Performance Indicators for refineries only:

- I. Number of Major Incidents in 2018: 1
- II. The number of temporary piping and equipment repairs that are installed on hydrocarbon and high energy utility systems that are past their date of replacement with a permanent repair:

2017	Overdue	Repeat	Total*
January	0	0	
February	0	0	
March	0	0	
April	0	0	
May	0	0	
June	0	0	
July	0	0	
August	0	0	
September	0	0	
October	0	0	
November	0	0	
December	0	0	

*the total number of temporary piping and equipment repairs installed on hydrocarbon and high energy utility systems.



2018–19

ATTACHMENT C
RICHMOND REGULATED
SOURCES ANNUAL
PERFORMANCE
Contra Costa
Health Services

Annual Performance Review and Evaluation Submittal

June 27, 2018

*Attach additional pages as necessary

1. **Name and address of Stationary Source:** Chevron U.S.A. Inc. (CUSA), Richmond Refinery, 841 Chevron Way, Richmond, California 94802
2. **Contact name and telephone number (should CCHMP have questions):** Karla Roth, 510-242-3629
3. **Summarize the status of the Stationary Source's Safety Plan and Program (450-8.030(B)(2)(i)):** The CUSA Richmond Refinery (Refinery) initial Site Safety Plan (SSP) was completed in 2003, and the most recent revision is dated September 29, 2015. The SSP was prepared in accordance with the City of Richmond Industrial Safety Ordinance (RISO), which was adopted by the Richmond City Council on January 17, 2002.
4. **Summarize Safety Plan updates (i.e., brief explanation of update and corresponding date) (450-8.030(B)(2)(ii)):** The site safety plan was updated in 2015. The next revision will be shared in 3Q 2018.
5. **List of locations where Safety Plans are/will be available for review, including contact telephone numbers if the source will provide individuals with copies of the document (450-8.030(B)(2)(ii)):** CCHMP Office at 4585 Pacheco Boulevard, Suite 100, Martinez; Richmond Public Library at 325 Civic Center Plaza Richmond, CA 94804; and Point Richmond Public Library at 135 Washington Ave., Richmond, CA 94801.
6. **Provide any additions to the annual accident history reports (i.e. updates) submitted pursuant to Section 450-8.016(E)(2) of County Ordinance 98-48 (450-8.030(B)(2)(iii)) (i.e., provide information identified in Section 450-8.016(E)(1) for all major chemical accidents or releases occurring between the last annual performance review report and the current annual performance review and evaluation submittal (12-month history)):** There were no major chemical accidents or releases ("MCAR") as defined in Section 450-8.014(h) between June 1, 2017 and June 1, 2018.
7. **Summary of each Root Cause Analysis (Section 450-8.016(C)) including the status of the analysis and the status of implementation of recommendations formulated during the analysis (450-8.030(B)(2)(iv)):** There were no MCAR events between June 1, 2017 and June 1, 2018, and accordingly there were no Root Cause Analyses conducted under section 450-8.016(c) during this period.
8. **Summary of the status of implementation of recommendations formulated during audits, inspections, Root Cause Analyses, or Incident Investigations conducted by the Department (450-8.030(B)(2)(v)):** The 2011 Cal ARP/ISO Audit had 73 ensure and consider recommendations, from which 85 total action items were created, and 85 of those action items are complete. The actions to complete the remaining items are due by the end of 2017. The final report and action plans from the 2013 Cal/ARP / Richmond ISO audit were accepted by the County and Richmond Refinery in 2015. The 2013 Cal ARP/ISO audit had 163 ensure and consider recommendations, from which 177 total action items were created, and 167 of those action items are complete. The remaining action items are in progress, some with multiyear timelines for completion. The report and action plans from the 2016 Cal ARP/Richmond ISO audit had 74 ensure and consider recommendations, from which 80 total action items were created, and 27 of those action items are complete. The ensure and consider items for the 2016 audit were finalized on November 6, 2017.

- 9. Summary of inherently safer systems implemented by the source including but not limited to inventory reduction (i.e., intensification) and substitution (450-8.030(B)(2)(vi)):** An example of the refinery's use of inherently safer systems is the installation of a passive barrier on the handwheel of a quarter turn valve to prevent the inadvertent operation of the valve. Another example is the simplification of operating procedures by providing guidance as to the specific durations of time for solvent circulation during plant shutdown.
- 10. Summarize the enforcement actions (including Notice of Deficiencies, Audit Reports, and any actions turned over to the Contra Costa County District Attorney's Office) taken with the Stationary Source pursuant to Section 450-8.028 of County Ordinance 98-48 (450-8.030(B)(2)(vii)):** There were no enforcement actions during this period under the RISO.
- 11. Summarize total penalties assessed as a result of enforcement of this Chapter (450-8.030(3)):** No penalties have been assessed against this facility under the RISO.
- 12. Summarize the total fees, service charges, and other assessments collected specifically for the support of the ISO (450-8.030(B)(4)):** The total CalARP Program fees for the eight facilities subject to the Industrial Safety Ordinance was \$822,604. The total Industrial Safety Ordinance program fees for these eight facilities was—\$578,390. (NOTE: These fees include those for the County and City of Richmond ISO facilities).
- 13. Summarize total personnel and personnel years utilized by the jurisdiction to directly implement or administer this Chapter (450-8.030(B)(5)):** 3,828 hours were used to audit/inspect and issue reports on the Risk Management Chapter of the Industrial Safety Ordinance.
- 14. Copies of any comments received by the source (that may not have been received by the Department) regarding the effectiveness of the local program that raise public safety issues(450-8.030(B)(6)):** No comments were received during this period regarding the effectiveness of the local program that raise public safety issues.
- 15. Summarize how this Chapter improves industrial safety at your stationary source (450-8.030(B)(7)):** Operating safely is one of CUSA's core values and underpins our commitment to enhancing our process safety programs. The RISO assists CUSA in improving our process safety performance. We have worked closely with CCHMP in its implementation of the RISO and its oversight of our operations, including during its periodic reviews of our operations. Consistent with this commitment, and as part of the company's efforts to continually improve its process safety performance, CUSA will continue to confer with the CCHMP as it refines and implements these actions.

16. List examples of changes made at your stationary source due to implementation of the Industrial Safety Ordinance (e.g., recommendations from PHA's, Compliance Audits, and Incident Investigations in units not subject to CalARP regulations; recommendations from RCAs) that significantly decrease the severity or likelihood of accidental releases.

In addition to the Inherently Safer Systems implemented in Question 9, CUSA has also made other changes to the facility pursuant to the RISO and beyond to decrease the severity or likelihood of accidental releases. A few examples include the following:

- Changes implemented based on findings from Tier 1 and Tier 2 Incident Investigation with solutions due between June 2016 to June 2017:
 - » 11 procedures were updated to include temperature and duration limits as recommended by materials engineers.
 - » Implemented new technology solutions to aid operators in the verification of thermal measurements within furnaces.
 - » Reviewed process equipment in sour gas service for protection against damage mechanisms. Action items were assigned, based on material engineers' recommendations, for upgrading metallurgy at the next opportunity.
- Equipment and procedural changes implemented to reduce risks identified during PHAs, including:
 - » Ongoing project to install vibration monitoring and shutdown systems on API Class I pumps to minimize potential loss of containment.
 - » Continued effort to conduct procedural PHAs across refinery units to identify and mitigate potential human factors that may lead to loss of containment; with a focus on emergency, startup, and shutdown procedures.
- Completed Damage Mechanism Reviews on PSM-covered equipment and piping.
- Continued performing Safeguard Protection Analysis (Layers of Protection Analysis) consistent with the RISO.
- sRCM (Streamlined Reliability-Centered Maintenance) continued implementing studies to set up ITPM's (inspection, testing, and preventative maintenance tasks) refinery wide.
- The Fixed Equipment Asset Strategies Project (piping) improves the refinery's existing asset strategy, designed to prevent and mitigate loss of containment in piping systems and to describe the process for creating and maintaining these strategies.

17. Summarize the emergency response activities conducted at the source (e.g., CWS or TEN activation) in response to major chemical accidents or releases: There were no level two or three CWS or TENS activations between June 1, 2017 and June 1, 2018.

18. Common Process Safety Performance Indicators: (January 2017 to December 2017 unless otherwise noted):

Overdue inspection for piping and pressure vessels based on total number of circuits

2017	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

Total number of circuits: 16,519*

Total number of annual planned circuit inspections: 2,267*.

Past due PHA recommended actions, includes seismic and LCC recommended actions

2016	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

Past due investigation recommended actions for API/ACC Tier 1 and Tier 2 incidents

2016	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

API/ACC TIER 1 & TIER 2 INCIDENTS AND RATES STARTING 2011

Year	2011	2012	2013	2014	2015	2016	2017
No. Tier 1 LOPC	4	3	0	1	2	1	1
Incident rate for Tier 1	0.14	0.11	0.00	0.02	0.05	0.02	0.02
Refinery or Industry rate ¹	0.1553	0.995	0.0947	0.0925	0.1038	0.627	0.761
Refinery or Industry mean ²	**	**	**	**	**	**	**
No. Tier 2 LOPC	5	8	6	3	1	3	5
Incident rate for Tier 2	0.18	0.29	0.19	0.07	0.02	0.07	0.10 [†]
Refinery or Industry rate ¹	**	0.2405	0.2531	0.2380	0.2063	**	0.1843
Refinery or Industry mean ²	**	**	**	**	**	**	**

¹Petroleum refineries to report publicly available refinery rate for API Tier 1 and Tier 2 classification. Chemical plants to report publicly available mean only for ACC Tier 1 (data from AFPM website: <https://www.afpm.org/754-reporting/>).

²Petroleum refineries to report publicly available refinery mean for API Tier 1 and Tier 2 classification. Chemical plants to report publicly available mean only for ACC Tier 1 (data from AFPM website: <https://www.afpm.org/754-reporting/>).

** Refinery Industry rates or means are not publicly available at this time and will be provided when available or released.

† Jan 1, 2017 thru Jun 1, 2017

Annual Performance Review and Evaluation Submittal June 30, 2018

*Attach additional pages as necessary

1. **Name and address of Stationary Source:** Chemtrade West US, LLC. 525 Castro St. Richmond, CA 94801
2. **Contact name and telephone number (should CCHMP have questions):** Andrew Hornbeck 973-650-0257.
3. **Summarize the status of the Stationary Source's Safety Plan and Program (450-8.030(B)(2)(i)):**
The site Safety Plan is currently undergoing updates to reflect current procedures. The updates are due to be completed in November of 2018 and will be submitted for review upon completion.
4. **Summarize Safety Plan updates (i.e., brief explanation of update and corresponding date) (450-8.030(B)(2)(ii)):** No updates have occurred since the last submittal, but revisions are in progress.
5. **List of locations where Safety Plans are/will be available for review, including contact telephone numbers if the source will provide individuals with copies of the document (450-8.030(B)(2)(ii)):** CCHMP Office at 4585 Pacheco Boulevard, Suite 100, Martinez; Richmond Library, 135 Washington Ave., Richmond, CA 94801.
6. **Provide any additions to the annual accident history reports (i.e. updates) submitted pursuant to Section 450-8.016(E)(2) of County Ordinance 98-48 (450-8.030(B)(2)(iii)) (i.e., provide information identified in Section 450-8.016(E)(1) for all major chemical accidents or releases occurring between the last annual performance review report and the current annual performance review and evaluation submittal (12-month history)):** There was one incident on January 4, 2018 that occurred since the last report. Please see the attachment for more details.
7. **Summary of each Root Cause Analysis (Section 450-8.016(C)) including the status of the analysis and the status of implementation of recommendations formulated during the analysis (450-8.030(B)(2)(iv)):** Please see the attachment for details
8. **Summary of the status of implementation of recommendations formulated during audits, inspections, Root Cause Analyses, or Incident Investigations conducted by the Department (450-8.030(B)(2)(v)):** The site is continuing to work on the Ensure and Consider action items as identified during the CCHMP July 2017 Audit. These items are tracked on the Chemtrade Action Item database for proper completion and tracking.
9. **Summary of inherently safer systems implemented by the source including but not limited to inventory reduction (i.e., intensification) and substitution (450-8.030(B)(2)(vi)):** Site is in the process of reviewing a heat exchanger for removal that was deemed potentially unnecessary during an ISS review. An air permit modification will be necessary to complete the removal.

- 10. Summarize the enforcement actions (including Notice of Deficiencies, Audit Reports, and any actions turned over to the Contra Costa County District Attorney's Office) taken with the Stationary Source pursuant to Section 450-8.028 of County Ordinance 98-48 (450-8.030(B)(2)(vii)):** There were no enforcement actions during this period.
- 11. Summarize total penalties assessed as a result of enforcement of this Chapter (450-8.030(3)):**
No penalties have been assessed against this facility.
- 12. Summarize the total fees, service charges, and other assessments collected specifically for the support of the ISO (450-8.030(B)(4)):** The total CalARP Program fees for the eight facilities subject to the Industrial Safety Ordinance was \$822,604. The total Industrial Safety Ordinance program fees for these eight facilities was—\$578,390. (NOTE: These fees include those for the County and City of Richmond ISO facilities).
- 13. Summarize total personnel and personnel years utilized by the jurisdiction to directly implement or administer this Chapter (450-8.030(B)(5)):** 3,828 hours were used to audit/inspect and issue reports on the Risk Management Chapter of the Industrial Safety Ordinance.
- 14. Copies of any comments received by the source (that may not have been received by the Department) regarding the effectiveness of the local program that raise public safety issues(450-8.030(B)(6)):** None.
- 15. Summarize how this Chapter improves industrial safety at your stationary source (450-8.030(B)(7)):** The ISO program is a great way for us to maintain our continual improvement programs and to help direct us towards the areas that need the most attention.
- 16. List examples of changes made at your stationary source due to implementation of the Industrial Safety Ordinance (e.g., recommendations from PHA's, Compliance Audits, and Incident Investigations in units not subject to CalARP regulations; recommendations from RCAs) that significantly decrease the severity or likelihood of accidental releases.**
In the past year it has greatly increased our use of Inherently Safer Systems Analysis when reviewing incidents, conducting PHA's and reviewing new projects.
- 17. Summarize the emergency response activities conducted at the source (e.g., CWS or TEN activation) in response to major chemical accidents or releases:** Please see attached report.
- 18. Common Process Safety Performance Indicators:**

Overdue inspection for piping and pressure vessels based on total number of circuits

2017	Overdue	Repeat
January	0	
February	0	
March	0	
April	0	
May	0	
June	0	
July	0	
August	0	
September	0	
October	0	
November	0	
December	0	

Total number of circuits: 268

Total number of annual planned circuit inspections: 149 (2017)

Past due PHA recommended actions, includes seismic and LCC recommended actions

2017	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

Past due investigation recommended actions for API/ACC Tier 1 and Tier 2 incidents

2017	Overdue	Repeat
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	0
November	0	0
December	0	0

API/ACC TIER 1 & TIER 2 INCIDENTS AND RATES STARTING 2011

Year	2011	2012	2013	2014	2015	2016	2017	2018
No. Tier 1 LOPC	0	0	0	0	0	0	0	0
Incident rate for Tier 1	0	0	0	0	0	0	0	0
Refinery or Industry rate ¹	0.1553	0.0995	0.0947	0.0925	0.1038	0.0627		
Refinery or Industry mean ²	*	1.49	1.30	1.38	1.55	1.01		
No. Tier 2 LOPC	0	0	0	0	0	0	0	0
Incident rate for Tier 2	0	0	0	0	0	0	0	0
Refinery rate ¹	*	0.2405	0.2531	0.2380	0.2063	0.1726		
Refinery mean ²	*	*	*	*	3.08	2.78		

¹Petroleum refineries to report publically available refinery rate for API Tier 1 and Tier 2 classification. Chemical plants to report publically available mean only for ACC Tier 1.

²Petroleum refineries to report publically available refinery mean for API Tier 1 and Tier 2 classification. Chemical plants to report publically available mean only for ACC Tier 1).

*Refinery Industry rates or means are not publicly available.

ATTACHMENT A



**CHEMTRADE
LOGISTICS**

Incident Management Report

Incident Report #: IR-2018-RICH-01

Incident Type: Environmental

Initiated By: Hornbeck, Andrew

Status: Follow-up

Section I: Preliminary Information

Title:	Oleum Spill and SO3 Release	Date Of Incident:	1/4/2018
		Time Of Incident:	9:00 AM
		Date Reported:	1/4/2018
Classification:	Reportable Release	Dept. where incident occurred:	Ultra Pure Sulfuric Acid

Company:	Chemtrade West US LLC	Onsite Area:	Ultra Pure Sulfuric Acid
Location:	Richmond, CA	Offsite Location:	No
State/Province & Country:	Richmond, CA	Offsite Location:	

Initial Incident Description: (be sure to address who, what, where and when)

On January 4th, an oleum leak on a heat exchanger resulted in a vapor cloud release of sulfur trioxide (SO3). The site contacted 911 to shut down the adjacent highway as a precaution to prevent any potential off-site impacts from the vapor cloud. The initial estimate of the release was 106 pounds, which was later recalculated at 38 pounds. The Reportable Quantity (RQ) for SO3 is 100 pounds. A potential RQ exceedance was reported to the National Response Center, California Office of Emergency Services, the local County Hazardous Materials division, and the Bay Area Air Quality District.

Follow-up Investigation Details: (address the why and how)

Refer to attached Level I Investigation Report.

Type Of Incident:

Near Miss RMP Event NAICS #:

Fatality	
Contractor Fatality	
Recordable Case	
Contractor Recordable	
First-Aid Case	
Contractor First-Aid Case	
Fire/Explosion	
Enforcement Action (NOV, NOE, etc.)	
Permit Excursion	
RQ Release	
Compliance Issue	
Reportable Release	X

Process Safety	
Industrial Hygiene	
Regulatory Type Inspection	
Derailment	
Vehicular Accident	
Property damage	
TSCA Allegation	
Complaint	
Security	
Near Miss	
Contractor Near Miss	
Hazard	

Spill/Release	X
Mechanical Integrity	

Community Outreach	
Other	

Photos/Attachments/Supporting Documentation

Description	Attachment	Comment
	Contra Costa 30 Day Follow-Up Report.pdf	
	Contra costa ISS checklist Jan 2018 R1.xlsx	
	IR-2018-RICH-01 Level I Investigation Report.pdf	
	Richmond oleum release 20180104 Caicuation.xlsx	
	BAAQMD 30-Day Follow Up Report.pdf	
	72 Hour Contra Costa Incident Notification.pdf	
	CalOES 30-Day Follow-Up Report.pdf	

Did this incident involve?
(choose from adjacent list)

Bomb Threat

Business Interruption

Community Evacuation

Off-Site Impact

Site Evacuation

Workplace Violence

Off-Site ER Plan Activated

Evacuation of Bldg/Area

Site ER Plan Activated

Did this incident cause a shutdown?

YES

Type:

Contact Information:

Main ESHA Contact(s):	
Authorities Notified? Yes	City of Richmond Fire Dept, NRC, BAAQMD, and Contra Costa County
Media Coverage? No	
Evacuation of Persons? No	
Corporate CHEMTRADE Notified? Yes	1/8/2018 10:56:28 AM
Site Contact(s) Notified? Yes	1/8/2018 10:56:28 AM
ESHA Contact Notified? No	
Transport Contact Notified? No	

Weather Information:

Weather Description:	Calm		
Wind Direction:	ESE	Humidity (%):	85
Wind Speed:	10.00	Barometric Pressure:	
Temperature:	55		

Witness Information:

Individual's Name	Company	Job Title	Phone (if needed)
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Injury/Illness Information:					
Involved Name	Employer	Job Title	Phone	Lost Days	Restricted Days

Section II: Property

Site Equipment			
Equipment	Description	Damage Involved	Loss Incurred

Transportation Equipment			
Carrier	Vehicle Number(s)	Driver	Loss Incurred

Section III: Chemical Release

Chemical	Agency Reportable?	Above Reportable Qty?	Release Type	Release Media	Qty Involved	Qty Contained	Qty Released	Duration
Sulfur Trioxide	N	N	Point Source	Air	38.00 lbs	38.00 lbs	38.00 lbs	2340 sec
Basis of calculations:	Engineering calculations							

Permit Type	Permit #	Parameter	Media Impacted	Permit Limit	Quantity
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Section IV: Investigation

Date Investigation Began: 1/4/2018
Investigation Lead: Andrew Hornbeck
Investigation Team Members: David Bissot
 Tony Gutenberg

Incident Causes	
Cause	Comment
Drawings/Prints Needs Improvement	The drawings of the heat exchanger were incomplete, leading to the impingement plate being installed improperly. Additionally, stamps or pins were not in place to indicate vessel position on the plate. Inspection and repair documentation was not complete or available. There were differences between the actual response of operators performing shutdown activities in response to the release from what is documented in the SOP's. SOP's address the entire plant and do not consider the oleum plant as a separate entity. The equipment files are confusing due to the inclusion of multiple copies of the same documents and no segregation of individual vessel records. Heat Exchanger E-5001 is included in the Construction, Maintenance, and Management System (CMMS), but has no preventative maintenance tasks or corrective work orders associated with it.

Inspection Not Required	The inlet head of the exchanger was installed improperly. The maintenance procedure did not require inspection, therefore the improper installation was not discovered.
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Action to Prevent Recurrence	Assigned To	Target Date	Corrective Action Taken	Date Completed
Update heat exchanger drawings to include all modifications that have been made including nozzles, impingement plate and Teflon insert. Include a design data block on the drawing to show minimum thickness and corrosion allowances. The impingement plate and inserts should be mounted by vessel manufacturer or repair facility.	Fanaii, Farid	5/2/2018	Work order 424640 has been issued to update construction drawings.	5/2/2018
Submit a permit application to the BAAQMD to remove the heat exchanger from the process.	Hornbeck, Andrew	7/31/2018		
Consider developing table top exercises and command post exercises with employees and Community Advisory Panel on a more frequent basis. Consider inclusion of Community Advisory Panel from first responder agencies to also participate.	Shepherd, Michael	6/30/2018		
When sending a heat exchanger or other vessel to a repair facility designate when the vessel is inspected to IAW API or National Board standards. Be at the shop when the major inspection is being conducted to make repair/replace decisions. For these heat exchangers pay particular attention to weld, nozzles and expansion joint pitting.	Fanaii, Farid	7/1/2018	Mechanical Integrity-Equipment File Document Checklist form is update to note the following for Testing and Inspection Record filed. "Chemtrade Engineer/Inspector will visit the Fabrication shop for quality control inspection for Heat Exchangers and any pressure vessel per API requirement."	6/29/2018
Investigate cause of Oleum Leak	Hornbeck, Andrew	1/19/2018	Investigation complete. See Incident Report for details	2/6/2018
Plant management to work with existing Community Advisory Panel to better define emergency events and level of response.	Shepherd, Michael	7/31/2018		
Review possible elimination of this heat exchanger (E-5001) from the stripper oleum loop and develop a timeline for achievement	Skinner, Jeffery	7/15/2018		
Stamp the inlet and discharge heads with the national board number and vessel position it belongs to. Other possibilities might include installation of locating pins in the flanges to prevent misassemble.	Fanaii, Farid	5/2/2018	Work order 424640 has been issued to order new heads with NB numbers stamped and identify location. Up date drawings.	5/2/2018

Action to Prevent Recurrence	Assigned To	Target Date	Corrective Action Taken	Date Completed
Modify the equipment file to segregate and follow individual vessels. Within the file include an archive for old vessel information and other folders for current vessel drawings and design and repair information.	Fanii, Farid	7/31/2018		
Develop the use of whatever CMMS is in use to include the preventive and corrective maintenance actions that are performed on this vessel. For the near term this should include frequent thickness checks of the vessel in the areas of welds and near nozzles.	Fanii, Farid	5/2/2018	P 1220 , monthly PM has been issued for visual inspection and NDT testing of heads and nozzles.	5/2/2018
Review and develop or modify SOP's to reflect the actions actually taken during an emergency, especially around the oleum and ultrapure inclusive systems.	Hornbeck, Andrew	7/31/2018		

Section V: Cost

Equipment:

Raw Matl:

Cleanup:

Medical:

Total: \$0.00

REVIEW & SIGNATURES

Date of Report: 1/4/2018 Prepared By: Andrew Hornbeck

REPORT MUST BE APPROVED BY APPROPRIATE MANAGER

Date Reviewed: _____ Signature: _____

INDUSTRIAL SAFETY ORDINANCE



CONTRA COSTA
HAZARDOUS MATERIALS PROGRAMS
A Division of Contra Costa Health Services

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