

Pasadena Citizens' Advisory Council



**21st Annual
Worker Safety Report**
promoting continuous improvement
2000-2022

Final Presentation

4-2-23

The report is about **PCAC** plants

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

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

□ ***Workers***

- Employees *and* contractors
- In 18 PCAC plants

□ ***Workplace injuries and illnesses***

- As defined by OSHA

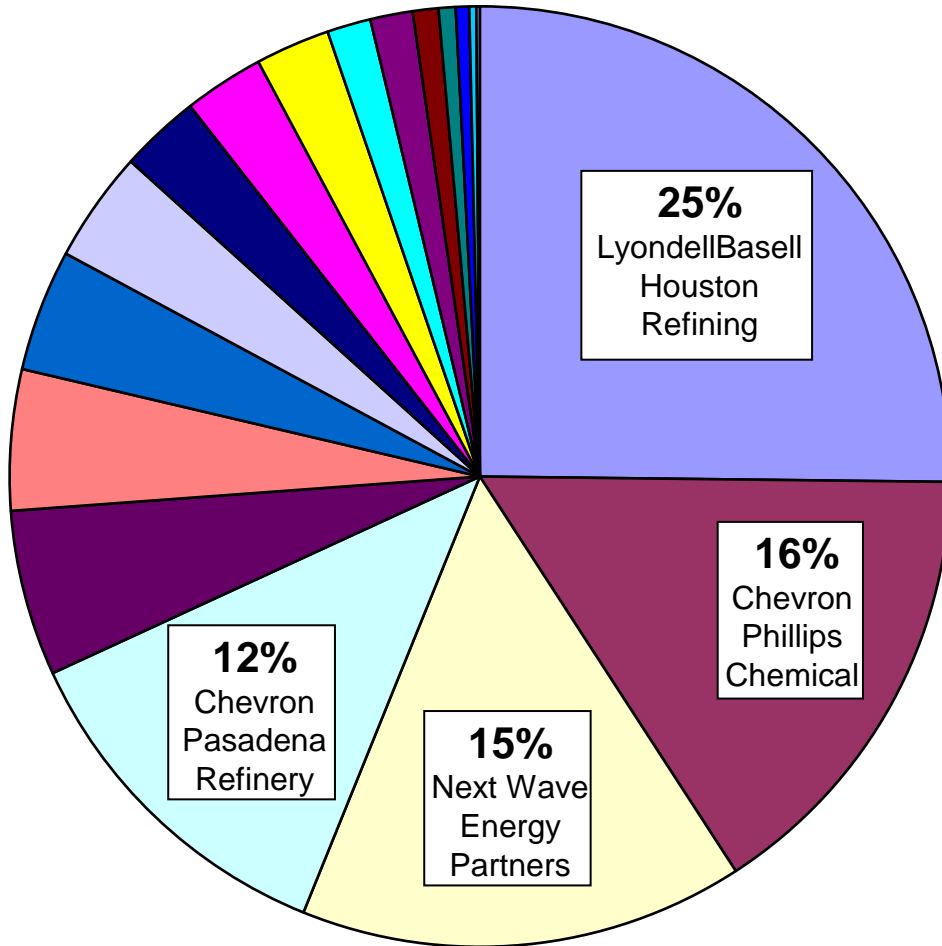
□ ***Recordable Rate***

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

Plant Size by Work Hours in 2022

12,261,974 Total Work Hours

68% of total hours worked in 4 plants with more than 1 million work hours each



- LyondellBasell Houston Refining 3,087,725
- Chevron Phillips Chemical 1,919,891
- Next Wave Energy Partners 1,873,938
- Chevron Pasadena Refinery 1,473,266
- KM Liquids Terminals 699,057
- Albemarle 593,229
- Enterprise Products 513,628
- OxyChem Pasadena PVC 468,687
- Afton Chemical 337,888
- BASF 337,491
- Intercontinental Terminals 314,001
- INEOS Phenol 184,046
- Sekisui 178,795
- Evonik 108,171
- Gulf Coast Authority 71,510
- KM Export Terminals 56,593
- Ethyl 29,498
- Air Products* 14,560

In 2022

- **12,261,974** work hours
 - ~ 2,651 employees
 - ~ 3,245 contractors
- **22** workplace injuries or illnesses
- **2,015,893 more** work hours than 2021
- **Same number** of injuries as in 2021

Zeroes are Heroes!

10 Superheroes with no employee or contractor recordables in **2022**



1. Afton
2. Air Products* *No contractors
3. Albemarle
4. Enterprise Products
5. Ethyl
6. Gulf Coast Authority
7. Intercontinental Terminals
8. Kinder Morgan Export Terminals
9. LyondellBasell Houston Refinery
10. Sekisui

Zeroes are Heroes!

12 heroes with no employee recordables in 2022

1. Afton
2. Air Products* *No contractors
3. Albemarle
4. Enterprise Products
5. Ethyl
6. Gulf Coast Authority
7. INEOS Phenol
8. Intercontinental Terminals
9. Kinder Morgan Export Terminals
10. LyondellBasell Houston Refinery
11. Next Wave Energy
12. Sekisui



Zeroes are Heroes!

11 heroes with no contractor recordables in 2022

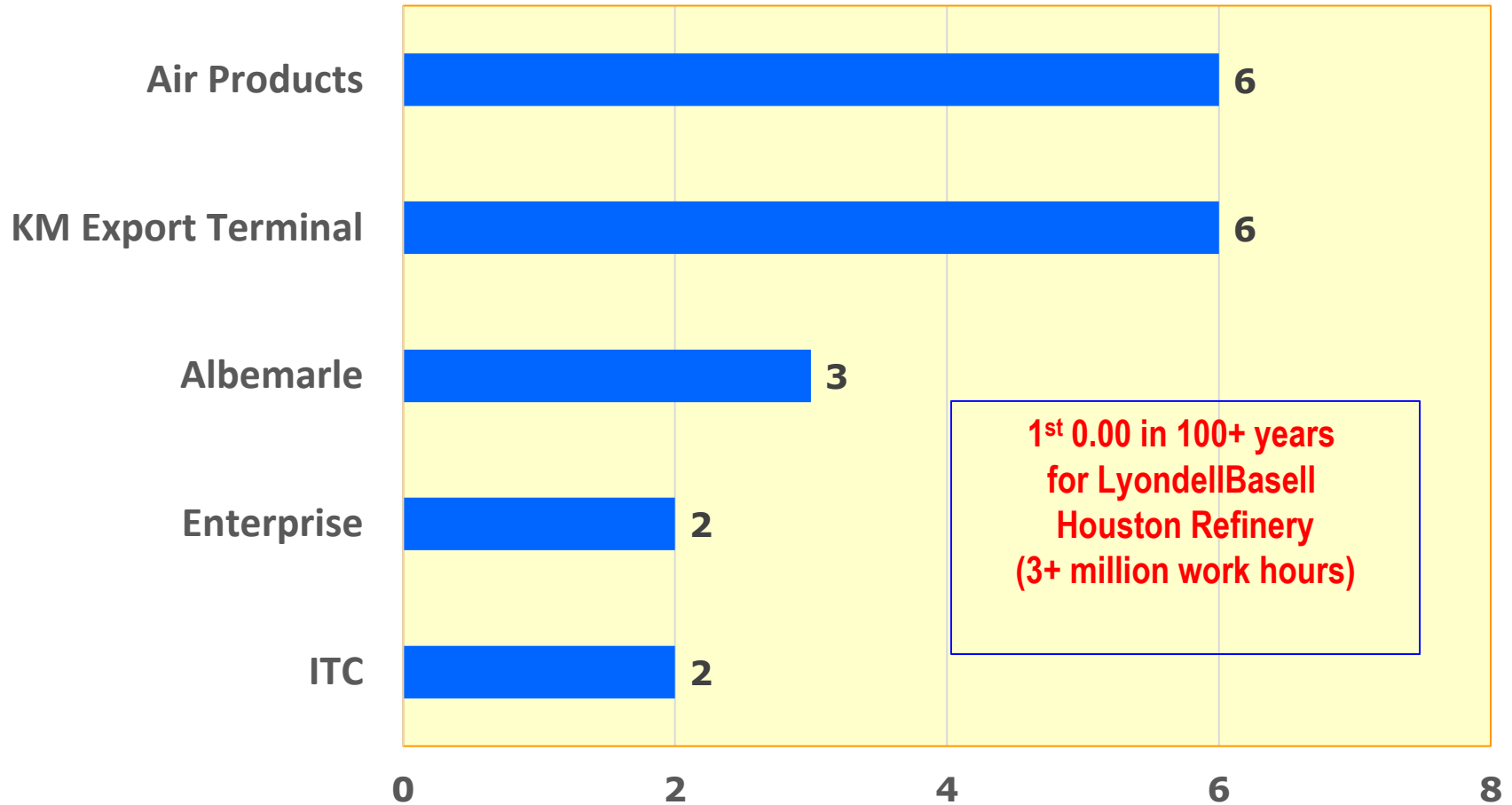
In 2022, Air Products had no contractors.
Companies in bold had *employee* recordables

1. Afton Chemical
2. Albemarle
3. **BASF**
4. Enterprise Products
5. Ethyl
7. **Evonik**
8. Gulf Coast Authority
9. Intercontinental Terminals
10. Kinder Morgan Export Terminal
11. LyondellBasell Houston Refinery
12. Sekisui

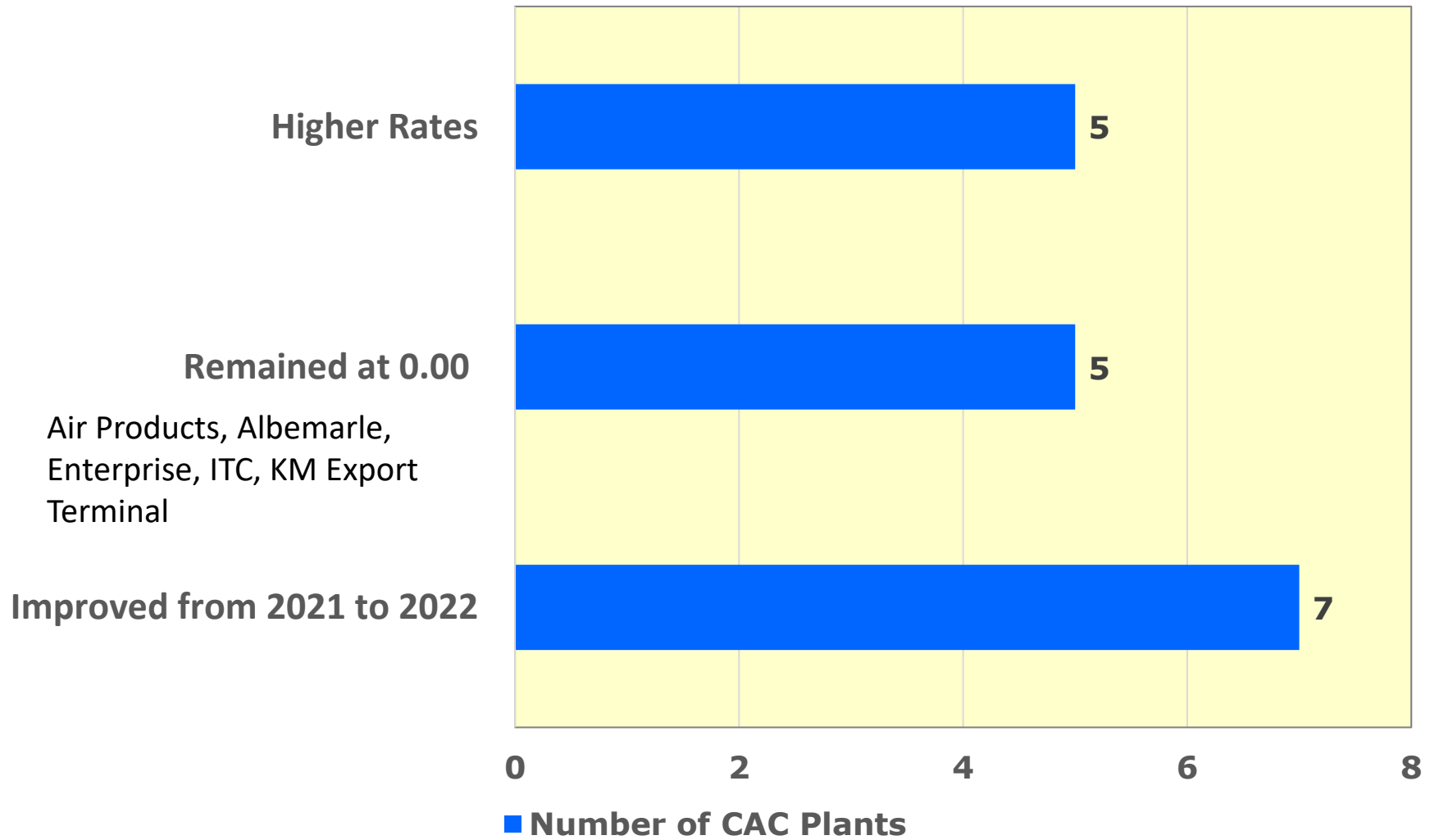


Zeroes are Heroes!

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



Comparison to Prior Years



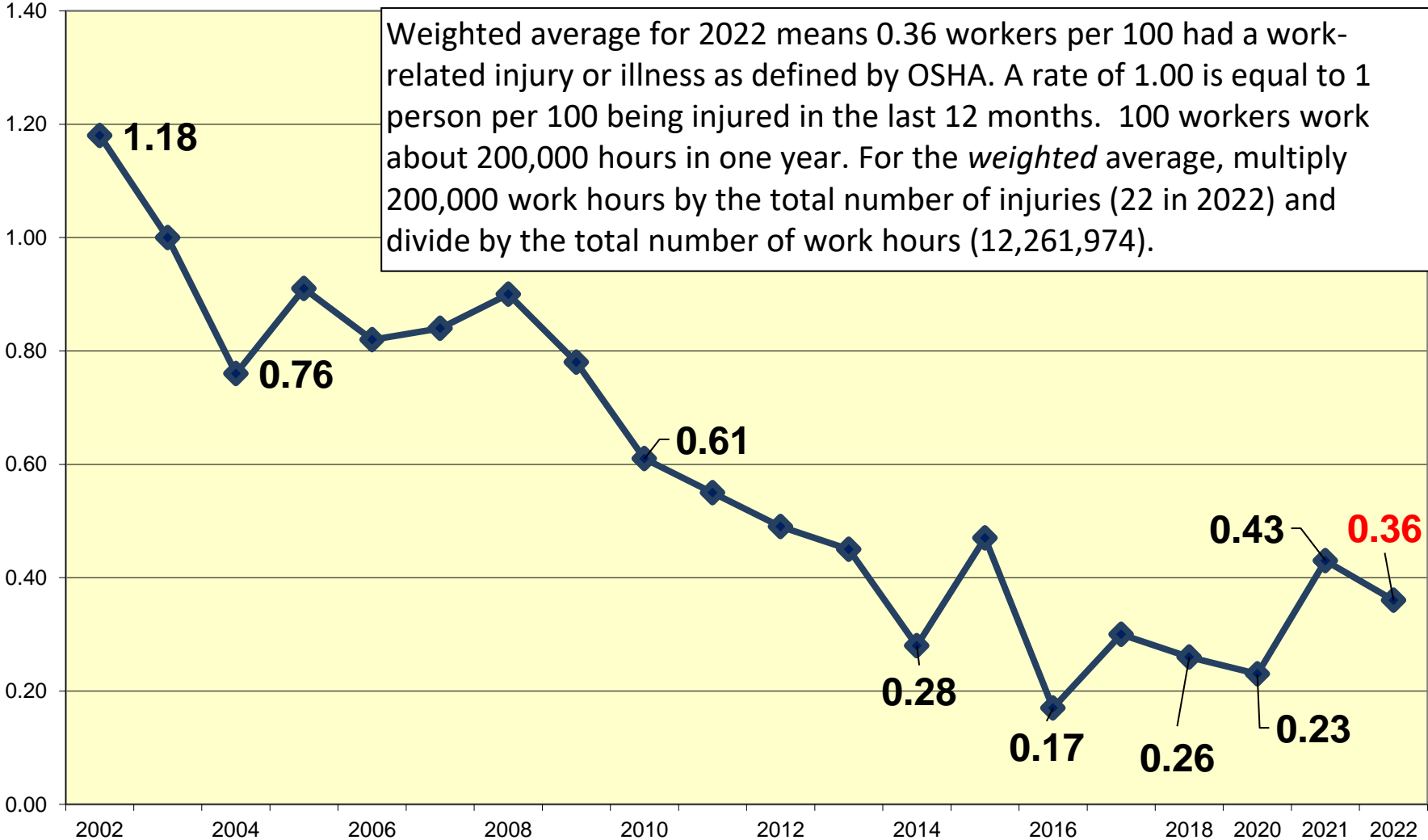
OSHA Voluntary Protection Program (VPP)

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

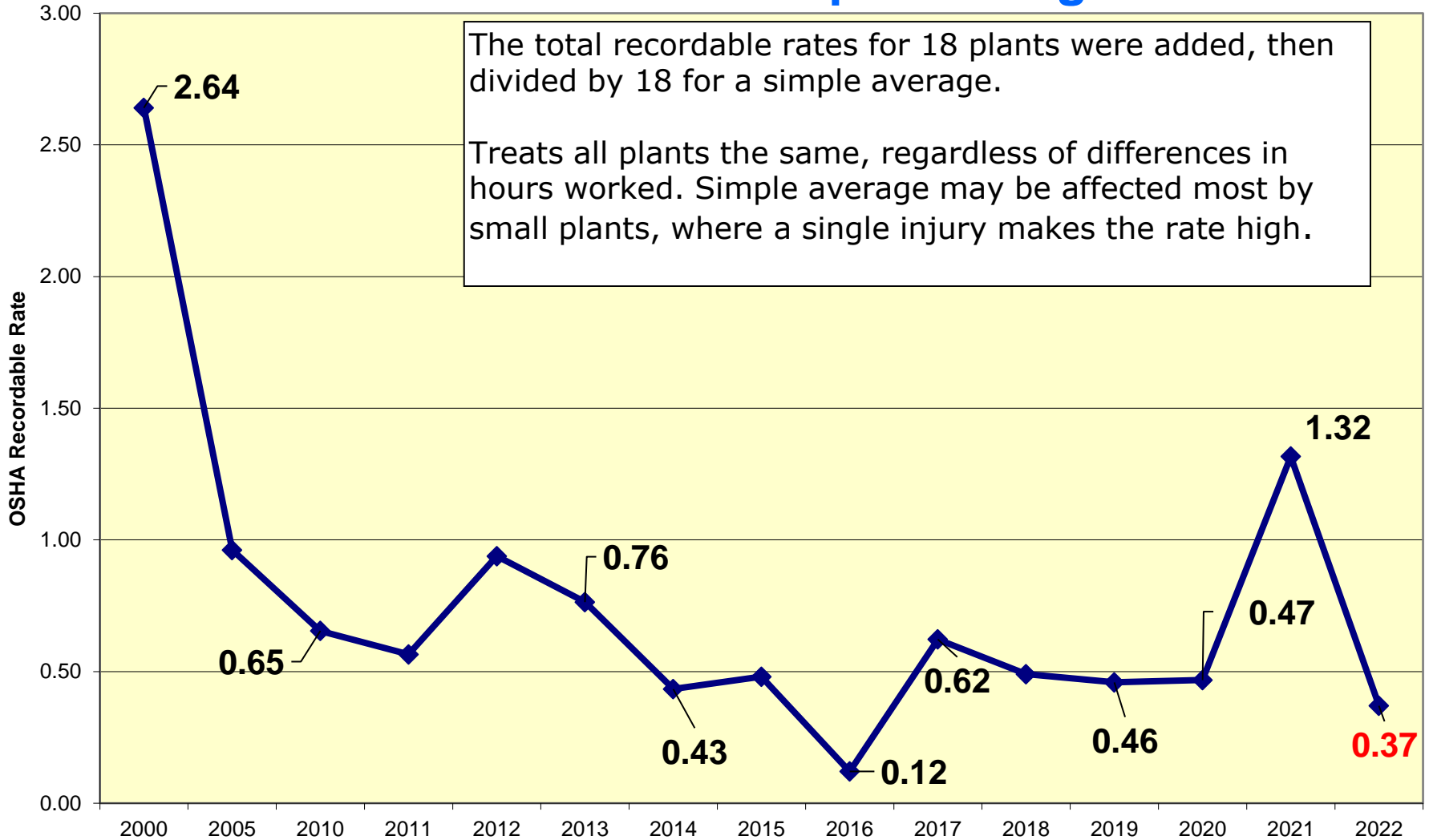
STATISTICS

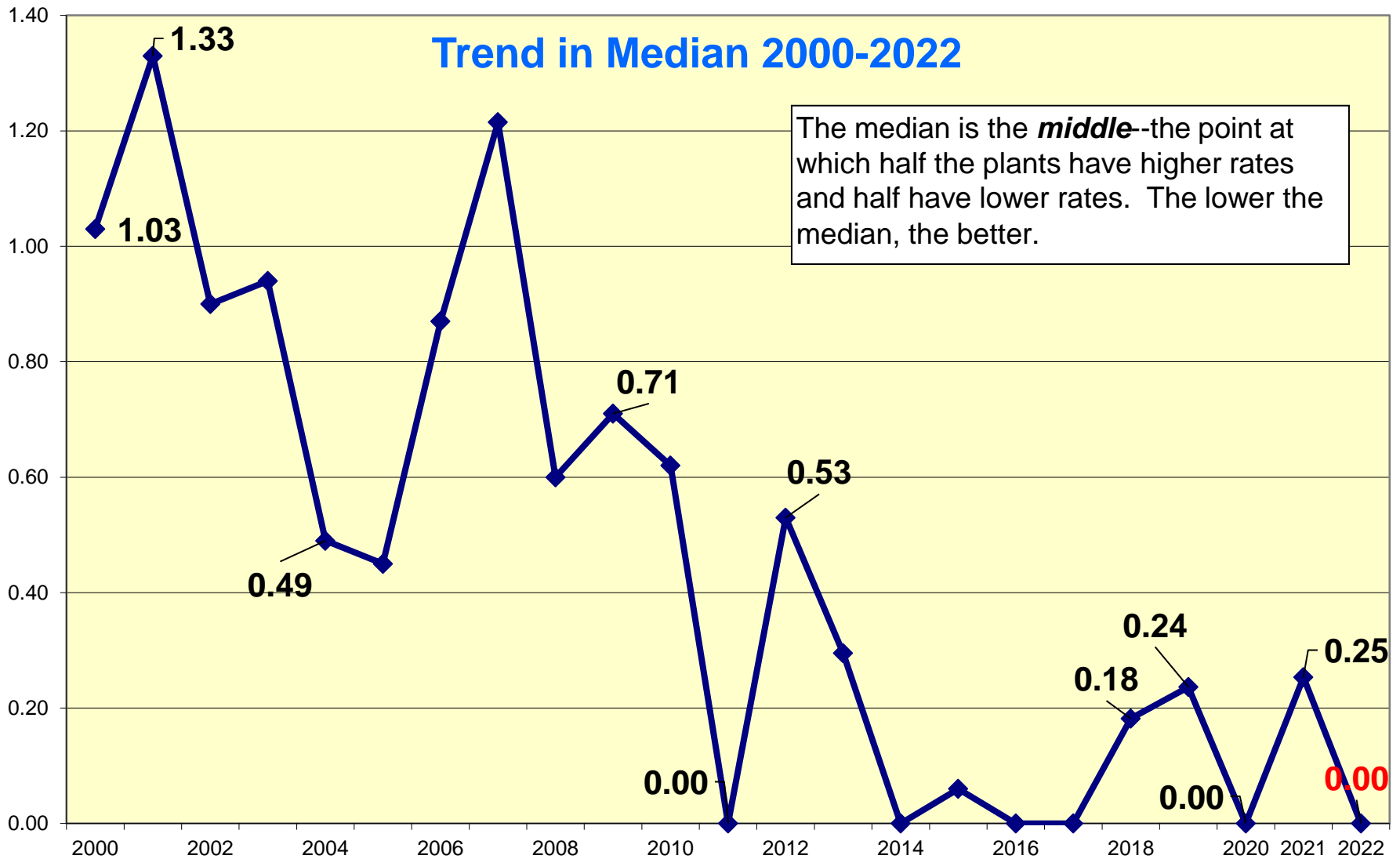
averages, median, range

Trend in Weighted Average 2002 - 2022

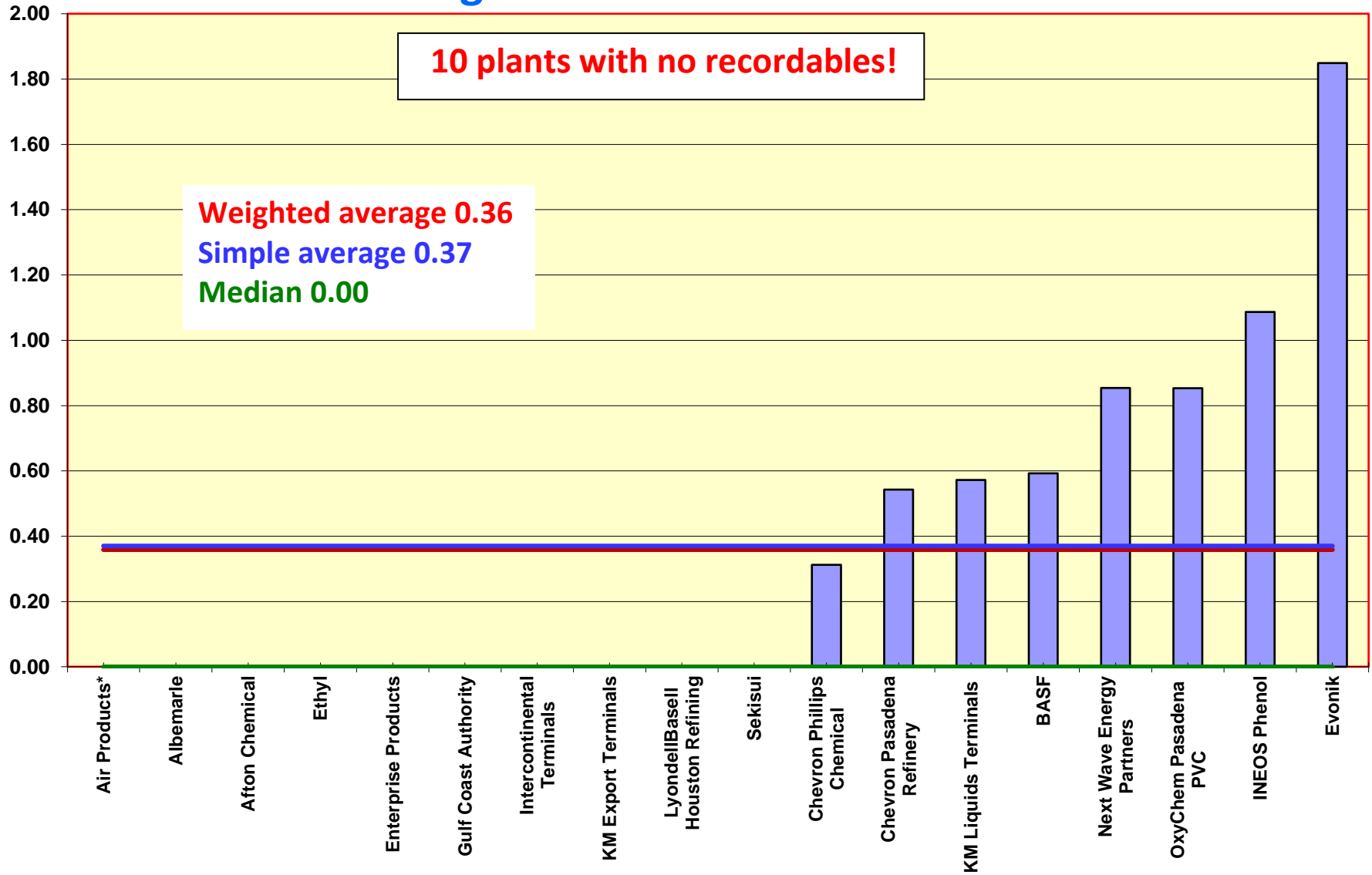


Trend in Simple Average 2000 - 2022

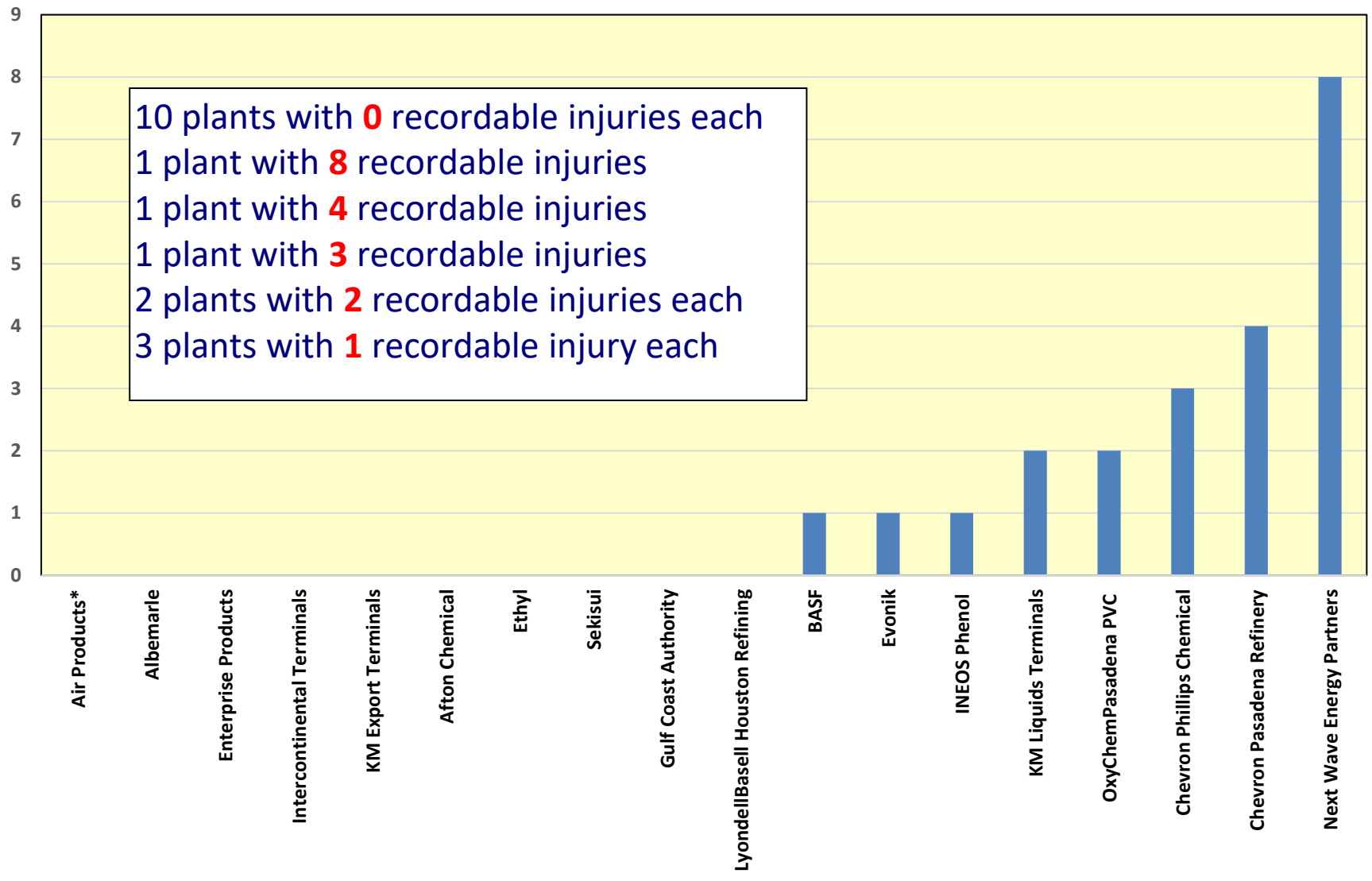




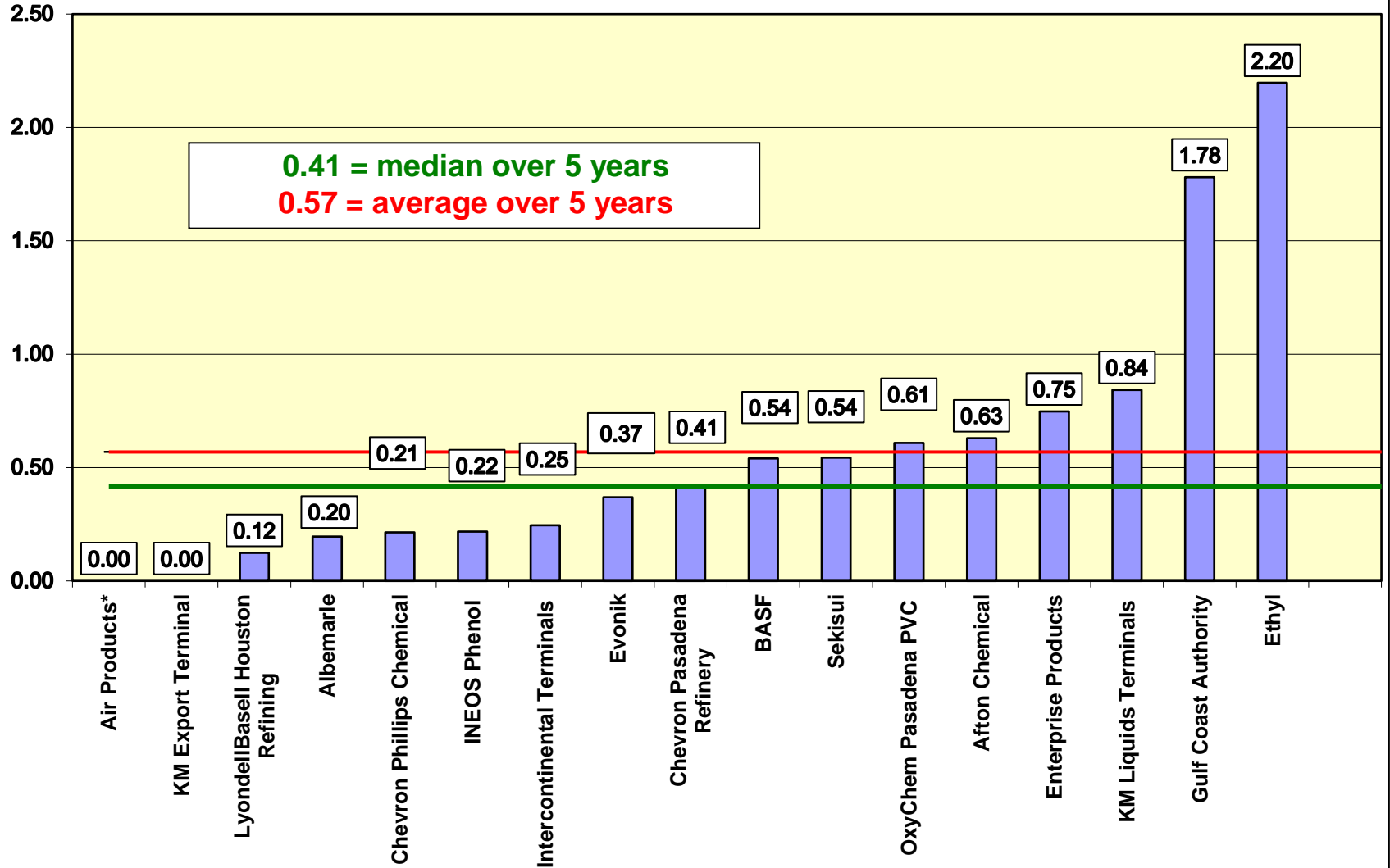
Plant Rankings 2022 Based on Recordable Rates



Plant Rankings by *Number* of Recordables - 2022



5-Year Plant Ranking by Average Recordable *Rates* 2018-2022 for plants in PCAC for 5 or more years



SEVERITY

fatalities, lost-time, restricted duty,
others

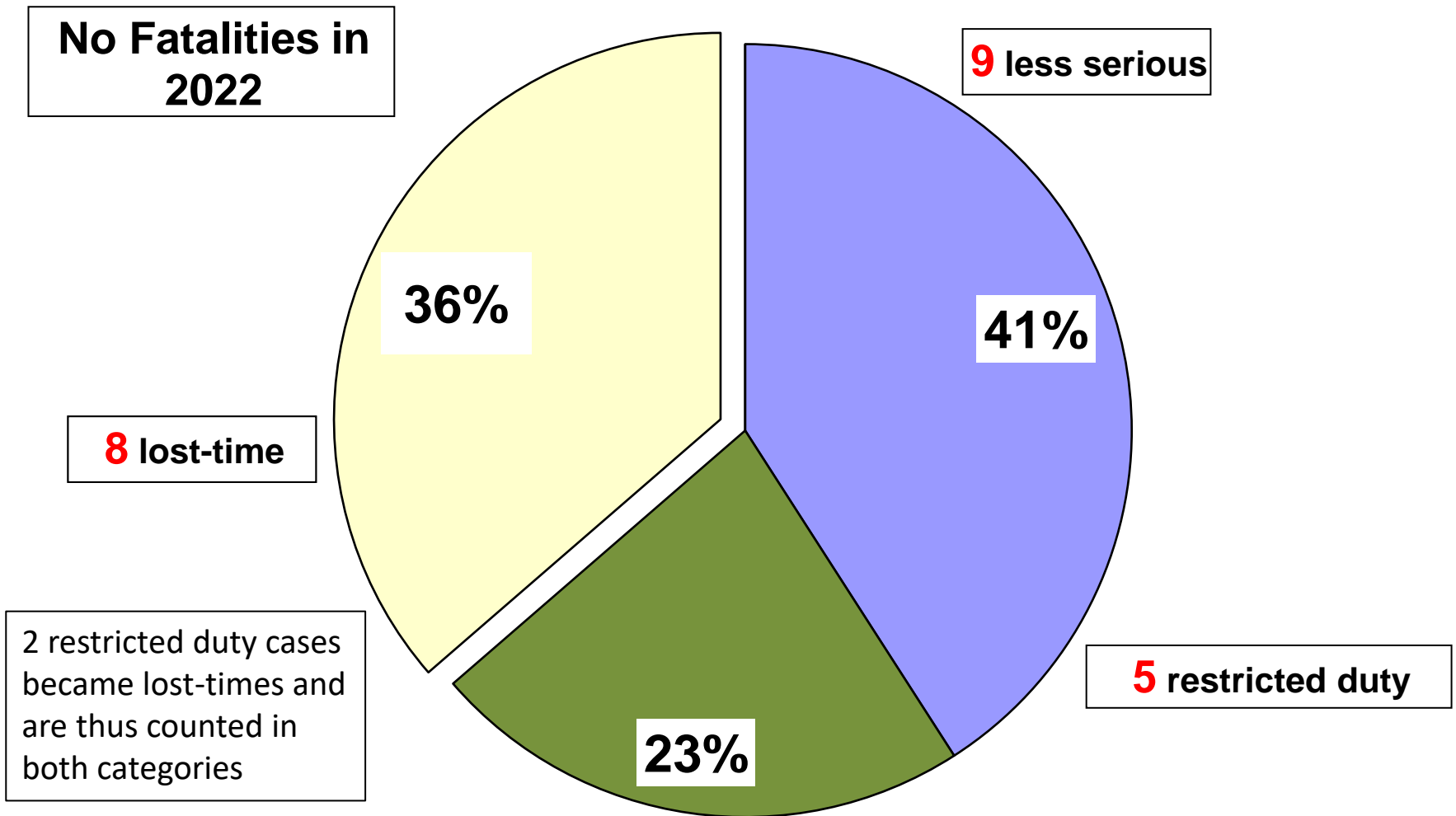
Severity varies

- ❑ **0 fatalities in PCAC plants in 2022**
- ❑ **Lost time** (unable to come to work)
 - ❖ Such as torn bicep muscles
- ❑ **Restricted duty** (at work but unable to do usual job)
 - ❖ Such as lacerations to hand
- ❑ **Others (with doctor's intervention)**

*1 fewer restricted duty cases than in 2021– 5 vs 6
8 fewer lost-time cases than in 2021– 6 vs 16*

59% (13 of 22 total) were either lost time or restricted duty

Severity of Injury or Illness in 2022



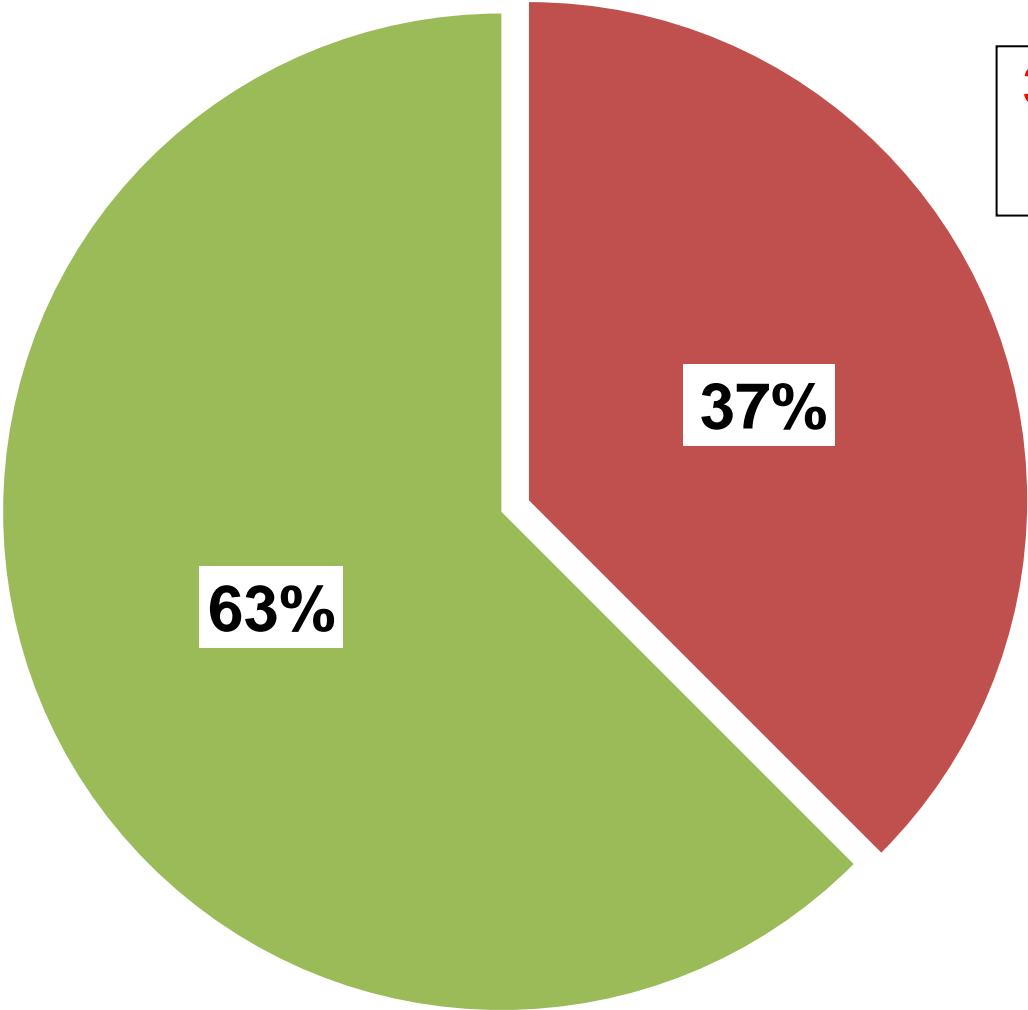
Severity of the 8 Lost-Time Cases in 2022

based on number of days away from work

0 less than a week

3 between 1 week and 1 month

5 more than a month



INJURY CAUSES AND TYPES

most common, causes, types,
chemical exposure

Most common recordables in 2022

Slips, Trips, Falls, or Walking into something resulted in:

- ❑ Broken wrist
- ❑ Broken rib

Machine crushing or entanglement or being pinched resulted in:

- ❑ Fractured fingertip

Overexertion, Musculoskeletal Strains, Dehydration, Heat Exhaustion resulted in:

- ❑ Torn muscles
- ❑ Hurt arm

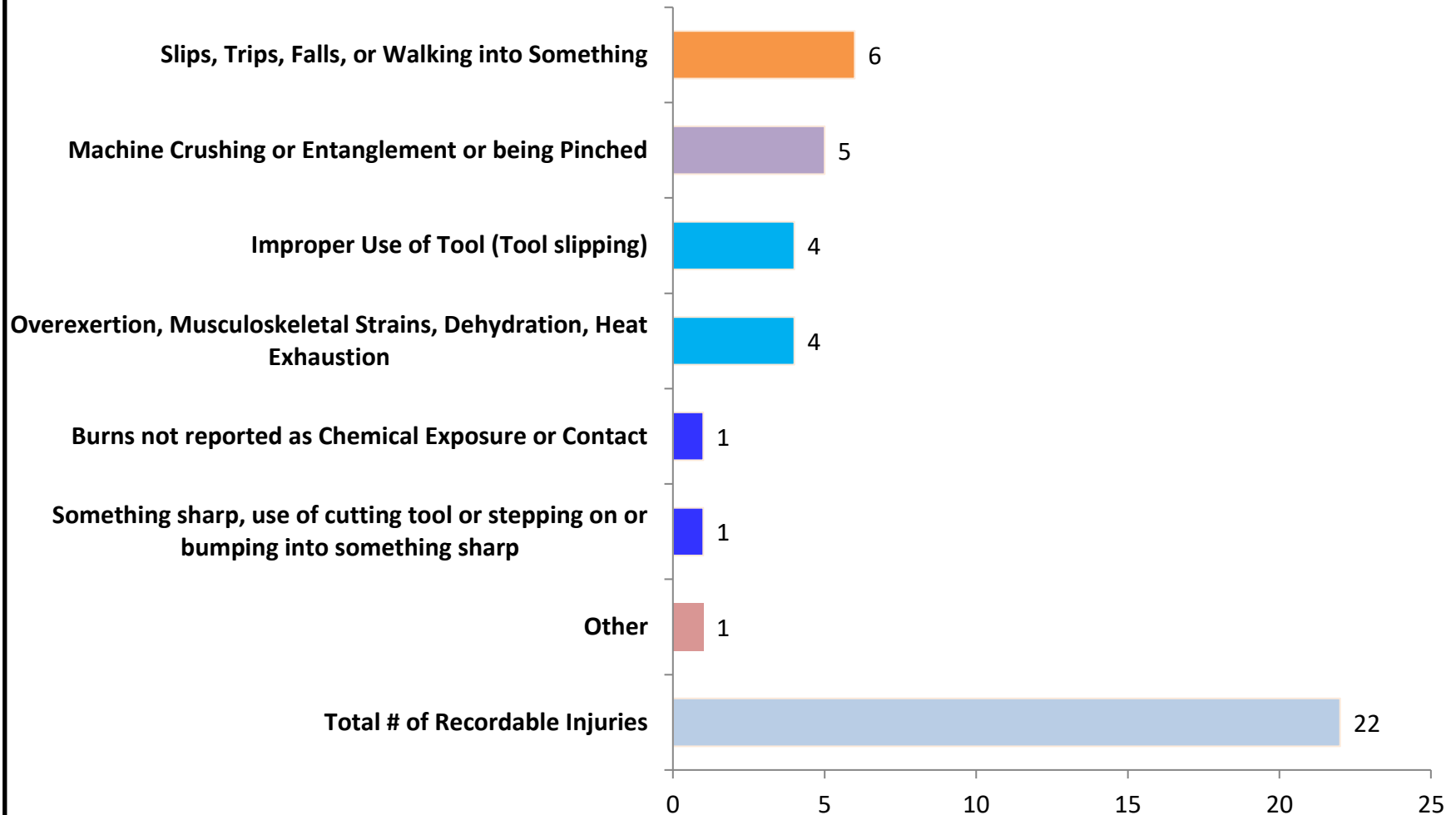
Improper use of tool resulted in:

- ❑ Cut thumb

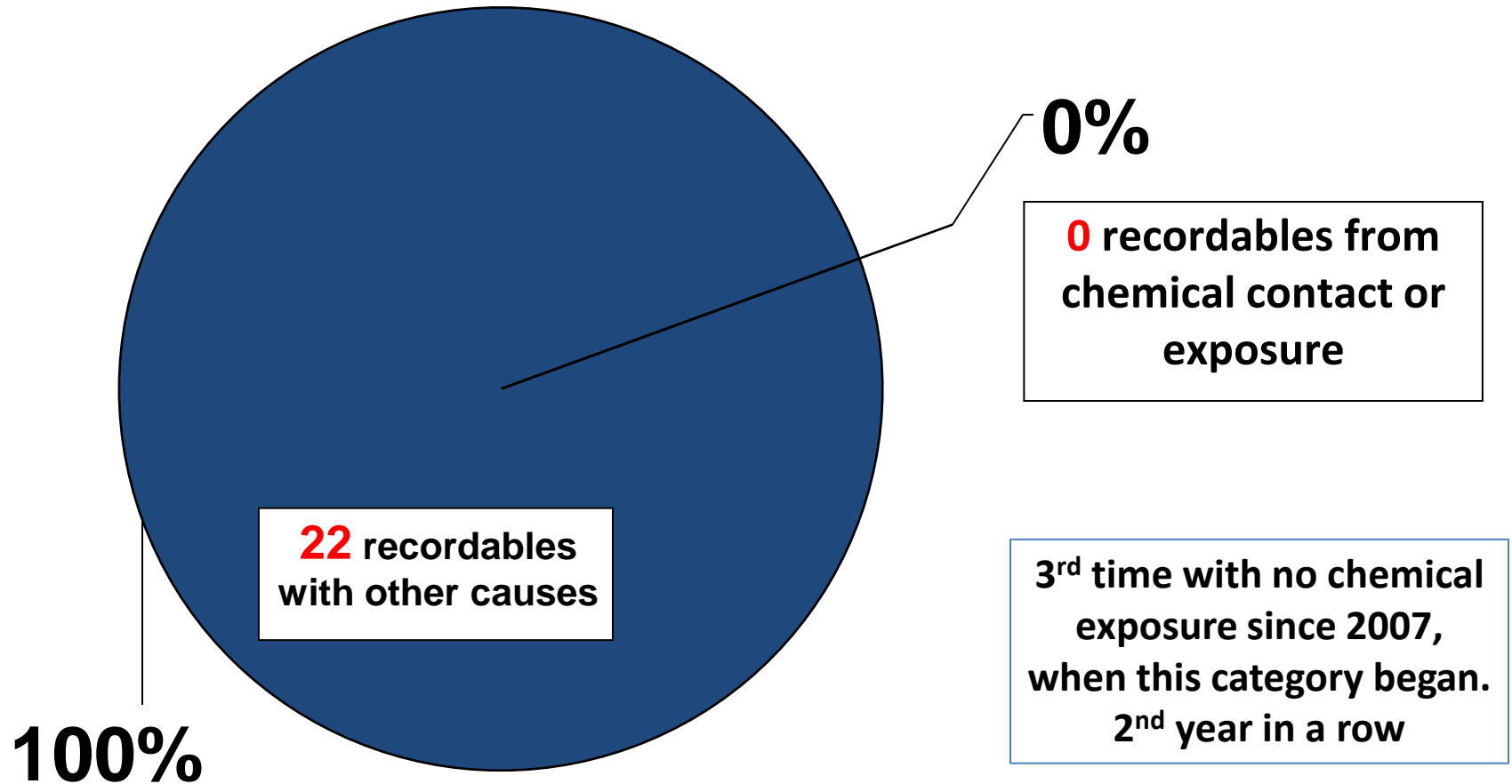
Causes of the 22 Recordables in 2022

- **None** were caused by a process safety incident such as a fire, explosion, or major toxic release
- **None** were caused by mechanical/equipment failure or inadequate design

Recordable Injuries in 2022 Resulted From



Recordables from Chemical Contact or Exposure in 2022



COMPARISONS

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

Employees -- 2022 -- Contractors

5.5 million work hours

12 of 18 plants with 0.00s

0.25 weighted avg.

0.00 median (middle)

2.89 highest rate (1 injury)

6.7 million work hours

11 of 17 plants with 0.00s*

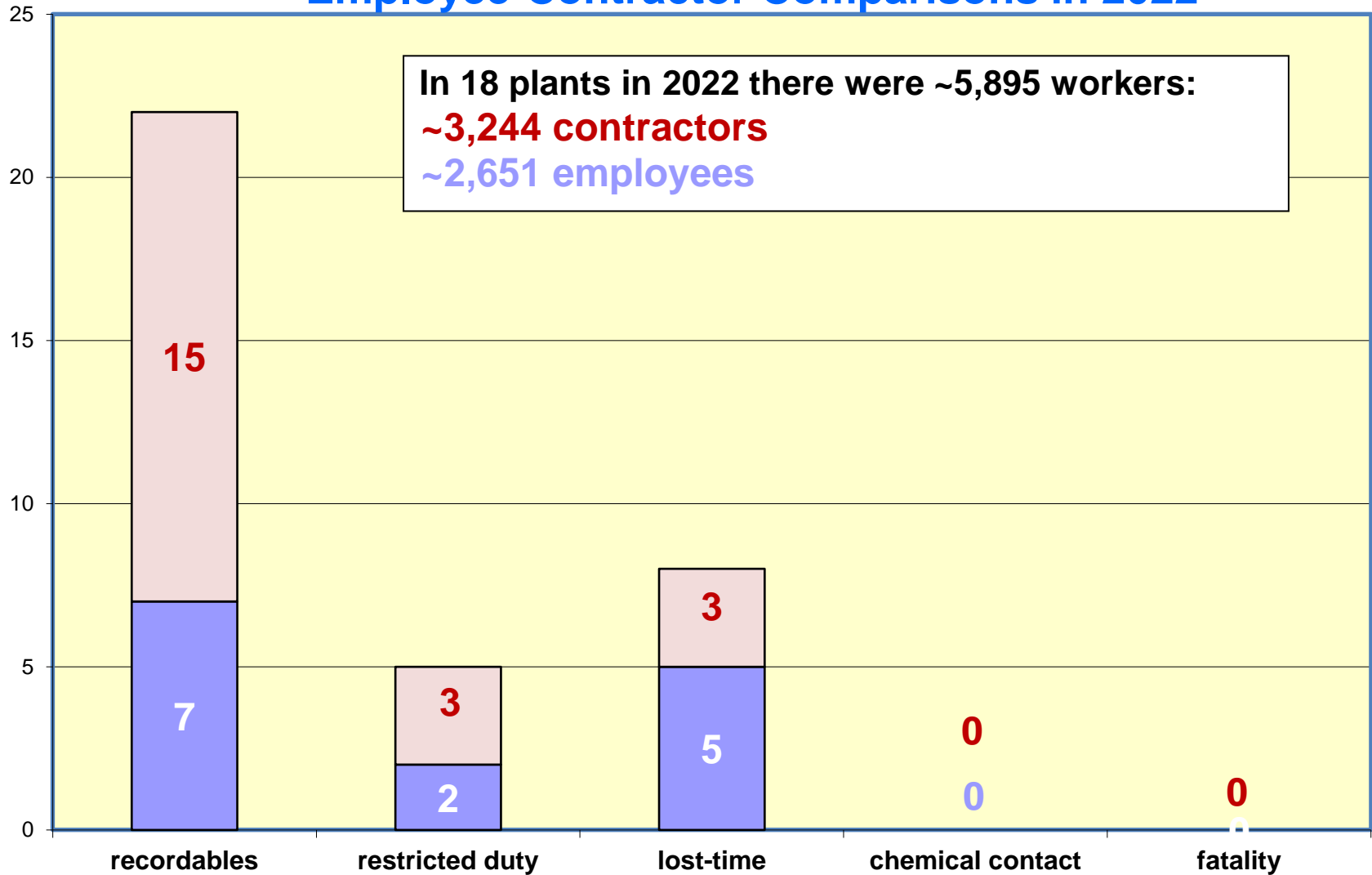
0.44 weighted avg.

0.00 median (middle)

2.50 highest rate (1 injury)

*Air Products did not have contractor hours

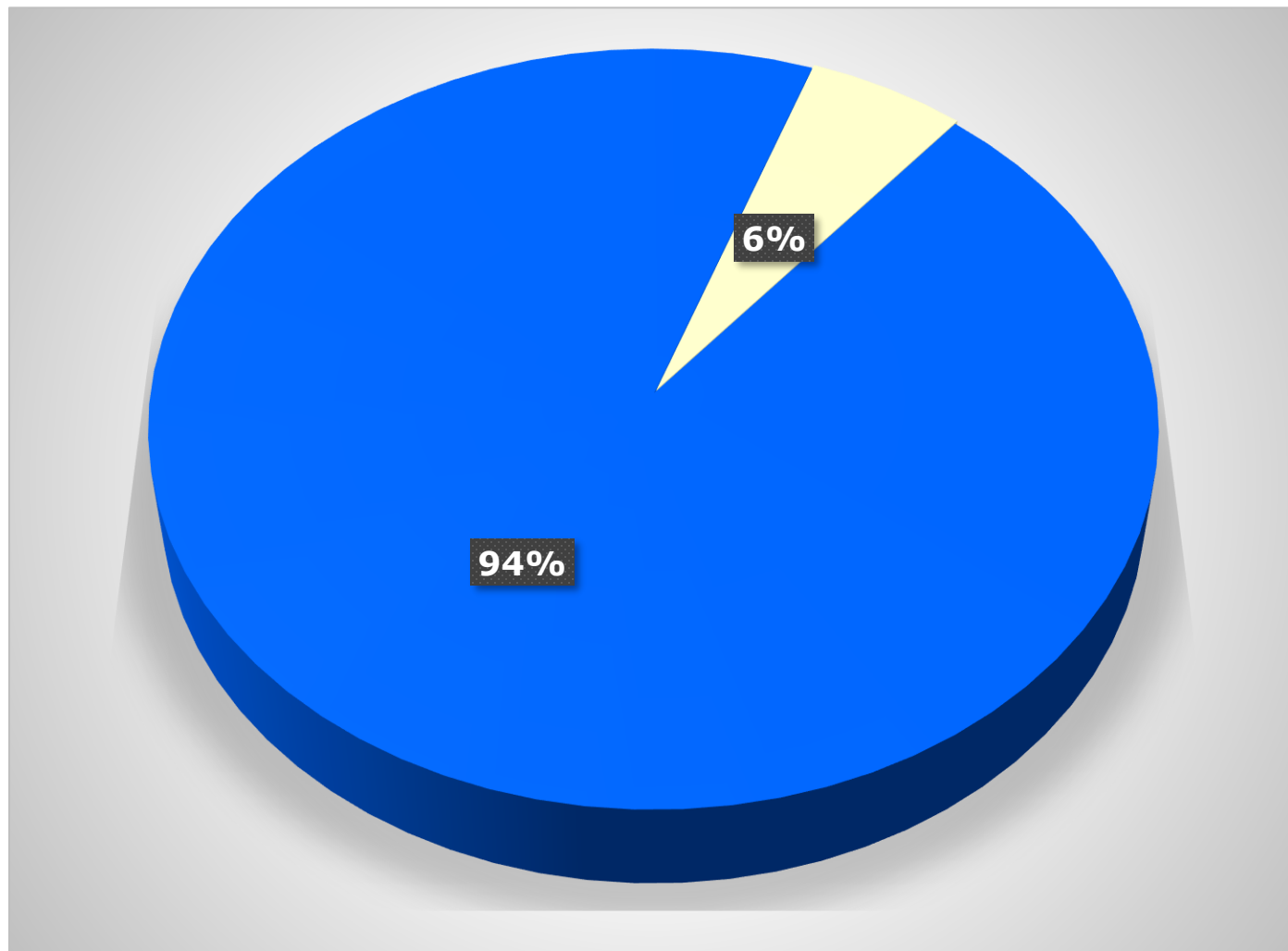
Employee-Contractor Comparisons in 2022



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

National Industry Comparisons

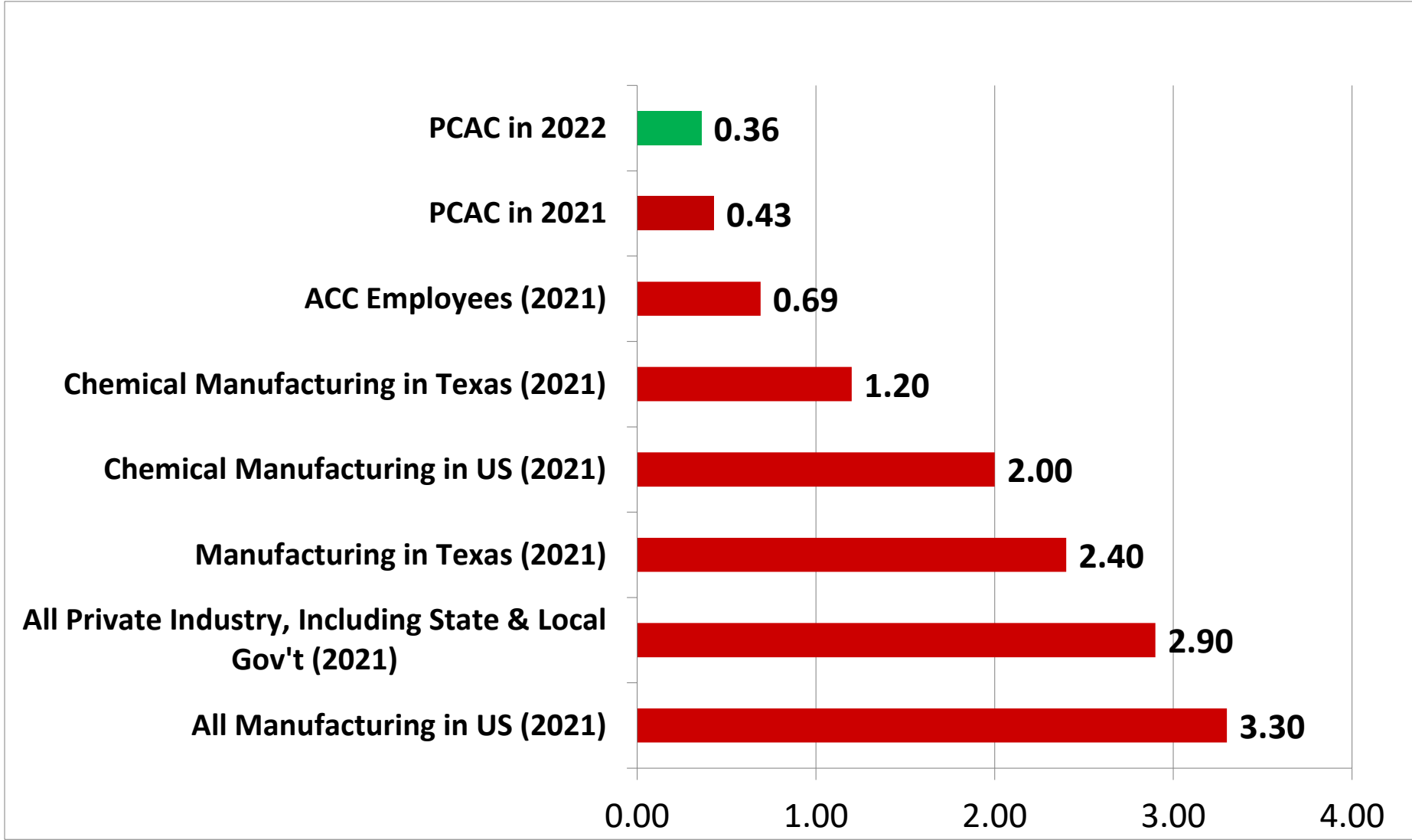
17 of 18
CAC Plants
(94%) had
recordable
rates in
2022 better
than 2021
rates of
companies
nationwide
in their
NAICS code.
(3 had
higher rates
in 2021.)



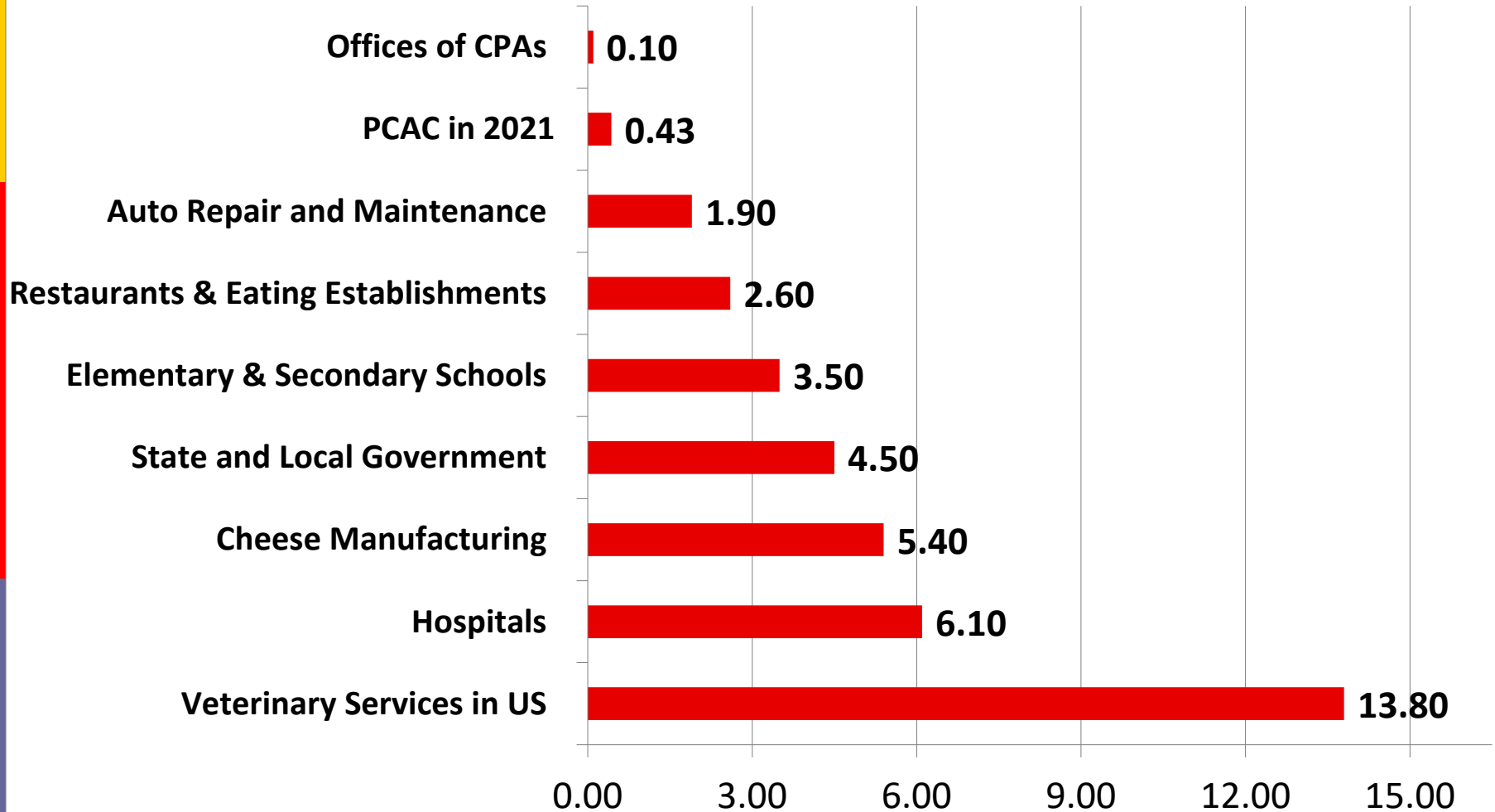
Comparing Recordable Rates within OSHA's Nationwide Industry Groups

2021 NATIONAL DATA	NAICS CODE	INDUSTRY GROUP	2022 Total Plant Recordable Rate	2021 Total Plant Recordable Rate	2021 NAICS group rate
Gulf Coast Authority	221320	Sewage Treatment Facilities	0.00	5.86	4.00
Chevron Pasadena Refinery	324110	Petroleum Refineries	0.54	0.45	0.50
LyondellBasell Houston Refining	324110	Petroleum Refineries	0.00	0.32	
Next Wave Energy Partners	325110	Basic Chemical Manufacturing	0.85		
INEOS Phenol	325110	Basic Chemical Manufacturing	1.09	0.00	1.60
Air Products*	325120	Industrial Gas Manufacturing	0.00	0.00	1.00
Afton Chemical	325199	All Other Basic Organic Chemical Manufacturing	0.00	0.52	
Albemarle	325199	All Other Basic Organic Chemical Manufacturing	0.00	0.00	
BASF	325199	All Other Basic Organic Chemical Manufacturing	0.59	0.00	2.50
Ethyl	325199	All Other Basic Organic Chemical Manufacturing	0.00	10.98	
Evonik	325199	All Other Basic Organic Chemical Manufacturing	1.85	0.00	
Chevron Phillips Chemical	325211	Plastics Material and Resin Manufacturing	0.31	0.25	
OxyChem Pasadena PVC	325211	Plastics Material and Resin Manufacturing	0.85	1.30	1.30
Sekisui	325211	Plastics Material and Resin Manufacturing	0.00	1.33	
Enterprise Products	424710	Petroleum Products Merchandise Wholesalers	0.00	0.00	2.00
Intercontinental Terminals	49319	Other Warehousing and Storage	0.00	0.00	
KM Export Terminal	493190	Other Warehousing and Storage	0.00	0.00	4.00
KM Liquids Terminal	493190	Other Warehousing and Storage	0.57	1.37	

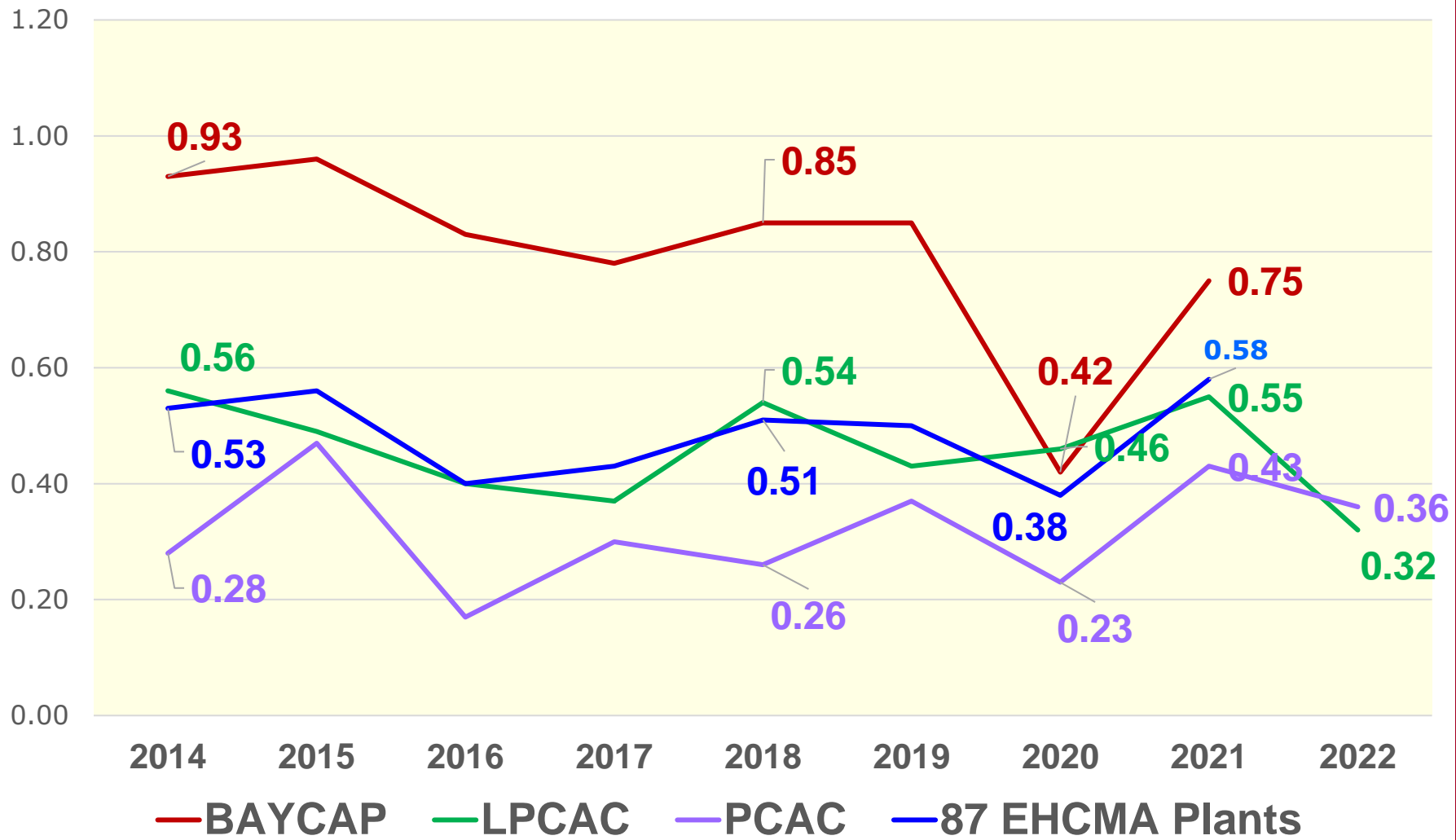
Comparisons on Weighted Recordable Rates



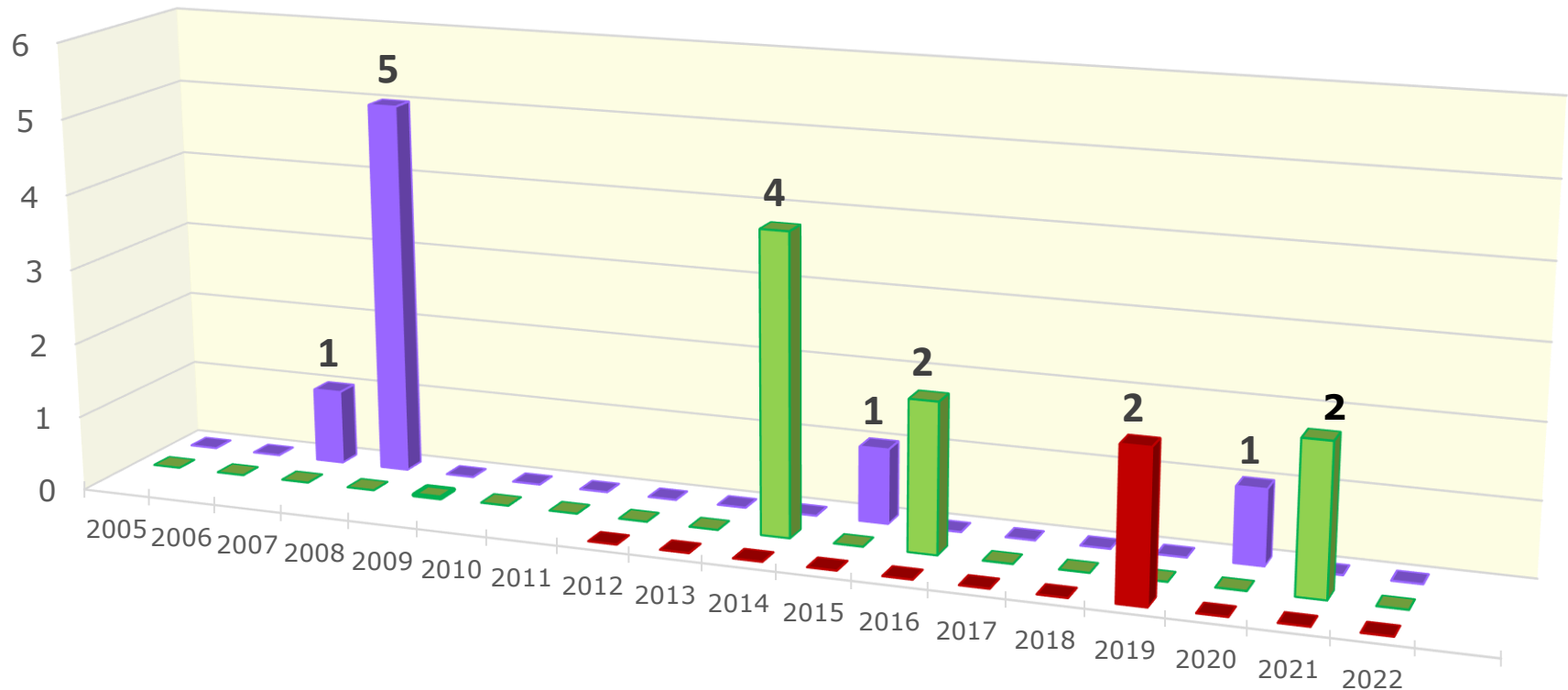
Comparisons: 2021 Weighted Recordable Rates



CAC Weighted Average Comparison 2014-2022



CAC Fatality Comparison 2005-2022



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 and BAYCAP Data from 2021

PCAC and LPCAC Data from 2022

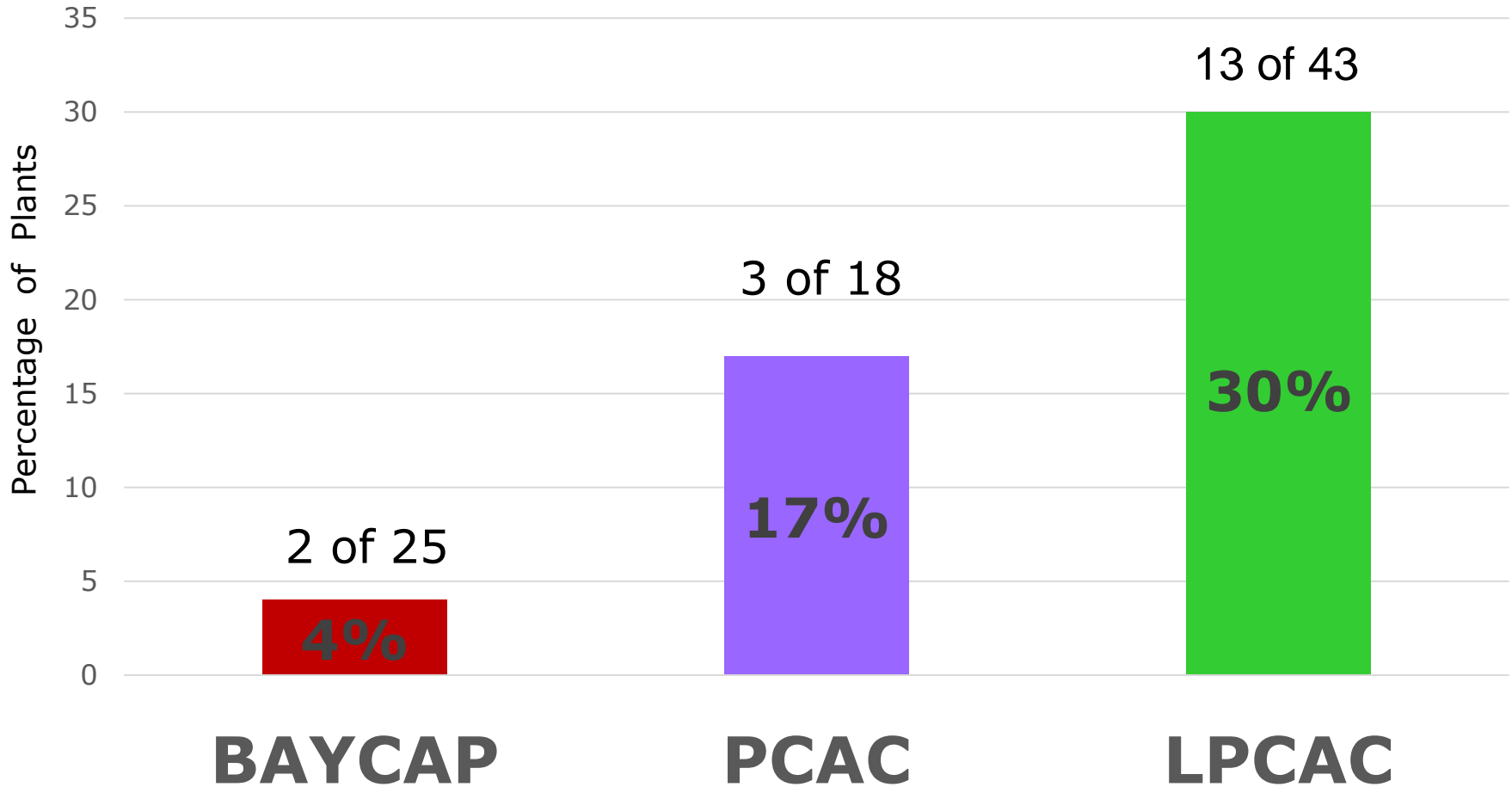
Employees

- 0.25 PCAC plant *employees*
- 0.40 LPCAC plant *employees*
- 0.69 American Chemistry Council (ACC) member-company *employees*
- 0.97 BAYCAP plant *employees*

Contractors

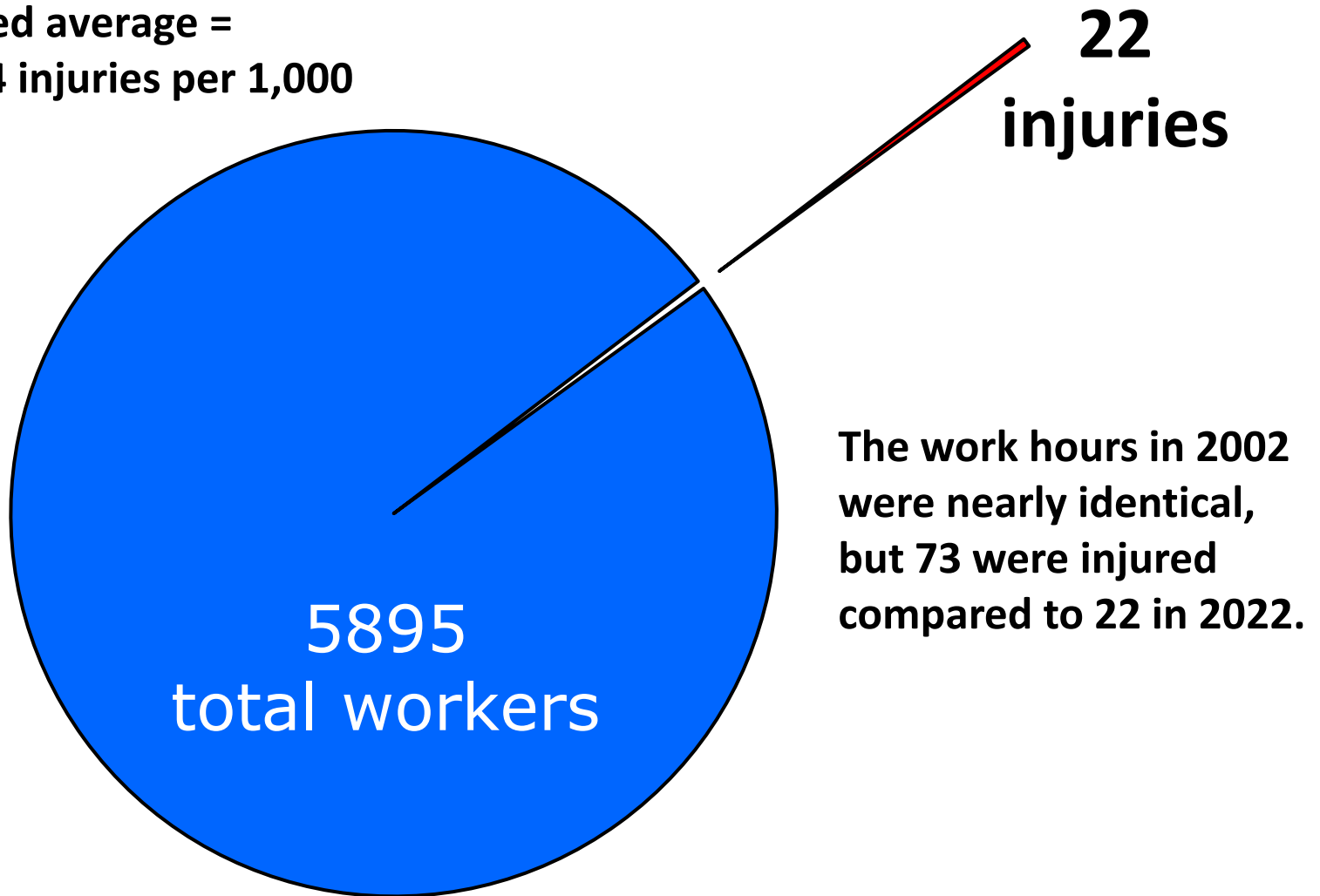
- 0.22 LPCAC plant *contractors*
- 0.32 BAYCAP plant *contractors*
- 0.34 American Chemistry Council (ACC) member-company *contractors*
- 0.44 PCAC plant *contractors*

Comparisons of OSHA VPP Participation



Safety Report Is about **People**

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



Questions?

- Contact Diane Sheridan, PCAC Facilitator
- 281-326-5253
- dbsfacilitator@gmail.com