

Industrial Safety Ordinance Annual Report

Hazardous Materials Commission



Cho Nai Cheung
Accidental Release Prevention Engineer
Supervisor



March 25, 2021



REGULATIONS



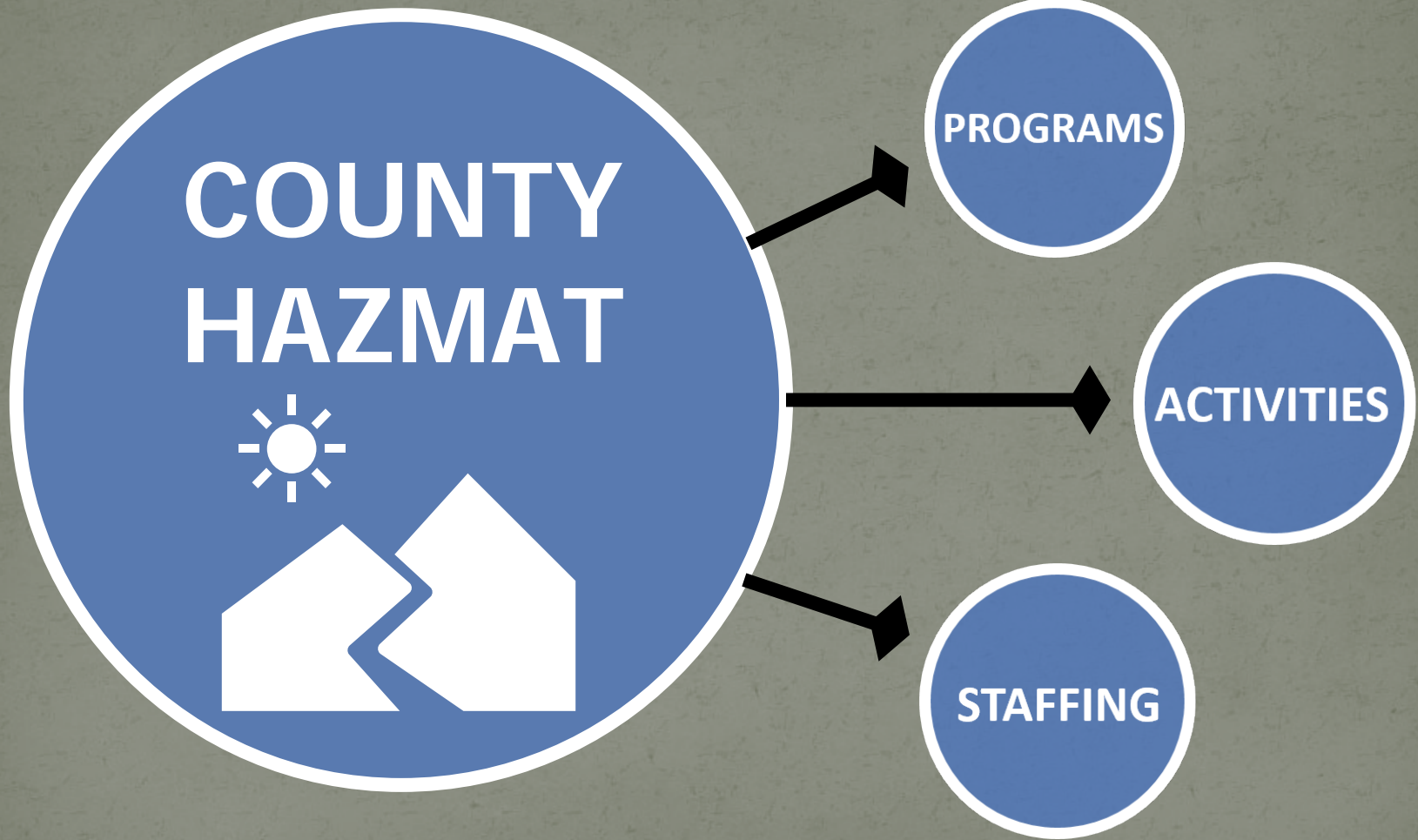
FACILITIES



**ISO
ANNUAL
REPORT**



**COUNTY
HAZMAT**





PROGRAMS

- Hazardous Materials Business Plans
- Hazardous Waste Generators
- Underground Storage Tanks
- Aboveground Petroleum Storage Act
- CalARP Program
- Green Business Plans
- Storm Water Program
- HazMat Response Team
- Unannounced Inspection Program
- Integrated Pest Management
- County's Industrial Safety Ordinance (ISO)

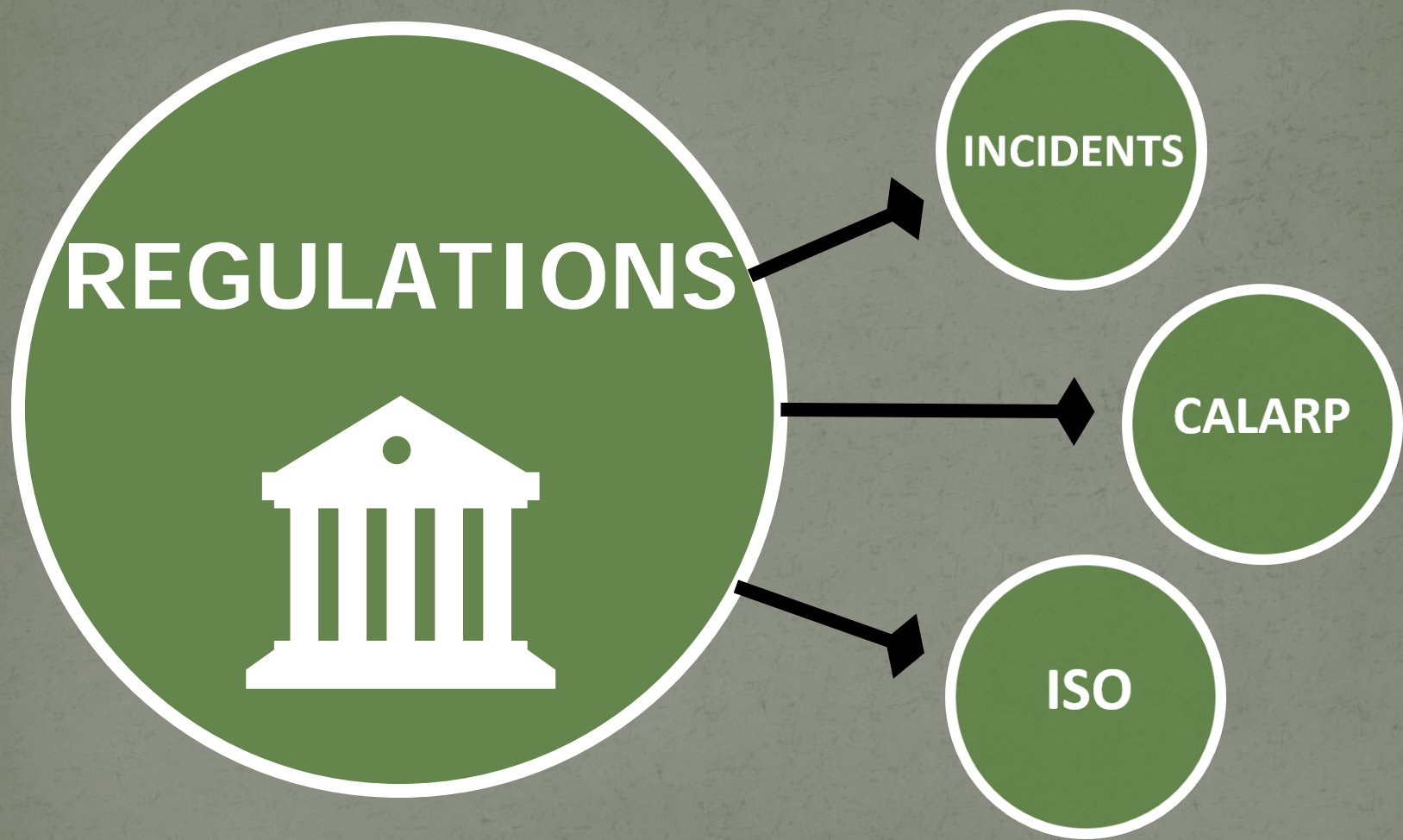


ACTIVITIES



STAFFING

8



Incidents





1992 Rhone
Poulenc Fire

1989 Chevron
Isomax Unit Fire

1993 General
Chemical Richmond
Oleum Release

2012
Chevron Crude
Unit Fire



1994 Unocal
Catacarb®
Release

1999
Chevron
Isomax Unit
Fire

1996 Shell Cat
Gas Fire

1999 Tosco
Crude Unit Fire

1997 Tosco
Hydrocracker Fire

Risk Management Program

- Performance Based
- Regulated Substance
- Above Threshold Quantity
- 77 vs. 276 Toxic Chemicals



PROGRAM 3

Process Safety Information

Process Hazard Analysis

Operating Procedures

Training

Mechanical Integrity

Management of Change

Pre-Startup Safety Review

Compliance Audits

Incident Investigation

Employee Participation

Hot Work Permits

Contractors

Emergency Response

Off-Site Consequence Analysis

Submit of a Risk Management Plan

INDUSTRIAL SAFETY ORDINANCE (ISO)

(All Program 3 Requirements)

Human Factors

Management of Organizational Change

Inherently Safer Design

Root Cause Analysis Investigations

Safeguard Protection Analysis

Safety Culture Assessment

Common Process Safety Metrics (Indicators)

Submittal of a Safety Plan





PROGRAM 4

(All Program 3 Requirements)

Damage Mechanisms

Human Factors

Management of Organizational Change

Hierarchy of Hazard Control / Inherently Safer Design

Root Cause Analysis Investigations

Safeguard Protection Analysis

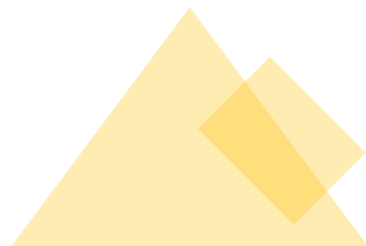
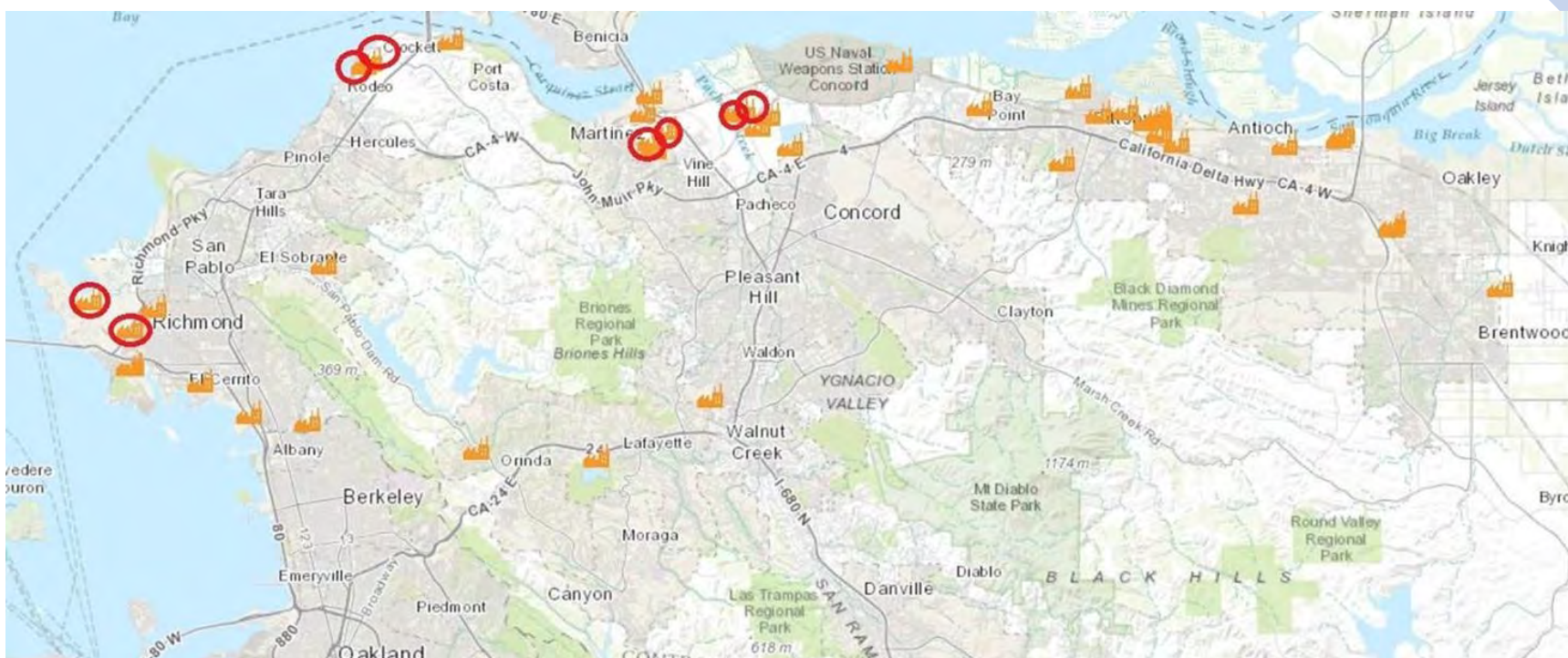
Safety Culture Assessment

Management System



FACILITIES

- Petroleum Refineries (4*)
- Chemical Mfg Plants (10)
- NOx Reduction Pollution Abatement (7)
- Ammonia Refrigeration (6)
- Water Treatment (8)





REGULATIONS



FACILITIES



**ISO
ANNUAL
REPORT**



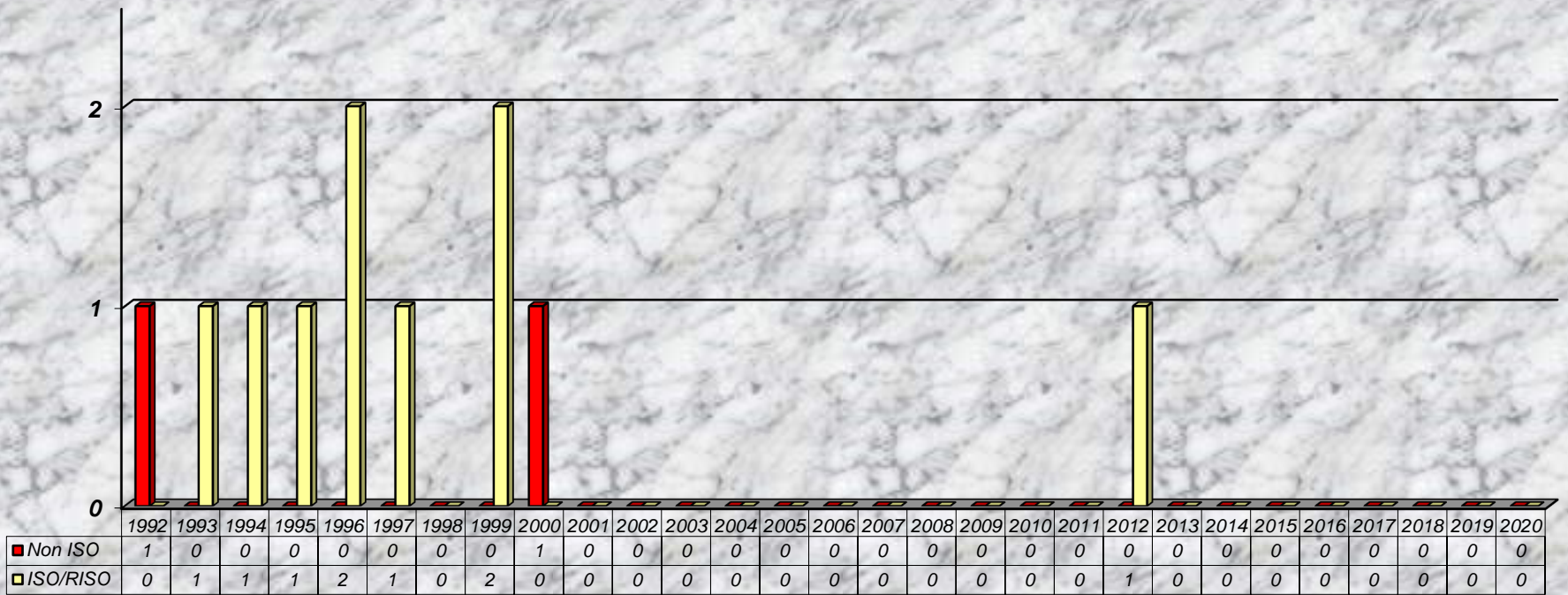
**COUNTY
HAZMAT**

Presentation: Industrial Safety Ordinance (ISO) report brief

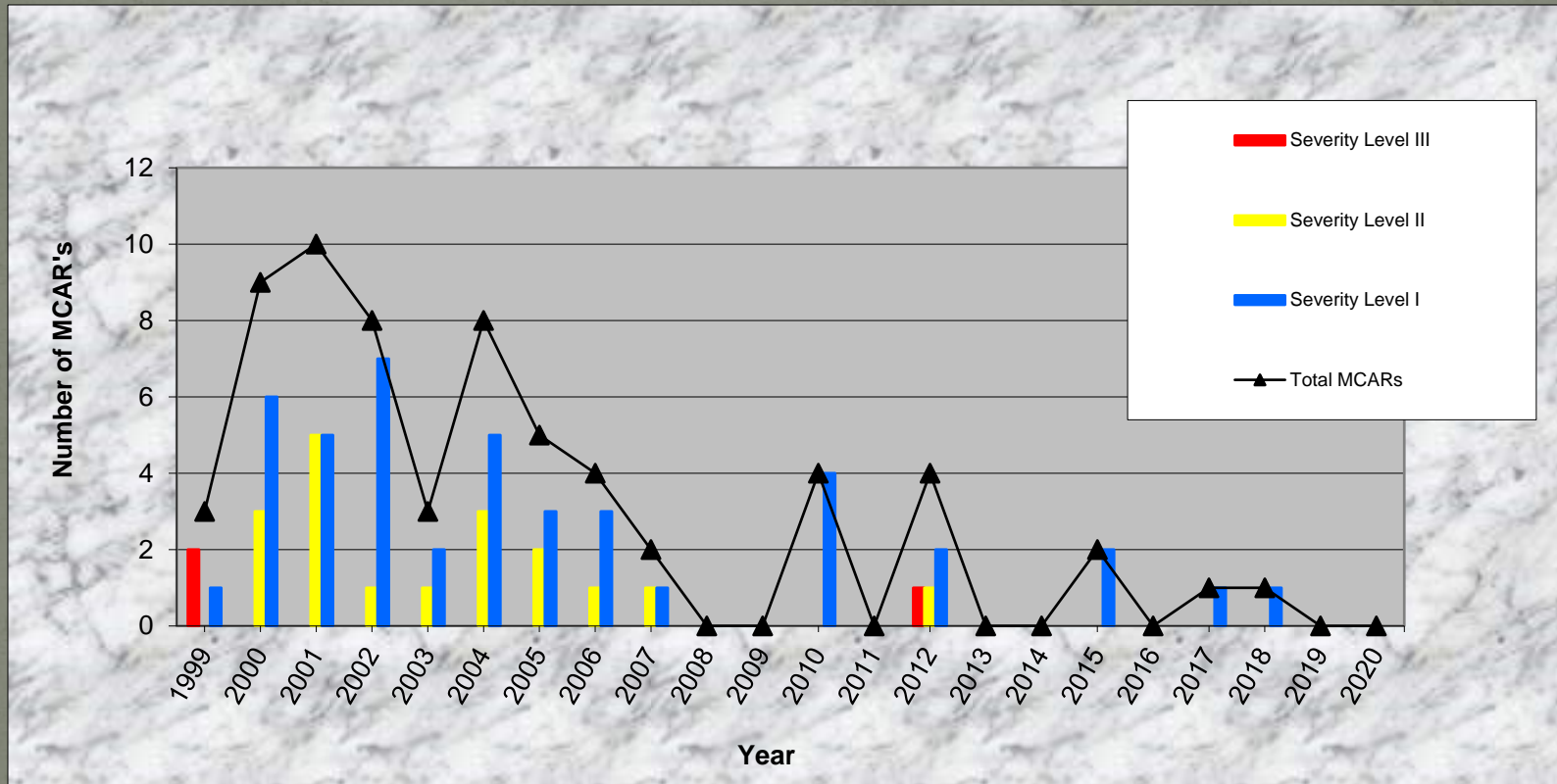
- ⦿ Contains all of the information required by ISO
- ⦿ Major Chemical Accidents or Releases level
- ⦿ Annual report –Matrices
 - Performance Indicators
 - API incident rates
 - Safety Culture Assessment Status

Major Chemical Accidents or Releases

Severity Type III (1990s – now)



County and Richmond ISO MCARs



Audits Performed

- Marathon Refinery Sept /Oct 2019
- P-66 Refinery January 2020
- Chemtrade Richmond June/July 2020

- Air Products @ PBF Refinery Oct/Nov 2020
- Air Products @ Marathon (de-register Dec 2020)
- PBF Refinery February 2021

2019

	Over due Inspections	Past due PHA Rec.	Past due II Rec.
Air Liquide Large Industries	11	5	0
Air Products Marathon	0	0	0
Air Products Shell	0	0	0
Chemtrade Richmond	0	1	0
Chevron	0	3	0
Marathon Refinery	5	148	1
Martinez Refining Company	0	7	0
Phillip-66 Refinery	0	19	0

Performance Indicators

Tier 1 LOPC

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Refinery mean	-	1.49	1.3	1.38	1.55	1.01	1.13	0.92	1.03
Air Liquide Large Industries	0	0	0	0	0	0	0	0	0
Air Products Shell	0	0	0	0	0	0	0	0	0
Air Products Marathon	0	0	0	0	0	0	0	0	0
Chemtrade Richmond	0	0	0	0		0	0	0	0
Chevron	4	3	0	1	2	1	1	1	0
Marathon Refinery	0	0	0	1	1	0	1	1	1
Martinez Refining Company	1	1	1	0	1	0	2	1	2
Phillip-66 Refinery	2	3	0	0	2	0	0	0	0

Performance Indicators

Tier 2 LOPC

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Refinery mean					3.08	2.78	2.73	2.79	2.67
Air Liquide Large Industries	0	0	0	0	0	0	0	0	0
Air Products Shell	0	0	0	0	0	0	0	0	0
Air Products Marathon	0	0	0	0	0	0	0	0	0
Chemtrade Richmond	0	0	0	0	0	0	0	1	0
Chevron	5	8	6	3	1	3	5	4	0
Marathon Refinery	1	1	2	3	3	0	3	4	3
Martinez Refining Company	2	0	5	2	5	1	2	2	5
Phillip-66 Refinery	5	3	0	1	2	2	2	0	2

Performance Indicators

Safety Culture Assessment

- July 2006 ISO Amendment included performing SCA
- Safety Culture Assessment Guidance Document issued in November 2009
- U.S. Chemical Safety Board (CSB) recommendation in the Chevron Refinery fire interim report (August 2012) adopted by BOS in 2014.
- Guidance on SCA revised and published in August 2017.
 - SCA summary results in ISO annual report
 - Public process: Hazardous Materials Commission
BOS Ad Hoc CWS/ISO committee
March 9, 2020

Safety Culture Assessment (SCA) status

Facility	Date of SCA	Workforce Communication	Mid Cycle SCA	Method
Air Liquide Large Industries	Oct-19	Dec-19	*Not Required	Written Survey
Air Products Shell	Aug-19	Sep-19	*Not Required	Written Survey
Air Products Marathon	Aug-19	Sep-19	*Not Required	Written Survey
Chemtrade Richmond	Aug-18	Sep-18	*April 2021	Written Survey
Chevron	Sep-15	Jun-16	N/A	Focus Group
Phillip-66 Refinery	Apr-16	Jun-16	Nov 2019	Written Survey
Martinez Refining Company	Mar-19	Apr-19	TBD	Written Survey
Marathon Refinery	Aug-16	Apr-17	2019	Written Survey



A Clean, healthy and safe environment

Our mission is to protect human health and the environment by promoting pollution prevention, increasing process safety knowledge and environmental awareness, responding to incidents and implementing consistent regulatory compliance and enforcement programs.

Cho Nai Cheung

Accidental Release Prevention Engineer Supervisor


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March 25, 2021

April 10, 2018



Major Chemical Accident or Release Definition

- "Major chemical accident or release" means an incident that meets the definition of a level three or level two incident in the community warning system incident level classification system defined in the hazardous materials incident notification policy, as determined by the department; or results in the release of a regulated substance and meets one or more of the following criteria:
 - (1) Results in one or more fatalities;
 - (2) Results in at least twenty-four hours of hospital treatment of each of at least three persons;
 - (3) Causes on- and/or off-site property damage (including clean-up and restoration activities) initially estimated at five hundred thousand dollars or more. On-site estimates shall be performed by the stationary source. Off-site estimates shall be performed by appropriate agencies and compiled by the department;
 - (4) Results in a vapor cloud of flammables and/or combustibles that is more than five thousand pounds.

Major Chemical Accident or Release

Severity Levels

- ***Severity Type 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
- ***Severity Type II*** – An impact to the community occurred, or if the situation was slightly different the accident may have been considered a severity level III, or there is a recurring type of incident at that facility
- ***Severity Type III*** – A fatality, serious injuries, or major onsite and/or offsite damage occurred

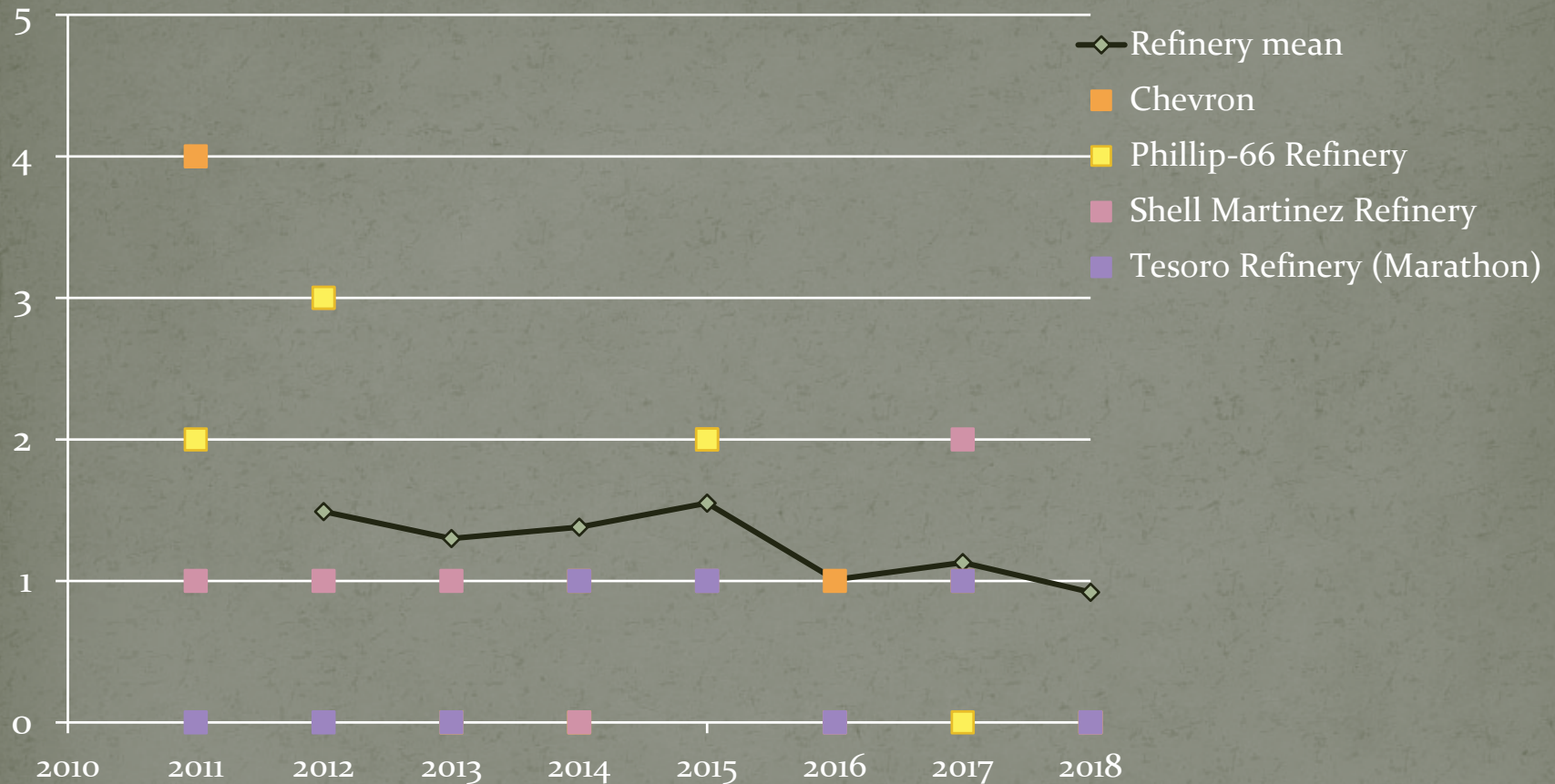
Industrial Safety Ordinance Report

- Procedures for Records Management
- Number and Type of Audits and Inspections Conducted
- Number of Root Cause Analyses and/or Incident Investigations Conducted by Health Services
- Public Participation
- Public Information Bank
- Hazardous Materials Ombudsman
- Other Required Program Elements as necessary

Industrial Safety Ordinance Report

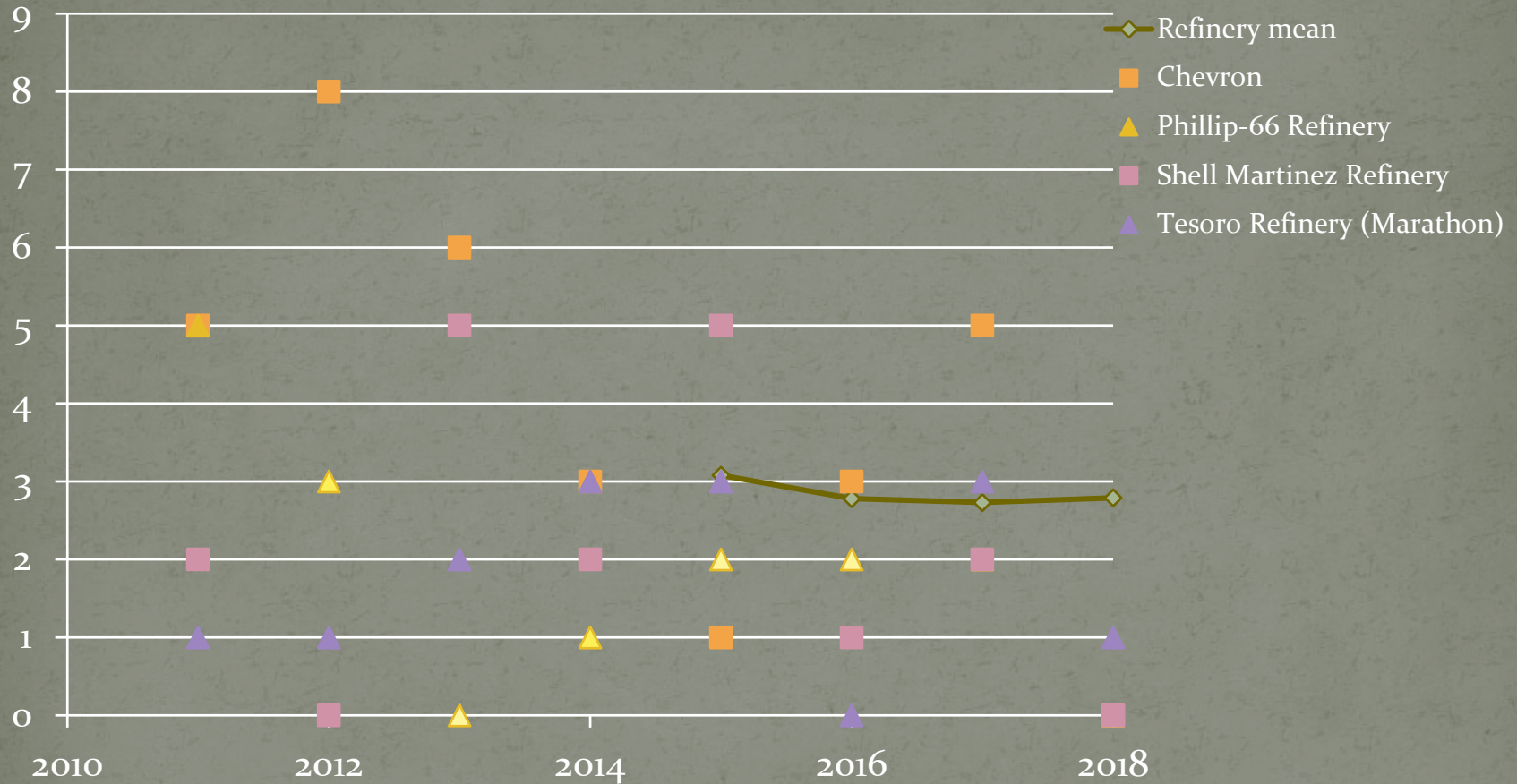
- Status of Safety Plans and Programs
- Locations of the Safety Plans
- Annual Submission of Accident History Report, Inherently Safer Systems Implemented, Process Safety metrics
- Status of the Incident Investigation, Including the Root Cause Analyses Conducted Major Chemical Accidents and Releases
- Legal Enforcement Actions Initiated by Health Services

Tier 1 LOPC



Performance Indicators

Tier 2 LOPC



Performance Indicators

Monday-March 9

Q&A with Facility Personnel

Environmental Health

Thomas McMorrow Training Room

Safety Culture Assessment (SCA) status

Facility	Areas of improvement
Air Liquide Large Industries	Living HSE: morning meetings, PPE allow for home use
Air Products Shell	Operational Discipline, Personal Responsibility
Air Products Marathon	Operational Discipline, Personal Responsibility
Chemtrade Richmond	Improve safety incentives, Improve including hourly employees when conducting investigations
Chevron	Communications and resource planning
Phillip-66 Refinery	Improvements require too many reviews/approvals. Employees are reluctant to reveal problems or errors. Having enough qualified people to do the work in their area.
Shell Martinez Refinery	Incident reporting . Learnings from incidents and Rewards and Recognition
Tesoro Refinery (Marathon)	Maintenance Work Process, Procedures, Process Safety Leadership, Process Safety Resources, New Hire Training