

# Pasadena Citizens' Advisory Council



## **19<sup>th</sup> Annual Worker Safety Report** *promoting continuous improvement 2000-2020*

*FULL Presentation FINAL  
February 28, 2021*

# The report is about PCAC plants

- ❑ Refineries that refine crude oil into gasoline and other fuels
- ❑ Chemical plants that make organic and inorganic chemicals, plastics, and fertilizer
- ❑ A plant that treats wastewater for industry and others.
- ❑ Terminals that store liquids until shipment

# Safety Report is about *People* Even Though We Talk about Numbers

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## □ ***Workers***

- Employees *and* contractors
- In 18 PCAC plants

## □ ***Workplace injuries and illnesses***

- As defined by OSHA

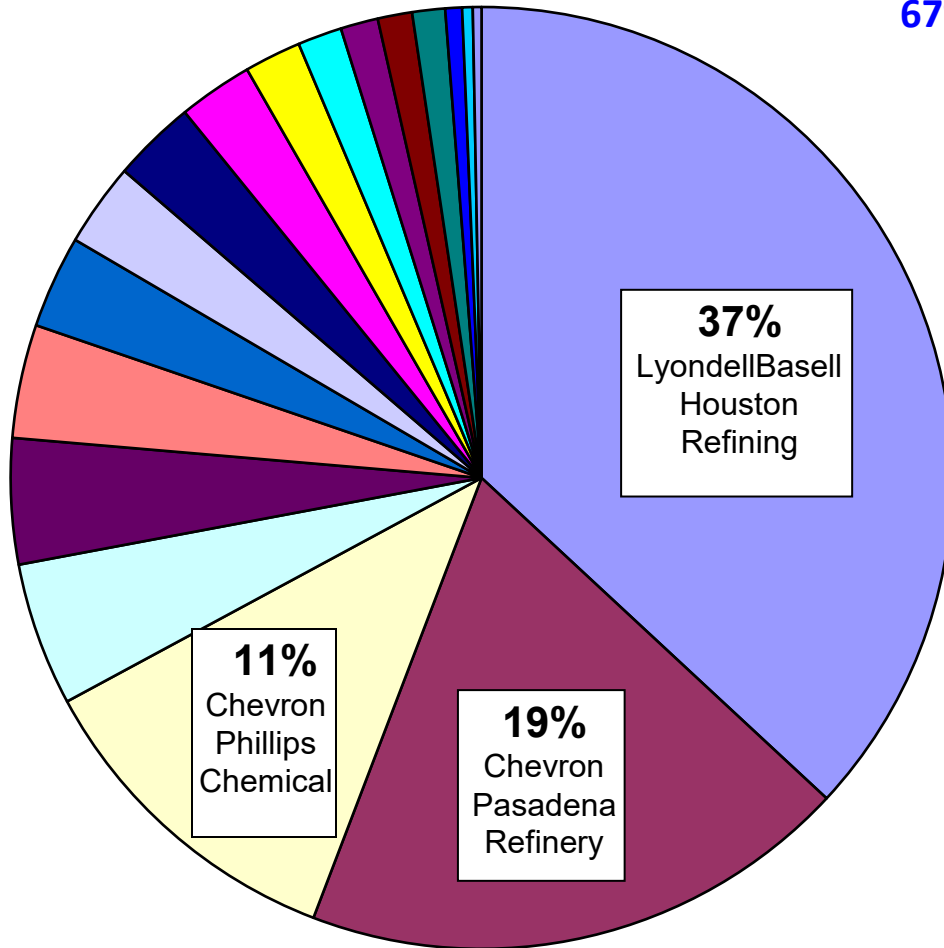
## □ ***Recordable Rate***

- *How many workers per 100* had a work-related injury or illness in a year
- 0.00 = best

# Plant Size by Work Hours in 2020

11,450,548 Total Work Hours

67% of total hours worked in 3 plants with more than 1 million work hours each



LyondellBasell Houston Refining	4,226,615
Chevron Pasadena Refinery	2,163,957
Chevron Phillips Chemical	1,295,936
Albemarle	563,553
KM Liquids Terminals ¶	493,320
OxyVinyls Pasadena PVC	446,325
Intercontinental Terminals	364,097
PCI Nitrogen	327,816
Afton Chemical	326,667
BASF	292,526
INEOS Phenol	223,160
Sekisui	173,914
Air Products	147,286
Evonik	135,222
Enterprise Products	129,029
Gulf Coast Authority	65,740
KM Export Terminals *	41,373
Ethyl	34,012

# In 2020

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- **11,450,548** work hours
  - ~ 3,025 employees
  - ~ 2,480 contractors
- **13** workplace injuries or illnesses
- **2,003,105** fewer work hours than 2019
- **12** fewer injuries than in 2019

# Zeroes are Heroes!

## 10 Superheroes with no employee or contractor recordables in 2020



1. Afton Chemicals
2. Air Products
3. Albemarle
4. BASF
5. Ethyl
6. Evonik
7. INEOS Phenol
8. Kinder Morgan Export Terminals\*  
\*No contractors
9. OxyVinyls Pasadena PVC
10. Sekisui

# Zeroes are Heroes!

10 heroes with no employee recordables in 2020

1. Afton Chemical
2. Air Products
3. Albemarle
4. BASF
5. Ethyl
6. Evonik
7. INEOS Phenol
8. Kinder Morgan Export Terminals
9. OxyVinyls Pasadena PVC
10. Sekisui



# Zeroes are Heroes!

## 14 heroes with no contractor recordables in 2020

In 2020, KMET had no contractors  
companies in bold had employee recordables

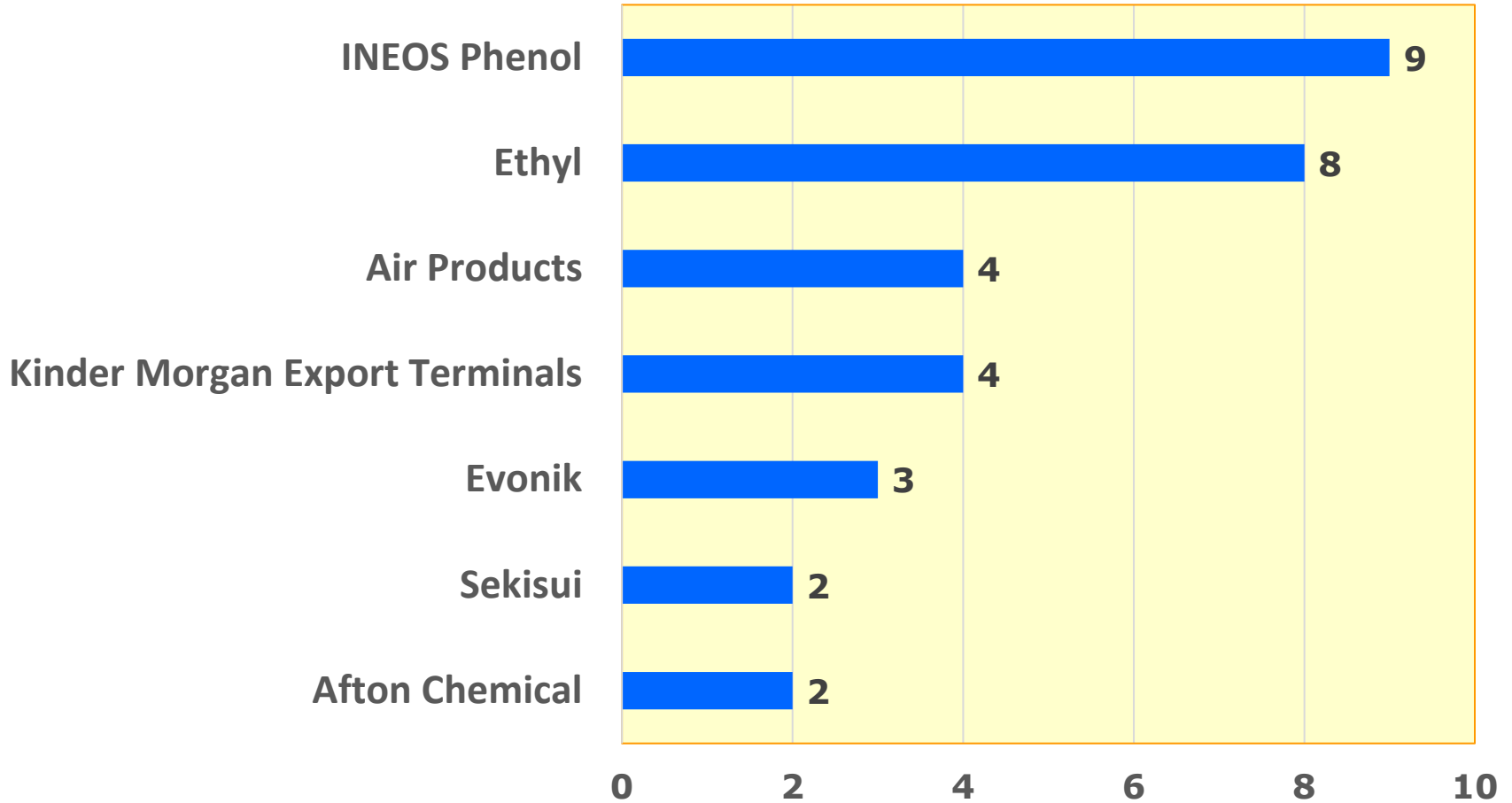
1. Afton Chemical
2. Air Products
3. Albemarle
4. BASF
5. **Chevron Phillips Chemical**
6. **Enterprise Products**
7. Ethyl
8. Evonik
9. **Gulf Coast Authority**
10. INEOS Phenol
11. **Intercontinental Terminals**
12. OxyVinyls Pasadena PVC
13. **PCI Nitrogen**
14. Sekisui



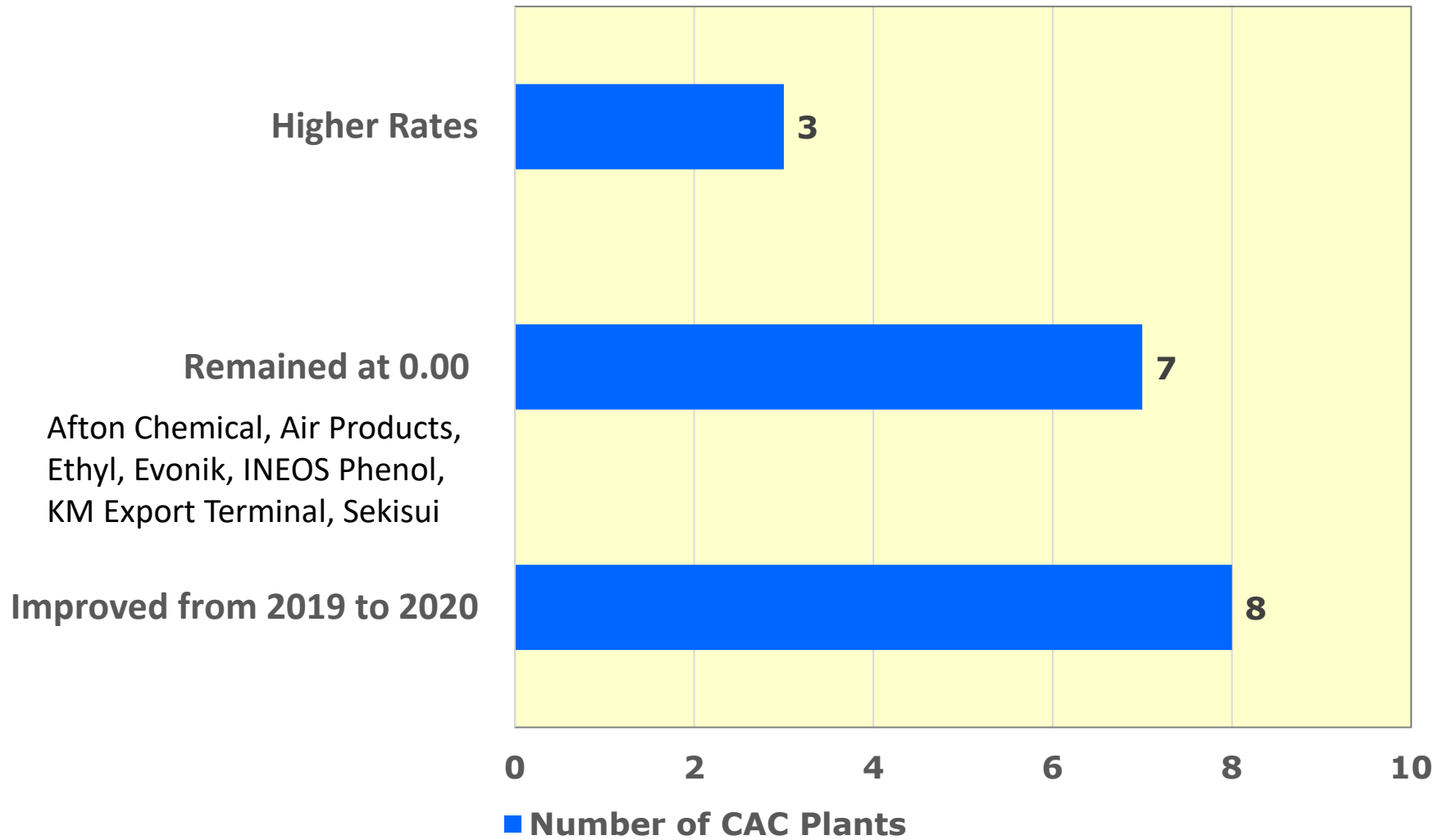


# Zeroes are Heroes!

Years in a row that CAC plant had a 0.00 Recordable Rate



# Comparison to Prior Years



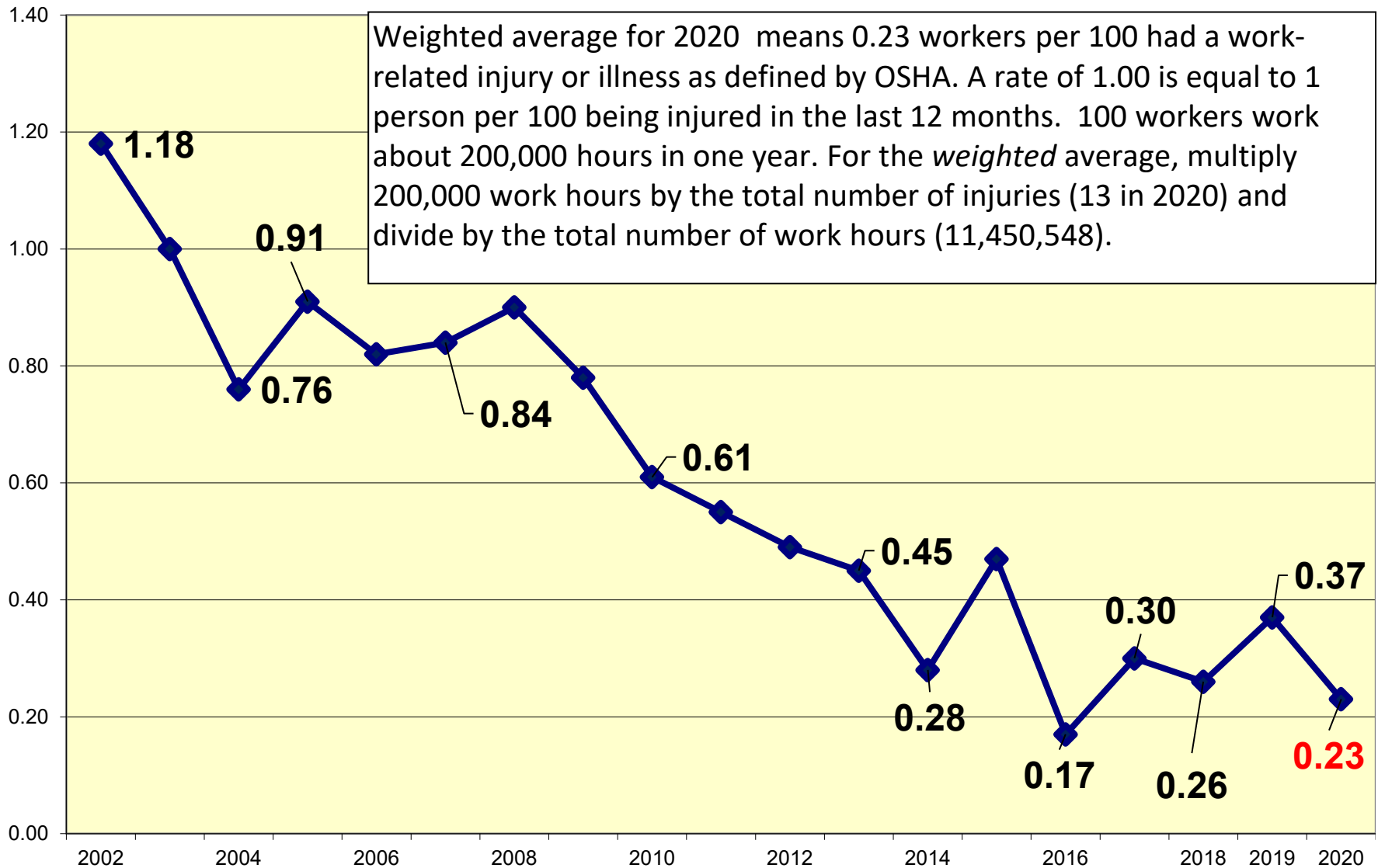
# OSHA Voluntary Protection Program (VPP)

- 2 VPP plants:
  - OxyVinyls Pasadena PVC (1991)
  - Chevron Phillips Chemical (2015)
- Intercontinental Terminals working toward VPP and Challenge
- Sekisui working toward VPP

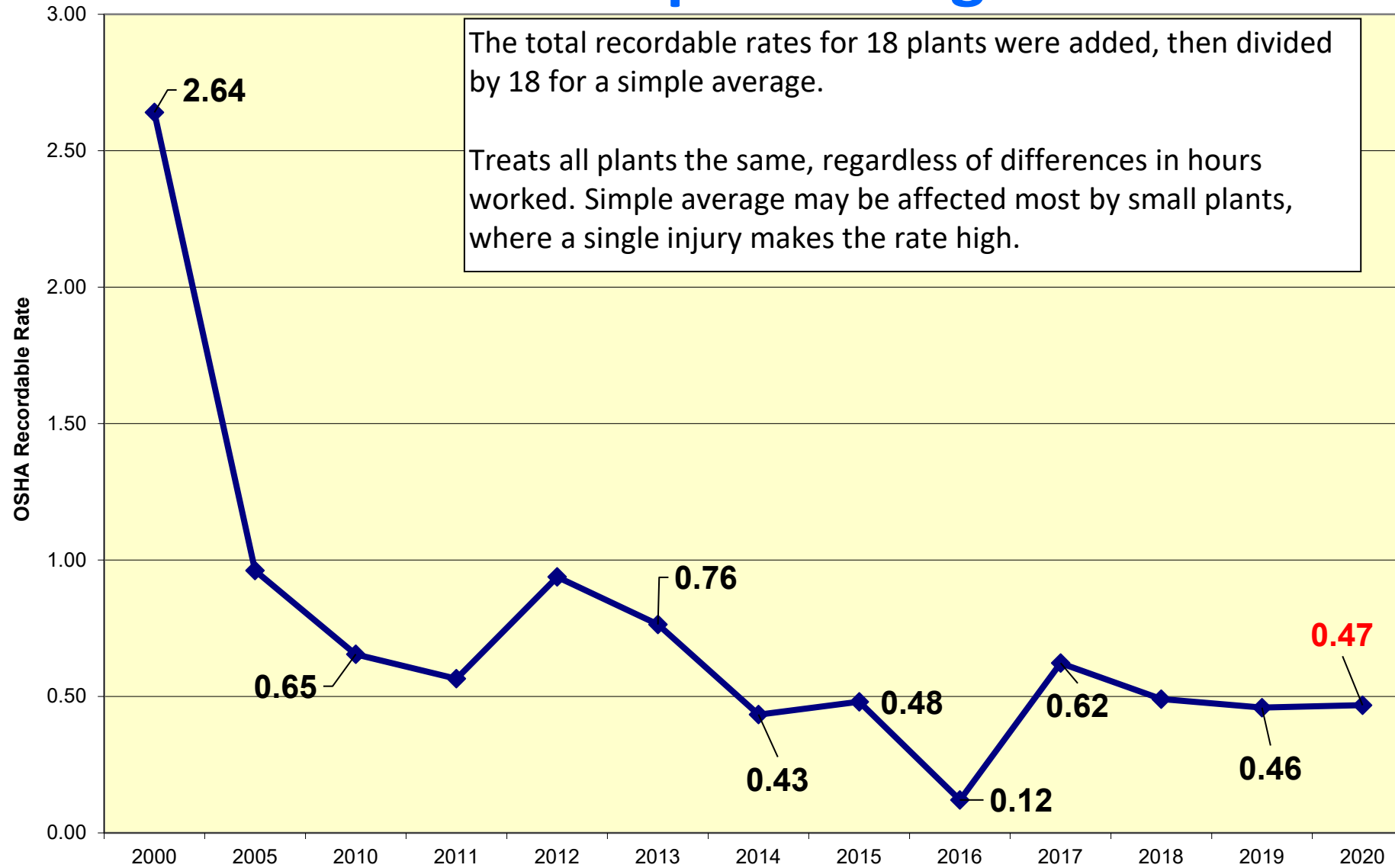
# STATISTICS

averages, median, range

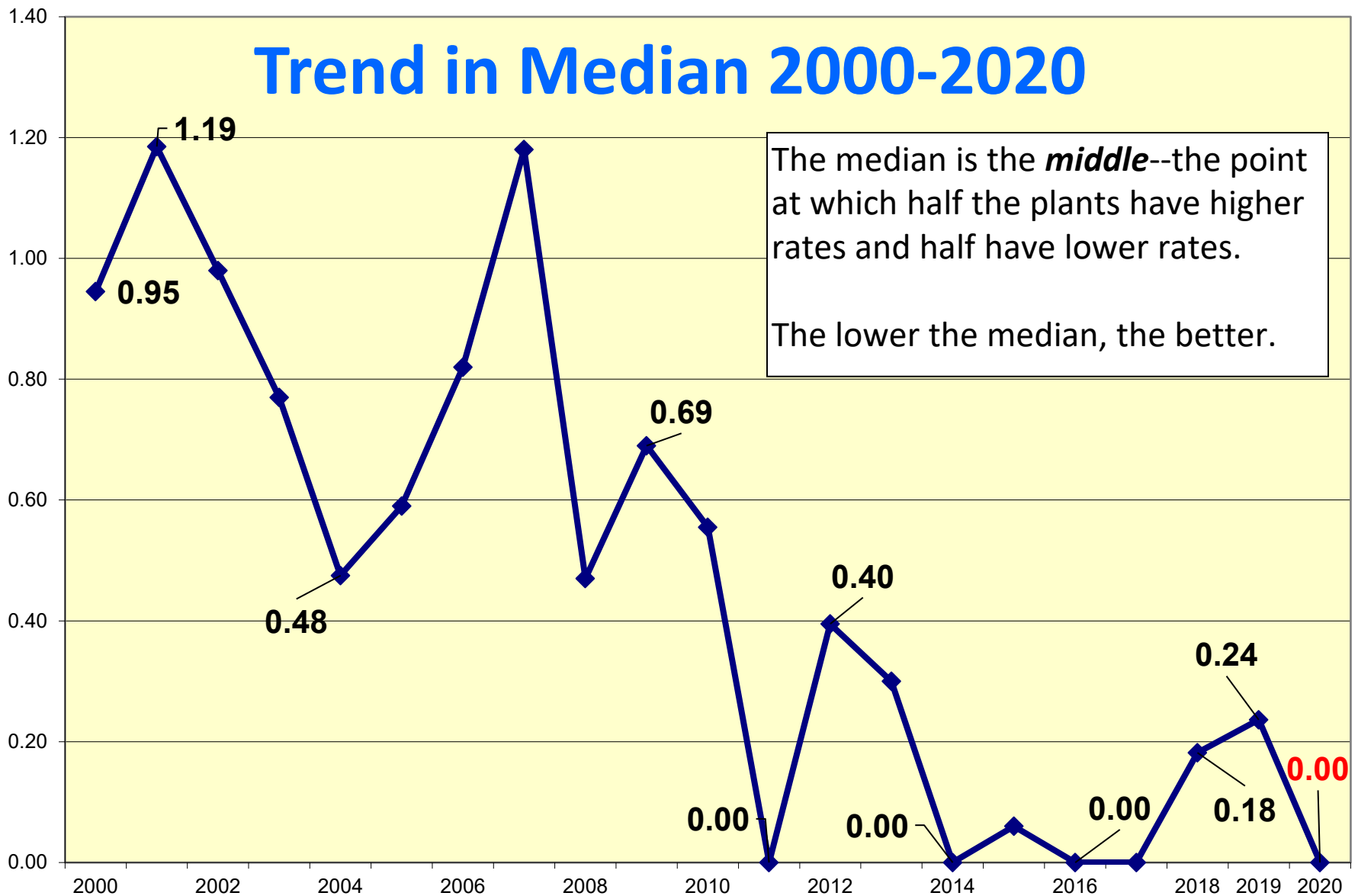
# Trend in Weighted Averages 2020



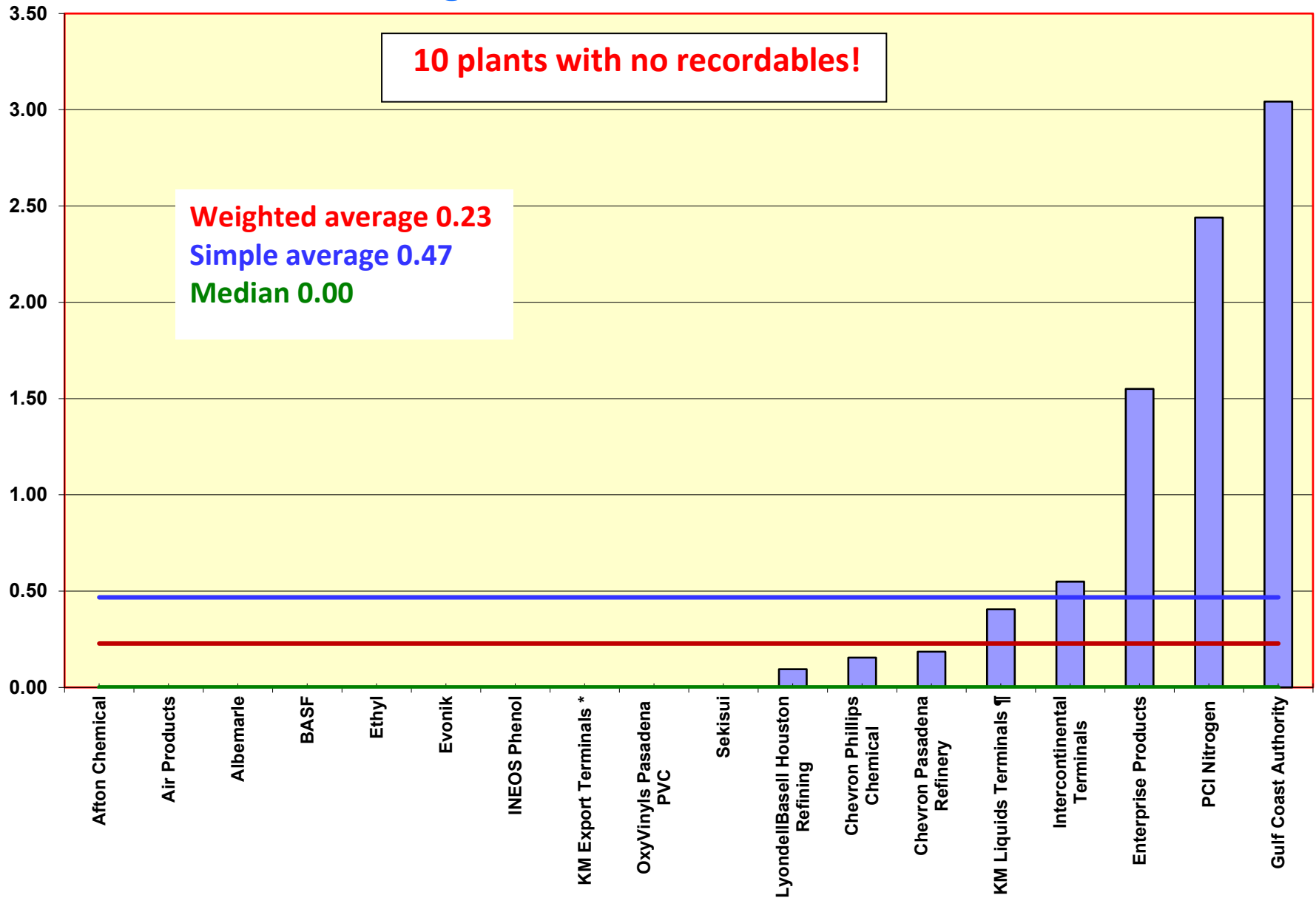
# Trend in Simple Average 2020



# Trend in Median 2000-2020

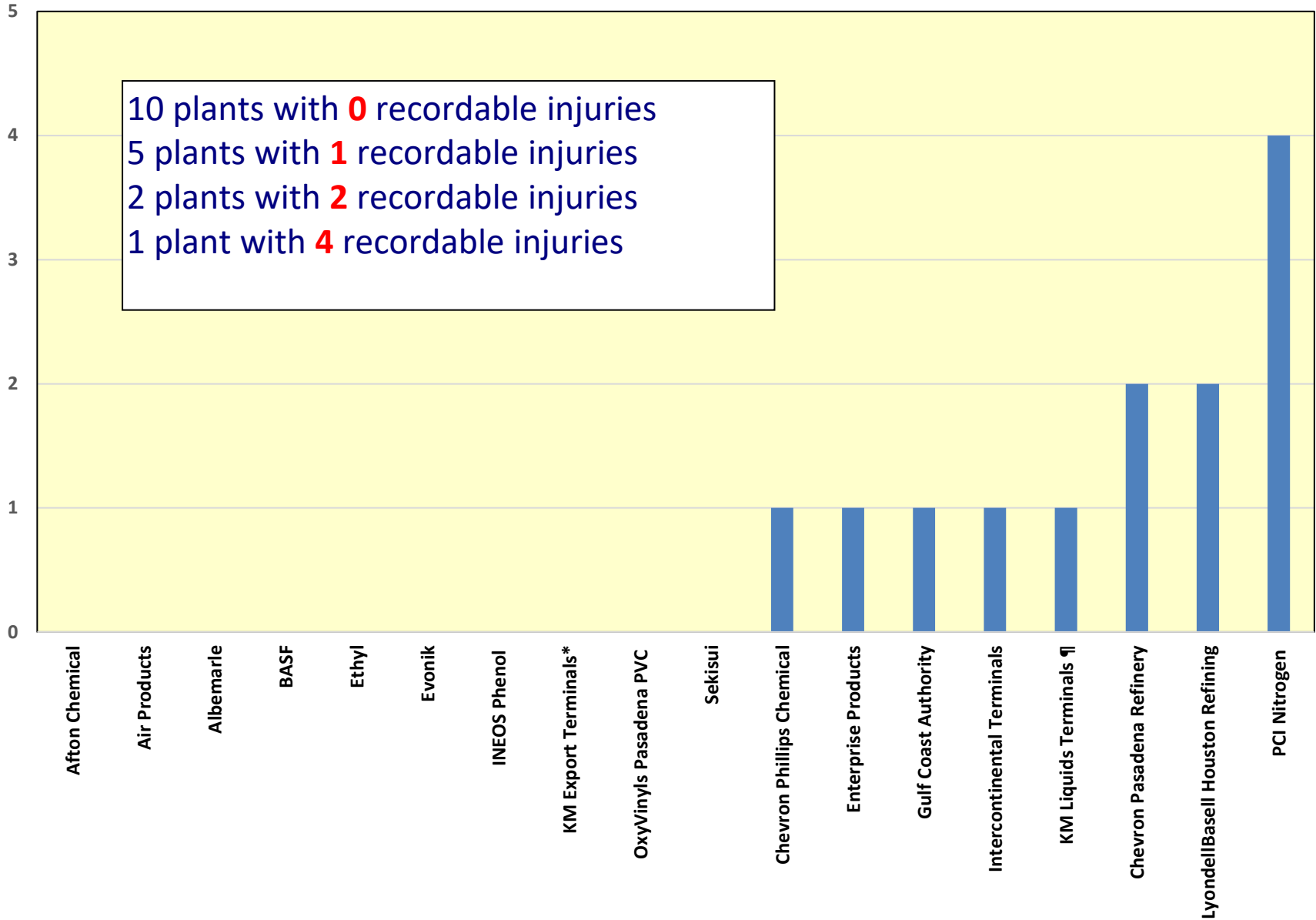


# Plant Rankings 2020 Based on Recordable *Rates*

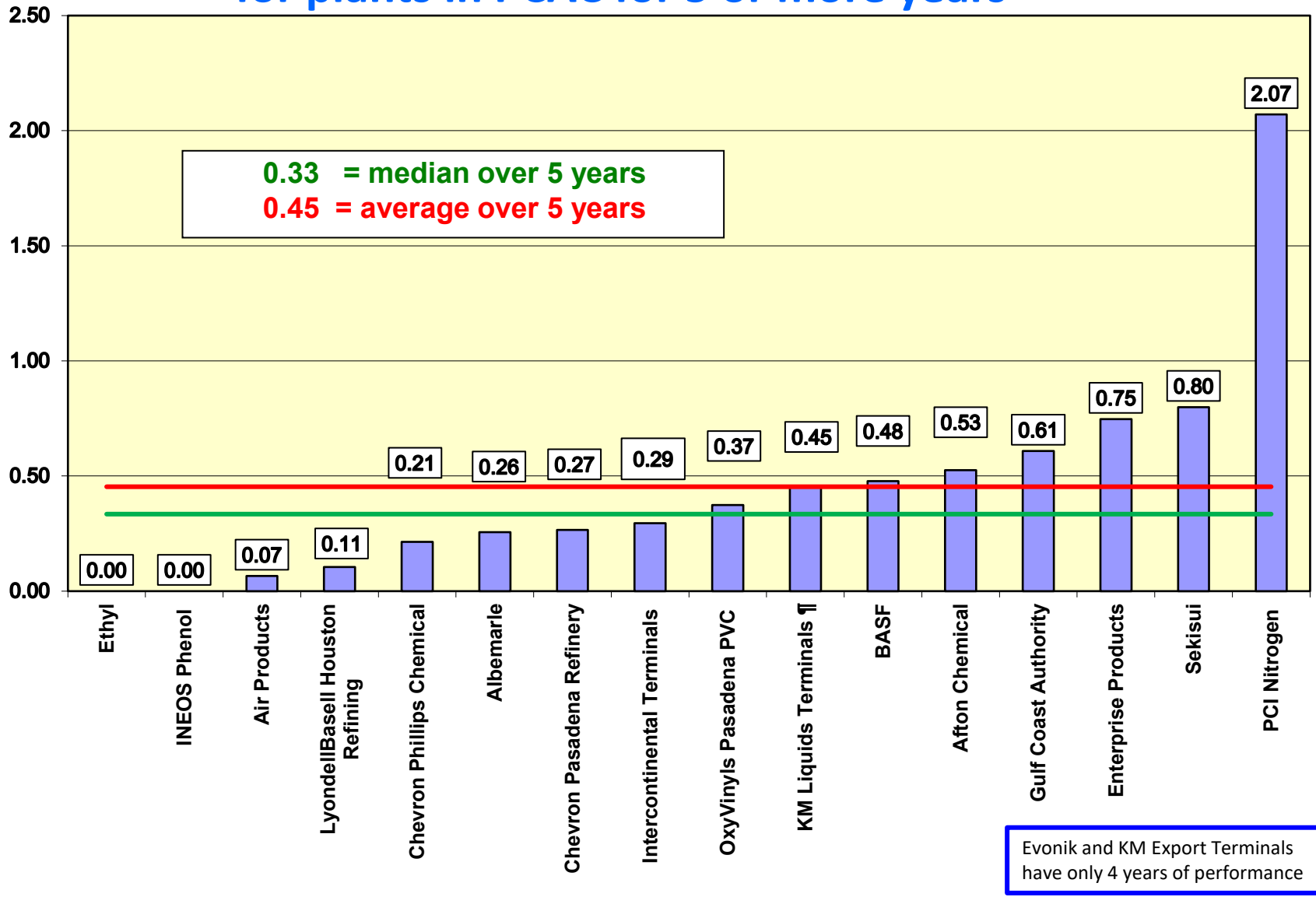




# Plant Rankings by *Number* of Recordables- 2020



# 5-Year Plant Ranking by Average Recordable *Rates* 2016-2020 for plants in PCAC for 5 or more years



# SEVERITY

fatalities, lost-time, restricted duty,  
others

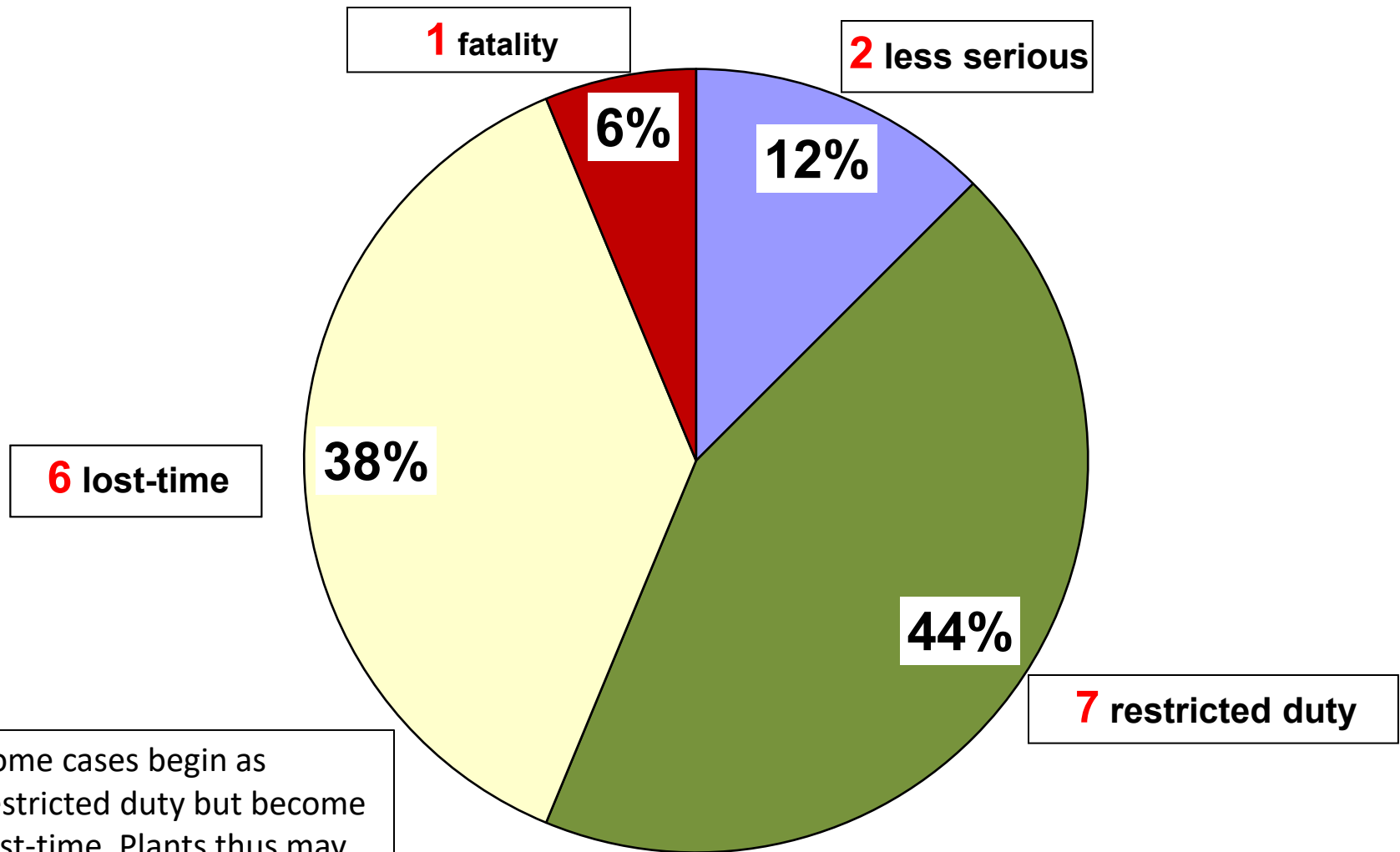
# Severity varies

- ❑ **1 fatality in PCAC plants in 2020** (Zero in 2019)
- ❑ **Lost time** (unable to come to work)
  - ❖ Such as steam burn to head and torso
- ❑ **Restricted duty** (at work but unable to do usual job)
  - ❖ Such as fractured fingers
- ❑ **Others with doctor's intervention**

*3 fewer restricted duty cases than in 2019– 7 vs 10  
2 fewer lost-time cases than in 2019– 6 vs 8*

*85% (11 of 13 total) were either lost time or restricted duty*

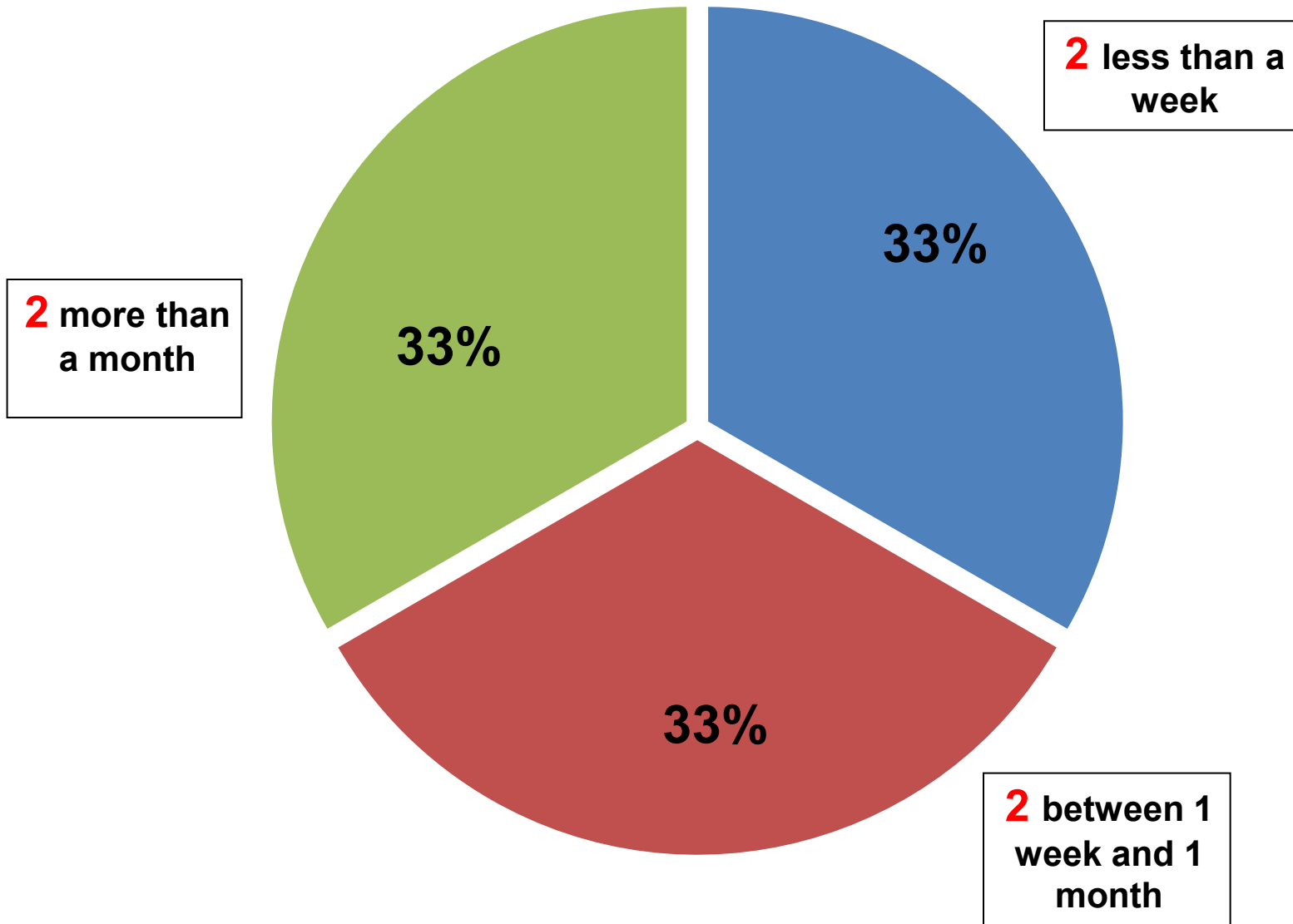
# Severity of Injury or Illness in 2020



Some cases begin as restricted duty but become lost-time. Plants thus may show one injury in both categories.

# Severity of the 6 Lost-Time Cases in 2020

based on number of days away from work



# INJURY CAUSES AND TYPES

most common, causes, types,  
chemical exposure

# Most common recordables in 2020

**Machine crushing or entanglement or being pinched resulted in:**

- ❑ **Finger fracture**

**Falling objects or being struck by something resulted in:**

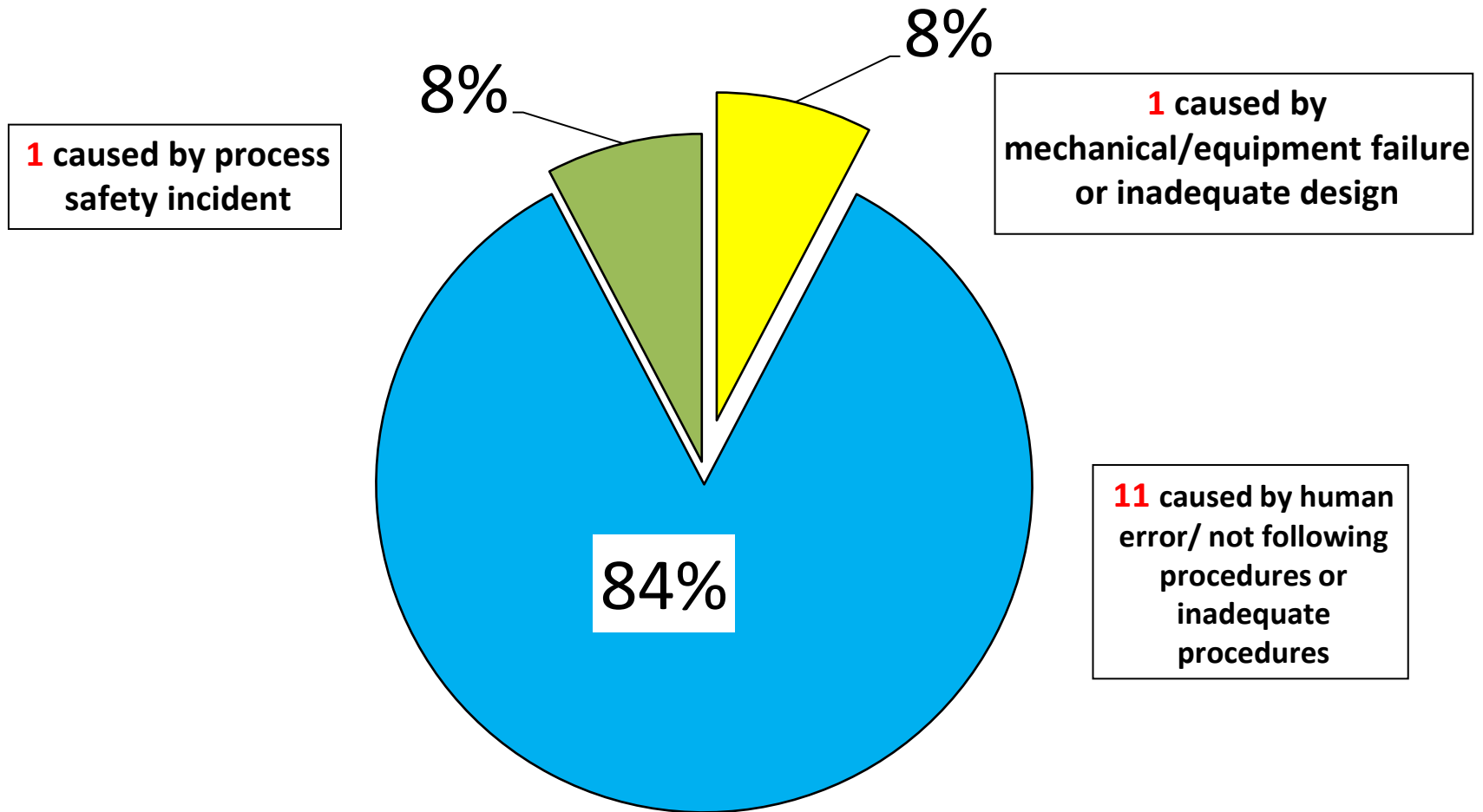
- ❑ **Finger dislocation**

**Improper use of tool (tool slipping) resulted in:**

- ❑ **Finger fracture**
- ❑ **Laceration**

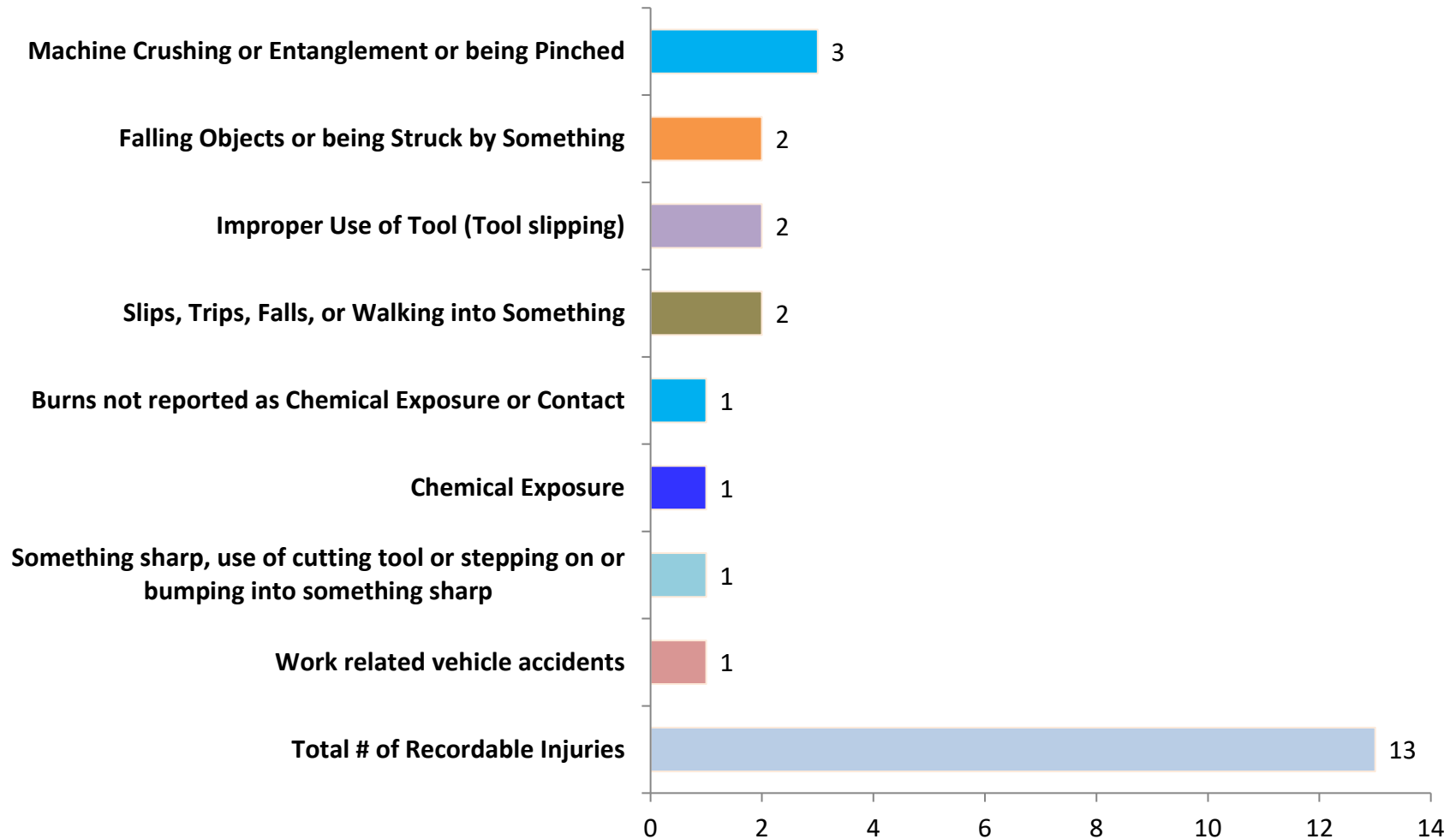


# Cause of the 13 Recordable Injuries in 2020

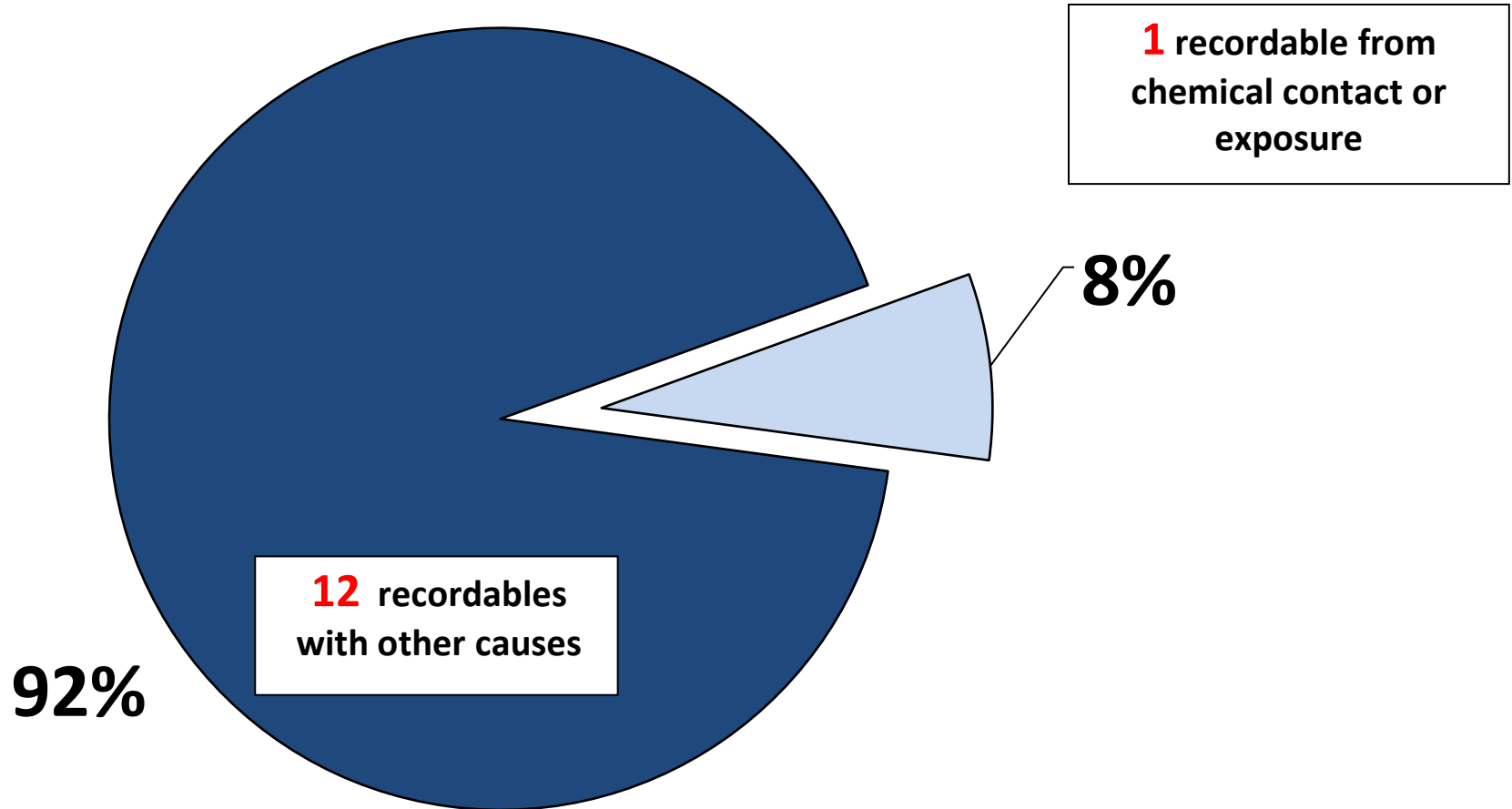


# 2020 Recordable Injuries in *PCAC* Plants

## Resulted from



# Recordables from Chemical Contact or Exposure in 2020



# Chemical Exposure or Contact

## PCI Nitrogen

Acid Burn to the face (July 31, 2020)

# COMPARISONS

- ❖ employee versus contractors
- ❖ to similar manufacturing, chemical manufacturing, other kinds of workplace
- ❖ to other CACs
- ❖ participation in OSHA VPP

# Employees -- 2020 -- Contractors

6.3 million work hours

10 of 18 plants with 0.00s

0.35 weighted avg.

0.00 median (middle)

3.43 highest rate (1 injury)

5.2 million work hours

14 of 16 plants with 0.00s\*

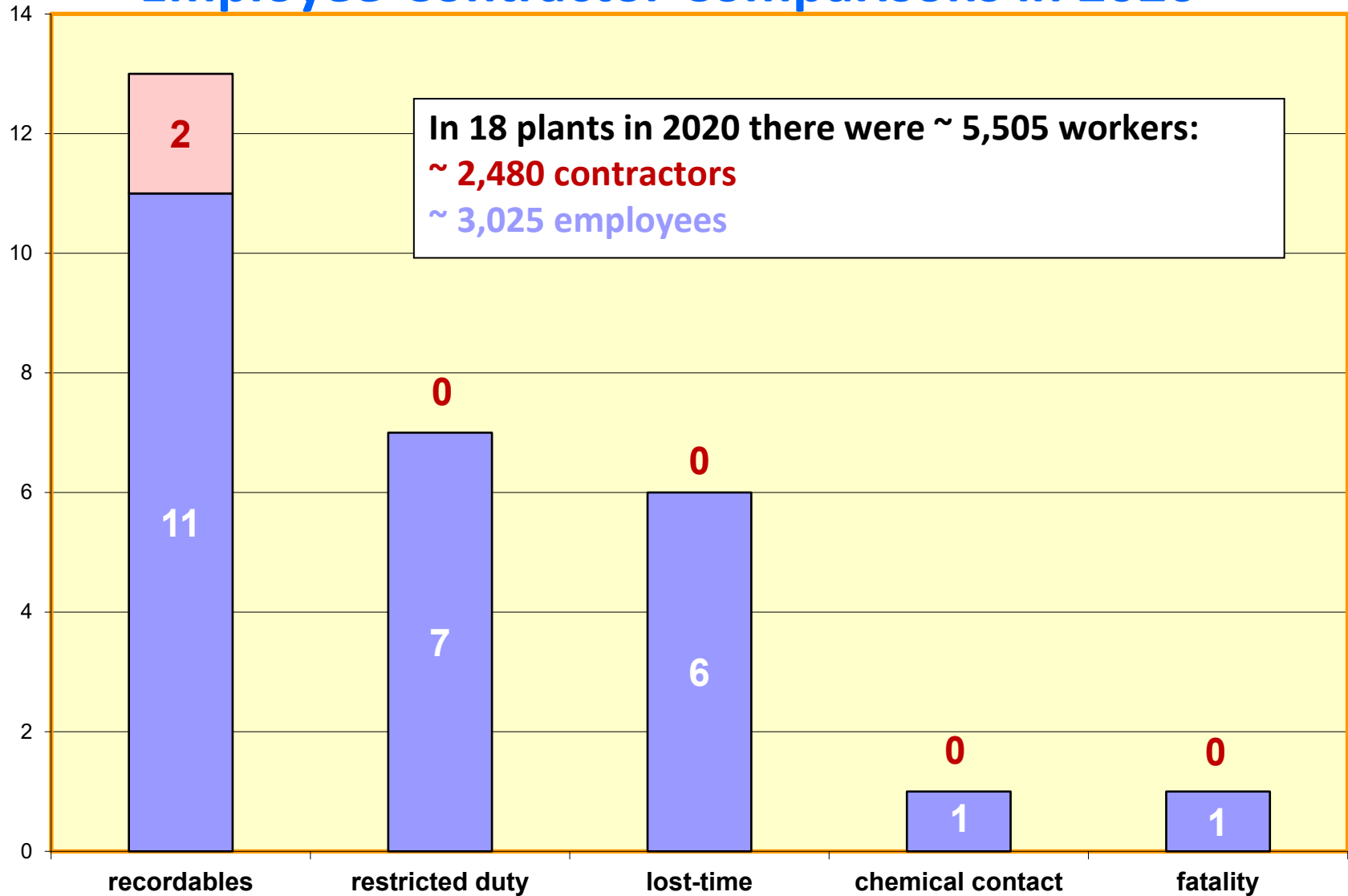
0.08 weighted avg.

0.00 median (middle)

0.15 highest rate (1 injury)

\*KM Export Terminal and KM Liquids  
Terminal did not report contractor hours

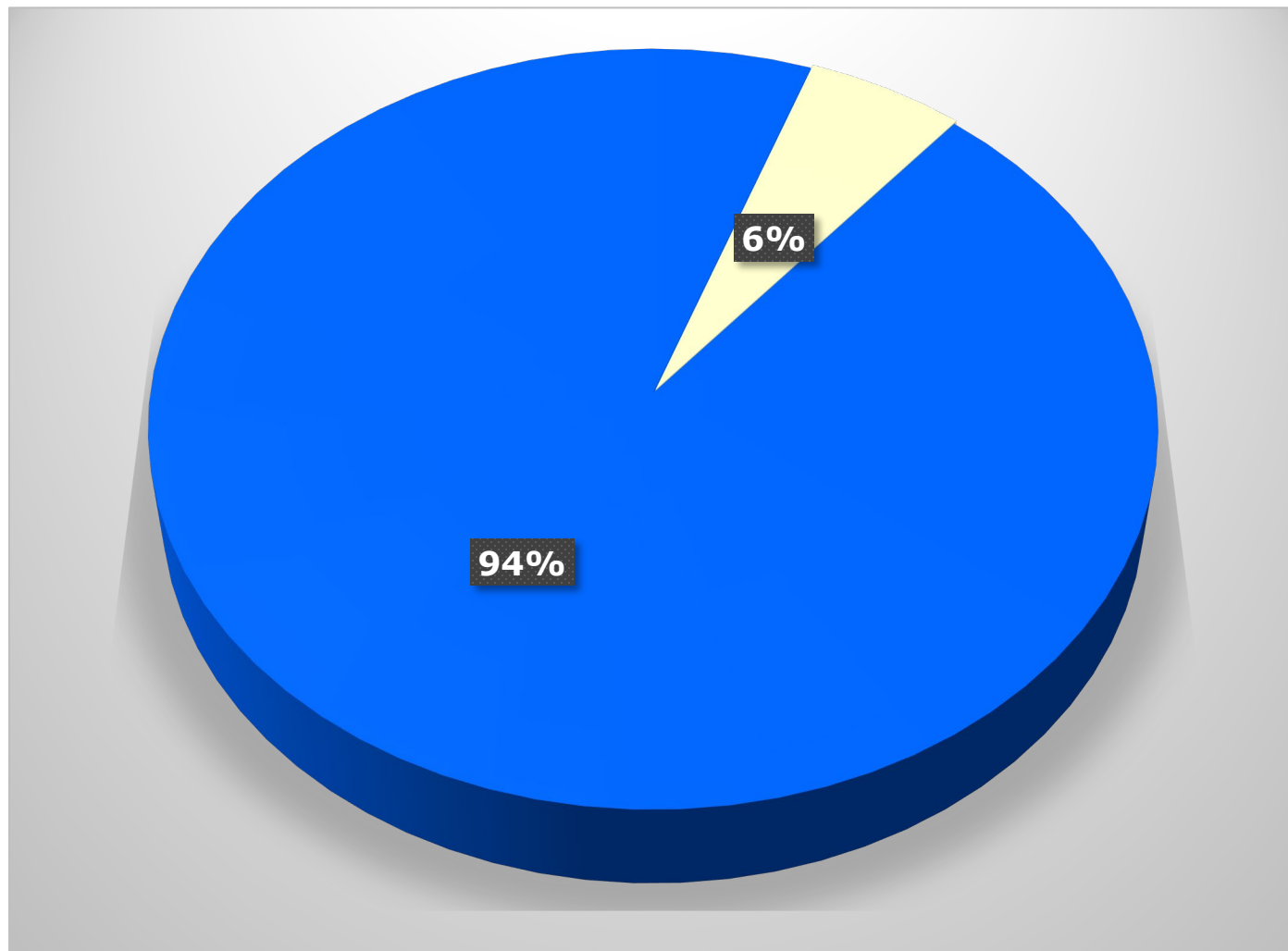
# Employee-Contractor Comparisons in 2020



Some cases begin as restricted duty but become lost-time. Plants thus may show one injury in both categories.

# National Industry Comparisons

**17 of 18**  
CAC Plants  
(94%) had  
recordable  
rates  
better  
than  
companies  
nationwide  
in their  
NAICS  
Code

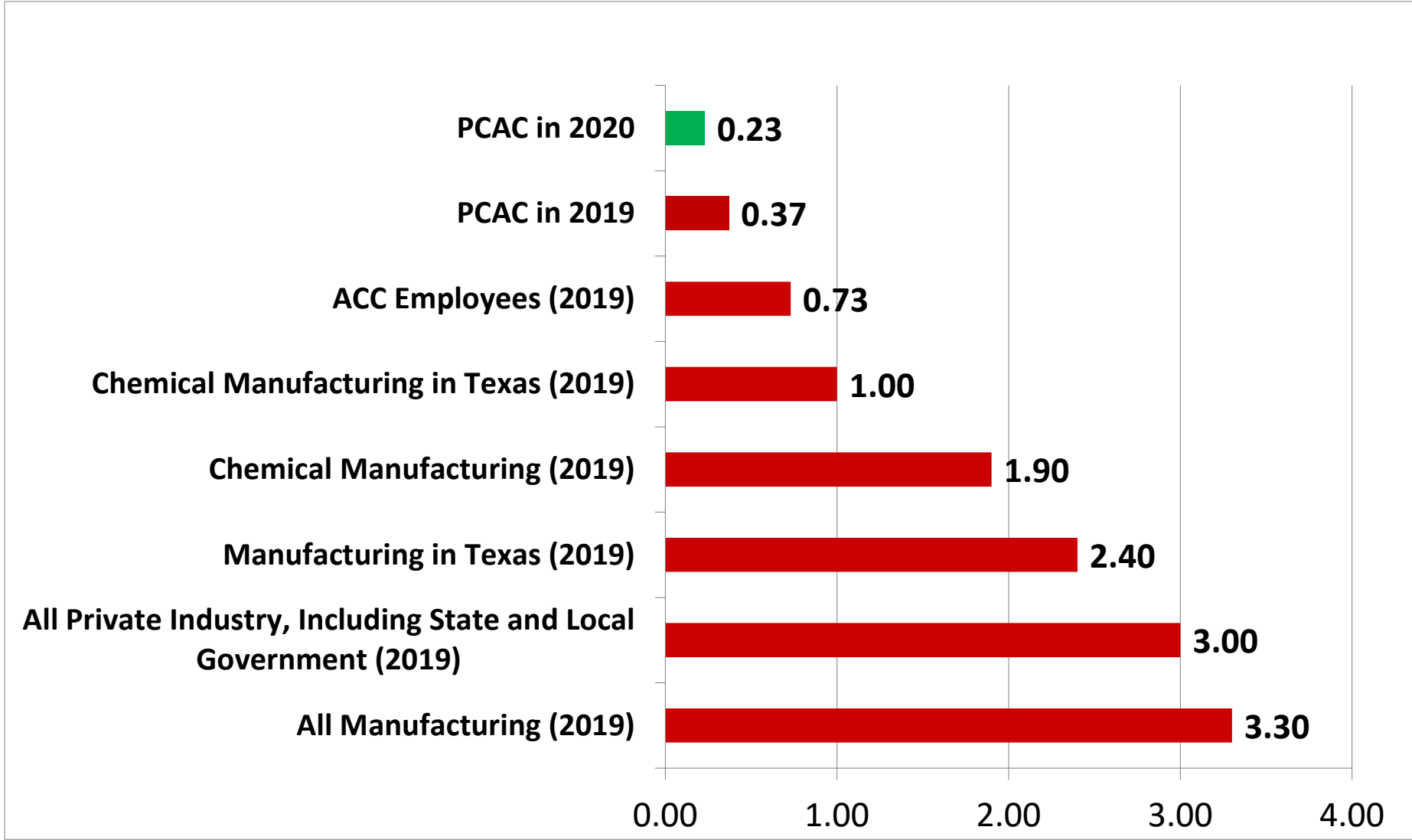




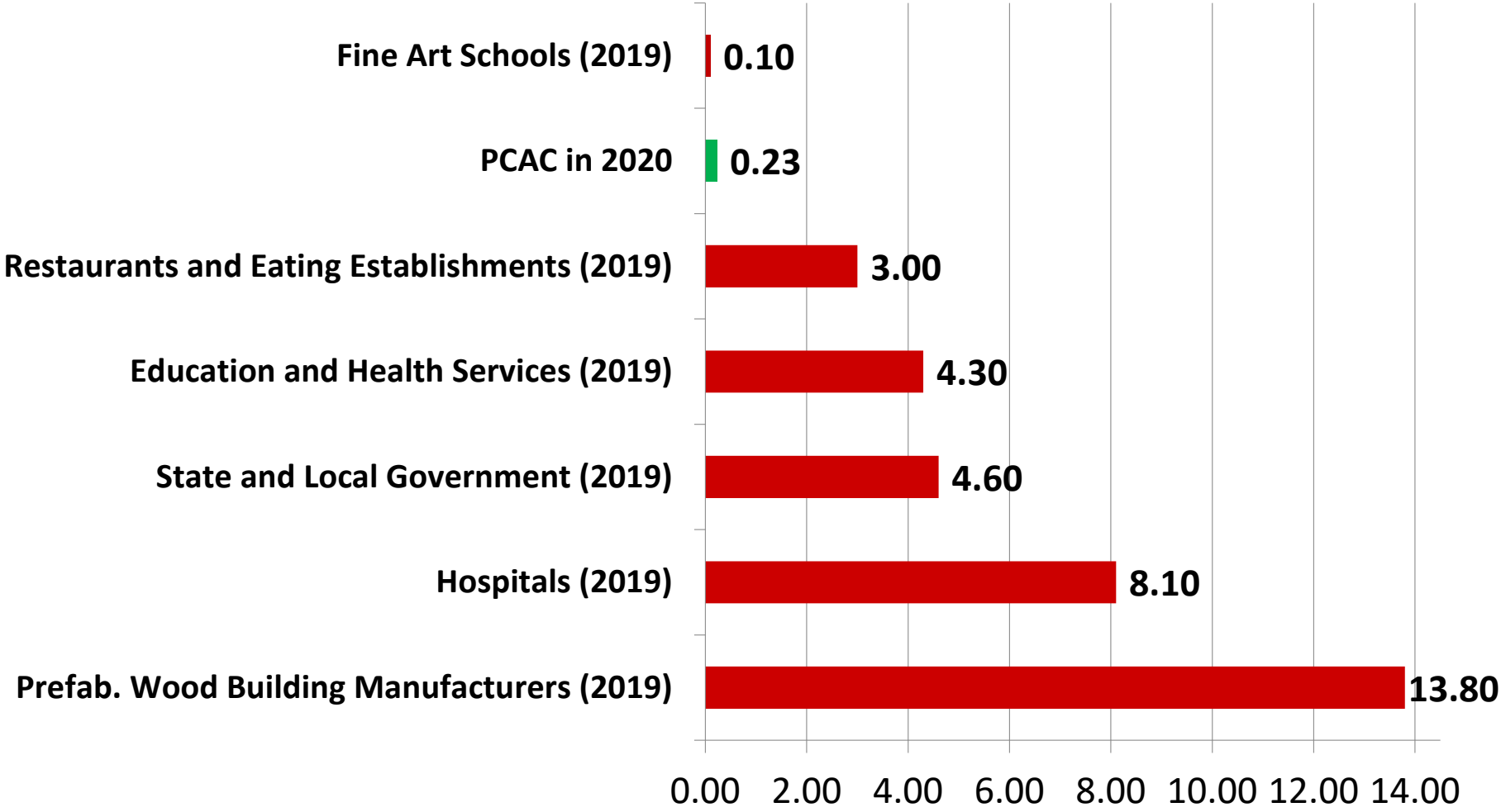
# Comparing CAC Plants to Similar Kinds of Industry

2019 NATIONAL DATA	NAICS CODE	INDUSTRY GROUP	2020 Total Plant Recordable Rate	2019 NAICS group rate
Gulf Coast Authority	221320	Sewage Treatment Facilities	3.04	5.30
Chevron Pasadena Refinery	324110	Petroleum Refineries	0.18	0.40
LyondellBasell Houston Refining	324110	Petroleum Refineries	0.09	
INEOS Phenol	325110	Petrochemical Manufacturing	0.00	1.80
Air Products	325120	Industrial Gas Manufacturing	0.00	1.50
Afton Chemical	325199	All Other Basic Organic Chemicals	0.00	2.10
Albemarle	325199	Industrial Organic Chemicals	0.00	
BASF	325199	All Other Basic Organic Chemical Manufacturing	0.00	
Ethyl	325199	All Other Basic Organic Chemicals	0.00	
Evonik	325199	All Other Basic Organic Chemicals	0.00	
Chevron Phillips Chemical	325211	Plastics Material and Resin Manufacturing	0.15	
OxyVinyls Pasadena PVC	325211	Plastics Material and Resin Manufacturing	0.00	1.90
Sekisui	325211	Plastics Material and Resin Manufacturing	0.00	
<b>PCI Nitrogen</b>	<b>325312</b>	<b>Fertilizer Manufacturing</b>	<b>2.44</b>	0.90
Enterprise Products	424710	Petroleum Bulk and Terminals	1.55	2.00
Intercontinental Terminals	49319	Bulk Liquid Storage Facility	0.55	2.80
KM Export Terminal *	493190	Other Warehousing and Storage	0.00	
KM Liquids Terminal ¶	493190	Other Warehousing and Storage	0.41	

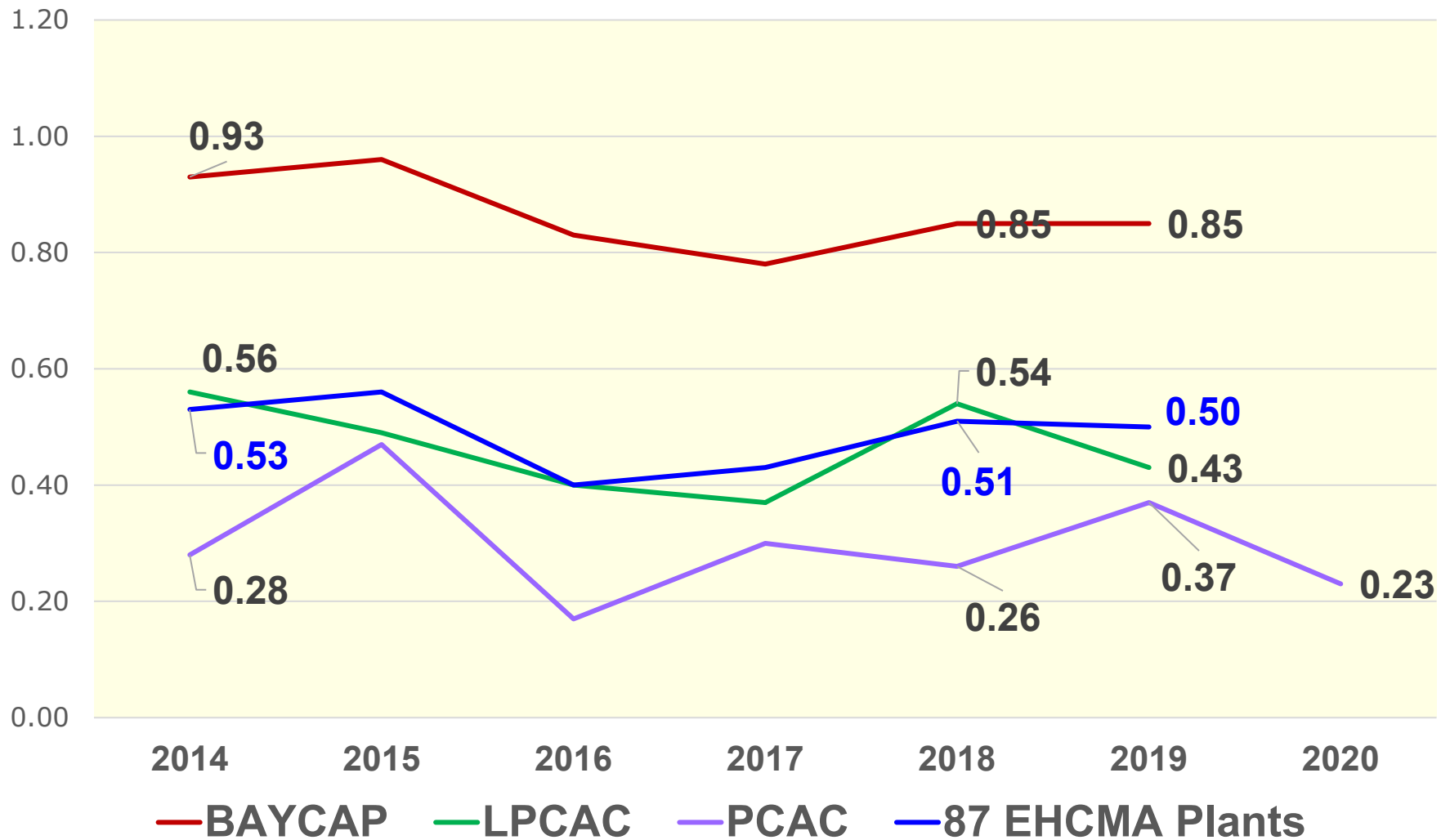
# Comparisons on Weighted Recordable Rates



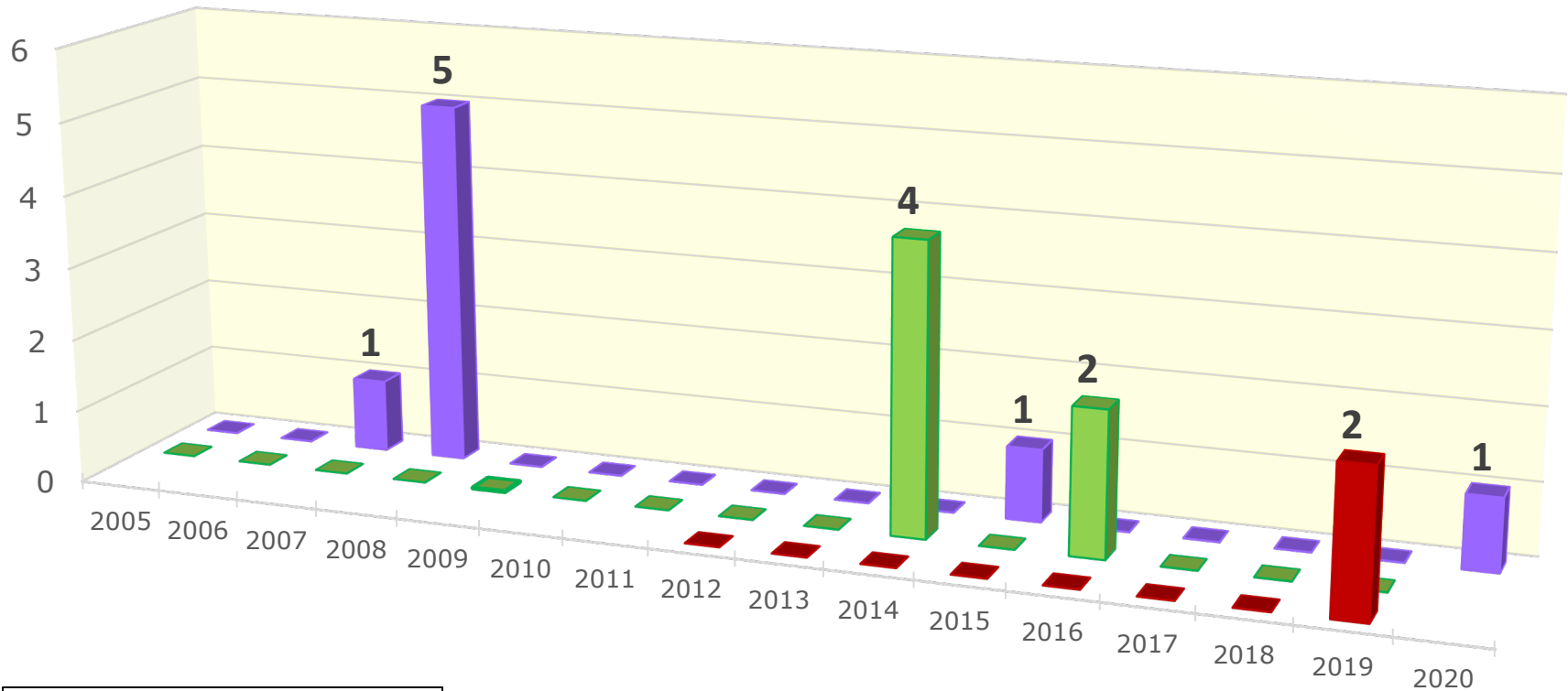
# Comparisons on Weighted Recordable Rates



# CAC Weighted Average Comparison 2014-2020



# CAC Fatality Comparison 2005-2020



LPCAC and PCAC started asking for fatality data for 2005.

BAYCAP started its safety report in 2012

■ BAYCAP ■ LPCAC ■ PCAC

# Comparisons of employees & contractors

ACC, BAYCAP, and LPCAC Data from 2019–PCAC Data from 2020

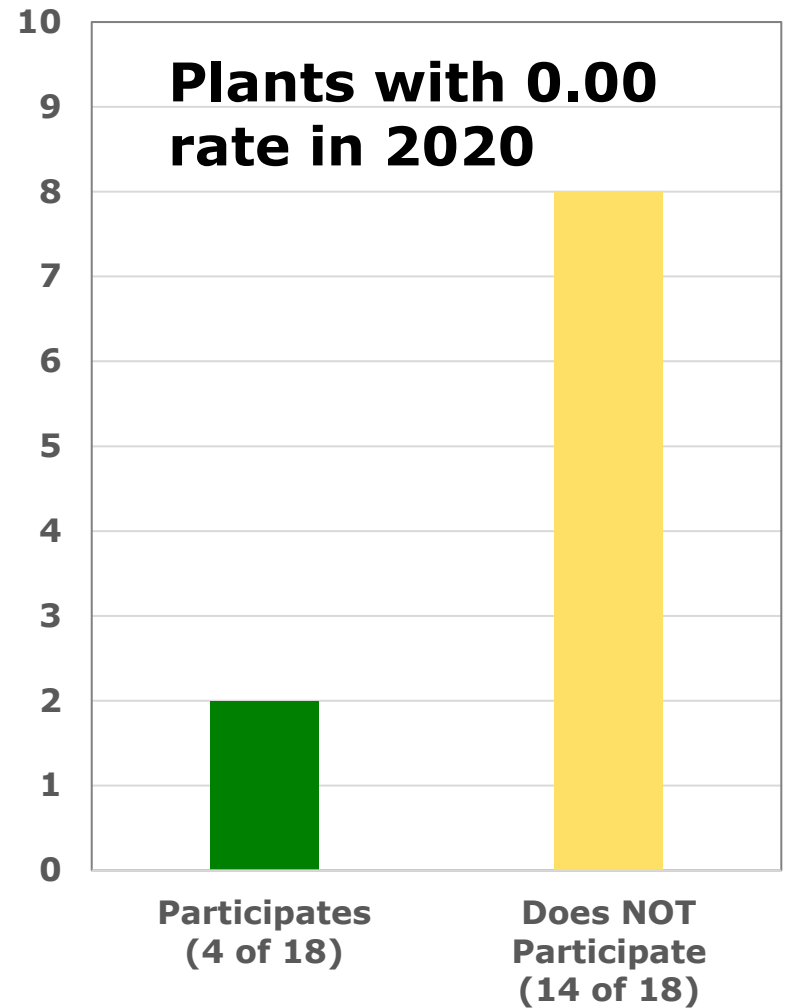
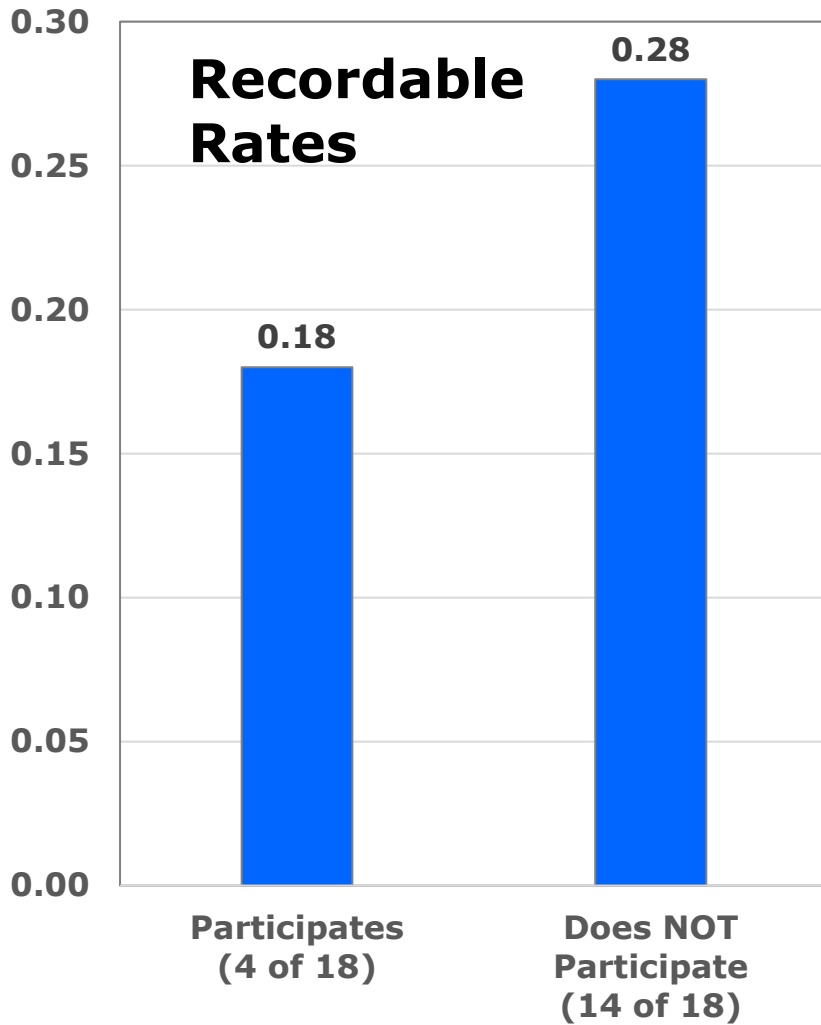
## Employees

- 1.15** BAYCAP plant *employees*
- 0.73** American Chemistry Council (ACC) member-company *employees*
- 0.56** LPCAC plant *employees*
- 0.35** PCAC plant *employees*

## Contractors

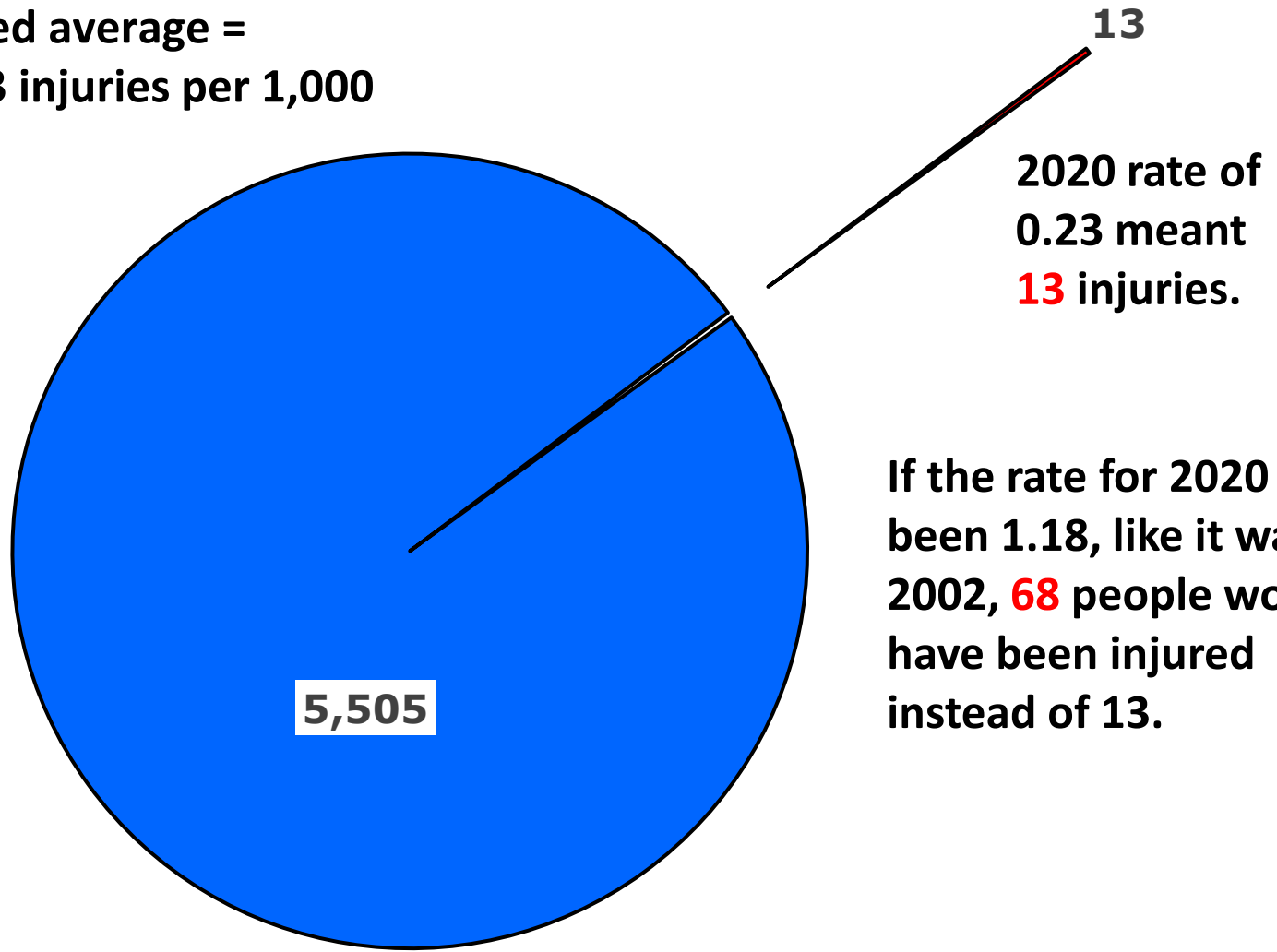
- 0.35** BAYCAP plant *contractors*
- 0.27** LPCAC plant *contractors*
- 0.08** PCAC plant *contractors*

# OSHA VPP



# Safety Report Is about **People**

0.23 weighted average =  
fewer than 3 injuries per 1,000



2020 rate of  
0.23 meant  
**13** injuries.

If the rate for 2020 had  
been 1.18, like it was in  
2002, **68** people would  
have been injured  
instead of 13.

■ All CAC Workers   ■ Injured Workers



# Questions?

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