

Cho Nai Cheung  
Accidental Release Prevention Engineer  
Supervisor

Randall L. Sawyer  
Chief Hazardous Materials Programs  
and Environmental Health Officer

# Industrial Safety Ordinance Annual Report to the Board

March 3, 2015



# Presentation Discussion Points

- Written report contains all of the information required by the Industrial Safety Ordinance (ISO)
- Accident history review
  - No Major Chemical Accidents or Releases in 2014
- Public Participation
- Updates to ISO, CalARP, PSM
- Work with other Agencies



# ISO Written Report

- Discussion of the Effectiveness of Health Services Program Implementation, Including the following:
  - Effectiveness of the 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
  - Health Services Process for Public Participation
  - Effectiveness of the Public Information Bank
  - Effectiveness of the Hazardous Materials Ombudsman
  - Other Required Program Elements as necessary



# ISO Written Report

- Requires the Following Regulated Sources' Information:
  - The Status of the Regulated Stationary Sources' Safety Plans and Programs
  - Locations of the Regulated Stationary Sources Safety Plans
  - Annual Submission of Accident History Report and Inherently Safer Systems Implemented
  - Status of the Incident Investigation, Including the Root Cause Analyses Conducted by the Regulated Stationary Sources
  - Major Chemical Accidents and Releases
  - Legal Enforcement Actions Initiated by Health Services

# Major Chemical Accident or Release Definition

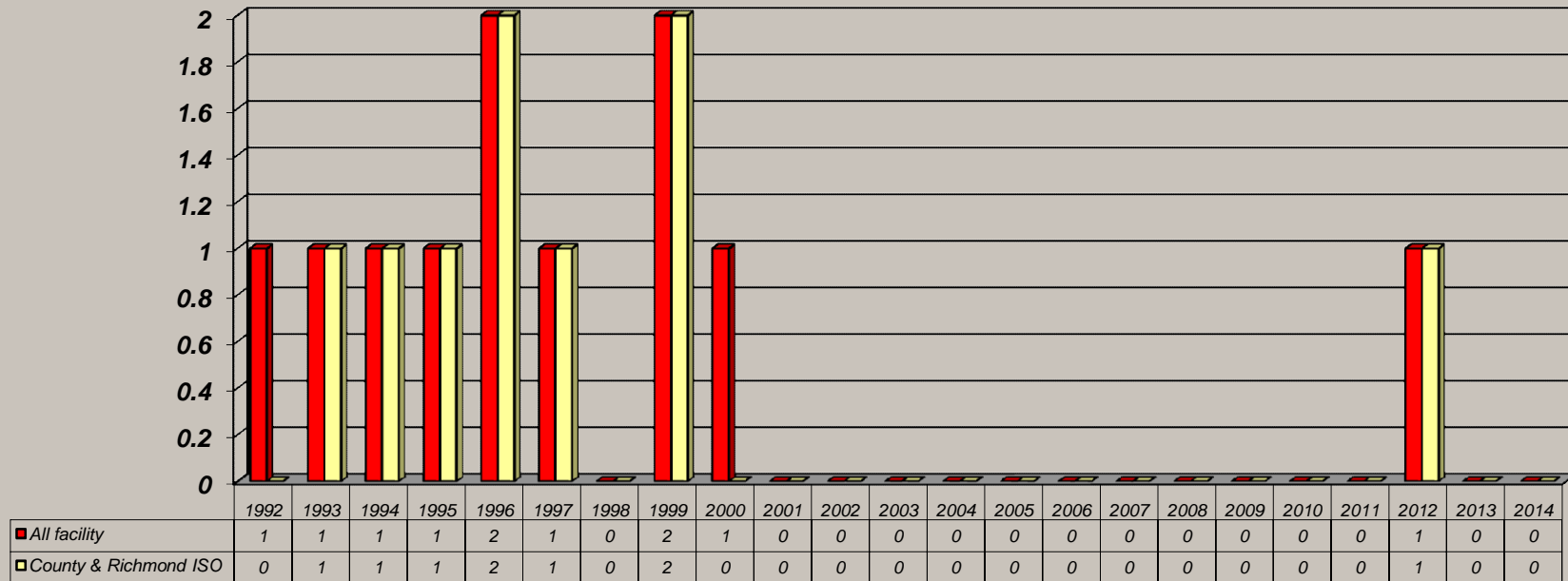
Major Chemical Accident or Release means an incident that meets the definition of a Level 3 or Level 2 Incident in the Community Warning System incident level classification system defined in the Hazardous Materials Incident Notification Policy, as determined by the Department; or results in the release of a Regulated Substance and meets one or more of the following criteria:

- (1) results in one or more fatalities;
- (2) results in greater than 24 hours of hospital treatment of three or more persons;
- (3) causes on and/or off-site property damage (including clean-up and restoration activities) initially estimated at \$500,000 or more. On-site estimates shall be performed by the Stationary Source. Off-site estimates shall be performed by appropriate agencies and compiled by the Department.;
- (4) results in a vapor cloud of flammables and/or combustibles that is more than 5000 pounds.

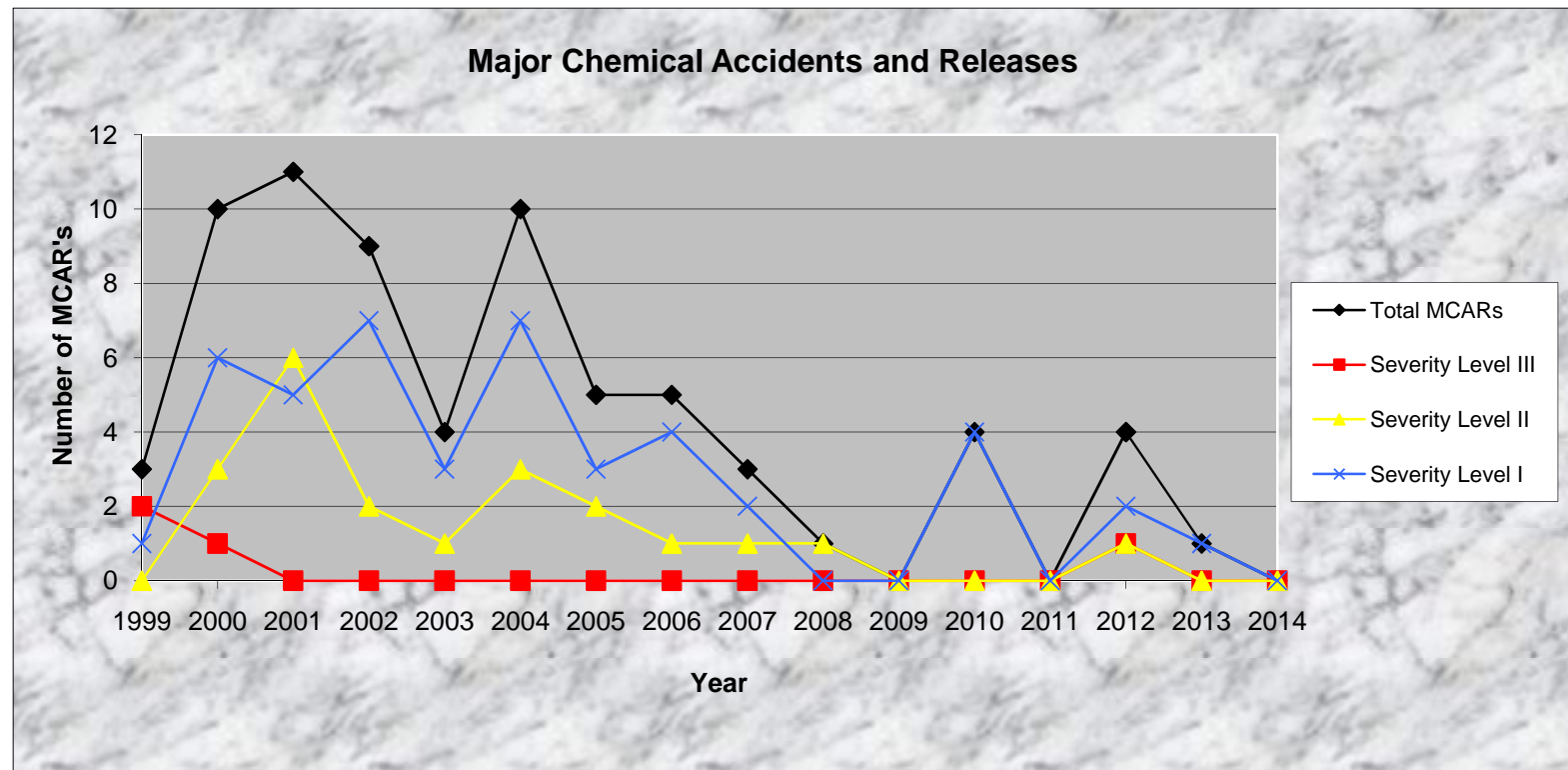
## Severity Levels

- **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 major, 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

# Major Chemical Accidents or Releases Severity Type III (1990s – now)



# Accident History

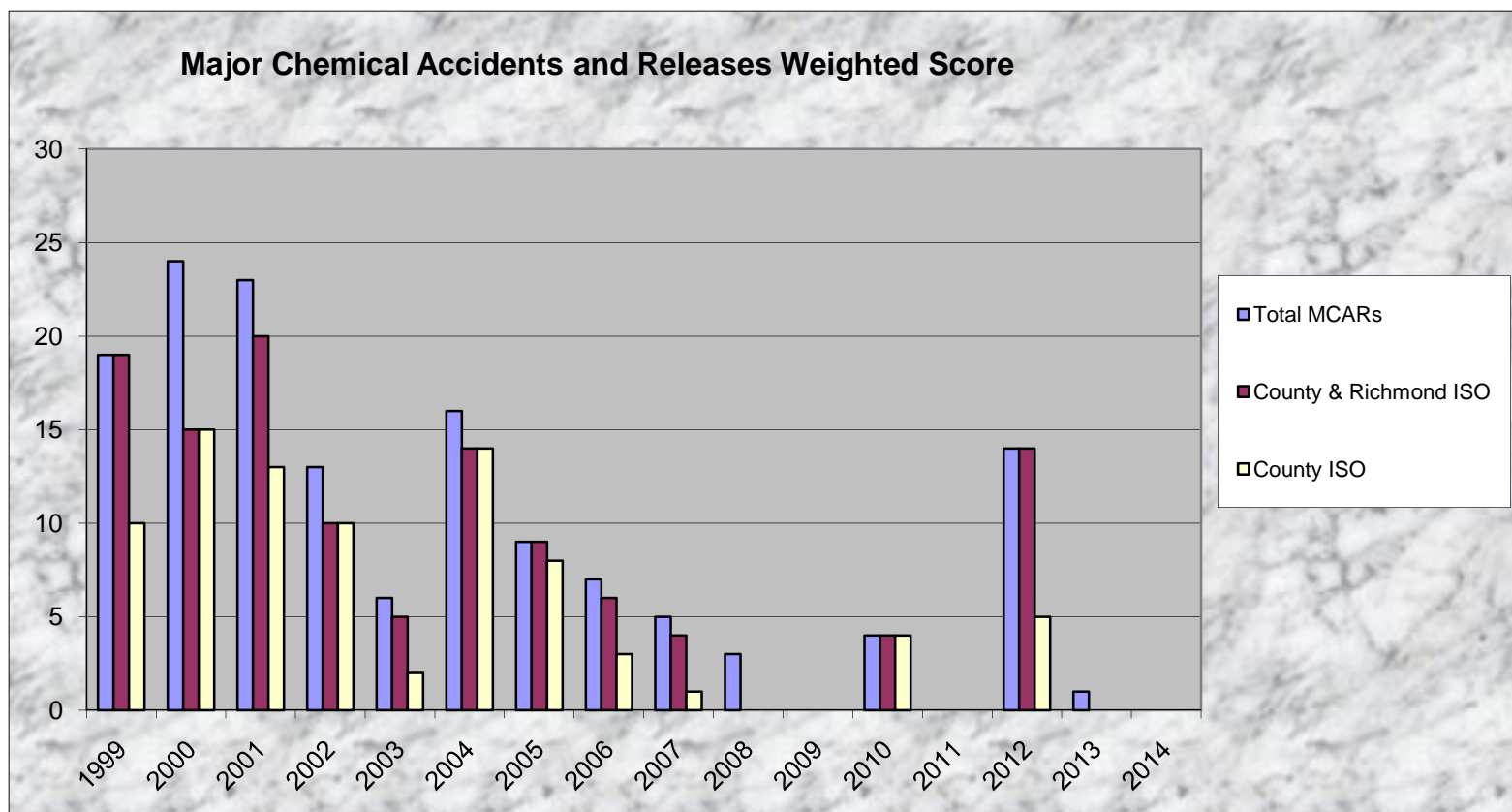




# Accident History

- A weighted score is developed to look at the overall process safety of all 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. Using the following weighting:
  - Severity Type III - 9 points
  - Severity Type II - 3 points
  - Severity Type I - 1 point

# Accident History



# Accident History

- No Major Chemical Accidents or Releases in 2014
- Audits Performed
  - Air Liquide Large Industries—June 2013
  - Chemtrade Bay Point Works—August 2013
  - Chevron Richmond Refinery—October 2013
  - Tesoro Golden Eagle Refinery—January 2014
  - Phillips-66—May 2014
  - Chemtrade Richmond Works—September 2014

# Public Participation

- Information Sharing at existing venues

- Air Products' and Shell Martinez Refinery's Audit Findings: Martinez, Earth Day, April 20, 2013 and April 26, 2014
- Phillips 66 Refinery's Safety Plan and Audit Findings and Air Liquide Large Industries' Safety Plan: Sugartown Festival & Street Fair in Crockett on July 21, 2013 and Rodeo-Hercules Fire District Open House on October 5, 2013
- Chevron Refinery Safety Plan and the General Chemical Richmond Audit Findings: West County Emergency Preparedness Fair at San Pablo Towne Center, October 5, 2013

- Information Sharing with Community

- Phillip 66 Refinery's Community Advisory Panels (CAP) January 2013

- Information on Web

- Most recent audit findings summarized in easy to read format in both English and Spanish



# Updates to ISO/RISO (2014)

In response to U.S. Chemical Safety and Hazard Investigation Board 2012 recommendations:

- Requires regulated sources to submit “common” process safety performance indicators and develop additional process safety performance indicators,
- Expands Inherently Safer System Analysis:
  - all the existing processes,
  - management of change when there is a major change,
  - incident investigation for an Major Chemical Accident or Release



# Updates to ISO/RISO (2014)

- Requires the regulated sources to perform a safeguard protection analysis to determine the effectiveness of safeguards that are used during a process hazard analysis, and
- Revision of the goals of the ordinance that the purpose of the ordinance is to prevent accidents from occurring to the greatest extent feasible.

# Updates to CalARP (2015)

- General Requirements:
  - Changes to the Public Notice Process
    - Removed initial public notice requirement
    - Formal public review can be published on AA's website
- Hazard Assessment:
  - Alternative Release Scenario should reach a public receptor
  - Scenarios can be taken from industry experience
  - Document the review of the Hazard Assessment
  - All endpoints for Table 3 chemicals are now established
- Program 2 Hazard Review (HR):
  - Revalidation can only occur once between full HRs

# Updates to CalARP (2015)

- Program 2 & 3 Recommendation closure timing :
  - Retain all PHA/HR Recommendation resolution documentation for the life of the process
  - Coordinate a timetable with the AA
  - Next planned turnaround – for items that require a turnaround
  - HR/PHA: 2 ½ years after performing the HR/PHA
  - Compliance Audit: 1 ½ years after performing the audit
  - Incident Investigation: 1 ½ years after completing the investigation or 2 years after the incident



# Updates to CalARP (2015)

- Program 2 Maintenance:
  - Clarification that the maintenance program must be written
  - Owner must ensure that contractors are trained on task
- Program 3 Process Safety Information (PSI):
  - Ensure PSI is maintained and kept up-to-date
  - In addition to reactivity data, document chemical compatibility data during handling, use, and application
- Program 3 Operating Procedures:
  - Reflect current practices, update whenever inadequate/inaccurate

# Updates to CalARP (2015)

- Program 3 Mechanical Integrity (MI):
  - Added compressors and their drivers to equipment in MI Program
  - Clarification that ancillary components (e.g., valves) are in the MI Program
- Program 3 Contractors:
  - Must document the evaluation of contractors
- Program 3 Management of Change (MOC):
  - Clarified required for new operating/maintenance procedures
    - Mechanical Integrity Procedure must be developed prior to start-up
- Program 3 Pre-Startup Safety Review (PSSR):
  - Clarified that the PSSR is to be used as a verification check (independent of the MOC)

# Work with other agencies

- Participate in Inspections with Federal EPA and CalOSHA
- Attended Federal EPA and CalOSHA Training
- Work with City of Richmond
- Participates in meetings regarding regulation revisions to California Accident Release Prevention Program, CalOSHA Process Safety Management(PSM)



# 2016 CalARP Regulations

- CalARP Regulations for Petroleum Refineries
  - Elements of ISO incorporating into State Law
    - Hierarchy of Control Analysis (Inherent Safety)
    - Root Cause Analysis
    - Management Systems
    - Process Safety Performance Indicators
    - Safeguard Protection Analysis
    - Process Safety Culture Assessments
  - Damage Mechanism Reviews

## Hazardous Materials Programs:

- Safeguarding Our Communities
- Implementing the Industrial Safety Ordinance
- Responding to Emergencies



CONTRA COSTA  
HEALTH SERVICES