BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

# APPENDIX B

# Socioeconomic Impact Analysis

bae urban economics

# Socioeconomic Impact Analysis of Proposed Amendments to Rule 8-18: Equipment Leaks

Submitted to: Bay Area Air Quality Management District

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# INTRODUCTION

The Bay Area Air Quality Management District ("Air District" or "BAAQMD") is proposing to amend Regulation 8: Organic Compounds, Rule 18: Equipment Leaks (Rule 8-18) to further address emissions from facilities that store, transport, and use organic liquids. The amendments to Rule 8-18 are intended to further limit emissions of volatile organic compounds and methane from equipment leaks at these facilities. As provided in the Staff Report describing the proposed amendments to Rule 8-18[1], the draft amendments to Rule 8-18 include:

- Amending the rule to subject a subset of components in heavy liquid service to Leak Detection and Repair (LDAR) program requirements:
    - Valves and non-steam quenched pumps handling material with initial boiling points between 302 and 372 °F;
    - Steam-quenched pumps, compressors, pressure relief devices, and open ended valves or lines handling material with initial boiling points greater than 302 °F; and
    - Components handling material in a gas or vapor phase
- Other administrative updates and clarifications
- Additional definitions for clarity and completeness

## Socioeconomic Impact Analysis Methodology

This report was prepared to meet the provisions of Section 40728.5 of the California Health and Safety Code, which requires an assessment of the socioeconomic impacts of proposed air quality rules. The analysis begins with an overview of demographic and economic conditions in the Air District region to provide context for the socioeconomic impact analysis that follows. Following that overview, the analysis turns to the specific facilities and industries affected by the proposed amendments to Rule 8-18, including data on estimated employment and annual revenues. The analysis relies on data from a number of sources, including the 2017 Economic Census, the Internal Revenue Service, Data Axle, the State of California's Employment Development Department and Department of Finance, the California Energy Commission, the U.S. Energy Information Administration, and the Air District. BAE used this information to estimate the annual revenues and net profits for each potentially affected facility. The net profit figures were compared to the compliance costs associated with the revised Rule 8-18 to determine whether the compliance costs represent a significant portion of estimated profits (using a 10 percent impact threshold). The analysis also evaluates the potential for impacts on small businesses.

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[1] BAAQMD, May 2024. Staff Report: Proposed Amendments to Regulation 8: Organic Compounds, Rule 18: Equipment Leaks.

# REGIONAL TRENDS

This section provides an overview of recent demographic and economic trends in the nine-county San Francisco Bay Area region and the State to provide context for the socioeconomic impact analysis that follows.

## Demographic Trends

Table 1 shows population and household trends for the Bay Area and California between 2010 and 2023. During this period, the population in the Bay Area increased by approximately 5.6 percent, compared to 4.5 percent in California statewide. Meanwhile, the number of households in the Bay Area grew by 9.2 percent, compared to a 9.3 percent increase in households statewide.

**Table 1: Regional and Statewide Population and Household Trends, 2010-2023**

| | | | Change, 2010-2023 | |
|---|---|---|---|---|
| **Bay Area** (a) | **2010** | **2023** | **Number** | **Percent** |
| Population | 7,150,739 | 7,548,792 | 398,053 | 5.6% |
| Households | 2,606,288 | 2,844,913 | 238,625 | 9.2% |
| Avg. Household Size | 2.69 | 2.59 | | |
| | | | | |
| **California** | | | | |
| Population | 37,253,956 | 38,940,231 | 1,686,275 | 4.5% |
| Households | 12,568,167 | 13,739,470 | 1,171,303 | 9.3% |
| Avg. Household Size | 2.90 | 2.77 | | |

Note:
(a) Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties.

Sources: State of California Department of Finance; BAE, 2023.

## Economic Trends

In the period between 2010 and 2022, the Bay Area's employment base grew by 28.4 percent, increasing from 3.2 million jobs to 4.0 million jobs (see Table 2). Statewide, the employment base grew at a slightly lower rate, increasing 23.5 percent from 14.7 million jobs in 2010 to 18.1 million jobs in 2022. All of the major industry sectors in the state experienced job growth between 2010 and 2022. In the Bay Area, the Wholesale Trade and Retail Trade sectors contracted between 2010 and 2022, while all other non-governmental sectors grew by at least eight percent.

In terms of total number of jobs, the largest non-government industry sectors in the Bay Area include Professional & Business Services (819,500 jobs), Educational and Health Services (639,000 jobs), Leisure & Hospitality (386,000 jobs), and Manufacturing (379,700 jobs). These four industry sectors together account for approximately 55 percent of the Bay Area's total employment. Statewide, the four sectors account for 50 percent of total employment.

The Manufacturing sector, which includes the five refineries that would be subject to the proposed amendments to Rule 8-18, grew by nearly 25 percent in the Bay Area between 2010 and 2022. As of 2022, the sector accounted for 9.4 percent of the region's job base, compared to 7.4 percent of the job base statewide. The Wholesale Trade sector, which includes petroleum bulk stations and terminals, declined by 3.9 percent in the Bay Area between 2010 and 2022. Statewide, the Wholesale Trade sector grew by 5.9 percent during this period.

**Table 2: Bay Area Employment by Sector, 2010-2022** (a)

| | 2010 | | 2022 | | Change, 2010-2022 | |
|---|---|---|---|---|---|---|
| **Industry Sector** | **Number** | **% Total** | **Number** | **% Total** | **Number** | **Percent** |
| **San Francisco Bay Area** | | | | | | |
| Agriculture | 19,200 | 0.6% | 20,800 | 0.5% | 1,600 | 8.3% |
| Mining, Logging, and Construction | 131,500 | 4.2% | 210,000 | 5.2% | 78,500 | 59.7% |
| Manufacturing | 304,200 | 9.6% | 379,700 | 9.4% | 75,500 | 24.8% |
| Wholesale Trade | 112,200 | 3.6% | 107,800 | 2.7% | -4,400 | -3.9% |
| Retail Trade | 308,200 | 9.8% | 306,400 | 7.6% | -1,800 | -0.6% |
| Transportation, Warehousing, and Utilities | 88,300 | 2.8% | 134,100 | 3.3% | 45,800 | 51.9% |
| Information | 113,900 | 3.6% | 263,100 | 6.5% | 149,200 | 131.0% |
| Financial Activities | 168,000 | 5.3% | 197,400 | 4.9% | 29,400 | 17.5% |
| Professional & Business Services | 545,800 | 17.3% | 819,500 | 20.2% | 273,700 | 50.1% |
| Educational & Health Services | 474,200 | 15.0% | 639,000 | 15.8% | 164,800 | 34.8% |
| Leisure & Hospitality | 324,800 | 10.3% | 386,000 | 9.5% | 61,200 | 18.8% |
| Other Services, except Public Admin. | 108,100 | 3.4% | 120,600 | 3.0% | 12,500 | 11.6% |
| Government (b) | 455,200 | 14.4% | 463,600 | 11.5% | 8,400 | 1.8% |
| **Total, All Employment** (c) | **3,153,200** | **100.0%** | **4,047,700** | **100.0%** | **894,500** | **28.4%** |

| | 2010 | | 2022 | | Change, 2010-2022 | |
|---|---|---|---|---|---|---|
| **Industry Sector** | **Number** | **% Total** | **Number** | **% Total** | **Number** | **Percent** |
| **California** | | | | | | |
| Agriculture | 383,200 | 2.6% | 422,900 | 2.3% | 39,700 | 10.4% |
| Mining, Logging, and Construction | 584,800 | 4.0% | 933,200 | 5.2% | 348,400 | 59.6% |
| Manufacturing | 1,249,300 | 8.5% | 1,336,900 | 7.4% | 87,600 | 7.0% |
| Wholesale Trade | 630,900 | 4.3% | 668,400 | 3.7% | 37,500 | 5.9% |
| Retail Trade | 1,509,200 | 10.3% | 1,614,600 | 8.9% | 105,400 | 7.0% |
| Transportation, Warehousing, and Utilities | 468,000 | 3.2% | 850,000 | 4.7% | 382,000 | 81.6% |
| Information | 429,900 | 2.9% | 608,200 | 3.4% | 178,300 | 41.5% |
| Financial Activities | 761,200 | 5.2% | 844,700 | 4.7% | 83,500 | 11.0% |
| Professional & Business Services | 2,084,300 | 14.2% | 2,872,700 | 15.9% | 788,400 | 37.8% |
| Educational & Health Services | 2,132,000 | 14.5% | 2,936,300 | 16.2% | 804,300 | 37.7% |
| Leisure & Hospitality | 1,501,000 | 10.2% | 1,931,600 | 10.7% | 430,600 | 28.7% |
| Other Services, except Public Admin. | 483,700 | 3.3% | 563,300 | 3.1% | 79,600 | 16.5% |
| Government (b) | 2,448,400 | 16.7% | 2,529,000 | 14.0% | 80,600 | 3.3% |
| **Total, All Employment** (c) | **14,666,200** | **100.0%** | **18,111,800** | **100.0%** | **3,445,600** | **23.5%** |

Notes:
(a) Includes all wage and salary employment.
(b) Government employment includes workers in all local, state and Federal workers, not just those in public administration. For example, all public school staff are in the Government category.
(c) Totals may not sum due to independent rounding.
Sources: California Employment Development Department; BAE, 2023.

## Affected Industries

The proposed amendments to Rule 8-18 would affect the five Bay Area refineries (NAICS 324110), two refinery-owned bulk terminals (NAICS 424710), and five other non-refinery facilities that store, transport, and/or process organic liquids. The five non-refinery facilities are owned and operated by three firms spanning two industries (NAICS 424710 and NAICS 486910). Overall, the twelve affected facilities employ an estimated 2,922 workers (see Table 3).

**Table 3: Affected Facilities and Industries**

| Facility Name | NAICS | NAICS Description | Estimated Employees (a) |
|---|---|---|---|
| **Refineries & Refinery-Owned Terminals** | | | |
| Chevron Refinery | 324110 | Petroleum Refineries | 1,300 |
| Marathon Martinez Refinery | 324110 | Petroleum Refineries | 110 |
| Valero Refinery | 324110 | Petroleum Refineries | 410 |
| PBF Energy Refinery | 324110 | Petroleum Refineries | 560 |
| PBF Energy Terminal | 424710 | Petroleum Bulk Stations and Terminals | (b) |
| Phillips 66 Refinery | 324110 | Petroleum Refineries | 480 |
| Phillips 66 Richmond Marine Terminal | 424710 | Petroleum Bulk Stations and Terminals | 15 |
| **Non-Refinery Bulk and Pipeline Terminals** | | | |
| Equilon Enterprises San Jose Terminal | 424710 | Petroleum Bulk Stations and Terminals | 3 |
| NuStar Selby Terminal | 424710 | Petroleum Bulk Stations and Terminals | 22 |
| Kinder Morgan San Jose Terminal | 486910 | Pipeline Transportation of Refined Petroleum Products | 8 |
| Kinder Morgan Brisbane Terminal | 486910 | Pipeline Transportation of Refined Petroleum Products | 8 |
| Kinder Morgan Concord Pump Station | 486910 | Pipeline Transportation of Refined Petroleum Products | 6 |
| **Total, All Affected Facilities** | | | **2,922** |

Notes:
(a) Employment figures represent direct employment; on-site leased employees and independent contractors are not included in direct employment figures.
(b) PBF Energy refinery employment includes employment at on-site terminals.

Sources: BAAQMD; BAE, 2024.

Table 4 shows the total number of Bay Area establishments and estimated employees in the three industries that would be affected by the proposed amendments to Rule 8-18 based on 2022 data from the Quarterly Census of Employment and Wages (QCEW). As shown, the three affected industries employ roughly 3,350 workers in the region.[2] With approximately 2,920 employees, the twelve affected facilities account for approximately 87 percent of the total number of workers in the affected industries in the region.

Table 4 also presents information on the average number of employees and annual revenues for businesses in each affected industry based on statewide data from the 2021 County

[2] Some industry employment data for the 9-county Bay Area is suppressed due to the small number of firms reporting in certain counties.

Business Patterns and the 2017 Economic Census. As shown, the average refinery in California has approximately 400 employees and annual revenues exceeding $3.1 billion, while the average petroleum bulk station/terminal has approximately 20 employees and annual revenues exceeding $127 million. The average business establishment in the pipeline transportation of refined petroleum products industry has roughly 18 employees, with annual revenues averaging approximately $25.9 million.

**Table 4: Profile of Industries Affected by Proposed Amendments to Rule 8-18**

| | | **9-County Bay Area** (a) | | **State of California** | |
|---|---|---|---|---|---|
| **NAICS** | **Description** | **Total Establish-ments** | **Total Employment** (a) | **Average Employees per Establishment** (b) | **Avg. Annual Revenue per Establishment** (c) |
| 324110 | Petroleum Refineries | 5 | 2,875 | 402.3 | $3,135,868,945 |
| 424710 | Petroleum Bulk Stations and Terminals | 20 | 387 | 20.6 | $127,431,817 |
| 486910 | Pipeline Transportation | 17 | 94 | 18.2 | $25,863,751 |

Notes:
(a) Industry data for 9-county Bay Area region from Quarterly Census of Employment and Wages (QCEW), 2022. Some industry employment data for the 9-county Bay Area is suppressed due to the small number of firms reporting in certain counties.
(b) Average number of employees based on 2021 U.S. Census County Business Patterns data for establishments in California.
(c) Estimated annual revenues per establishment based on 2021 U.S. Census County Business Patterns and 2017 Economic Census data for establishments in California.

Sources: Quarterly Census of Employment and Wages (QCEW), 2022; U.S. Census County Business Patterns, 2021; Economic Census, 2017; BAE, 2024.

# SOCIOECONOMIC IMPACTS

This section summarizes the annualized compliance costs associated with the proposed Rule 8-18 amendments and assesses whether the annualized compliance costs would significantly burden the affected facilities based on a 10 percent of profits threshold. Because there are a limited number of facilities that are not necessarily representative of their entire NAICS sectors profiled above, the analysis here focuses directly on the twelve facilities and the parent companies that would be impacted by the proposed Rule 8-18 amendments. The analysis is based on publicly available information from a variety of sources, including Data Axle, the California Energy Commission, the U.S. Energy Information Administration, the Environmental Protection Agency, the Internal Revenue Service, the U.S. Census Bureau, and the Air District.

## Compliance Costs

Air District staff has estimated annualized compliance costs for each of the facilities affected by the proposed Rule 8-18 amendments, as shown below in Table 5. Annual compliance costs are estimated to range from $169,050 to $253,980 for all affected facilities combined. The five refining companies would face combined annual costs ranging from $147,280 to $221,790 and would account for most of the costs associated with proposed Rule 8-18 amendments.

**Table 5: Annualized Compliance Costs for Facilities Affected by Proposed Rule 8-18 Amendments**

| Facility | NAICS | Annualized Compliance Costs ($/year) | |
|---|---|---|---|
| | | Minimum | Maximum |
| **Refineries & Refinery-Owned Terminals** | | | |
| Chevron Refinery | 324110 | $33,700 | $49,800 |
| Marathon Martinez Refinery | 324110 | $26,900 | $39,200 |
| PBF Energy Refinery (Martinez Refining Company) | 324110 | $30,100 | $47,300 |
| PBF Energy Terminal (Martinez Terminal Company) | 424710 | $2,870 | $4,410 |
| Phillips 66 Refinery | 324110 | $19,300 | $30,300 |
| Phillips 66 Richmond Marine Terminal | 424710 | $3,810 | $5,580 |
| Valero Refinery | 324110 | $30,600 | $45,200 |
| **Other Facilities** | | | |
| Equilon Enterprises San Jose Terminal | 424710 | $3,830 | $5,960 |
| NuStar Selby Terminal | 424710 | $4,710 | $7,020 |
| Kinder Morgan San Jose Terminal | 486910 | $5,490 | $7,930 |
| Kinder Morgan Brisbane Terminal | 486910 | $3,020 | $4,340 |
| Kinder Morgan Concord Pump Station | 486910 | $4,720 | $6,940 |
| **Total, All Affected Facilities** | | **$169,050** | **$253,980** |

Sources: BAAQMD; BAE, 2024.

## Impacts on Affected Facilities

### *Refineries and Refinery-Owned Bulk Terminals*

As mentioned above, the proposed amendments to Rule 8-18 would affect all five Bay Area refineries (NAICS 324110) and two refinery-owned bulk terminals (NAICS 424710). As summarized in Table 6, there are an estimated 2,875 workers directly employed at these facilities. The Phillips 66 and Marathon Martinez refineries are both being reconfigured to produce renewable fuels. Once the Marathon Martinez and Phillips 66 Rodeo refineries are fully converted to produce renewable fuels, the refineries are expected to have a combined throughput capacity of 646,500 barrels per day.

**Table 6: Bay Area Refineries**

| Facility | Estimated Employees (a) | Production Capacity (Barrels/Day) |
|---|---|---|
| Chevron U.S.A. Inc., Richmond Refinery | 1,300 | 245,271 |
| PBF Energy, Martinez Refinery & Terminals | 560 | 156,400 |
| Valero Energy, Benicia Refinery | 410 | 145,000 |
| Phillips 66, Rodeo Refinery & Richmond Marine Terminal | 495 | 52,200 (b) |
| Marathon Martinez, Golden Eagle Refinery | 110 | 47,600 (b) |
| **Total** | **2,875** | **646,471** |

Notes:
(a) Employment figures represent direct employment at affected refineries and refinery-owned terminals; on-site leased employees and independent contractors are not included in direct employment figures.
(b) Figures shown for Phillips 66 and Marathon Martinez represent the future planned production capacities of the facilities after they are converted to produce renewable fuels.

Sources: California Energy Commission; BAE, 2024.

Table 7 shows the estimated net income from sales of refined products generated by each of the affected refineries based on the production capacities shown above. Based on average utilization rates and average processing gains for typical U.S. refineries, the five affected refineries could produce approximately 595,800 barrels of refined product per day. The total estimated output at each refinery ranges from 43,900 to 226,000 barrels per day (see Table 7). Based on an average wholesale price of $118 per barrel of refined product, sales revenues are estimated at $1.9 to $9.7 billion. The analysis relies on publicly-available IRS corporation income tax data for U.S. refineries in years 2011 through 2020 to estimate net profits at each refinery. Specifically, the 10-year average profit margin (4.2 percent) was used to estimate net income as a share of annual revenues from sales of refined products at each facility. As summarized below, annual refinery net profits would range from a low of approximately $79.4 million to a high of $408.9 million based on these assumptions.

## Table 7: Estimated Refinery Net Income

| | Chevron | PBF Energy | Valero | Phillips 66 | Marathon |
|---|---|---|---|---|---|
| Total Operable Capacity (barrels/day) (a) | 245,271 | 156,400 | 145,000 | 52,200 | 47,600 |
| Effective Throughput (barrels/day) (b) | 212,650 | 135,599 | 125,715 | 45,257 | 41,269 |
| Est. Refinery Output (barrels/day) (c) | 226,047 | 144,142 | 133,635 | 48,109 | 43,869 |
| Est. Refined Product Sales (d) | $9,735,840,000 | $6,208,175,000 | $5,755,661,000 | $2,072,038,000 | $1,889,445,000 |
| Estimated Net Income (e) | $408,900,000 | $260,700,000 | $241,700,000 | $87,000,000 | $79,400,000 |
| **Assumptions** | | | | | |
| Average Utilization Rate (b) | 86.70% | | | | |
| Average Processing Gain (c) | 6.30% | | | | |
| Avg. Refined Product Price / Barrel (f) | $118 | | | | |
| 10-year Average Profit Margin (e) | 4.2% | | | | |

Notes:
(a) The assumed operable capacities for the Phillips 66 refinery and Marathon Martinez refinery are based on their planned future production capacities shown in Table 6.
(b) Effective throughput estimate based on the average utilization rate for refineries in the West Coast (PADD 5) region in 2022, based on data provided by the U.S. Energy Information Administration.
(c) Due to processing gain, the total volume of refinery output is typically greater than the volume of input. According to the U.S. Energy Information Administration, the average processing gain at U.S. refineries was approximately 6.3% in 2022.
(d) Represents estimated revenues from sales of refined products based on an average refined product sale price of $118/barrel. For the purposes of estimating sales, refined product sales volumes are assumed to equal annual refinery output. Refineries may generate revenues from other sources, such as through sales of raw materials or sales from inventory; these revenues are not estimated in this table.
(e) Net income estimates are based on IRS corporation income tax data for U.S. refineries in years 2011 through 2020. The 10-year average profit margin was used to estimate net income.
(f) BAE estimate based on long-term wholesale petroleum price projections from the U.S. Energy Information Administration's Annual Energy Outlook 2023.

Sources: U.S. Energy Information Administration; California Energy Commission; IRS Corporation Income Tax Returns, 2011-2020; BAE, 2024.

Table 7 shows the projected net income from sales of refined products and the annualized compliance costs as a percentage of profits for each affected refining company. As shown, annualized compliance costs are well below the 10 percent burden threshold for all affected refineries. As a share of annual net profits, annualized compliance costs range from just 0.01 percent to 0.05 percent.

## Table 8: Rule 8-18 Amendments Annual Compliance Cost Impacts on Refineries

| Refinery | Estimated Total Annual Net Income | Rule 8-18 Annual Compliance Costs | | Compliance Costs as % of Net Income | |
|---|---|---|---|---|---|
| | | Minimum | Maximum | Minimum | Maximum |
| Chevron | $408,900,000 | $33,700 | $49,800 | 0.01% | 0.01% |
| PBF Energy | $260,700,000 | $32,970 | $51,710 | 0.01% | 0.02% |
| Valero | $241,700,000 | $30,600 | $45,200 | 0.01% | 0.02% |
| Phillips 66 | $87,000,000 | $23,110 | $35,880 | 0.03% | 0.04% |
| Marathon | $79,400,000 | $26,900 | $39,200 | 0.03% | 0.05% |

Note: Compliance costs shown for PBF Energy and Phillips 66 include costs for the refinery-owned terminals.

Sources: BAAQMD; BAE, 2024.

*Non-Refinery Bulk and Pipeline Terminals*

As mentioned above, there are a total of five non-refinery bulk and pipeline terminal facilities that would potentially be affected by the proposed Rule 8-18 amendments. These facilities are owned by three parent companies in two industries: Petroleum Bulk Plants and Terminals (NAICS 424710) and Pipeline Transportation of Refined Petroleum Products (NAICS 486910). Based on data from Data Axle as well as other public online sources, the five affected non-refinery bulk and pipeline terminals employ approximately 47 workers (see Table 9). To generate revenue estimates for each affected facility, BAE utilized data from the 2017 Economic Census to calculate per-employee revenues by industry. The per-employee revenue estimates were multiplied by the estimated number of employees at each affected facility to estimate annual revenues. The analysis uses the 10-year average profit margins for the affected industries based on IRS corporation income tax data for years 2011 through 2020 to estimate annual net profits at each facility. As summarized in Table 9, the five non-refinery facilities have estimated annual net profits ranging from approximately $204,000 to $2.1 million.

**Table 9: Estimated Annual Revenues and Profits for Affected Bulk and Pipeline Terminals**

| **Affected Facility** | **Estimated Employees** (a) | **Avg. Annual Receipts per Employee** (b) | **Est. Annual Receipts** (b) | **Profit Margin** (c) | **Estimated Annual Profit** |
|---|---|---|---|---|---|
| Equilon San Jose Terminal | 3 | $6,188,486 | $18,565,458 | 1.1% | $204,220 |
| NuStar Selby Terminal | 22 | $6,188,486 | $136,146,689 | 1.1% | $1,497,614 |
| Kinder Morgan San Jose | 8 | $1,421,085 | $11,368,682 | 18.8% | $2,137,312 |
| Kinder Morgan Brisbane | 8 | $1,421,085 | $11,368,682 | 18.8% | $2,137,312 |
| Kinder Morgan Concord | 6 | $1,421,085 | $8,526,511 | 18.8% | $1,602,984 |

Note:
(a) Employment data is sourced from Data Axle and other public online sources.
(b) Annual receipts based on 2017 Economic Census data for affected industries. Appendix A provides additional detail on each affected industry, including data on the distribution of establishments by number of employees, estimated revenues per employee, and estimated net profits for businesses of various sizes.
(c) Ten-year average profit margins for affected industries based on Internal Revenue Service, Statistics of Income--Corporation Income Tax Returns, 2011-2020.

Sources: Data Axle; Economic Census, 2017; County Business Patterns 2021; Internal Revenue Service, 2011-2020; BAAQMD; BAE, 2024.

Table 10 shows the estimated annual compliance costs as a share of total profits for each affected facility. The maximum annualized compliance costs are well below the 10 percent burden threshold for all five facilities. As a share of annual net profits, the maximum annualized compliance costs range from 0.2 percent to 2.9 percent.

**Table 10: Total Annualized Compliance Cost Impacts on Affected Bulk and Pipeline Terminals**

| Affected Facility | Estimated Annual Profit | Rule 8-18 Annual Compliance Costs | | Annual Compliance Costs as a % of Profit | |
|---|---|---|---|---|---|
| | | Minimum | Maximum | Minimum | Maximum |
| Equilon San Jose Terminal | $204,220 | $3,830 | $5,960 | 1.9% | 2.9% |
| NuStar Selby Terminal | $1,497,614 | $4,710 | $7,020 | 0.3% | 0.5% |
| Kinder Morgan San Jose | $2,137,312 | $5,490 | $7,930 | 0.3% | 0.4% |
| Kinder Morgan Brisbane | $2,137,312 | $3,020 | $4,340 | 0.1% | 0.2% |
| Kinder Morgan Concord | $1,602,984 | $4,720 | $6,940 | 0.3% | 0.4% |

Sources: BAAQMD; BAE, 2024.

## Impacts on the Regional Economy

Since the proposed amendments to Rule 8-18 would not result in significant impacts to the affected establishments within the affected industries, the proposed rule would not have a direct impact on regional employment. In addition, adoption of the proposed amendments to Rule 8-18 would not result in any regional multiplier economic impacts.

## Impacts on Small Businesses

According to California Government Code 14835, a small business is any business that meets the following criteria:

- Must be independently owned and operated;
- Cannot be dominant in its field of operation;
- Must have its principal office located in California;
- Must have its owners (or officers in the case of a corporation) domiciled in California; and
- Together with its affiliates, be either:
  - A business with 100 or fewer employees, and average annual gross receipts of $15 million or less over the previous three tax years, or
  - A manufacturer with 100 or fewer employees

None of the affected facilities would be considered small businesses based on these criteria. Thus, small businesses are not disproportionately affected by the proposed amendments to Rule 8-18.

# APPENDIX A

## Appendix A: Estimated Annual Sales and Profits of Bulk and Pipeline Terminals

**Annual Sales and Profits for Petroleum Bulk Stations and Terminals Industry (NAICS 424710)**

| Number of Employees | Percent of Establish-ments | Average Employees / Establishment | Avg. Annual Receipts per Establishment | Avg. Annual Profit per Establishment |
|---|---|---|---|---|
| 1-4 | 29% | 2.3 | $13,963,763 | $153,601 |
| 5-9 | 24% | 6.8 | $42,140,642 | $463,547 |
| 10-19 | 20% | 13.4 | $82,971,551 | $912,687 |
| 20-49 | 21% | 29.8 | $184,641,914 | $2,031,061 |
| 50-99 | 4% | 63.6 | $393,812,735 | $4,331,940 |
| 100+ | 2% | 304.7 | $1,885,425,353 | $20,739,679 |
| **All Establishments** | | **20.6** | **$127,431,817** | **$1,401,750** |

Receipts based on 2017 Economic Census data for NAICS 424710, Petroleum Bulk Stations and Terminals

| | |
|---|---|
| Average receipts per employee | $6,188,486 |
| Average profit margin | 1.1% |

**Annual Sales and Profits for Pipeline Transportation of Refined Products (NAICS 486910)**

| Number of Employees | Percent of Establish-ments | Average Employees / Establishment | Avg. Annual Receipts per Establishment | Avg. Annual Profit per Establishment |
|---|---|---|---|---|
| 1-4 | 16.7% | 1.0 | $1,421,085 | $267,164 |
| 5-9 | 26.7% | 6.8 | $9,592,325 | $1,803,357 |
| 10-19 | 26.7% | 12.0 | $17,053,023 | $3,205,968 |
| 20-49 | 23.3% | 28.1 | $39,993,398 | $7,518,759 |
| 50+ | 6.7% | 97.0 | $137,845,267 | $25,914,910 |
| **All Establishments** | | **18.2** | **$25,863,751** | **$4,862,385** |

Receipts based on 2017 Economic Census data for NAICS 486910, Pipeline Transp. of Refined Products

| | |
|---|---|
| Average receipts per employee | $1,421,085 |
| Average profit margin | 18.8% |

Sources: U.S. Census County Business Patterns, 2021; Economic Census, 2017; IRS, 2011-2020; BAE, 2024.