API PROCESS SAFETY EVENT (PSE) PUBLIC REPORTING:

The U.S. Oil and Natural Gas industry considers safety a core value and is committed to advancing technologies, standards, good industry practices, and programs that prioritize workplace safety by identifying and addressing vulnerabilities in process safety performance. A process safety performance indicators program provides useful information for driving improvement and can contribute to reducing risks of major hazards by identifying the underlying causes.

API collects process safety event ("PSE") data based on ANSI/API Recommended Practice 754 Third Edition, *Process Safety Performance Indicators for the Refining and Petrochemical Industries.*

Year-to-year trending of performance data is a common method for assessing change. However, there are several factors that pose challenges for any year-to-year trend analysis of PSE data. The trends are for a small, finite population (refineries) and the events observed (PSEs) are statistically rare. Moreover, a PSE is a discrete event (a refinery cannot have 0.2 events in a year), further complicating any effort to statistically show a trend.

Because of these factors, yearly PSE data will tend to fluctuate and, in general, a year-to-year change is not a statistically significant indicator of real change. To address these factors, API "smooths" these fluctuations by showing a five-year rolling average, which is recognized by the industry as an indicator of sustainable performance.

The table and charts below show the data that API has collected for the years 2020-2024. The 2024 Tier 1 PSE rate was 0.0654, which was slightly below the 5-year rolling average of 0.0662. The 2024 Tier 2 PSE rate was 0.1699, which was above the 5-year rolling average of 0.1594.

U.S. Refining PSE Summary Data

	2020	2021	2022	2023	2024	5-Year Average
Number of Companies	29	28	26	29	27	28
Number of Refineries	101	96	95	96	94	96
Refinery Capacity Response Rate	93%	94%	93%	95%	95%	94%
Tier 1 PSEs Reported	85	96	92	85	90	90
Tier 1 PSE Rate per 200,000 Workforce Hours	0.0612	0.0770	0.0682	0.0604	0.0654	0.0662
Tier 2 PSEs Reported	182	219	233	211	234	216
Tier 2 PSE Rate per 200,000 Workforce Hours	0.1311	0.1756	0.1728	0.1500	0.1699	0.1594

Figure 1. U.S. Refining Tier 1 PSE Rates (2020-2024)

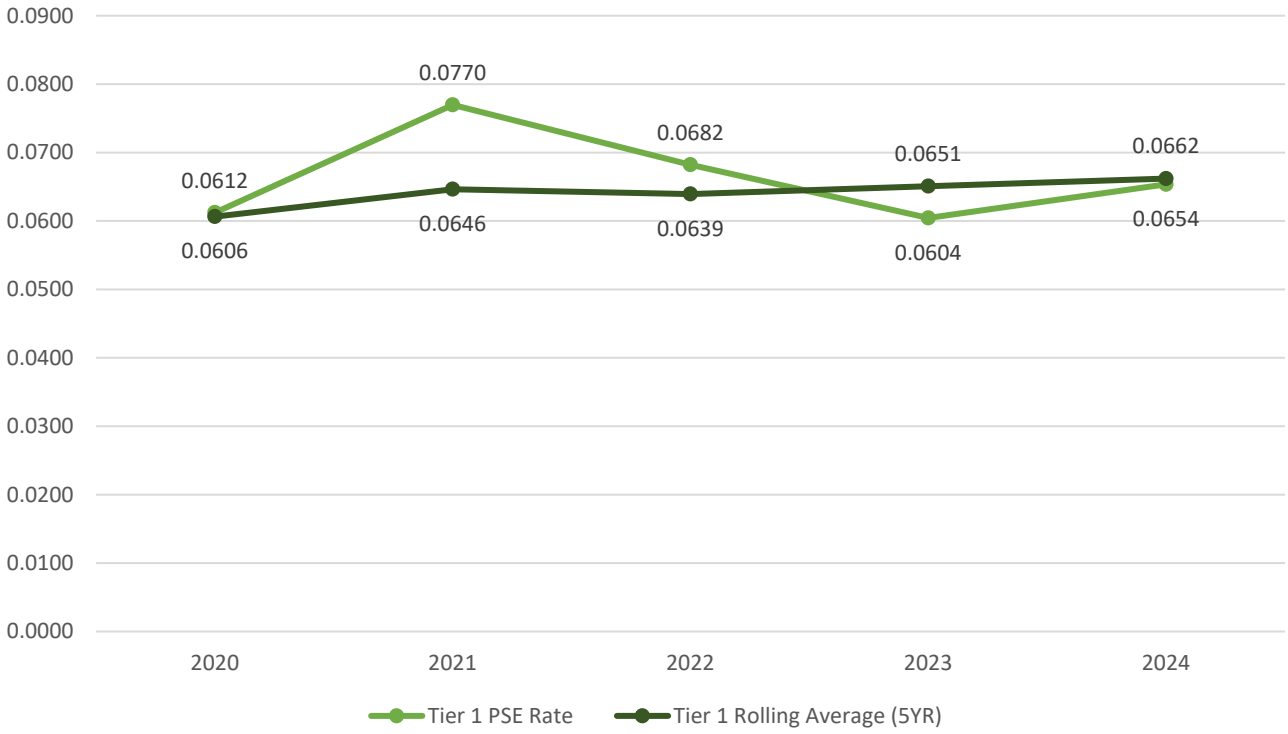


Figure 2. U.S. Refining Tier 2 PSE Rates (2020-2024)

