

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Draft Socioeconomic Impact Assessment For: Proposed Rule 317.1 – Clean Air Act Nonattainment Fees for 8-Hour Ozone Standards

May 2024

Deputy Executive Officer

Planning, Rule Development, and Implementation
Sarah L. Rees, Ph.D.

Assistant Deputy Executive Officer

Planning, Rule Development, and Implementation
Michael Krause

Planning and Rules Manager

Planning, Rule Development, and Implementation
Barbara Radlein

Authors: Valerie Rivera – Assistant Air Quality Specialist

Technical Assistance: Kalam Cheung, Ph.D. – Planning and Rules Manager
Neil Fujiwara – Program Supervisor
Britney Gallivan – Air Quality Specialist

Reviewed By: Xian-Liang (Tony) Tian, Ph.D. – Program Supervisor
Shah Dabirian, Ph.D. – Consultant
Daniel Penoyer – Air Quality Specialist
Chris Yu – Assistant Air Quality Specialist
Sheri Hanizavareh – Principal Deputy District Counsel
Barbara Baird – Chief Deputy Counsel
Kathryn Roberts – Senior Deputy District Counsel

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
GOVERNING BOARD**

Chair: VANESSA DELGADO
Senator (Ret.)
Senate Rules Committee Appointee

Vice Chair: MICHAEL A. CACCIOTTI
Councilmember, South Pasadena
Cities of Los Angeles County/Eastern Region

MEMBERS:

ANDREW DO
Supervisor, First District
County of Orange

CURT HAGMAN
Supervisor, Fourth District
County of San Bernardino

GIDEON KRACOV
Governor's Appointee

PATRICIA LOCK DAWSON
Mayor, Riverside
Cities of Riverside County Representative

LARRY MCCALLON
Mayor Pro Tem, Highland
Cities of San Bernardino County

HOLLY J. MITCHELL
Supervisor, Second District
County of Los Angeles

VERONICA PADILLA-CAMPOS
Speaker of the Assembly Appointee

V. MANUEL PEREZ
Supervisor, Fourth District
County of Riverside

NITHYA RAMAN
Councilmember, Fourth District
City of Los Angeles Representative

CARLOS RODRIGUEZ
Councilmember, Yorba Linda
Cities of Orange County

JOSE LUIS SOLACHE
Mayor, Lynwood
Cities of Los Angeles County/Western Region

EXECUTIVE OFFICER:

WAYNE NASTRI

TABLE OF CONTENTS

EXECUTIVE SUMMARY ES-1

INTRODUCTION..... 1

LEGISLATIVE MANDATES 1

AFFECTED FACILITIES 2

SMALL BUSINESS 5

COMPLIANCE COST..... 6
 Utilities Sector 9

MACROECONOMIC IMPACTS ON THE REGIONAL ECONOMY 9
 Impact of PR 317.1 10
 Regional Job Impacts 10
 Price Impact and Competitiveness 12

REFERENCES..... 13

EXECUTIVE SUMMARY

On March 17, 1989, the South Coast Air Quality Management District (South Coast AQMD) Governing Board adopted a resolution which requires an analysis of the economic impacts associated with adopting and amending rules and regulations. In addition, Health and Safety Code Section 40440.8 requires a socioeconomic impact assessment for any proposed rule, rule amendment or rule repeal which will “significantly affect air quality or emission limitations.” Lastly, Health and Safety Code Section 40728.5 requires the South Coast AQMD Governing Board to actively consider the socioeconomic impacts of rules and regulations and make a good faith effort to minimize adverse socioeconomic impacts.

Proposed Rule 317.1– Clean Air Act Nonattainment Fees for 8-Hour Ozone Standards (PR 317.1) has been developed to implement requirements as specified in Section 185 of the 1990 amendments to the federal Clean Air Act (CAA) for the 1997 8-hour ozone National Ambient Air Quality Standard (NAAQS) and the 2008 8-hour ozone NAAQS. A socioeconomic impact assessment was conducted to provide information to Governing Board and stakeholders but is not required per Health and Safety Code Sections 40440.8 and 40728.5 because air quality or emission limitations will not be significantly affected by PR 317.1.

The following presents a summary of the analysis and findings of the Socioeconomic Impact Assessment conducted for PR 317.1:

Key Elements of PR 317.1

PR 317.1 would implement federal CAA section 185, which requires major stationary sources of volatile organic compounds (VOC) and/or nitrogen oxides (NO_x), located within “severe” or “extreme” ozone nonattainment areas, where that area has failed to attain the 1997 8-hour ozone and 2008 8-hour ozone NAAQS by the applicable attainment dates, to either reduce their emissions by 20 percent from a baseline amount or pay CAA nonattainment fee. The fee will be calculated as the annual CAA section 185 nonattainment fee rate per ton of actual VOC and/or NO_x emissions during the fee assessment year that exceed 80 percent of a facility’s baseline emissions in the attainment year, for each applicable pollutant.

Affected Facilities and Industries

The fee provisions in PR 317.1 will affect facilities which are major stationary sources of VOC and/or NO_x. A major stationary source is a facility that emits or has the potential to emit VOC and/or NO_x emissions equal to or greater than the applicable major stationary source threshold, specified in CAA sections 182(d), 182(e), or 182(f). The precise number of facilities that may be subject to PR 317.1 is currently unknown because applicability will be determined from a combination of a subset of the entire universe of Title V program facilities and non-Title V program facilities with actual emissions data provided in the 2024 Annual Emissions Report (AER) (e.g., data which will not be available until 2025). While not all Title V program facilities are major stationary sources of VOC and/or NO_x, for the purpose of conducting a conservative analysis, all Title V program facilities are assumed to be

major stationary sources of VOC and NO_x and will be subject to this rule. Based on the South Coast AQMD permit database of Title V program facilities, there are approximately 319 facilities in the South Coast AQMD's jurisdiction that would potentially be affected by PR 317.1, with 196 located in Los Angeles County, 48 located in Orange County, 47 located in San Bernadino County, and 28 located in Riverside County.

A small business analysis was also conducted for the facilities affected by PR 317.1. Affected facilities that were governmental institutions were excluded from the analysis, resulting in 259 non-governmental facilities. The following table presents the number of affected facilities that qualify as small businesses which is dependent on the specific applicable definition used in the analysis:

Definition	Number of Facilities
South Coast AQMD Rule 102	0
South Coast AQMD's Small Business Assistance Office	39
U.S. Small Business Administration	89

Assumptions for the Analysis

For the major stationary sources of VOC and/or NO_x in “severe” or “extreme” ozone nonattainment areas that have failed to attain the 1997 and 2008 8-hour ozone NAAQS by their applicable attainment dates, PR 317.1 requires these facilities to either pay a CAA nonattainment fee or reduce emissions by 20 percent from their baseline emissions amount. Staff recognizes that there will be no CAA nonattainment fee collected from any facility which reduces its emissions by 20 percent from the baseline emissions in a given fee assessment year, is no longer a major stationary source due to VOC and/or NO_x emissions or is located in an area that is redesignated as in attainment for the applicable ozone NAAQS. As there is great uncertainty in future emissions reductions for each facility and the timelines for these emissions reductions, staff used a conservative approach of assuming no emission reductions from the projected baseline emissions, except for the emission reductions anticipated from implementation of South Coast AQMD Rule 1109.1– Emissions of Oxides of Nitrogen from Petroleum Refineries (Rule 1109.1). The two areas within the South Coast AQMD jurisdiction that are anticipated to be affected by PR 317.1 are the South Coast Air Basin (SCAB) and the Riverside County portions of the Salton Sea Air Basin (SSAB, also referred to as Coachella Valley Planning Area), both of which are classified as “extreme” nonattainment for the 1997 and 2008 8-hour ozone standards.

Compliance Cost: The total present value of the compliance cost of implementing PR 317.1 is estimated at \$258.42 million and \$214.84 million with a 1 percent and 4 percent discount rate, respectively. The annual average compliance cost of PR 317.1 is estimated to be \$25.07 million. This is a conservative estimate and the CAA nonattainment fees for a major stationary source of VOC and/or NO_x would not be assessed for the fee assessment year or would cease for the applicable standard for the following scenarios:

CAA nonattainment fees would not be assessed for a fee assessment year when:

- Emissions are reduced by 20% from the baseline for the fee assessment year.

CAA nonattainment fees would cease for the applicable standards when:

- The facility is no longer classified as a major stationary source of emissions, or
- Area the facility resides in is redesignated as an attainment area for the applicable ozone NAAQS.

The Petroleum and Coal Products Manufacturing sector, with a North American Industrial Classification System (NAICS) code 324 is expected to incur the largest share of the total annual average compliance costs which is estimated to be about \$8.93 million or 36 percent of the total annual average cost. The Utilities sector (NAICS 22) is expected to incur the second largest share of the total annual average cost of about \$3.51 million or 14 percent. The facilities in the Utilities sector which are subject to PR 317.1 are mostly fossil fuel electric power generation facilities, other electric power generating facilities, or sewage treatment facilities.

Job Impacts

Direct costs and corresponding revenues of PR 317.1 are used as inputs to the Regional Economic Models, Inc (REMI) PI+ v3 model to assess job impacts and secondary/induced impacts for all the industries in the four-county economy on an annual basis. The forecast time horizon used in the REMI model was from 2025 to 2035.

The REMI analysis projects 81 jobs foregone annually on average from 2025-2035 in the four-county region, relative to the baseline scenario. The 81 annual jobs foregone represent approximately 0.001 percent of total annual jobs in the four-county area.

The largest job impacts are projected to occur in 2034 and 2035, when facilities are required to pay both the 1997 and 2008 8-hour ozone

NAAQS nonattainment fees. In 2035, PR 317.1 is projected to result in roughly 132 jobs foregone relative to the baseline scenario according to the REMI model simulation.

**Competitiveness
and Price Impact**

The overall impact of PR 317.1 on production cost and delivered prices in the region is not expected to be substantial. Based on the REMI analysis, the implementation of PR 317.1 is projected to increase the relative cost of production by 0.003 percent and increase the relative delivered price of goods by 0.002 percent for all the industries in the South Coast AQMD jurisdiction in the year 2033, which is when implementation of PR 317.1 will have the greatest impact upon cost of production and delivered price of goods in the region.

INTRODUCTION

The federal CAA section 185 requires that major stationary sources of VOCs and/or NO_x, which are precursors of ozone, located in a “severe” or “extreme” ozone nonattainment areas, where the area has failed to attain the NAAQS, to either reduce their emissions by 20 percent from a baseline amount or pay a CAA nonattainment fee.¹ If a major stationary source does not reduce their emissions by 20 percent from the baseline amount, a CAA nonattainment fee will be assessed annually for each excess ton of VOC and/or NO_x emissions above their respective 80 percent thresholds, for each ozone standard.¹ The fee would be collected for each calendar year beginning after the attainment date and shall continue until the area is redesignated as an attainment area for that ozone standard.

PR 317.1 outlines the regulatory pathway necessary to comply with the requirements of federal CAA section 185 for the 1997 and 2008 8-hour ozone standards. PR 317.1 addresses when and how the federal CAA section 185 nonattainment fee would be assessed and collected from major stationary sources of VOC and/or NO_x within the SCAB and Coachella Valley Planning area, which have been classified as “extreme” nonattainment for both the 1997 and 2008 8-hour ozone NAAQS. The provisions of PR 317.1 will become applicable if/when the United States Environmental Protection Agency (U.S. EPA) makes a final finding that the SCAB and Coachella Valley Planning Area have failed to attain the 1997 8-hour ozone NAAQS or the 2008 8-hour ozone NAAQS by attainment deadlines of June 15, 2024 (1997 standard) and July 20, 2032 (2008 standard).

LEGISLATIVE MANDATES

The legal mandates directly related to the socioeconomic impact assessment of PR 317.1 include the South Coast AQMD Governing Board resolution and various sections of the Health and Safety Code.

South Coast AQMD Governing Board Resolution

On March 17, 1989, the South Coast AQMD Governing Board adopted a resolution that requires an analysis of the economic impacts associated with adopting and amending rules and regulations that considers all of the following elements:

- Affected industries;
- Range of probable costs;
- Cost-effectiveness of control alternatives; and
- Public health benefits.

Health and Safety Code Requirements

The state legislature adopted legislation which reinforces and expands the South Coast AQMD Governing Board resolution requiring socioeconomic impact assessments for rule development projects. Health and Safety Code Section 40440.8, which went into effect on January 1, 1991, requires a socioeconomic impact assessment for any proposed rule, rule amendment, or rule repeal which "will significantly affect air quality or emissions limitations."

¹ U.S. EPA, Clean Air Act Overview, Clean Air Act, Title I-Air Pollution Prevention and Control, Parts A through D, Part D - Plan Requirements for Nonattainment Areas, Subpart 2 - Additional Provisions for Ozone Nonattainment Area, Enforcements for Severe and Extreme Ozone Nonattainment Areas for Failure to Attain, <https://www.govinfo.gov/content/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapI-partD-subpart2-sec7511d.htm>, accessed March 21, 2024.

To satisfy the requirements in Health and Safety Code Section 40440.8, the scope of the socioeconomic impact assessment should include all of the following information:

- Type of affected industries;
- Impact on employment and the regional economy;
- Range of probable costs, including those to industry;
- Availability and cost-effectiveness of alternatives to the rule;
- Emission reduction potential; and
- Necessity of adopting, amending, or repealing the rule in order to attain state and federal ambient air quality standards.

Additionally, Health and Safety Code Section 40728.5, which went into effect on January 1, 1992, requires the South Coast AQMD Governing Board to: 1) actively consider the socioeconomic impacts of regulations; 2) make a good faith effort to minimize adverse socioeconomic impacts; and 3) include small business impacts. To satisfy the requirements in Health and Safety Code Section 40728.5, the socioeconomic impact assessment should include the following information:

- Type of industries or business affected, including small businesses; and
- Range of probable costs, including costs to industry or business, including small business.

PR 317.1 does not directly affect air quality or establish an emission limitation within the meaning of Health and Safety Code Section 40440.8. However, a socioeconomic impact assessment was conducted to provide information to the Governing Board and stakeholders although it is not required per Health and Safety Code Sections 40440.8 and 40728.5.

Finally, Health and Safety Code Section 40920.6, which went into effect on January 1, 1996, requires an incremental cost-effectiveness analysis for a proposed rule or amendment which imposes Best Available Retrofit Control Technology (BARCT) or “all feasible measures” requirements relating to emissions of ozone, carbon monoxide (CO), sulfur oxides (SO_x), NO_x, VOC, and their precursors. However, since PR 317.1 does not include new BARCT requirements, Health and Safety Code Section 40920.6 does not apply to the proposed rule.

AFFECTED FACILITIES

PR 317.1 requires major stationary sources of VOC and/or NO_x within the SCAB and Coachella Valley Planning Area to pay a CAA nonattainment fee if the areas fail to attain the 1997 and 2008 8-hour ozone NAAQS by applicable attainment dates. A major stationary source for the purposes of PR 317.1 is a facility that emits or has the potential to emit VOC and/or NO_x emissions equal to or greater than the applicable major stationary source threshold, as specified in CAA sections 182(d), 182(e), or 182(f).^{2,3} The major stationary source thresholds established by these CAA requirements are summarized as follows:

² U.S. EPA, Clean Air Act Overview, Clean Air Act, Title I-Air Pollution Prevention and Control, Parts A through D, Part D - Plan Requirements for Nonattainment Areas, Subpart 2 - Additional Provisions for Ozone Nonattainment Area, Plan Submissions and Requirements, <https://www.epa.gov/clean-air-act-overview/clean-air-act-title-i-air-pollution-prevention-and-control-parts-through-d#id>, accessed May 01, 2024.

³ Please note there are certain emissions that are not to be considered in determining whether a facility emits or has the PTE equal to or greater than the applicable major stationary source threshold. For more information see Draft Rule Language for PR 317.1, <https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-317-1>.

- CAA section 182(d): Establishes a major stationary source threshold for areas classified as “severe” as a facility that emits or has a PTE of at least 25 tons per year of VOCs.
- CAA section 182 (e): Establishes a major stationary source threshold for areas classified as “extreme” as a facility that emits or has a PTE of at least 10 tons per year of VOCs.
- CAA section 182 (f): Establishes that the major stationary source threshold for sources of VOC shall also apply to sources of NOx.

The federal Title V program is designed to standardize air quality permits and the permitting process for major sources of emissions. South Coast AQMD uses U.S. EPA’s definition of a major source (40 CFR Part 70, Section 70.2), which excludes certain emissions from being considered in the facility’s PTE. The South Coast AQMD implements the federal Title V program permits through Regulation XXX – Title V Permits, which issues federally enforceable permits to facilities that are major stationary sources of emissions.^{4,5}

The precise number of facilities that may be subject to PR 317.1 is currently unknown because applicability will be determined from a combination of the following:

- A subset of the entire universe of Title V program facilities, since some Title V program facilities may be a major source for pollutants other than VOC and/or NOx; and
- Certain non-Title V program facilities with actual emissions data provided in the 2024 AER which will not be available until 2025.

Since the precise number of facilities that may be subject to PR 317.1 is unknown at this time, due to absence of actual emissions data for calendar year 2024 from non-Title V facilities, for the purpose of conducting a conservative analysis, all Title V program facilities are assumed to be major stationary sources of VOC and NOx and will be subject to this rule. The actual universe of Title V program facilities subject to PR 317.1 is expected to be smaller than the entire Title V program universe of facilities. In addition, based on an assessment of the most recent available AER data (2021) there are up to an additional 14 facilities that reported emitting more than 10 tons of VOC and/or NOx, but are not part of the Title V program. Some of these were fugitive emissions, which may qualify to be excluded in determining applicability for PR 317.1. A preliminary assessment identified that out of the 14 facilities, two facilities may still meet the definition of major stationary source after excluding fugitive emissions. For these reasons, the entire Title V program universe is being relied upon as a conservative surrogate for the actual number of affected facilities that may be subject to PR 317.1.

Based on the South Coast AQMD permit database of Title V program facilities, there are approximately 319 facilities in the South Coast AQMD’s jurisdiction that would potentially be affected by PR 317.1, with 196 located in Los Angeles County, 48 located in Orange County, 47 located in San Bernadino County, and 28 located in Riverside County. Regarding the distribution of the affected facilities across different sectors, Table 1 presents the number/share of affected facilities within each sector. The Utilities sector hosts the largest proportion of the facilities

⁴ South Coast AQMD, Home-Permits-Title V-What is Title V?, <http://www.aqmd.gov/home/permits/title-v/what-is-title-v-#who>, accessed March 20, 2024.

⁵ South Coast AQMD, Regulation XXX – Title V Permits, <https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/regulation-xxx>, Accessed April 25, 2024.

(15.0%), followed by the Fabricated metal product manufacturing sector (8%), and the Wholesale trade sector (7.8%). Within the Utilities sector, the affected facilities are mostly fossil fuel electric power generators, other electric power generators, and sewage treatment facilities.

Table 1
Number and Share of Affected Facilities by Sector

NAICS	Sector Name	Number of Facilities	Percentage of Facilities
22	Utilities	48	15.0%
332	Fabricated metal product manufacturing	26	8.2%
42	Wholesale trade	25	7.8%
325	Chemical manufacturing	22	6.9%
562	Waste management and remediation services	21	6.6%
324	Petroleum and coal products manufacturing	18	5.6%
326	Plastics and rubber product manufacturing	15	4.7%
622	Hospitals	14	4.4%
92	State and Local Government	12	3.8%
322	Paper manufacturing	10	3.1%
3364-3369	Other transportation equipment manufacturing	9	2.8%
331	Primary metal manufacturing	8	2.5%
337	Furniture and related product manufacturing	8	2.5%
61	Educational services	7	2.2%
311	Food manufacturing	7	2.2%
486	Pipeline transportation	7	2.2%
323	Printing and related support activities	6	1.9%
327	Nonmetallic mineral product manufacturing	6	1.9%
487-488	Scenic and sightseeing transportation; Support activities for transportation	6	1.9%
334	Computer and electronic product manufacturing	5	1.6%
561	Administrative and support services	4	1.3%
211	Oil and gas extraction	3	0.9%
335	Electrical equipment and appliance manufacturing	3	0.9%
621	Ambulatory health care services	3	0.9%
713	Amusement, gambling, and recreation	3	0.9%
54	Professional, scientific, and technical services	2	0.6%
213	Support activities for mining	2	0.6%
312	Beverage and tobacco product manufacturing	2	0.6%
321	Wood product manufacturing	2	0.6%
333	Machinery manufacturing	2	0.6%
493	Warehousing and storage	2	0.6%
512	Motion picture and sound recording industries	2	0.6%

NAICS	Sector Name	Number of Facilities	Percentage of Facilities
44-45	Retail trade	2	0.6%
23	Construction	1	0.3%
212	Mining (except oil and gas)	1	0.3%
339	Miscellaneous manufacturing	1	0.3%
811	Repair and maintenance	1	0.3%
313-314	Textile mills; Textile product mills	1	0.3%
3361-3363	Motor vehicles, bodies and trailers, and parts manufacturing	1	0.3%
532-533	Rental and leasing services; Lessors of nonfinancial intangible assets	1	0.3%
Total		319	100%

SMALL BUSINESS

The South Coast AQMD defines a “small business” in Rule 102 for the purpose of determining the applicable fee as one which employs 10 or fewer persons and which earns less than \$500,000 in gross annual receipts. The South Coast AQMD also defines “small business” for the purpose of qualifying for access to services from the South Coast AQMD’s Small Business Assistance Office as a business with an annual receipt of \$5 million or less, or with 100 or fewer employees. In addition to the South Coast AQMD’s definition of a small business, the United States (U.S.) Small Business Administration and the federal 1990 Clean Air Act Amendments (1990 CAAA) each have their own definition of a small business.

The 1990 CAAA classifies a business as a “small business stationary source” if it: 1) employs 100 or fewer employees; 2) is not a major stationary source; and 3) is a small business as defined by the U.S. Small Business Administration. Based on firm revenue and employee count, the U.S. Small Business Administration definition of a small business varies by the six-digit NAICS codes.⁶ For example, according to the U.S. Small Business Administration definition, a business with less than 950 employees in the industry of Fossil fuel electric power generations (NAICS 221112) is classified as a small business, while a business in the Petroleum Refineries industry (NAICS 324110) is considered a small business with 1,500 employees.

South Coast AQMD generally relies on Dun & Bradstreet data to conduct small business analyses on private companies. In cases where the Dun & Bradstreet revenue and/or employee data are unreliable, other external data sources such as Manta, Hoover, company websites, and LinkedIn are used. The determination of data reliability is based on data quality confidence codes in the Dun & Bradstreet data as well as staff’s discretion. Revenue and employee data for publicly owned companies is gathered from Securities and Exchange Commission (SEC) filings. Since subsidiaries under the same parent company are interest-dependent, the revenue and employee count of each facility’s parent company is used for determining its small business status. For the purpose of the small business analysis, staff excluded governmental facilities and assessed only

⁶ U.S. Small Business Administration, 2023 Small Business Size Standards, <https://www.sba.gov/document/support-table-size-standards>, accessed March 20, 2024.

259 of the 319 affected facilities. Employment and revenue data from Dun and Bradstreet as well as other external sources is available for 254 out of the 259 facilities assessed in the small business analysis. All potentially affected facilities are assumed to be major stationary sources of VOC and NOx, and thus, the facilities will not be classified as small businesses under the 1990 CAAA small business definition. The number of affected facilities that are small businesses based on each of the three definitions is presented in Table 2.

**Table 2
Number of Affected Small Business Facilities Based on Various Definitions**

Definition	Number of Facilities
South Coast AQMD Rule 102	0
South Coast AQMD’s Small Business Assistance Office	39
U.S. Small Business Administration	89

COMPLIANCE COST

The 319 potentially affected facilities, which are assumed to be major stationary sources of VOC and/or NOx, are located in the SCAB or Coachella Valley Planning area, which are both classified as “extreme” nonattainment areas for the 1997 and 2008 8-hour ozone standards. The attainment year for the 1997 8-hour ozone standard and 2008 8-hour ozone standard for “extreme” nonattainment areas are 2024 and 2032, respectively. The CAA nonattainment fee shall be calculated separately for the ozone NAAQS if either the SCAB or Coachella Valley Planning Area fails to achieve attainment with either of the ozone standards, as determined by the U.S. EPA.

When estimating baseline emissions, the analysis relies on a conservative approach which assumes no emission reductions from the projected baseline emissions, except for the emissions reductions anticipated from certain facilities subject to the NOx emission reduction requirements in South Coast AQMD Rule 1109.1 because it contains established emission reduction targets for each affected facility to meet by certain dates.⁷

However, no CAA nonattainment fee would be assessed if a major stationary source of VOC and/or NOx: 1) reduces their emissions by 20 percent from the baseline emissions; 2) is no longer a major stationary source of VOC and/or NOx, or 3) is located in an area which is redesignated as in attainment for the applicable ozone NAAQS. If any of these aforementioned conditions occur, a major stationary source would not be required to pay a PR 317.1 nonattainment fee.

The CAA nonattainment fee is calculated separately for VOC and NOx. The fee is calculated by multiplying the difference between actual emissions in a fee assessment year and 80 percent of baseline emissions by the annual CAA section 185 nonattainment fee rate for that pollutant.⁸ In

⁷ South Coast AQMD, Rule 1109.1 – Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations, , <https://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1109-1.pdf>, accessed March 22, 2024

⁸ Baseline emissions are calculated based on 1990 CAA Section 185 guidelines mentioned in introduction of this report and when a facility becomes a Major Stationary Source based on PR 317.1. The baseline emission calculation guidelines based on when a facility becomes a Major Stationary Source can be found in the PR 317.1 Draft Rule Language, Subdivision (c) – Definitions, <https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-317-1>, accessed May 2024.

1990, the fee rate for both VOC and NOx was set at \$5,000 per ton. The fee rate must be annually adjusted beginning in the year after 1990 for inflation based on the consumer price index (CPI) for the most recent calendar year.⁹ The annual U.S. EPA fee rates are published in the federal Clean Air Act section 185, fee rates memorandum. For the year 2023, the fee rate is \$11,922 for both VOC and NOx.¹⁰ Figure 1 provides an example of how the CAA nonattainment Fee would be calculated.¹¹

Figure 1
Example Calculation of Annual CAA Section 185 Fee Amount for a Major Stationary Source of VOC Emissions for the 1997 8-Hour Ozone Standard

$$\text{Actual Annual Tons of VOC Emitted} - \left(0.8 \times \text{Baseline Annual Tons of VOC Emitted} \right) \times \text{Annual U.S. EPA CAA §185 Fee Rate (\$/ton)} = \text{Annual CAA Nonattainment Fee for VOC (\$)}$$

Hypothetical Facility Calculation for VOCs

- **Baseline Annual Tons of VOCs = 15 tons**
- **2023 Annual Tons of VOCs = 13 tons**
- **2023 Annual U.S. EPA CAA §185 Fee Rate = \$11,922.00/ton**

$$\text{Annual CAA Nonattainment Fee for VOC} = [13 - (0.8 \times 15)] \text{ tons} \times \$11,922.00/\text{ton} = \$11,922.00$$

For the purpose of this analysis, the potential baseline emissions were estimated by relying upon the most recent emission data from the AERs from calendar year 2021 for all facilities. However, there are four facilities in the PR 317.1 universe which are also subject to Rule 1109.1, but their emission reductions were calculated on a calendar year basis as reported in the 2017 AER, instead of the 2021 AER. The actual emissions for NOx were estimated by using baseline emissions while accounting for NOx emission reductions from all facilities subject to Rule 1109.1. Lastly, the analysis applied the CAA section 185 fee rate for calendar year 2023, since future CPI adjustments are unknown. The calendar year 2023 CAA section 185 fee rate is \$11,922.

The analysis models the impact of CAA nonattainment fees for both the 1997 and 2008 8-hour ozone NAAQS. The 1997 and 2008 8-hour NAAQS nonattainment fees are assumed to begin in calendar years 2025 and 2033, respectively. The analysis spans from 2025 to 2035 and assumes that the fees are paid in the same year they are assessed, with a starting fee assessment year of 2025. The actual timing of South Coast AQMD collecting the nonattainment fee payments may differ based on provisions of PR 317.1.¹² The total present value of the compliance cost of PR

⁹ U.S. Bureau of Labor Statistics, Data Tools-Data Retrieval Tools-BLS Popular Series-CPI for All Urban Consumers (CPI-U), 1982-84=100 (Unadjusted), <https://data.bls.gov/cgi-bin/surveymost?bls>, accessed March 22, 2024.

¹⁰ U.S. EPA, Ground-level Ozone Pollution, Guidance on Developing Fee Programs Required by Clean Air Act Section 185 for the Ozone National Ambient Air Quality Standards (NAAQS), https://www.epa.gov/system/files/documents/2024-01/memorandum_sec-185-penalty-fees-for-year-2023_10-12-2023.pdf, accessed March 22, 2024.

¹¹ South Coast AQMD, Draft Staff Report for Proposed Amended Rule 317.1 – Clean Air Act Nonattainment Fees for the 8-Hour Ozone Standards, <https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-317-1>, accessed May 2024.

¹² For more information about Payment Requirements and timing, see Chapter 2 of the Draft Staff Report for PR 317.1, <https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-317-1>.

317.1 is estimated at \$258.42 million and \$214.84 million with a 1 percent and 4 percent discount rate, respectively. The annual average compliance cost of implementing PR 317.1 is estimated to be \$25.07 million. Table 3 presents the breakdown of total annual average compliance costs during 2025 - 2035 across different sectors. The Petroleum and Coal Products Manufacturing sector (NAICS 324) is expected to incur the largest share of the total annual average compliance costs, which is estimated to be \$8.93 million or 36 percent of the total annual average cost. The sectors of Utilities (NAICS 22) and Waste Management and Remediation Services (NAICS 562) follow with an estimated total annual average compliance cost of \$3.51 million and \$1.59 million, respectively.

Table 3
Annual Average Compliance Costs by Sector

NAICS	Sector Name	Annual Average Compliance Costs	Percentage
324	Petroleum and coal products manufacturing	\$8,930,250	35.62%
22	Utilities	\$3,511,380	14.01%
562	Waste management and remediation services	\$1,589,662	6.34%
332	Fabricated metal product manufacturing	\$1,509,607	6.02%
326	Plastics and rubber product manufacturing	\$1,246,651	4.97%
42	Wholesale trade	\$1,208,323	4.82%
325	Chemical manufacturing	\$939,597	3.75%
92	State and Local Government	\$879,484	3.51%
486	Pipeline transportation	\$764,257	3.05%
211	Oil and gas extraction	\$441,881	1.76%
322	Paper manufacturing	\$404,464	1.61%
311	Food manufacturing	\$394,631	1.57%
331	Primary metal manufacturing	\$388,531	1.55%
622	Hospitals	\$374,420	1.49%
61	Educational services	\$371,598	1.48%
3364-3369	Other transportation equipment manufacturing	\$295,033	1.18%
312	Beverage and tobacco product manufacturing	\$267,720	1.07%
327	Nonmetallic mineral product manufacturing	\$233,125	0.93%
487-488	Scenic and sightseeing transportation; Support activities for transportation	\$219,135	0.87%
621	Ambulatory health care services	\$180,928	0.72%
561	Administrative and support services	\$129,217	0.52%
323	Printing and related support activities	\$119,719	0.48%
334	Computer and electronic product manufacturing	\$96,989	0.39%
333	Machinery manufacturing	\$86,276	0.34%
44-45	Retail trade	\$81,026	0.32%
213	Support activities for mining	\$73,348	0.29%
335	Electrical equipment and appliance manufacturing	\$64,214	0.26%
713	Amusement, gambling, and recreation	\$63,729	0.25%
212	Mining (except oil and gas)	\$50,528	0.20%
512	Motion picture and sound recording industries	\$40,908	0.16%
321	Wood product manufacturing	\$20,909	0.08%

NAICS	Sector Name	Annual Average Compliance Costs	Percentage
493	Warehousing and storage	\$19,361	0.08%
532-533	Rental and leasing services; Lessors of nonfinancial intangible assets	\$18,785	0.07%
339	Miscellaneous manufacturing	\$16,266	0.06%
3361-3363	Motor vehicles, bodies and trailers, and parts manufacturing	\$13,929	0.06%
54	Professional, scientific, and technical services	\$12,199	0.05%
337	Furniture and related product manufacturing	\$10,712	0.04%
811	Repair and maintenance	\$3,065	0.01%
Total		\$25,071,858	100%

Utilities Sector

The Utilities sector (NAICS 22) has multiple industries within the sector that are expected to be affected by PR 317.1. To provide more information about these industries, the annual average compliance costs that each industry under the Utilities sector is expected to incur was assessed. Table 4 presents the annual average compliance costs during 2025 - 2035 across the various industries within the Utilities sector. The Fossil Fuel Electric Power Generation industry (NAICS 221112) is expected to incur the largest share of the total annual average compliance costs of the Utilities sector, which is estimated to be \$1.30 million. The industries of Other Electric Power Generation (NAICS 221118) and Sewage Treatment Facilities (NAICS 221320) follow with an estimated total annual average compliance cost of \$1.18 million and \$0.69 million, respectively.

**Table 4
Annual Average Compliance Costs under Utilities Sector**

NAICS	Industry	Annual Average Compliance Costs
221112	Fossil Fuel Electric Power Generation	\$1,297,421
221117	Biomass Electric Power Generation	\$28,617
221118	Other Electric Power Generation	\$1,181,162
221122	Electric Power Distribution	\$5,038
221210	Natural Gas Distribution	\$249,057
221310	Water Supply and Irrigation Systems	\$60,906
221320	Sewage Treatment Facilities	\$689,178
Total		\$3,511,380

MACROECONOMIC IMPACTS ON THE REGIONAL ECONOMY

The REMI model was used to assess the socioeconomic impacts of the proposed rule.¹³ The model links the economic activities in the counties of Los Angeles, Orange, Riverside, and San Bernardino, and it is comprised of five interrelated blocks: 1) output and demand; 2) labor and

¹³ Regional Economic Modeling Inc. (REMI). Policy Insight® for the South Coast Area (70-sector model). Version 3. 2023.

capital; 3) population and labor force; 4) wages, prices, and costs; and 5) market shares.¹⁴

It should be noted that the REMI model is not designed to assess impacts on individual operations. The model was used to assess the impacts of PR 317.1 on various industries that make up the local economy. Cost impacts on individual operations were assessed outside of the REMI model and were aggregated to the 70-sector NAICS code level to be used as inputs into the REMI model.

Impact of PR 317.1

This assessment is performed relative to a baseline (“business as usual”) forecast where the proposed rule would not be implemented. The analysis assumed that the 319 affected facilities would pay the nonattainment fee during the corresponding fee assessment years from 2025 to 2035.

The nonattainment fee is the only direct cost of PR 317.1 and is used as an input in the REMI model which uses this information to assess secondary and induced impacts for all the industries in the four-county economy on an annual basis over the 2025 – 2035 period.

The facilities subject to PR 317.1, as listed in Table 1 and as modeled in REMI across 70 sectors, are anticipated to pay nonattainment fees would incur direct costs. South Coast AQMD will be the agency collecting the nonattainment fees from the affected facilities.

Regional Job Impacts

As presented in Table 5, the REMI modeling analysis projects that there would be 81 foregone jobs annually on average over the 2025 – 2035 period relative to the baseline forecast. The Construction and Retail trade industries are the most negatively impacted sectors with 19 and 12 foregone jobs annually relative to the baseline, respectively. These jobs foregone may be attributed to the labor-intensive nature of these two industries and can also be viewed as less job growth within these industries relative to the baseline. The Transit and Ground Passenger Transportation industry will have 14 additional jobs gained annually, relative to the baseline scenario. The greatest job impacts are projected to occur in 2034 and 2035, when both the 1997 and 2008 8-hour ozone NAAQS nonattainment fees are assumed to be paid by the affected facilities. The REMI model forecasts 132 foregone jobs annually in the regional economy in 2034 and 2035, relative to the baseline scenario. The “Other industries” row in Table 5 presents the sum of job impacts for all the other industries excluding the 10 selected industries in the table. The small number of foregone jobs relative to the high compliance cost of PR 317.1 is mainly attributed to the capital-intensive nature of the most impacted industries, characterized by a substantial proportion of equipment/machinery relative to labor.

¹⁴ Within each county, producers are made up of 156 private non-farm industries and sectors, three government sectors, and a farm sector. Trade flows are captured between sectors as well as across the four counties and the rest of U.S. Market shares of industries are dependent upon their product prices, access to production inputs, and local infrastructure. The demographic/migration component has 160 ages/gender/race/ethnicity cohorts and captures population changes in births, deaths, and migration. (For details, please refer to REMI online documentation at <http://www.remi.com/products/pi>).

Table 5
Projected Job Impacts of PR 317.1 by Selected Industries and Years

Industry (NAICS)	2025	2030	2035	Annual Average (2025-2035)	Baseline Job Counts (Average, 2025-2035)	Percent Relative to Baseline
Construction (23)	-5	-20	-24	-19	490,499	-0.0039%
Retail Trade (44-45)	-7	-11	-17	-12	797,155	-0.0015%
State and Local Government (92)*	2	-9	-11	-6	932,416	-0.0007%
Ambulatory Health Care Services (621)	-1	-5	-8	-6	597,405	-0.0009%
Fabricated Metal Product Manufacturing (332)	-1	-5	-9	-5	88,372	-0.0061%
Real Estate (531)	0	-5	-7	-5	553,746	-0.0008%
Administrative and Support Services (561)	9	-2	-1	1	786,720	0.0001%
Federal Military (92)*	1	1	1	1	42,258	0.0024%
Securities, Commodity Contracts, Other Investments; Funds, Trusts, Other Financial Vehicles (523)	5	1	3	2	280,027	0.0008%
Transit and Ground Passenger Transportation (485)	19	9	17	14	312,337	0.0044%
Other Industries	13	-50	-76	-44	6,296,744	-0.0007%
All Industries	34	-97	-132	-81	11,177,679	0.0007%

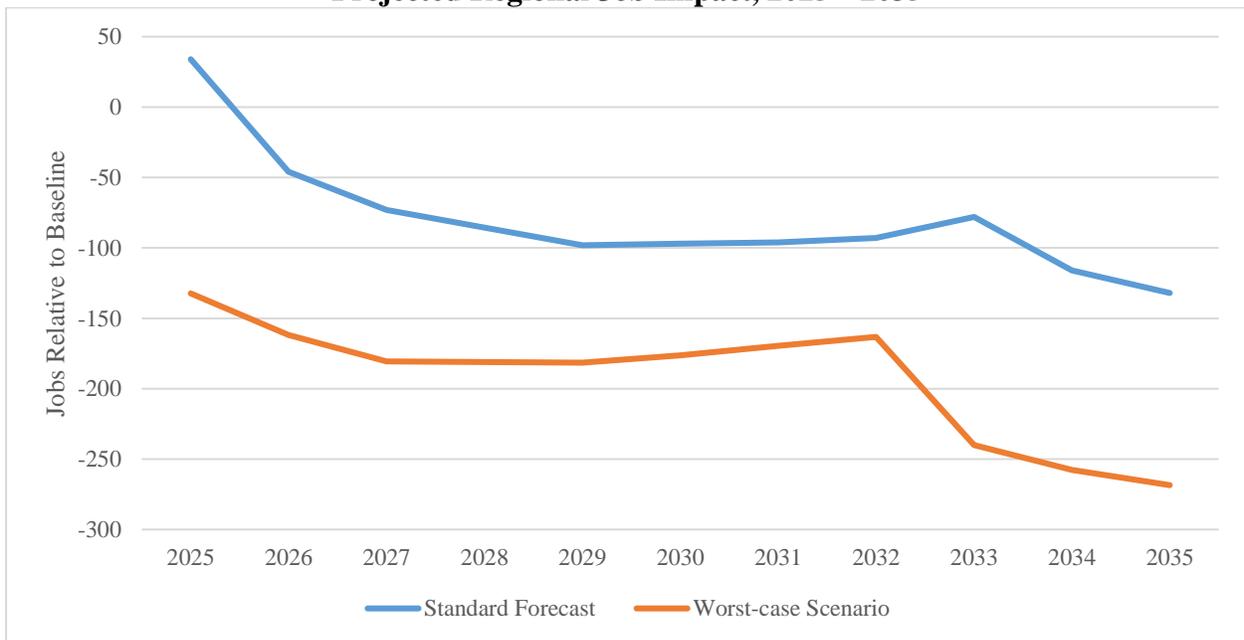
*REMI software models Federal Military industry separate from State and Local Government industry. Please note that the NAICS Association encompasses both industries under the same primary NAICS code (92). The Federal Military industry specifically falls under NAICS code 928, which is National Security and International Affairs.

In addition, in 2013, South Coast AQMD contracted with Abt Associates Inc. to review the South Coast AQMD socioeconomic assessments for Air Quality Management Plans and individual rules with the goal of providing recommendations that could enhance South Coast AQMD's socioeconomic analyses. In 2014, Abt Associates Inc. published a report which included a recommendation for South Coast AQMD to enhance socioeconomic analyses by testing major assumptions through conducting a scenario analysis. As such, South Coast AQMD generally includes an alternative worst-case scenario in Socioeconomic Impact Assessments which analyzes a scenario that assumes the affected facilities would purchase all feasible monitoring equipment and services from providers located outside of the South Coast AQMD's jurisdiction.¹⁵ In short, this alternative worst-case scenario only models the impacts of the costs of compliance. This hypothetical scenario is designed to test the sensitivity of the embedded assumptions in the REMI model about how compliance costs and revenues would be distributed inside and outside of South

¹⁵ Abt Associates Inc., August 2014, Review of the SCAQMD Socioeconomic Assessments, Chapter 6, Section 3, <https://www.aqmd.gov/docs/default-source/Agendas/aqmp/scaqmd-report---review-socioeconomic-assessments.pdf>, accessed April 2, 2024.

Coast AQMD’s jurisdiction. However, PR 317.1 does not require the purchase of equipment or services and is only designed to implement the framework by which South Coast AQMD assesses and collects the CAA nonattainment fee from affected facilities. For this reason, the worst-case scenario for PR 317.1 instead models the impacts of the nonattainment fees paid by affected facilities, and eliminates the revenue associated with the collection of these fees from South Coast AQMD. This worst-case scenario would result in an annual average of approximately 192 jobs foregone relative to the baseline scenario. The 192 jobs foregone represent only 0.0017 percent of the forecasted average baseline jobs in the regional economy. Figure 2 presents the projected regional job impacts over the 2025 – 2035 period for both the standard and worst-case scenario forecasts.

Figure 2
Projected Regional Job Impact, 2025 – 2035



Price Impact and Competitiveness

The overall impacts of PR 317.1 on production cost and delivered prices in the region is not expected to be substantial. Based on the REMI analysis, the implementation of PR 317.1 is projected to increase the relative cost of production by 0.003 percent and increase the relative delivered price of goods by 0.002 percent for all the industries in the South Coast AQMD jurisdiction in the year 2033, when implementation of PR 317.1 will have the greatest impact upon cost of production and delivered price of goods in the region.

REFERENCES

Abt Associates Inc., August 2014, Review of the SCAQMD Socioeconomic Assessments, Chapter 6, Section 3, <https://www.aqmd.gov/docs/default-source/Agendas/aqmp/scaqmd-report--review-socioeconomic-assessments.pdf>.

Regional Economic Modeling Inc. (REMI), Policy Insight® for the South Coast Area (70-sector model). Version 3, 2023.

South Coast AQMD, May 2024, Proposed Rule 317.1 – Clean Air Act Nonattainment Fees for 8-Hour Ozone Standards, Draft Rule Language, <https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-317-1>.

South Coast AQMD, May 2024, Proposed Rule 317.1 – Clean Air Act Nonattainment Fees for 8-Hour Ozone Standards, Draft Staff Report, <https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-317-1>.

South Coast AQMD, November 2021, Rule 1109.1 – Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations, <https://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1109-1.pdf>.

South Coast AQMD, Permits - Title V - What is Title V?, <http://www.aqmd.gov/home/permits/title-v/what-is-title-v-#who>.

South Coast AQMD, Regulation XXX – Title V Permits, <https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/regulation-xxx>.

U.S. Bureau of Labor Statistics, Data Tools, Data Retrieval Tools, BLS Popular Series, Price Indexes, CPI for All Urban Consumers (CPI-U), 1982-84=100 (Unadjusted) - CUUR0000SA0, <https://data.bls.gov/cgi-bin/surveymost?bls>, accessed March 20, 2024.

U.S. EPA, November 1990, Clean Air Act, Title I – Air Pollution Prevention and Control, Part D, Section 185, U.S. Code 7511d, <https://www.govinfo.gov/content/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapI-partD-subpart2-sec7511d.htm>.

U.S. EPA, November 1990, Clean Air Act, Title I – Air Pollution Prevention and Control, Part D, Section 182, U.S. Code 7511a, <https://www.govinfo.gov/content/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapI-partD-subpart2-sec7511a.htm>.

U.S. EPA, October 2023, Memorandum for Clean Air Act Section 185 Fee Rates Effective for Calendar Year 2023, https://www.epa.gov/system/files/documents/2024-01/memorandum_sec-185-penalty-fees-for-year-2023_10-12-2023.pdf.

U.S. Small Business Administration, March 2023, Table of Small Business Size Standards, <https://www.sba.gov/document/support-table-size-standards>.