

# Independent Safety Culture Assessment of PBF Energy Martinez Refinery

Scott Berger and Associates, LLC

Board of Supervisors Meeting  
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# Objectives and Approach

		Leadership Drivers	
		Weak	Strong
Management Systems	Strong	Good on paper only	Strong culture
	Weak	Reactive culture	Unreliable results

## Objectives:

- Assess MRC's process safety management systems for content and quality
- Assess how MRC Leadership ensures reliable execution
- Compare and contrast to MRC culture survey results

## Approach:

- Reviewed and analyzed culture survey completed 11/22 – 4/23
- Reviewed process safety management system documents, key reports and records, and metrics
- Interviewed key personnel

# Summary of Culture Findings

## Improvement Opportunities



- **Learning organization:** Incident investigation approach not designed to be effective in preventing future incidents
- **Consistency:** Procedure deviations not sufficiently managed, including modes of control and other deviations
- **Reliability:** Other areas of asset integrity need to be brought up to standard met for pressure equipment mechanical integrity and interlocks mechanical integrity
- **Sense of urgency:** Audit findings requiring rapid response had overly-long “complete-by” dates

# Summary of Culture Findings

## Positive findings to build on



- Focus on meeting risk criteria
- GOAL ZERO initiative
- Refinery leadership team process for review and oversight of process safety
- Management systems for pressure equipment mechanical integrity and interlocks integrity
- Emergency preparation and response
- Operating procedure format
- Shift turnover process

MRC has 5<sup>th</sup> lowest "Tier 1" process safety incident rate out of 90+ US refineries (but not zero)

# Overview of MRC Culture Survey

## MRC's culture survey

- Designed per requirements Contra Costa Industrial Safety Ordinance, CalARP, and Cal/OSHA PSM regulations for refineries
- Overseen by MRC staff and union representatives
- 62 questions, ranked 1 (lowest) – 10 (highest)
- Survey period 11/22 – 3/23 (analysis and reporting 4/23)

## Our analysis

- MRC's analysis method favorably biased their results
- We used a more rigorous method which considered only answers that were clearly favorable
- 485 respondents; by our method, the maximum possible score for each question was 4,850

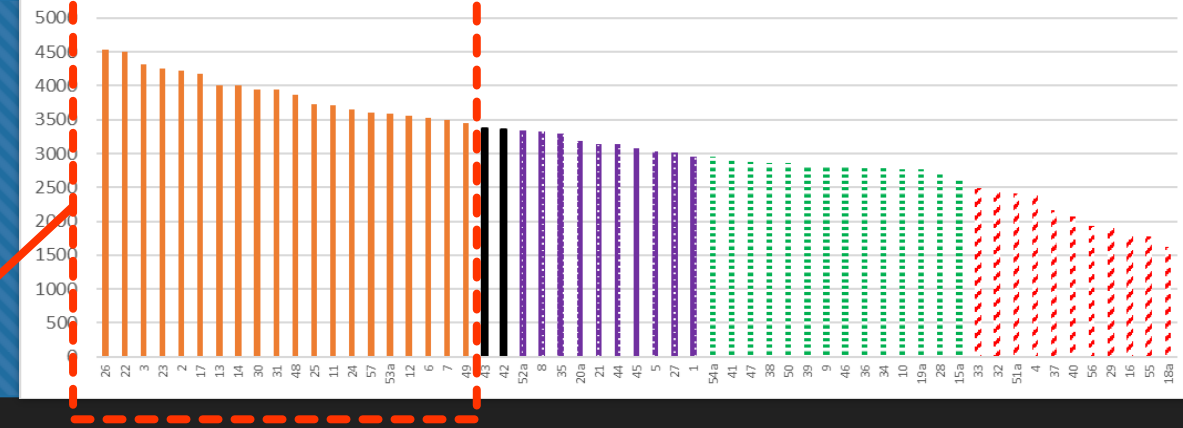
# Overall perception

Weighted score including only 7 or greater



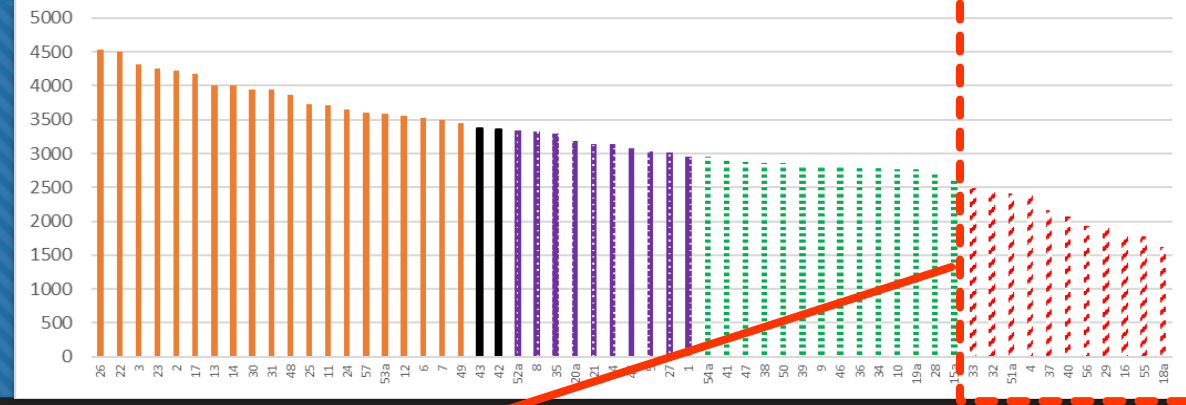
Question Number

# Relative strengths



- Personal responsibility/accountability for process safety
- Management reflects safety values
- Reporting of incidents and near-misses
- Comfort using Stop Work Authority

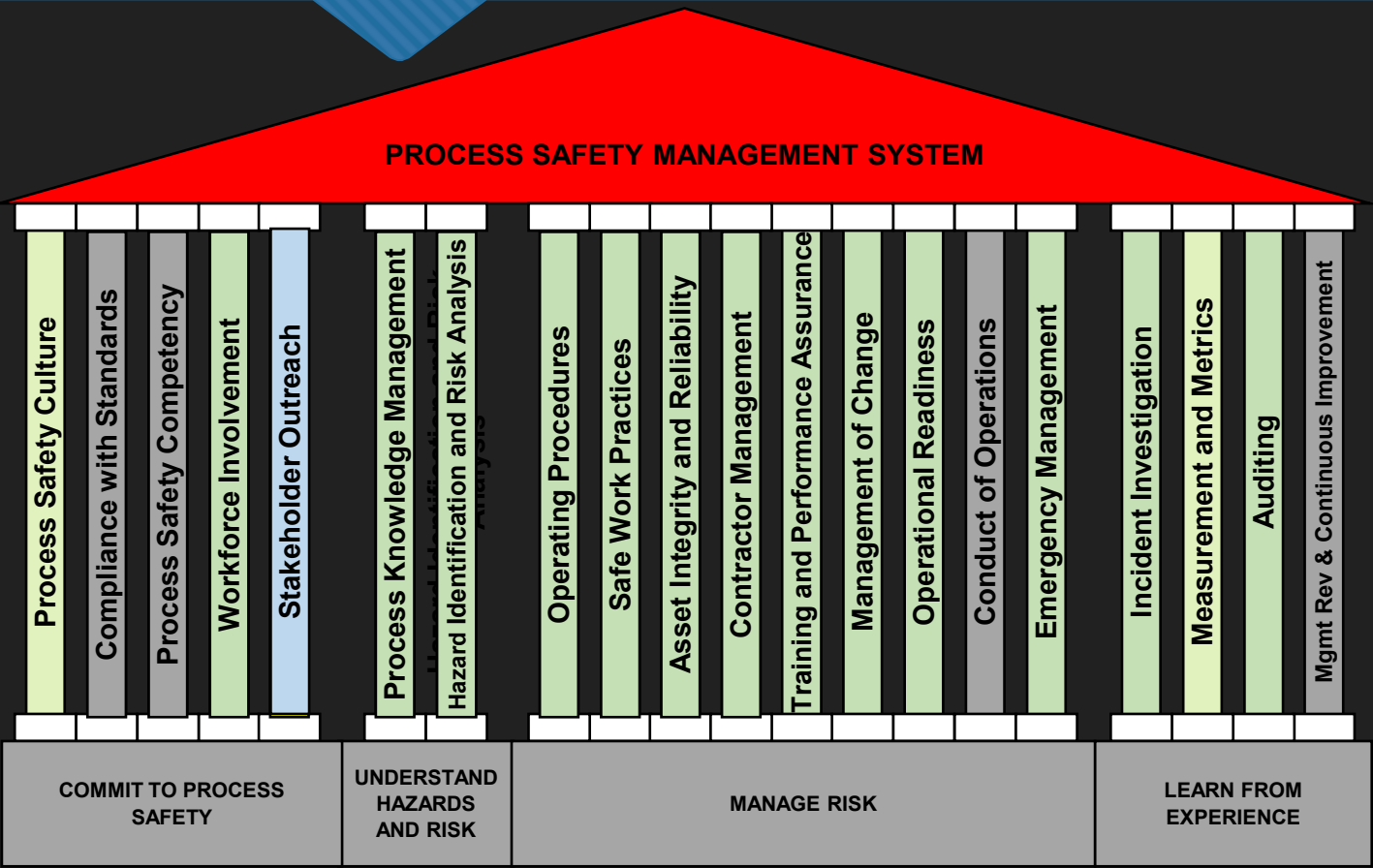
# Highest leverage opportunities



- Pressure to get the job done
- Gaps in preventive maintenance
- Gaps in learning from incident investigation
- Questions with answers that appeared to be influenced by COVID-era restrictions are omitted here, because they would have been answered differently in 2024.



# Management System Review



- Risk Based Process Safety (RBPS), of Center for Chemical Process Safety (CCPS)
- Traditional elements of ISO, CalOSHA, and CalARP plus ways that leaders drive culture

Legend

In common with ISO, CalARP, CalOSHA

In common with ISO, CalARP

CCPS/Risk Based Process Safety Elements that drive Culture and Performance

# Improvement opportunities and recommendations

**Opportunity 1:** Current MRC incident investigation process not designed to prevent future incidents

- a. Upgrade investigation process for incidents and near-misses to ensure investigations continue beyond human error and mechanical failure to root causes: management system gaps/weaknesses
- b. Train personnel on improved process and begin using
- c. Establish a new program of retroactive repetitive incident analysis to ensure management systems are corrected and broadly leveraged, not just in the unit

Timing: Recommend completing 1a and 1b by August 31, 2024 and complete 1c retroactive analysis by August 31, 2025

MRC response: Agree with recommendation and timing

# Improvement opportunities

**Opportunity 2:** Un-reviewed procedure deviations, including overuse of manual control

- a. Establish procedure (i.e., policy) that sets clear limits (situation and time) on changing control modes from automatic to manual; to exceed limits establish professional review and approval of deviation or trigger Temporary Management of Change
- b. Upgrade existing procedure use deviation process/form to include, where appropriate, how the process will be monitored for the possible impacts, triggers for action and what interim controls might be needed while the deviation is in progress. Alternately, where appropriate, the deviation request is referred and processed through the Emergency, Temporary, or Permanent Management of Change process.
- c. Establish metrics and tracking systems and include review in regular Refinery Leadership cadence of process safety management system reviews

Timing: Complete development and roll out by December 31, 2024

MRC response: Agree with recommendation and timing

# Improvement opportunities

**Opportunity 3:** Bring other areas of asset integrity up to standard met for pressure equipment:

- a. Establish appropriate leading metrics for asset integrity items not currently overseen by the RLT, for example, electrical equipment and rotating equipment
- b. Establish a process where appropriate functional leaders track performance and either correct gaps or escalate them to Refinery Leadership for resolution

Timing: Complete December 31, 2024

MRC Response: Agree with recommendation and timing

# Improvement opportunities

**Opportunity 4:** Audit issues requiring rapid response with overly-long “complete-by” dates.

- a. Establish due dates for action items requiring material changes to procedures to ensure such changes implemented before next use of the procedure
- b. Immediate resolve all open items requiring material changes to procedures

Timing: Change policy by July 31, 2024; resolve these open items by August 31, 2024; thereafter resolve all such open items before next use of procedure

MRC Response: Agree with recommendation and timing

# Improvement opportunities

**Opportunity 5:** Conduct next culture survey ahead of schedule (before approximately April 2028)

- a. In order to confirm that survey impacts attributed to COVID-era limitations have been resolved, include these items in the culture assessment

Timing: Complete September 30, 2025

MRC Response: Agree with recommendation and timing

# Positive Findings

## Foundation on which to build

- **Focus on meeting risk criteria:** Identified gaps closed promptly
- **Proper focus on eliminating incidents:** GOAL ZERO initiative
- **Refinery leadership team driving and overseeing process safety:** Regular cadence of reviews
- **Management systems for pressure equipment and interlocks mechanical integrity:** Best in class
- **Emergency preparation and response:** Strong
- **Operating procedure format:** Meets most best practices
- **Shift turnover process:** Formal and organized

# Incident Report Public Comments

Summary: Overall, 5 Public Comments were received. There was 1 clarifying change made to the report that didn't affect any findings.



**Thank You**