

# Pasadena Citizens' Advisory Council



## **18<sup>th</sup> Annual Worker Safety Report**

*promoting continuous improvement*  
*2000-2019*

*At each table: 2 spreadsheet files with plant-specific data,  
2 copies of slides, 2 “Highlights.”*

# 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

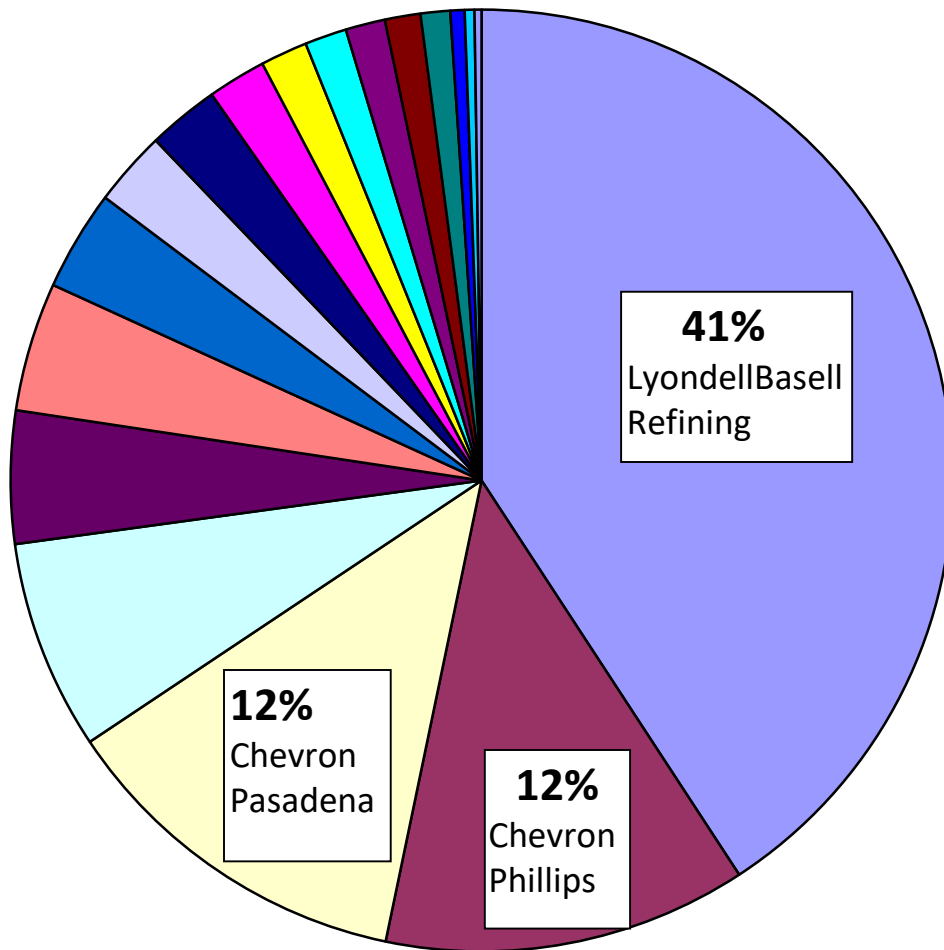
## □ ***Recordable Rate***

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

# Plant Size by Work Hours in 2019

**13,453,653 Total Work Hours**

**66% of total hours worked in 3 plants with more than 1 million work hours each**



LyondellBasell Houston Refining	5,487,319
Chevron Phillips Chemical	1,679,017
Chevron Pasadena Refinery	1,664,344
KM Liquids Terminals	969,045
Intercontinental Terminals	611,922
Albemarle	595,369
Oxy Vinyls Pasadena PVC	463,485
PCI Nitrogen #	347,213
Afton Chemical	329,876
BASF	269,593
Air Products	217,068
INEOS Phenol	193,327
Enterprise	182,853
Sekisui	164,424
Evonik	136,212
Gulf Coast Authority	65,629
KM Export Terminals *	44,752
Ethyl	32,205

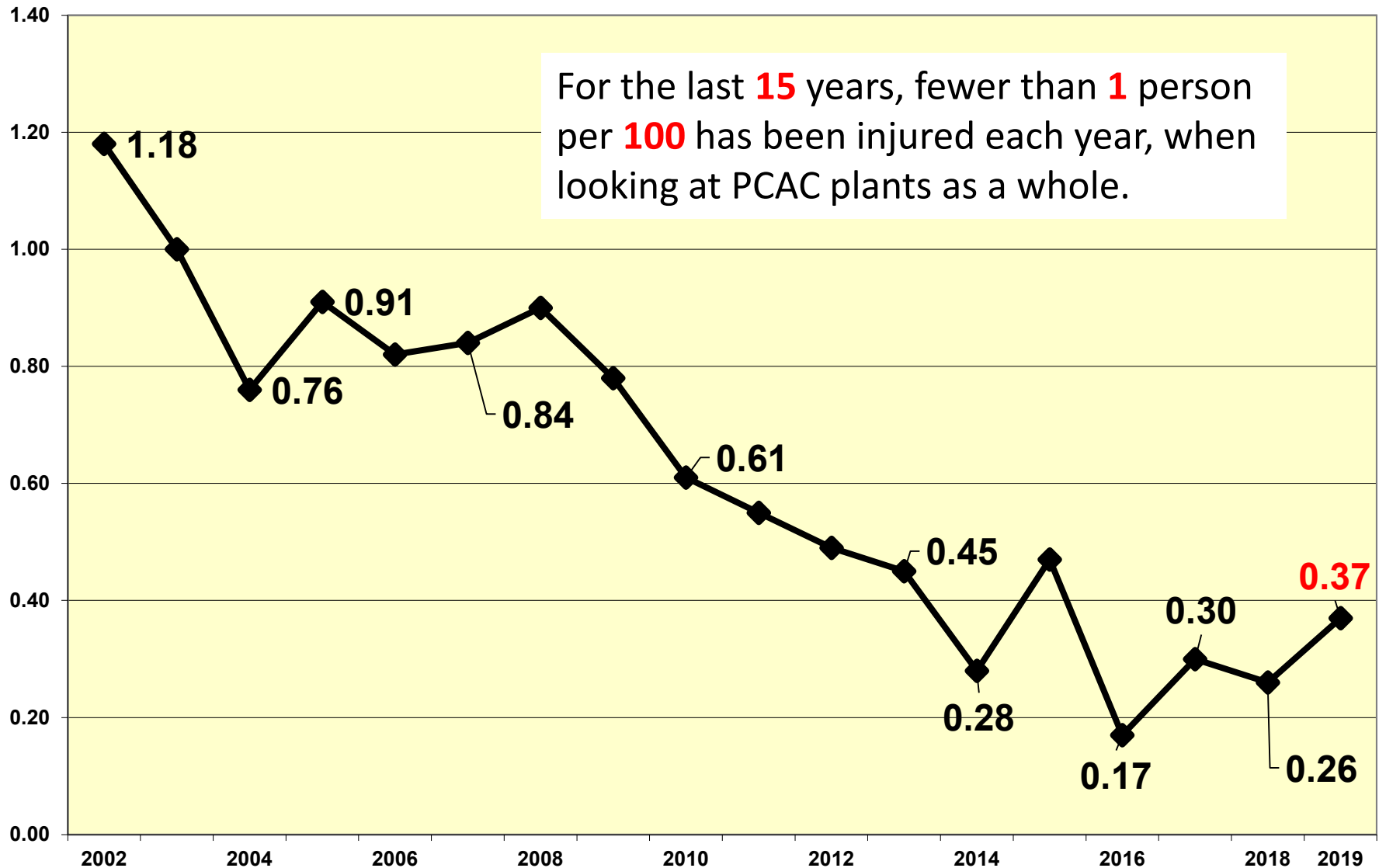
# In 2019

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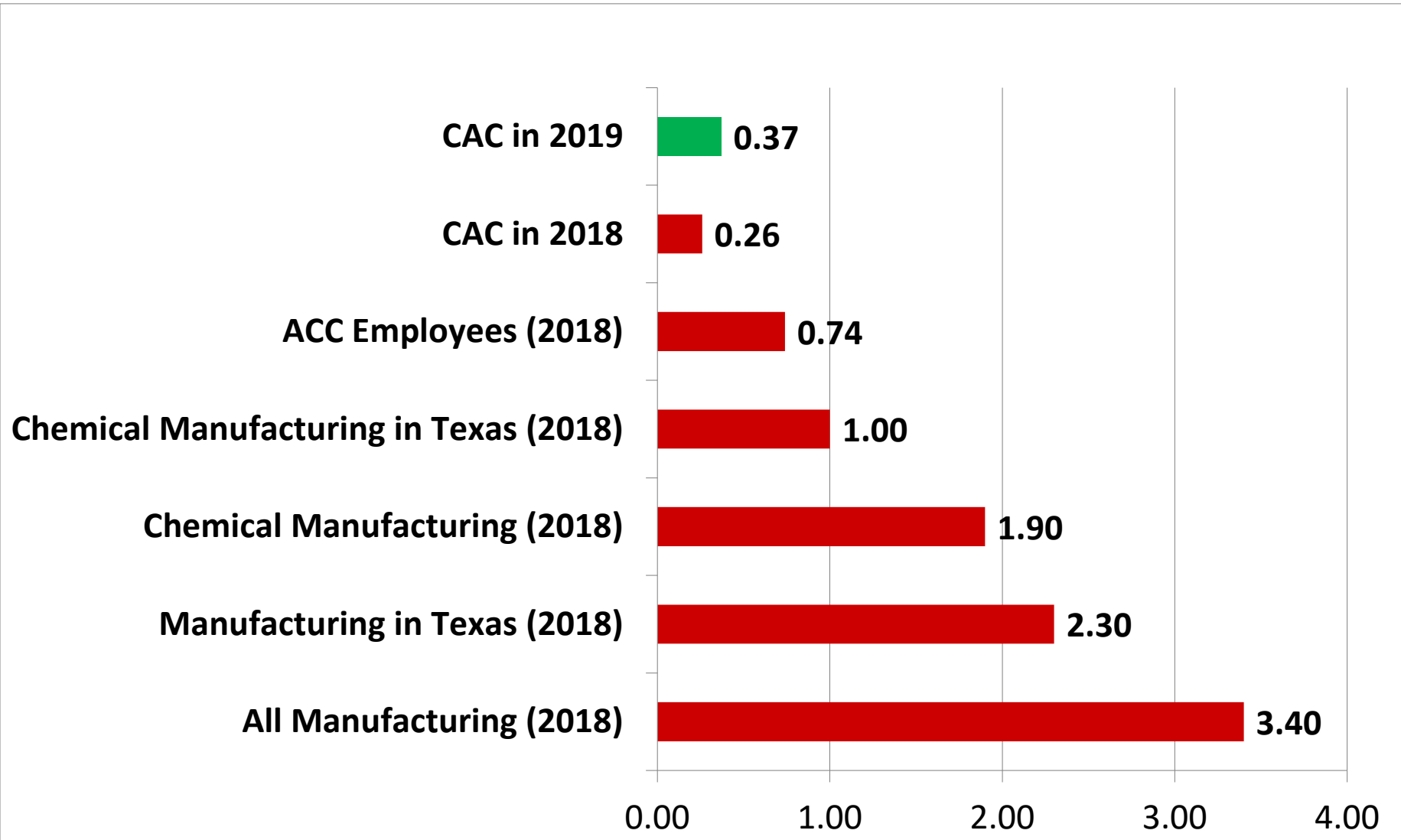
- *13,453,653 work hours*
  - *~ 2,917 employees*
  - *~ 3,551 contractors*
- *25 workplace injuries or illnesses*
- *593,284 fewer work hours than 2018*
- *7 more injuries than in 2018*

# Trend in Weighted Averages 2019

For the last **15** years, fewer than **1** person per **100** has been injured each year, when looking at PCAC plants as a whole.



# Quick Comparisons on Weighted Recordable Rates



# Zeroes are Heroes!

## 8 Superheroes with no employee or contractor recordables in 2019

1. Afton Chemicals
2. Air Products
3. Ethyl
4. Evonik
5. Gulf Coast Authority
6. INEOS Phenol
7. Kinder Morgan Export Terminals\*
8. Sekisui

\*No contractors





# Zeroes are Heroes!

10 heroes with no employee recordables in 2019



1. Afton Chemical
2. Air Products
3. Ethyl
4. Evonik
5. Gulf Coast Authority
6. INEOS Phenol
7. Intercontinental Terminals
8. Kinder Morgan Export Terminals
9. Kinder Morgan Liquids Terminal
10. Sekisui

# Zeroes are Heroes!

## 11 heroes with no contractor recordables in 2019

In 2019, KMET had no contractors  
companies in bold had employee recordables

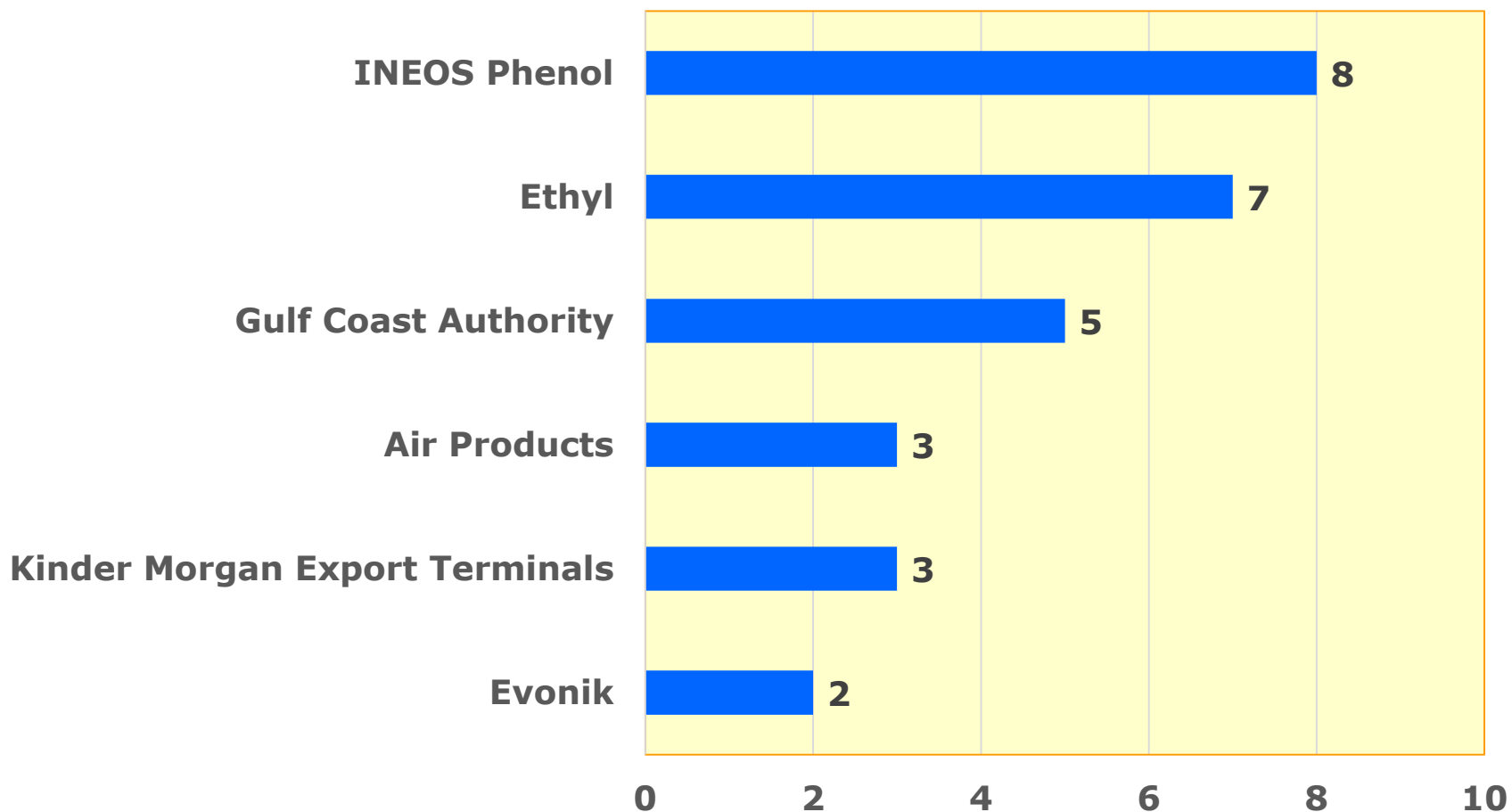
- |                                     |                                    |
|-------------------------------------|------------------------------------|
| 1. Afton Chemical                   | 7. Evonik                          |
| 2. Air Products                     | 8. Gulf Coast Authority            |
| 3. BASF                             | 9. INEOS Phenol                    |
| 4. <b>Chevron Pasadena Refinery</b> | <b>10. Oxy Vinyls Pasadena PVC</b> |
| 5. <b>Enterprise Products</b>       | 11. Sekisui                        |
| 6. Ethyl                            |                                    |



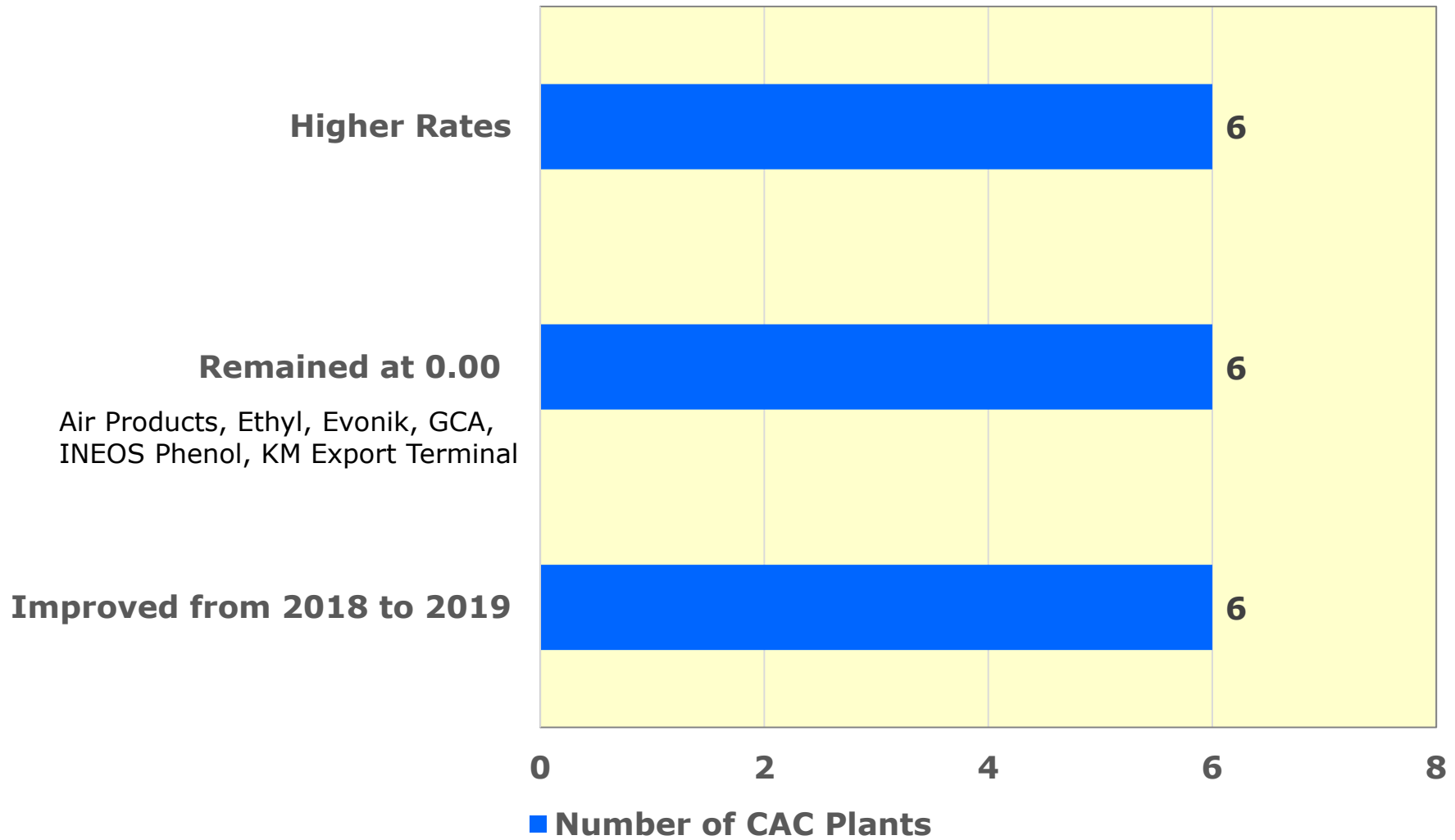
# Zeroes are Heroes!

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

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# Comparison to Prior Years



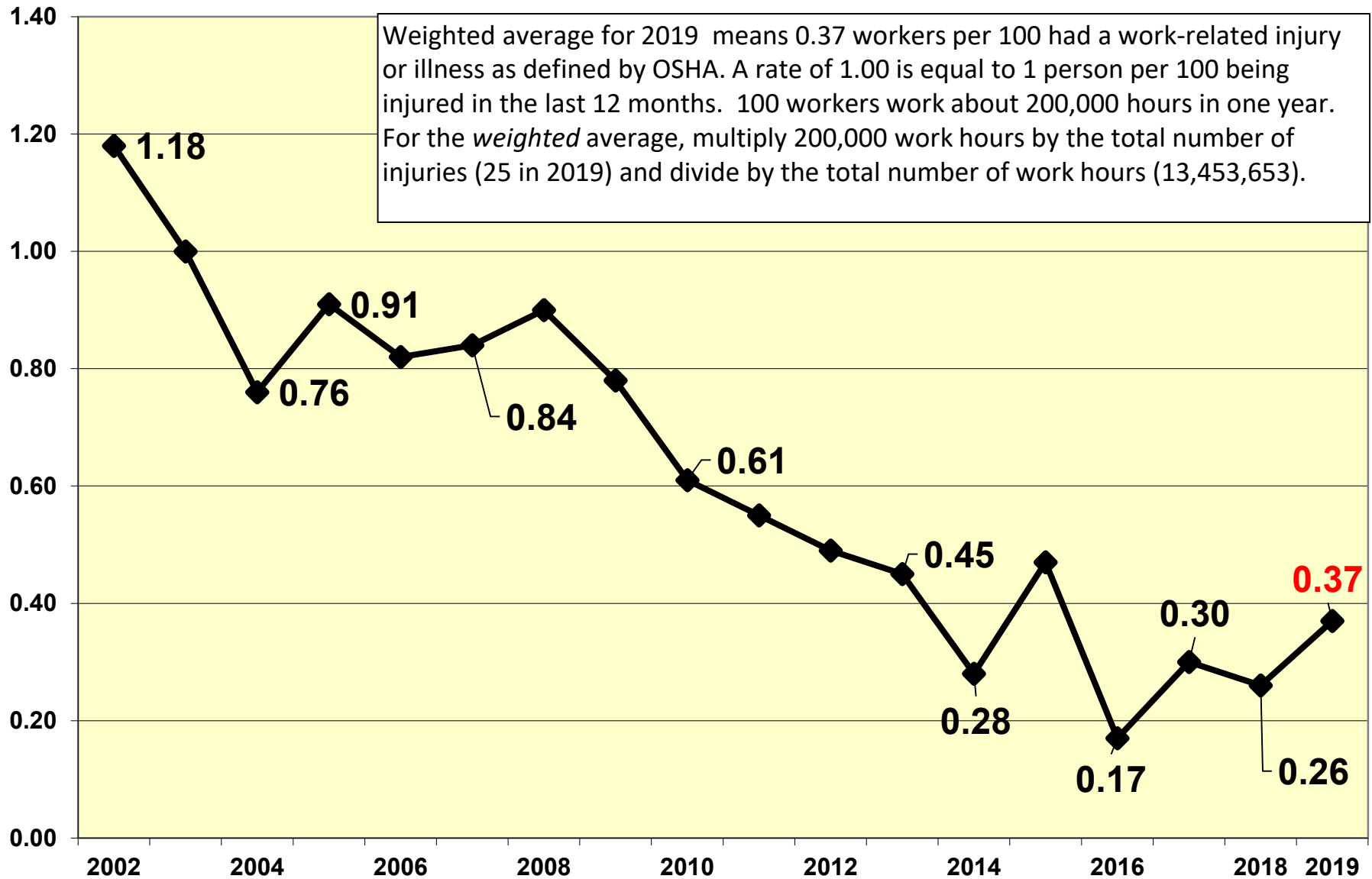
# Voluntary third-party audits with worker safety focus

- Two main programs
  - OSHA Voluntary Protection Program (VPP)
  - Responsible Care Management Systems audits
  
- 2 VPP plants: Oxy Vinyls (1991), Chevron Phillips (2015)
  
- ITC working toward OSHA VPP and Challenge
  
- Some plants take part in other programs. All do audits of some sort.

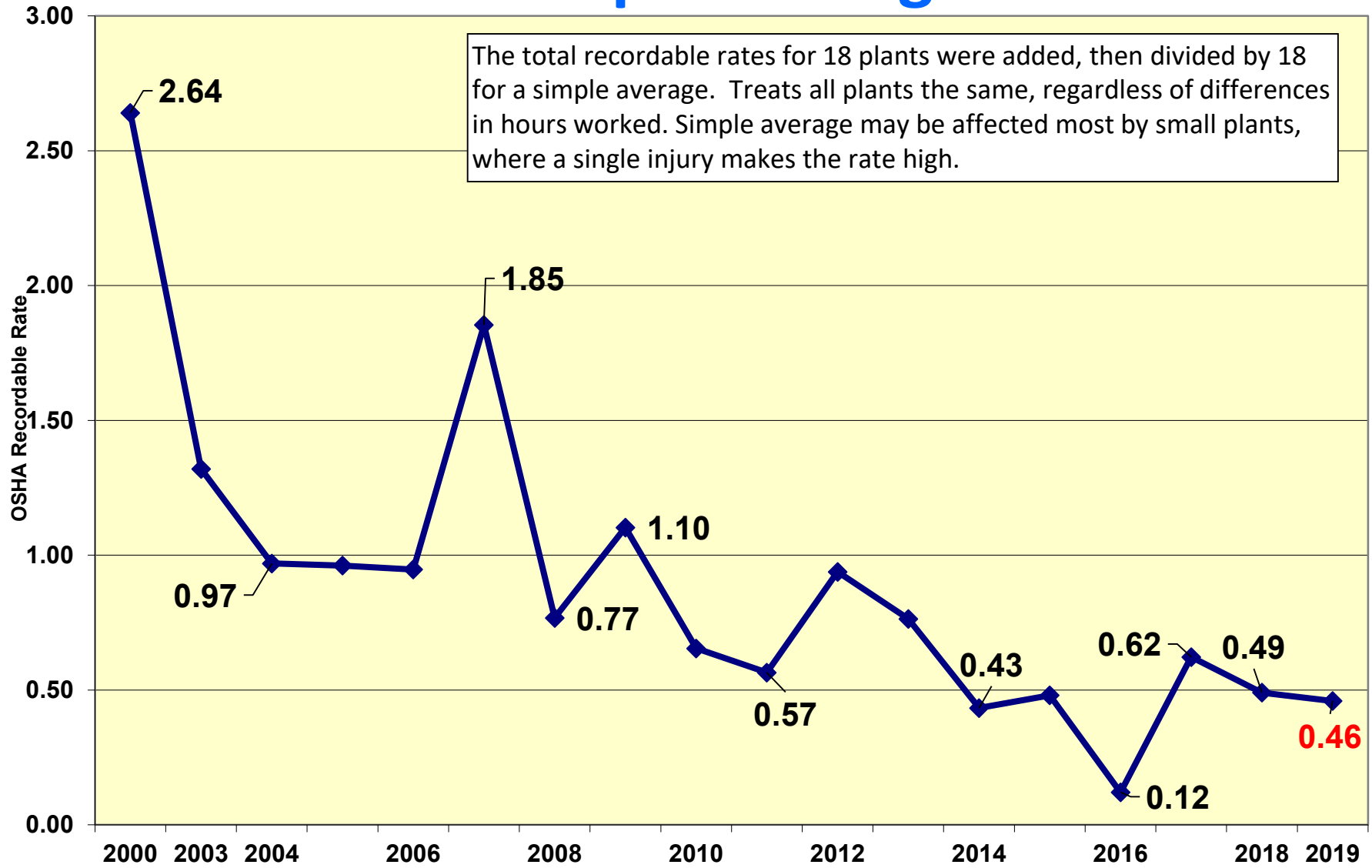
# STATISTICS

averages, median, range

# Trend in Weighted Averages 2019

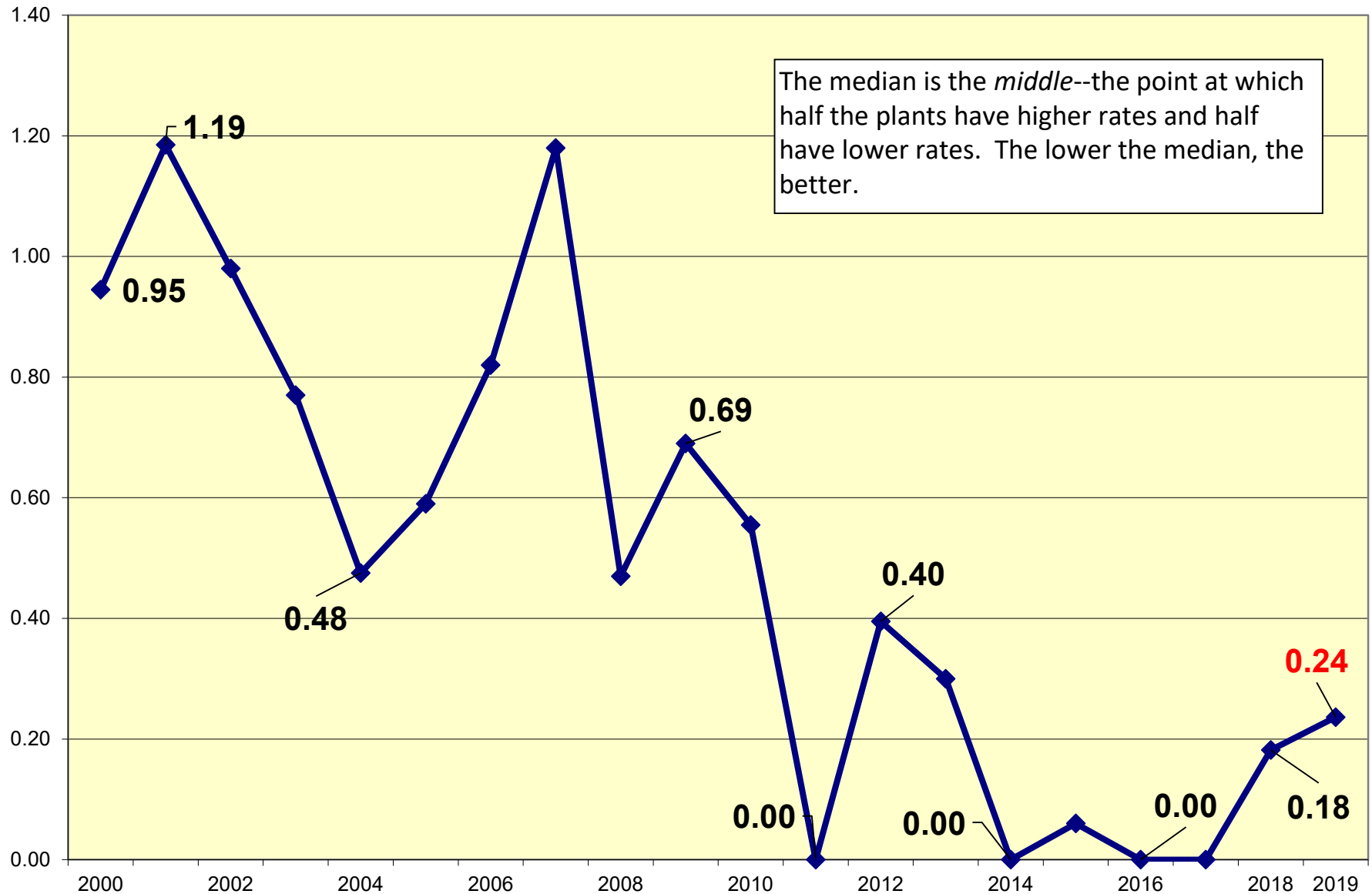


# Trend in Simple Average 2019

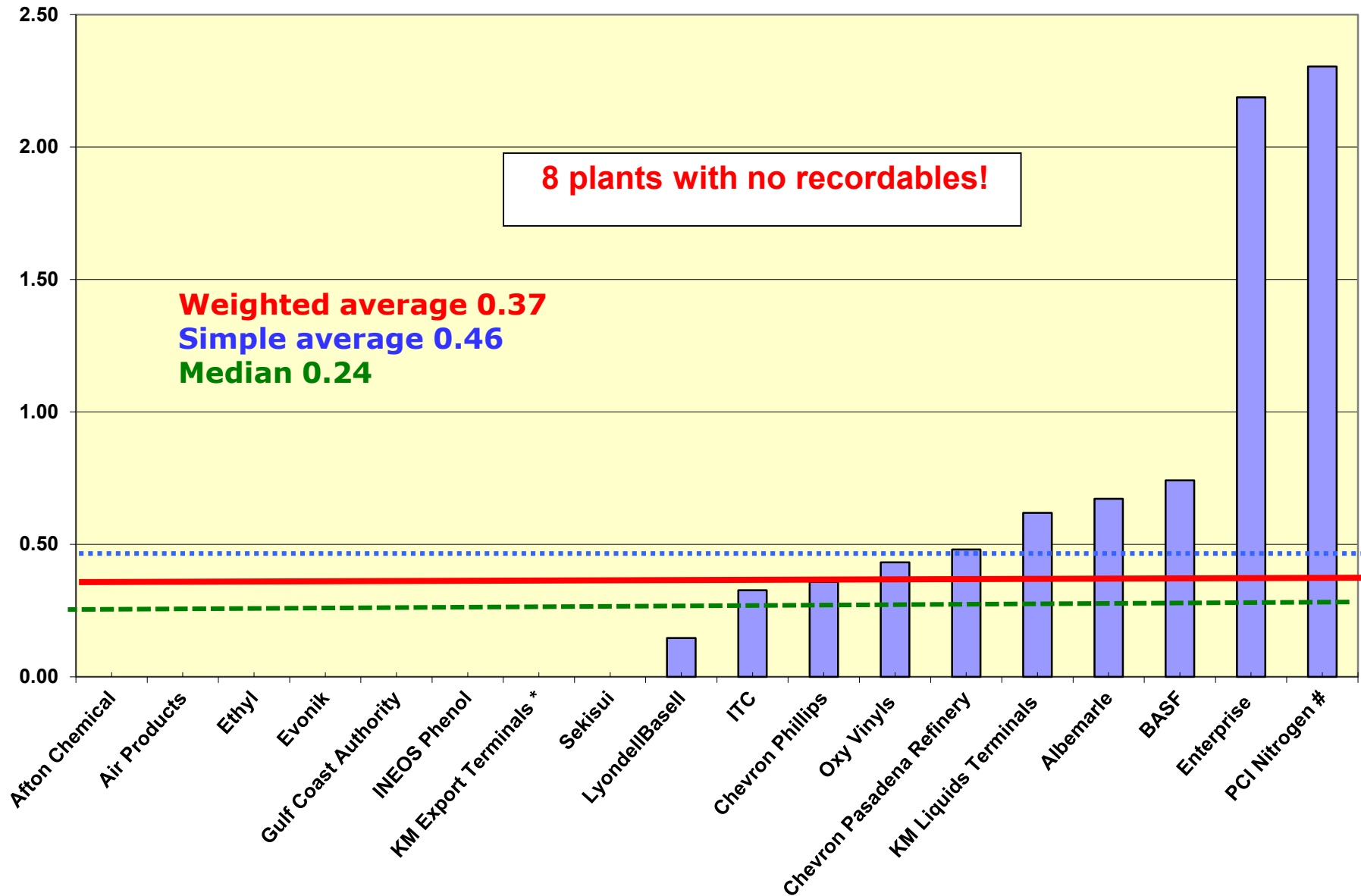




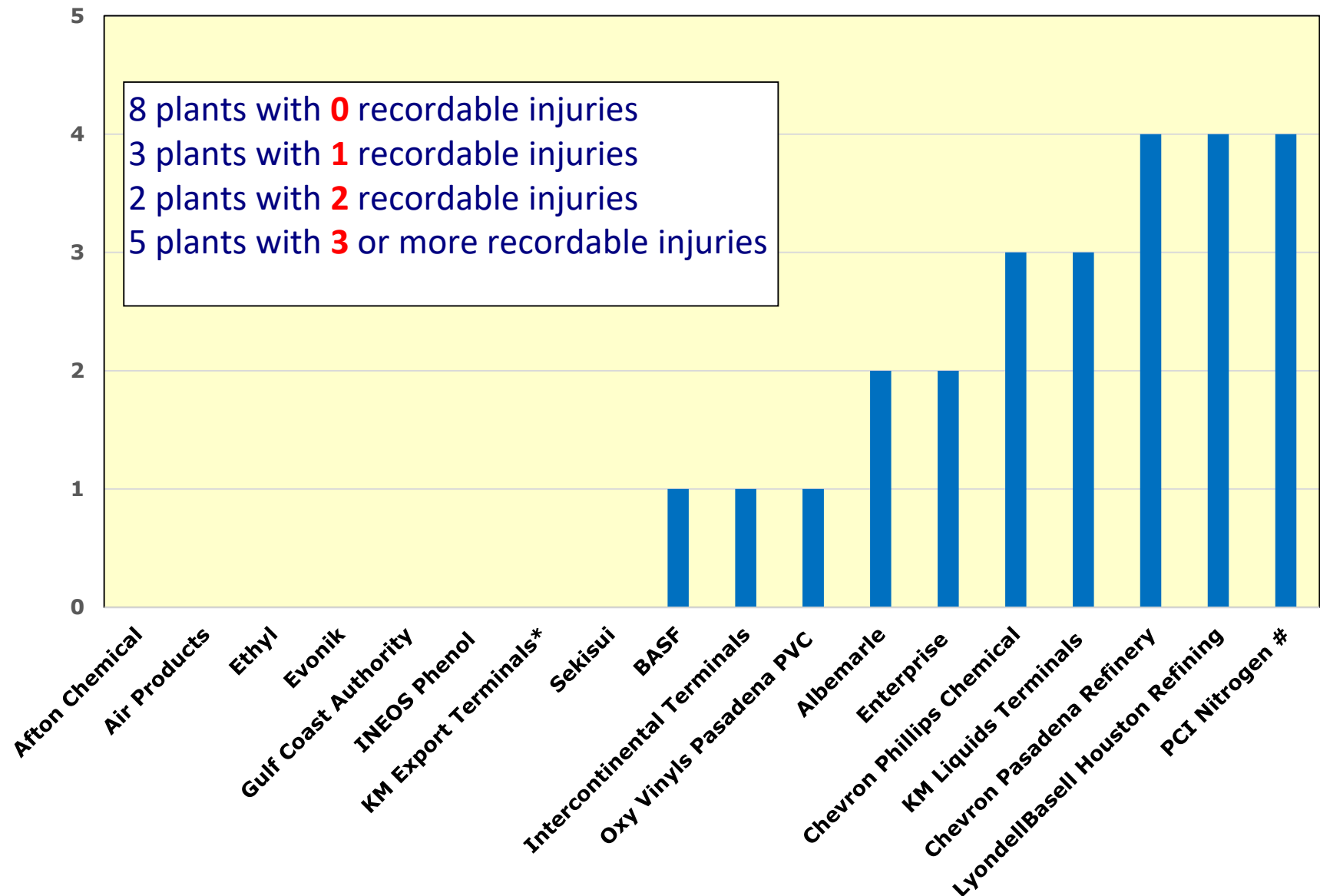
# Trend in Median 2000-2019



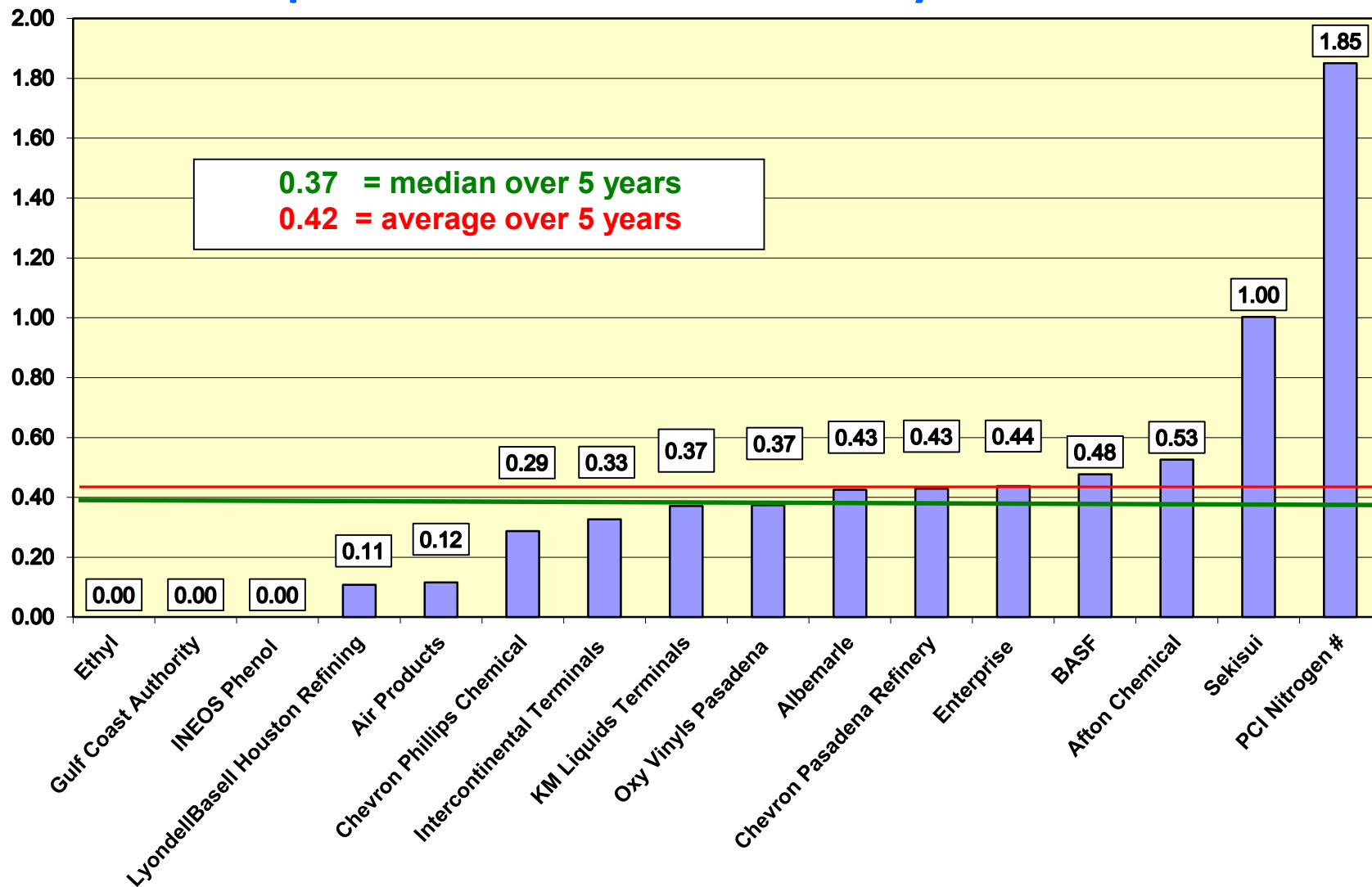
# Plant Rankings 2019 Based on *Recordable Rates*



## Plant Rankings by *Number* of Recordables- 2019



## 5 yr. Rankings 2014-2019 for plants in PCAC for 5 or more years



# SEVERITY

fatalities, lost-time, restricted duty,  
others

# Severity varies

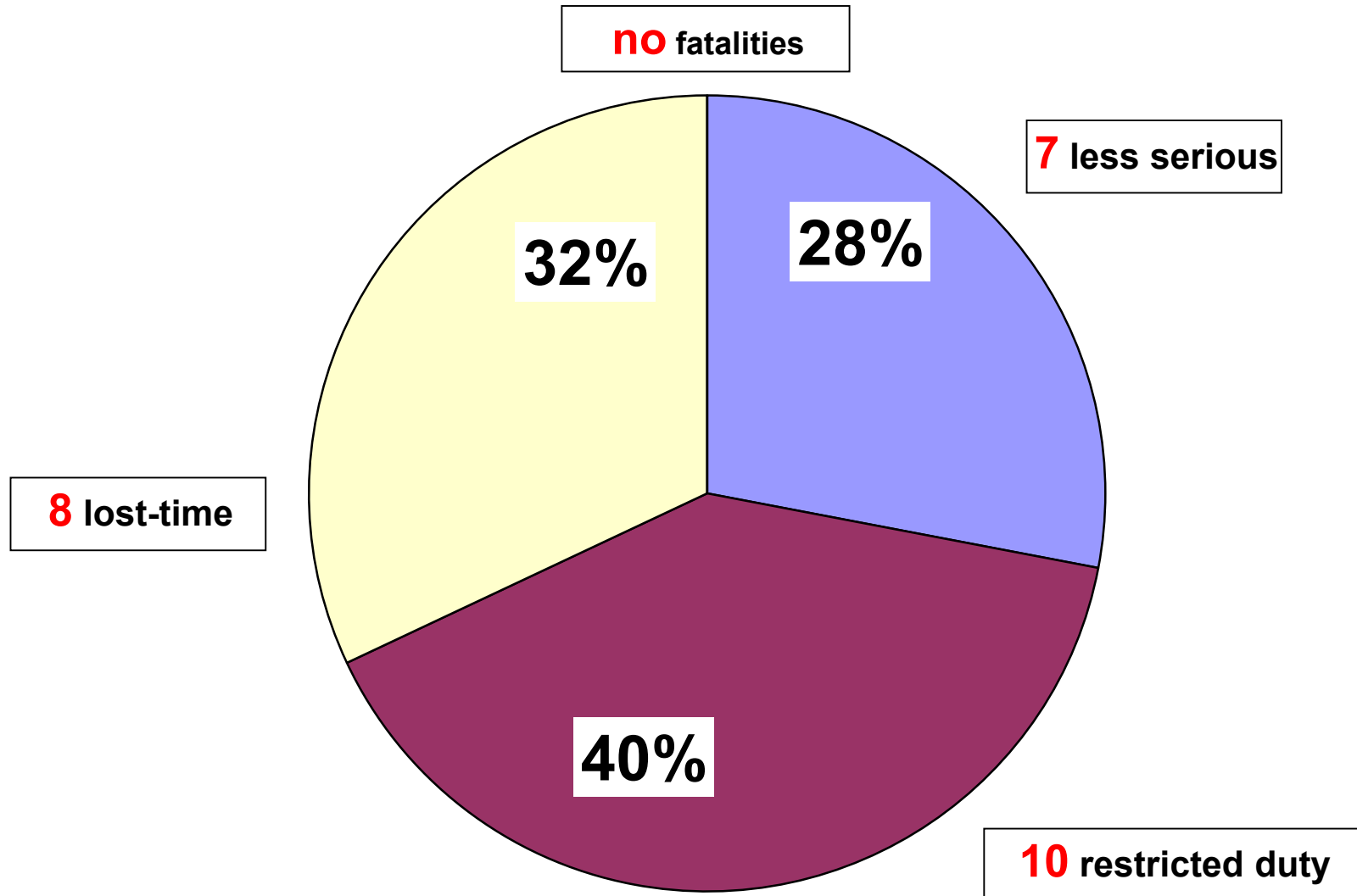
- ❑ **No fatalities in PCAC plants in 2019**
- ❑ **Lost time** (unable to come to work)
  - ❖ Such as finger avulsion that required sutures and vehicle incident that resulted in a hand injury
- ❑ **Restricted duty** (at work but unable to do usual job)
  - ❖ Such as steam burn to ankle and shoulder injury due to fall
    - Not used at PCI Nitrogen. Lost-time case if unable to do job.
- ❑ **Other recordables**

*6 more restricted duty cases than in 2018– 10 vs 4*

*1 fewer lost-time cases than in 2018– 8 vs 9*

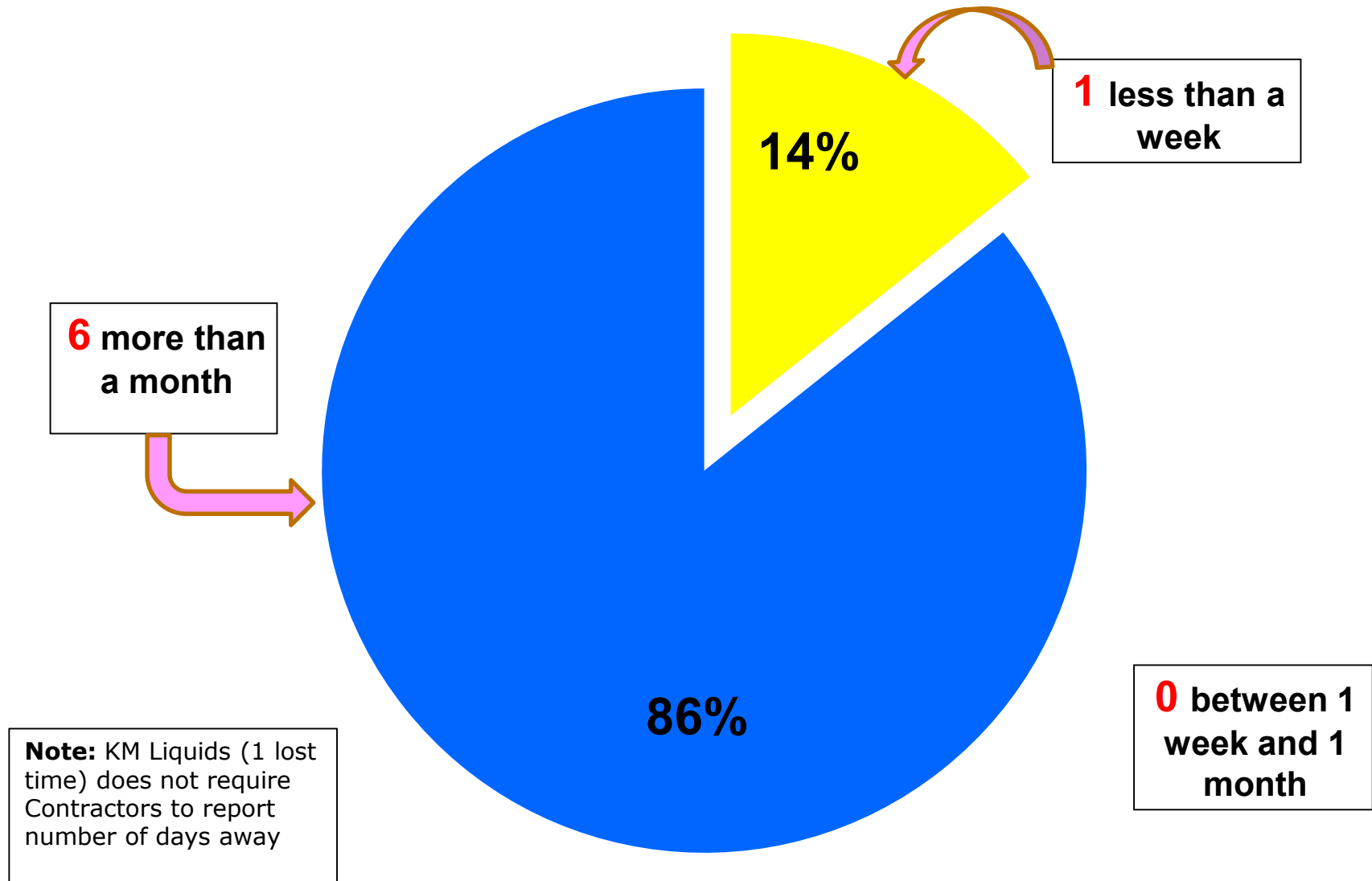
*72% (18 of 25) were the more serious kind (lost time, restricted duty)*

# Severity of Injury or Illness in 2019



# Severity of the 8 Lost-Time Cases in 2019

based on number of days away from work





# INJURY CAUSES AND TYPES

most common, causes, types,  
chemical exposure

# Most common recordables in 2019

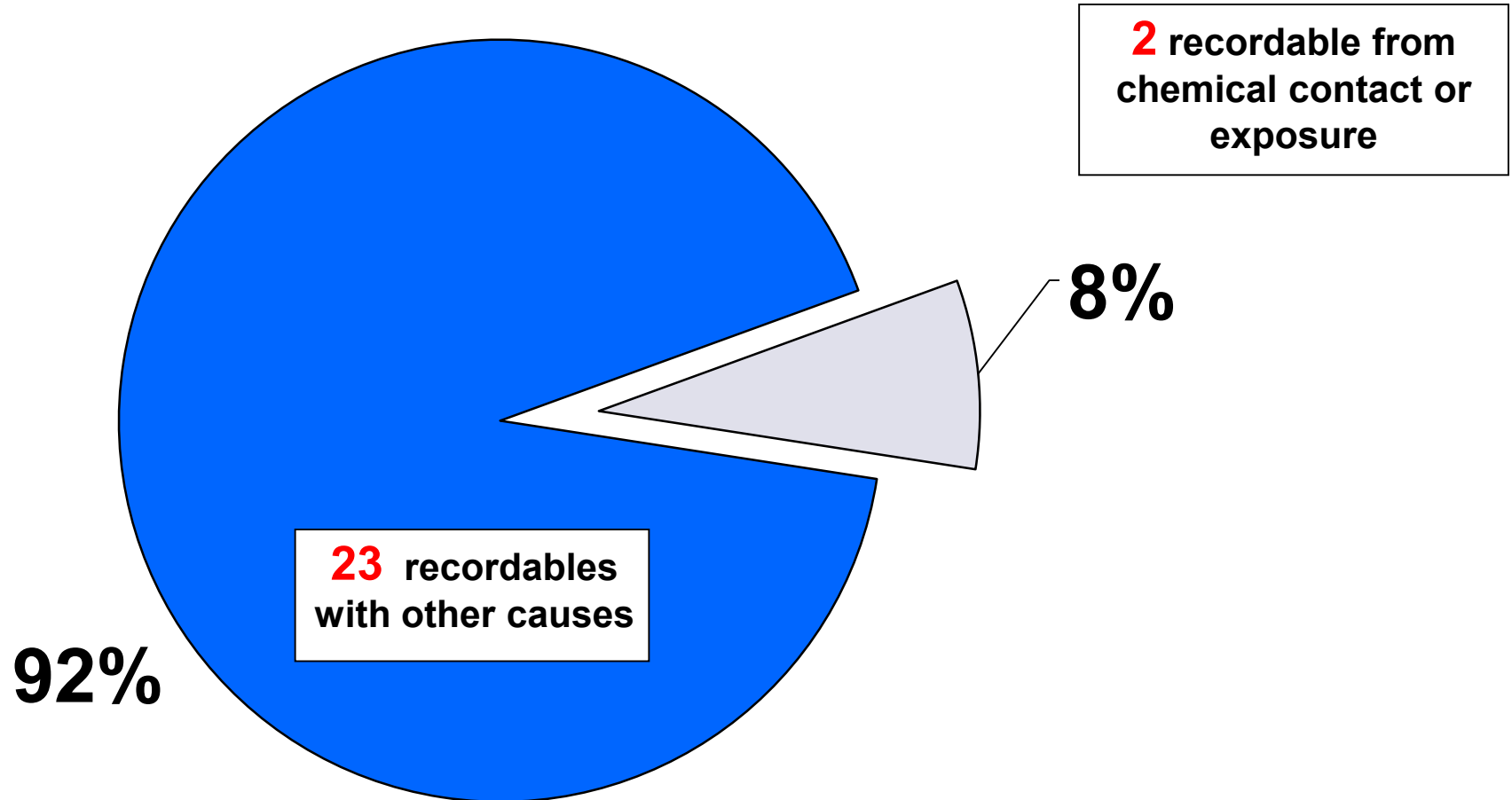
**Machine crushing or entanglement or being pinched resulted in:**

- ❑ Thumb fracture
- ❑ Lacerations needing stitches

**Slips, trips, falls resulted in:**

- ❑ Being treated for Hypothermia
- ❑ Lacerations
- ❑ Hairline fracture of arm
- ❑ Shoulder injury

# Recordables from Chemical Contact or Exposure in 2019



# Chemical Exposure or Contact

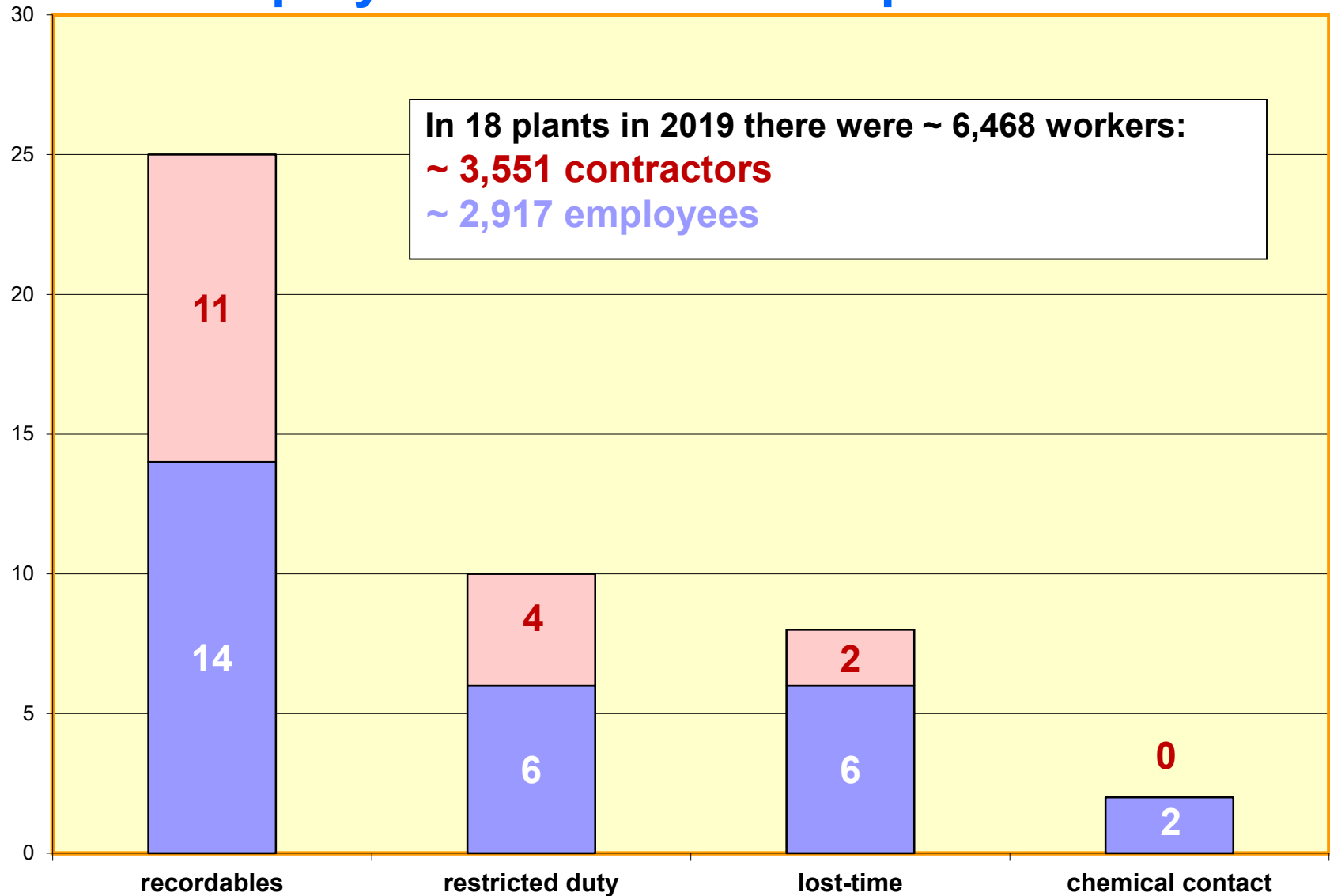
## Chevron Pasadena Refinery

- ▣ A restricted duty injury occurred on 1/22/19. While disconnecting tubing, an employee received a chemical burn.
- ▣ A lost time injury occurred on 6/25/19. An employee was checking levels when sulfur and steam blew out causing a burn.

# COMPARISONS

- ❖ employee versus contractors
- ❖ to similar manufacturing, chemical manufacturing, other kinds of workplace
- ❖ to other CACs
- ❖ participation in 3<sup>rd</sup> party worker safety audits
- ❖ plant process

# Employee-Contractor Comparisons in 2019



# Employees -- 2019 -- Contractors

6.1 million work hours

10 of 18 plants with 0.00s

0.46 weighted avg.

0.00 median (middle)

4.83 highest rate (2 injuries)

7.4 million work hours

11 of 17 plants with 0.00s\*

0.30 weighted avg.

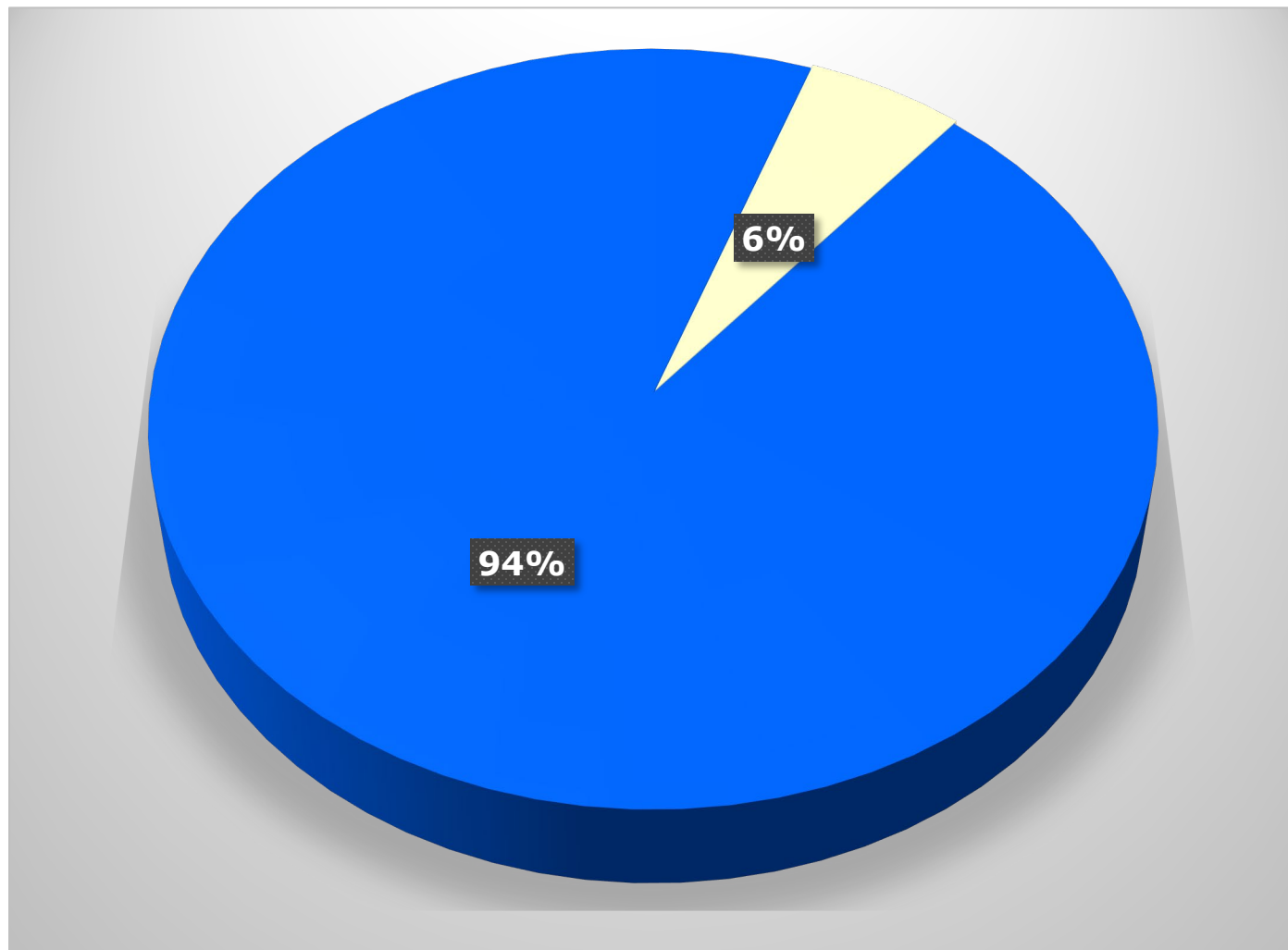
0.00 median (middle)

3.90 highest rate (1 injury)

\*Kinder Morgan Export Terminal did not have contractor hours

# National Industry Comparisons

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



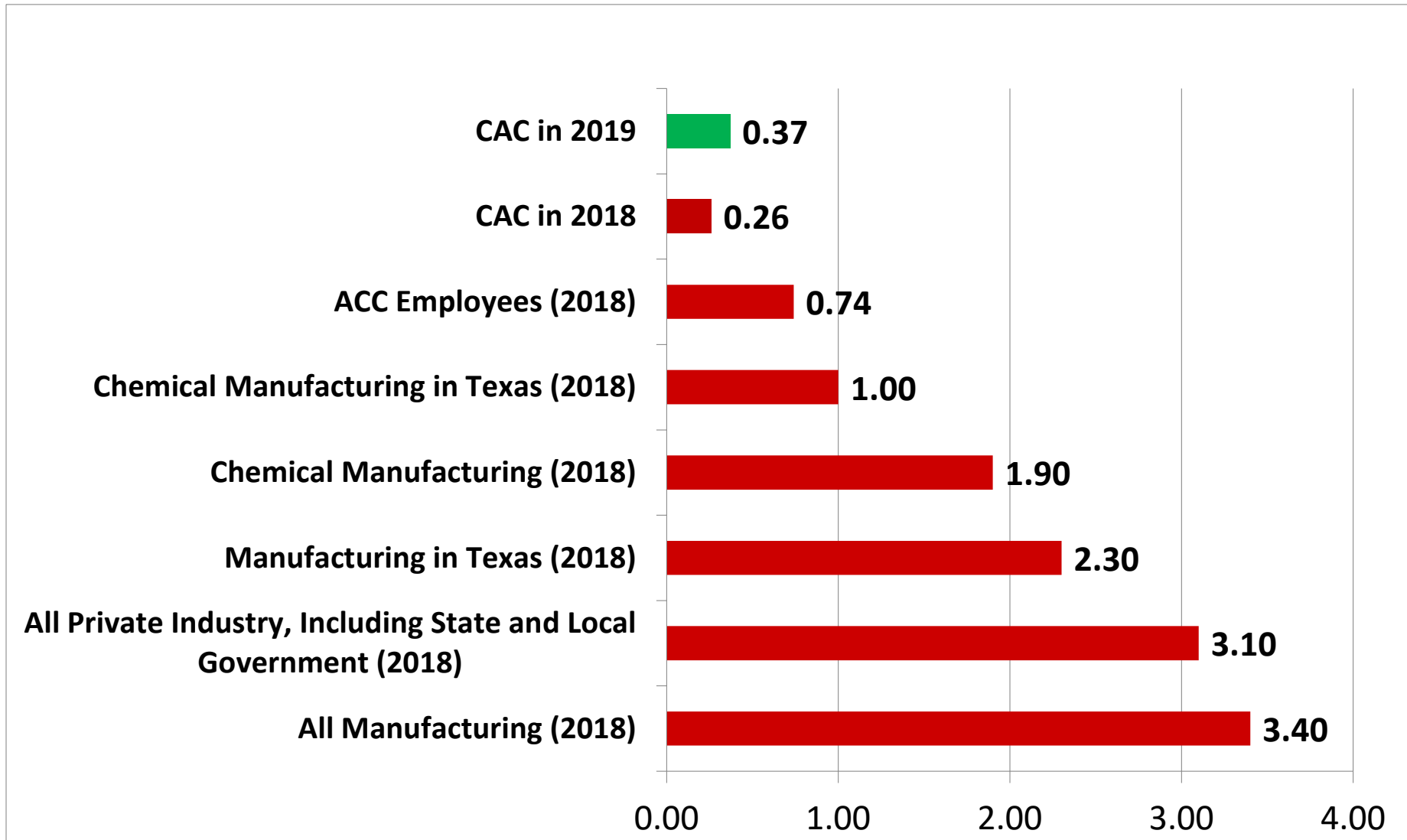


# Comparing CAC Plants to Similar Kinds of Industry

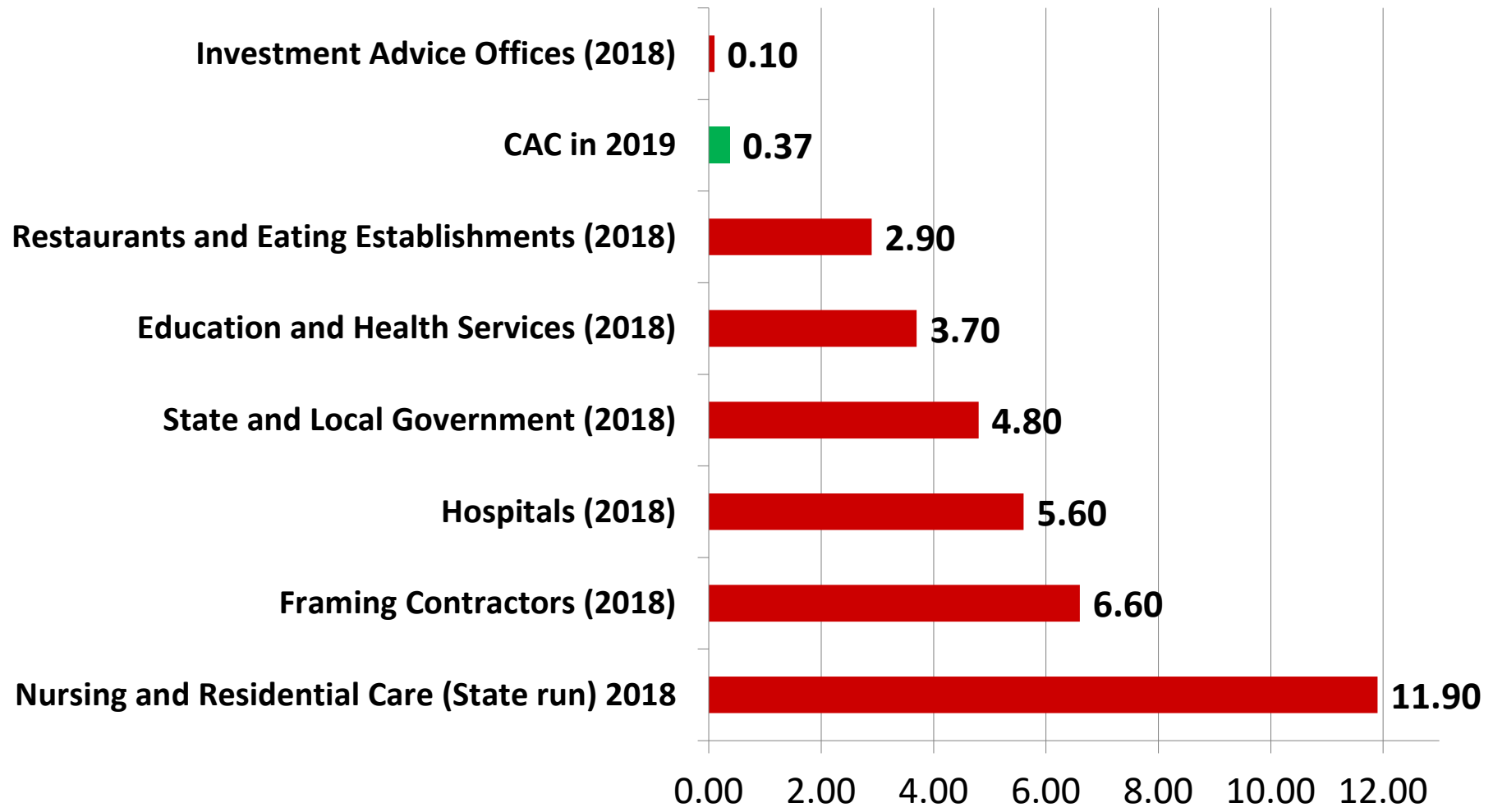
See spreadsheet file for complete list

2018 NATIONAL DATA	NAICS CODE	INDUSTRY GROUP	2019 Total Plant Recordable Rate	2018 NAICS group rate
Gulf Coast Authority	221320	Sewage Treatment Facilities	0.00	4.10
<b>Chevron Pasadena Refinery</b>	<b>324110</b>	<b>Petroleum Refineries</b>	<b>0.48</b>	0.40
LyondellBasell Houston Refining	324110	Petroleum Refineries	0.15	
INEOS Phenol	325110	Petrochemical Manufacturing	0.00	1.30
Afton Chemical	325199	All Other Basic Organic Chemicals	0.00	1.30
Air Products	325199	Basic Organic Chemical Manufacturing	0.00	
Albemarle	325199	Industrial Organic Chemicals	0.67	
BASF	325199	All Other Basic Organic Chemical Manufacturing	0.74	
Ethyl	325199	All Other Basic Organic Chemicals	0.00	
Evonik	325199	All Other Basic Organic Chemicals	0.00	

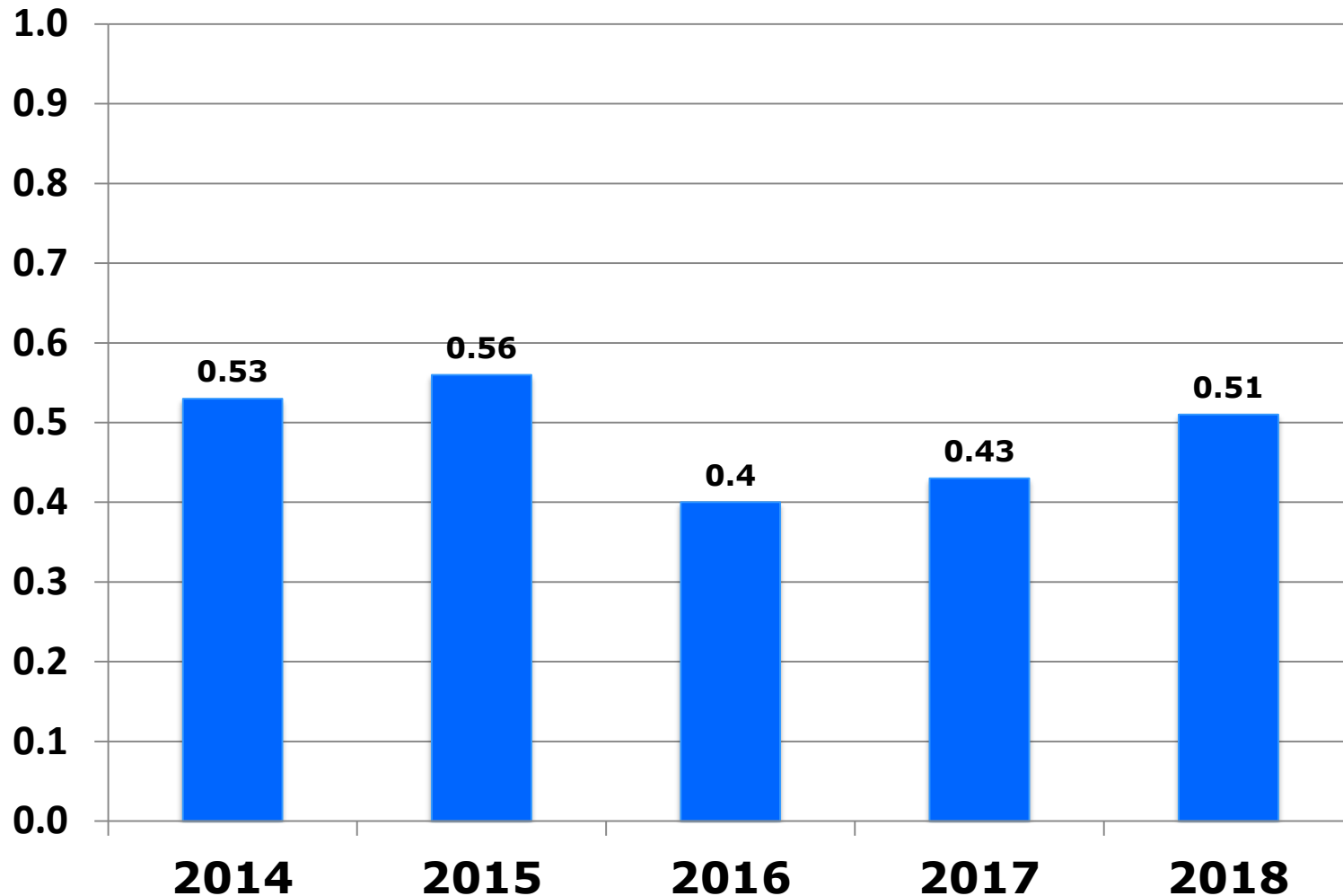
# Comparisons on Weighted Recordable Rates



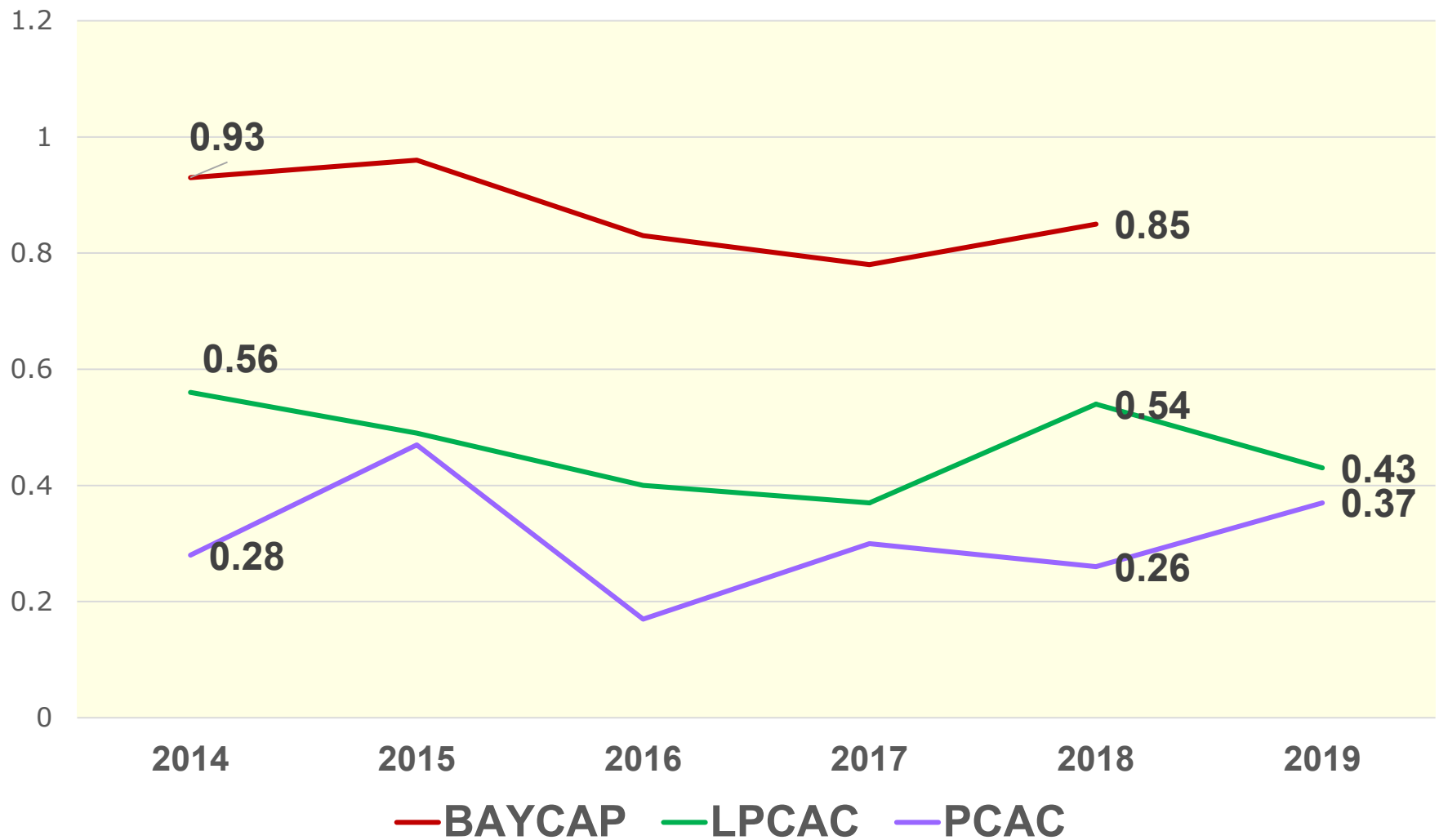
# Comparisons on Weighted Recordable Rates



# Trends in Weighted Averages of 89 Plants in EHCMA 2014-2018



# CAC Weighted Average Comparison 2014-2019



# Comparisons of employees & contractors

ACC and BAYCAP Data from 2018–PCAC and LPCAC Data from 2019

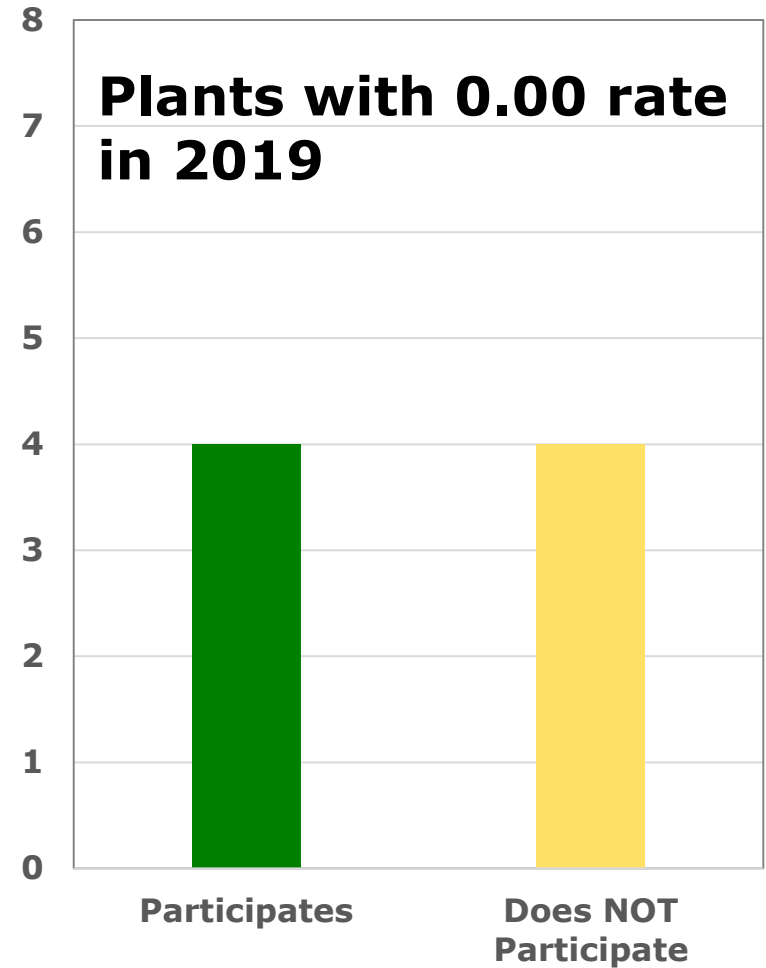
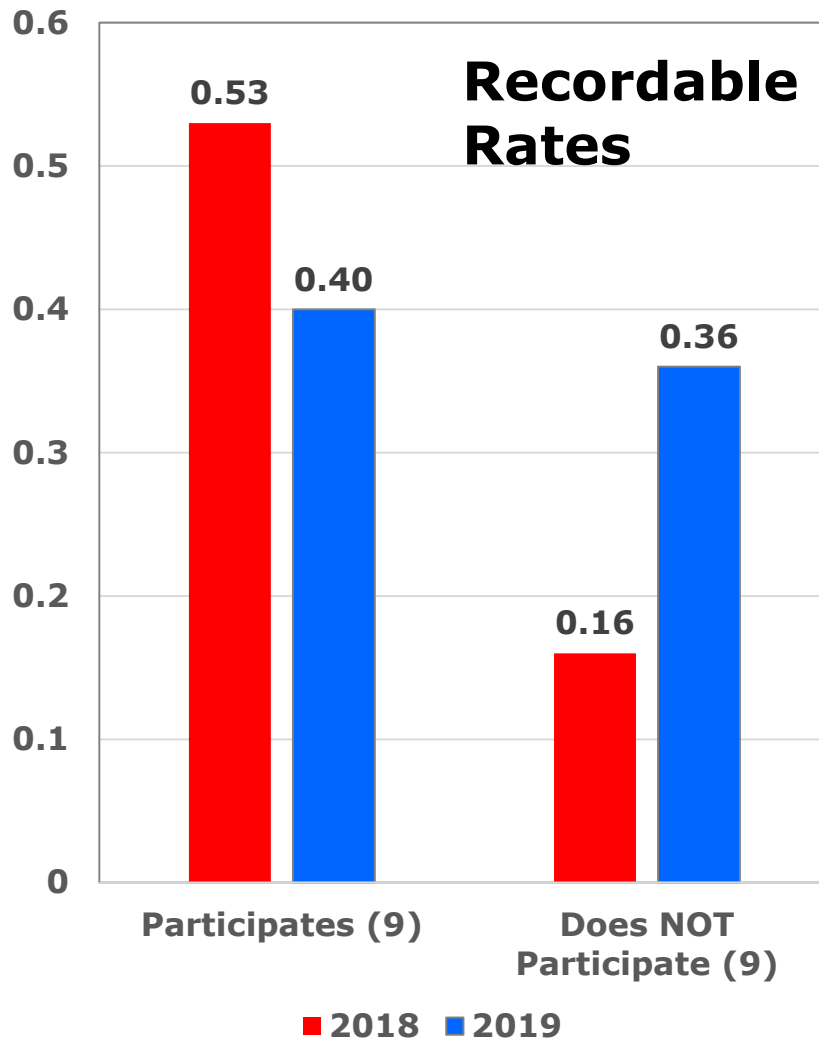
## Employees

1.00	BAYCAP plant <i>employees</i>
0.74	American Chemistry Council (ACC) member-company <i>employees</i>
0.56	LPCAC plant <i>employees</i>
0.46	PCAC plant <i>employees</i>

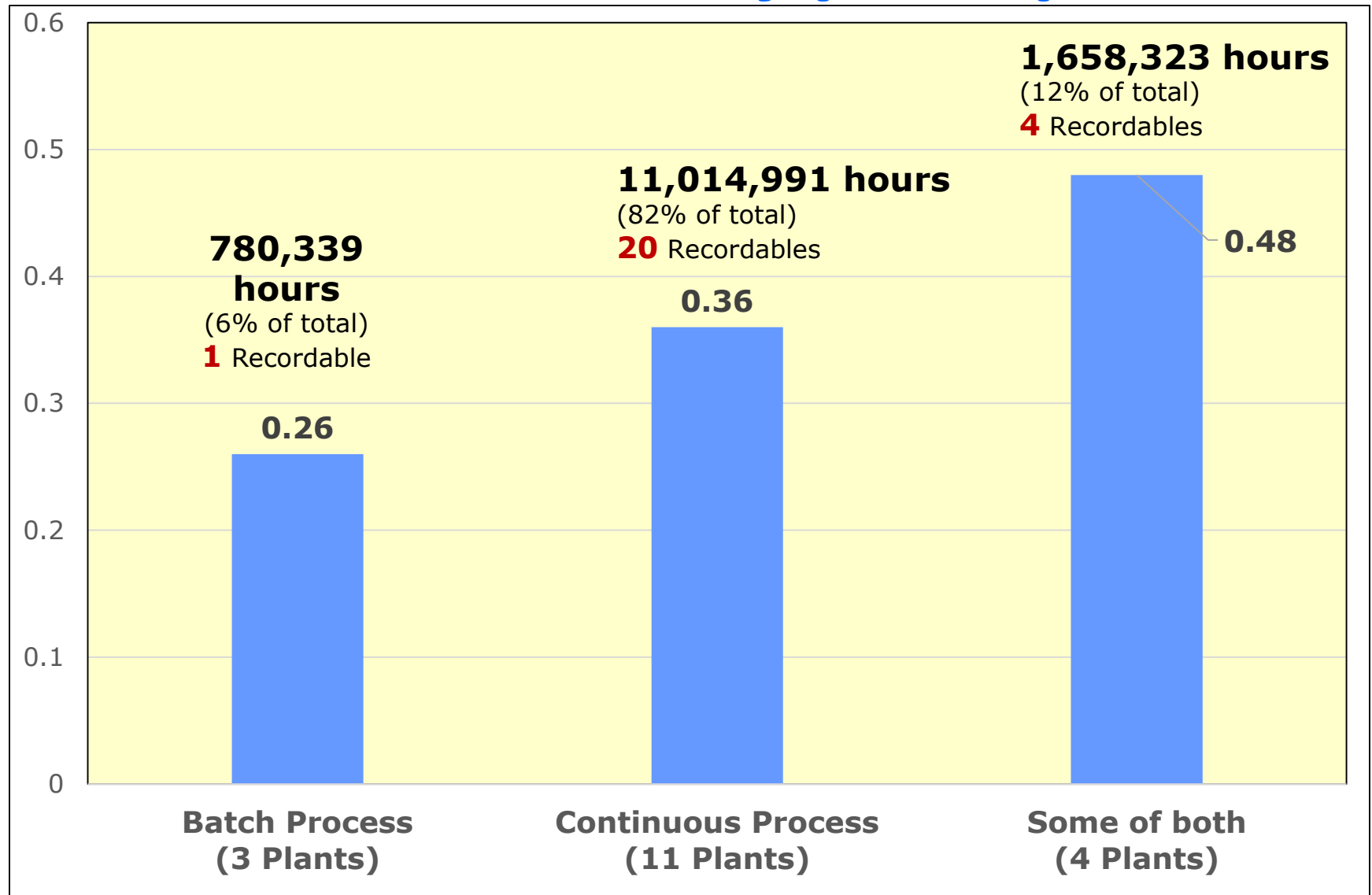
## Contractors

0.55	BAYCAP plant <i>contractors</i>
0.41	American Chemistry Council (ACC) member-company <i>contractors</i>
0.30	PCAC plant <i>contractors</i>
0.27	LPCAC plant <i>contractors</i>

# Voluntary third-party audits with worker safety focus



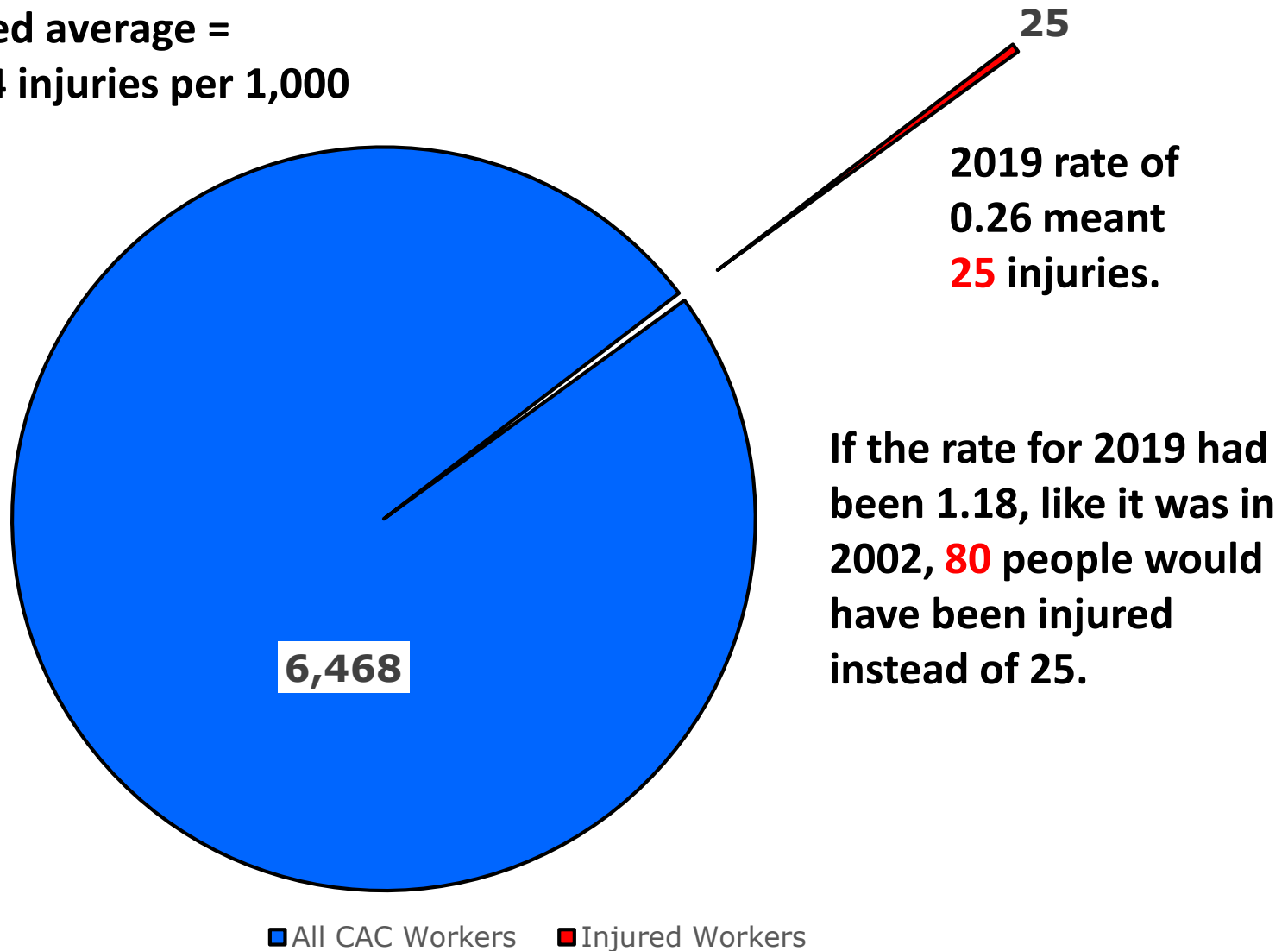
# Recordable rates by plant process





# Safety Report Is about **People**

0.37 weighted average =  
fewer than 4 injuries per 1,000



# Round Robin

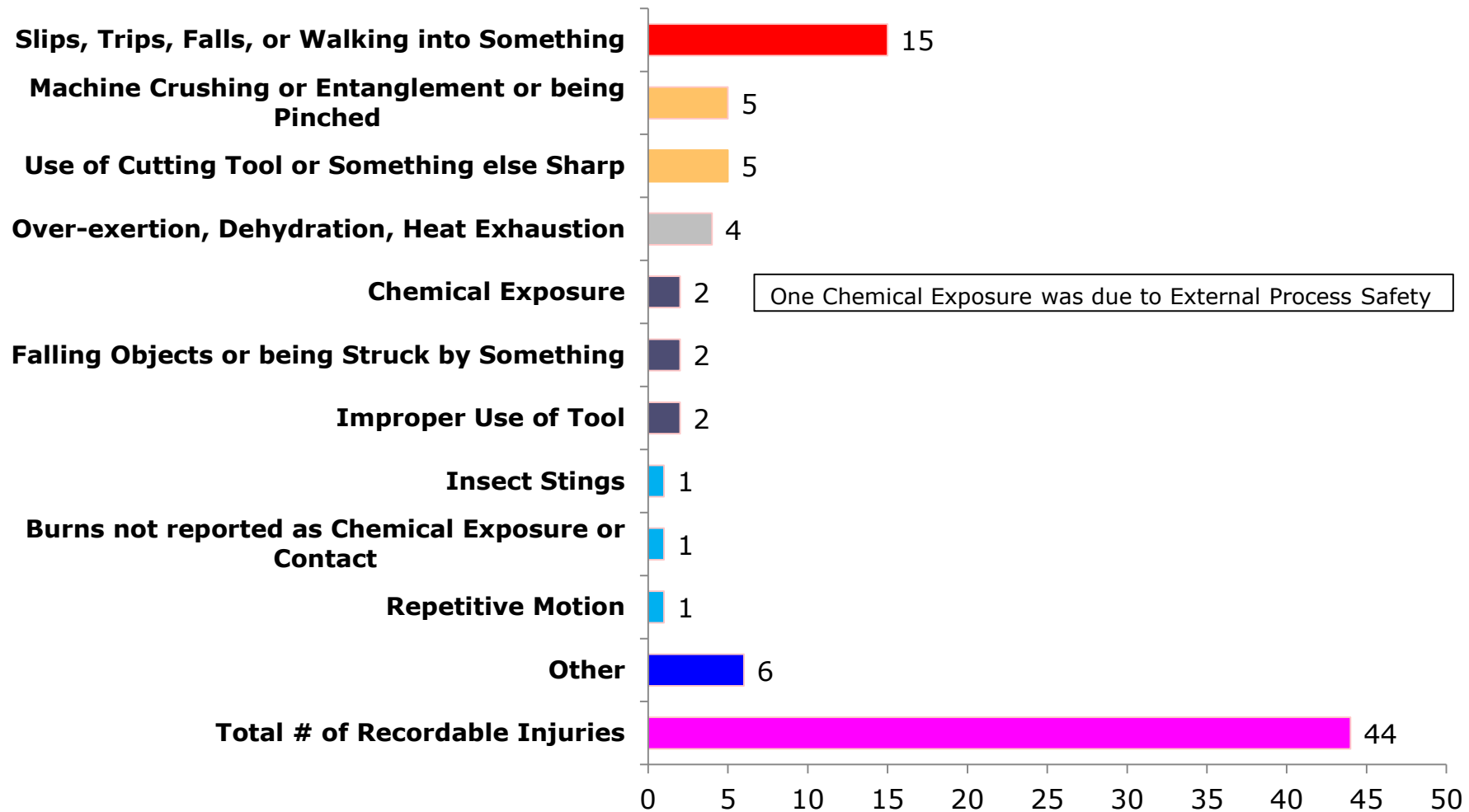
Before small group discussion, each plant will name one aspect of its safety program that has been effective—then go around again until all ideas have been shared.

# Small Group Discussion

1. What were you glad to see in tonight's report?
2. Any concerns?
3. The two other CACs that do an Annual Report on Worker Safety ask plants about the Type of Injury and capture that information on a slide like the next one. Are PCAC community and plant members interested in adding Type of Injury to the safety report?
4. Any (other) suggestions for improving the safety report?

# 2019 Recordable Injuries in LPCAC Plants

## Resulted from



# Questions?

- ▣ Contact Diane Sheridan, PCAC Facilitator
- ▣ 281-326-5253
- ▣ [dbsfacilitator@gmail.com](mailto:dbsfacilitator@gmail.com)