

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Draft Staff Report

Proposed Amended Rule 1138 – Control of Emissions from Restaurant Operations

August 2025

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EXECUTIVE SUMMARY

The South Coast Air Basin Attainment Plan for the 2012 Annual PM_{2.5} Standard (2024 PM_{2.5} Plan) was adopted on June 7, 2024, to assist in meeting state and federal air quality standards for fine particulate matter (PM_{2.5}). Although the South Coast Air Basin (Basin) is in attainment with the 1997 and 2006 PM_{2.5} National Ambient Air Quality Standards (NAAQS), it is a “serious” nonattainment area for the 2012 PM_{2.5} NAAQS. Proposed Amended Rule 1138 – Control of Emissions from Restaurant Operations (PAR 1138) focuses on reducing PM_{2.5} from certain restaurant operations to comply with the federal Clean Air Act (CAA) Most Stringent Measures (MSM) requirements for the 2012 PM_{2.5} NAAQS.

Rule 1138 was adopted on November 14, 1997, to reduce emissions from chain-driven charbroilers in commercial cooking operations by establishing emissions control and recordkeeping requirements. Under the existing Rule, owners and operators of chain-driven charbroilers subject to Rule 1138 are required to operate chain-driven charbroilers equipped with control equipment certified by the South Coast AQMD or other control technology demonstrating combined PM and volatile organic compound (VOC) control efficiency of no less than 83% (as demonstrated by South Coast AQMD approved source testing protocol¹). Chain-driven charbroilers with a throughput of less than 875 pounds of meat cooked per week are exempt from the control technology requirements of Rule 1138.

As required by the federal CAA, PAR 1138 aligns South Coast AQMD requirements for chain-driven charbroilers with similar but more stringent regulations adopted elsewhere in the nation, specifically the MSMs including Bay Area Air District Regulation 6, Rule 2 – Commercial Cooking Equipment² and San Joaquin Valley Air Pollution Control District Rule 2 – Commercial Charbroiling.³ PAR 1138 will lower the current exemption threshold from less than 875 pounds of meat cooked per week to less than 400 pounds of meat cooked per week, or alternatively, less than 10,800 pounds of meat cooked per month while maintaining a weekly throughput of less than 875 pounds of meat cooked. PAR 1138 also partially implements the 2024 PM_{2.5} Plan’s Control Measure BCM-12: Further Emission Reductions from Commercial Cooking. It is estimated that lowering the exemption threshold will reduce PM emissions by 0.05 ton per day.

¹ South Coast Air Quality Management District, Protocol – Determination of Particulate and Volatile Organic Compound Emissions from Restaurant Operations (1997): <https://www.aqmd.gov/docs/default-source/2021-pm-2.5-redesignation-request-maintenance-plan/protocol---determination-of-particulate-and-volatile-organic-compound-emissions-from-restaurant-operations.pdf>

² Bay Area Air District Regulation 6 Rule 2 – Commercial Cooking Equipment (2007): <https://www.baaqmd.gov/~media/dotgov/files/rules/reg-6-rule-2-commercial-cooking-equipment/documents/rg0602.pdf>

³ San Joaquin Valley Air Pollution Control District Rule 4692 – Commercial Charbroiling (2018): <https://ww2.valleyair.org/media/1ecbi4rm/r4692.pdf>

CHAPTER 1 : BACKGROUND

INTRODUCTION

FEDERAL CLEAN AIR ACT REQUIREMENTS

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AFFECTED INDUSTRY

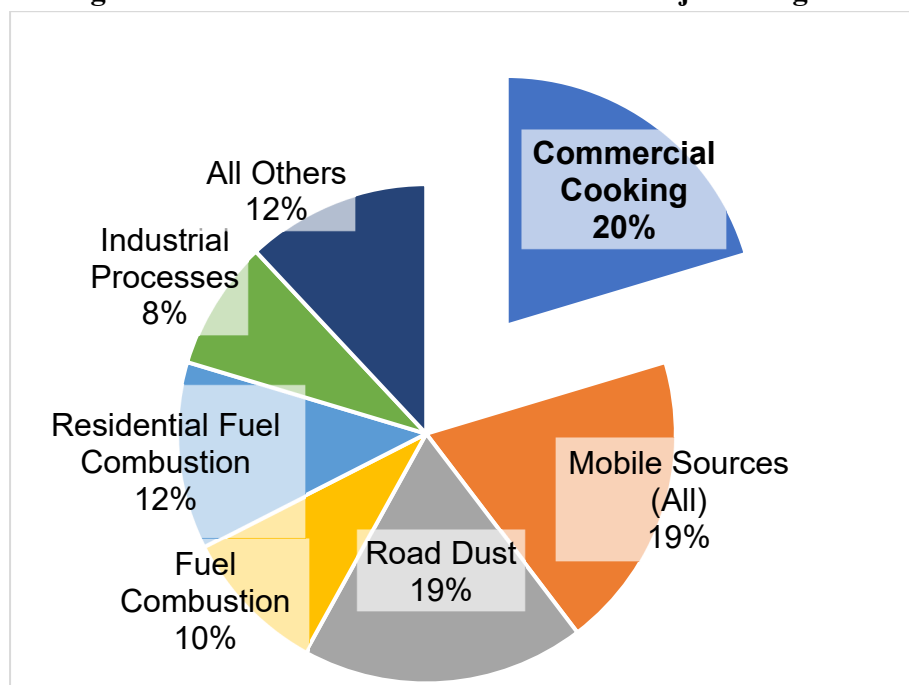
EQUIPMENT OVERVIEW

PUBLIC PROCESS

INTRODUCTION

South Coast AQMD is the regulatory authority with jurisdiction over the South Coast Air Basin and Coachella Valley. The region has the worst levels of ground-level ozone (smog) and among the highest levels of fine particulate matter (PM_{2.5}) in the nation. PM_{2.5} is an air pollutant that is either directly emitted into the atmosphere (primary particles) or formed in the atmosphere through chemical reactions (secondary particles). Primary PM_{2.5} includes road dust, diesel soot, combustion products, and other sources of fine particles. Secondary PM_{2.5} particles, such as sulfates, nitrates, and complex organic compounds, are formed from reactions with oxides of sulfur (SO_x), oxides of nitrogen (NO_x), volatile organic compounds (VOCs), and ammonia. Numerous studies have linked high levels of particulate air pollution with detrimental health effects such as respiratory and cardiovascular disease as smaller particles in the PM_{2.5} range can penetrate and deposit deep in lung tissue. PM_{2.5} can have adverse environmental outcomes such as reduced visibility, diminished water quality, and altered plant yield.⁴ Area sources are the top sources of directly emitted particulate matter (PM) and include commercial cooking, paved road dust, and residential fuel combustion (see Figure 1-1). Commercial cooking emissions alone account for around 20% of total direct PM_{2.5} emissions in the region.⁵

Figure 1-1: Direct PM_{2.5} Emissions from Major Categories



Rule 1138 – Control of Emissions from Restaurant Operations (Rule 1138), was adopted in November 1997 to reduce emissions from chain-driven charbroilers used in commercial cooking

⁴ California Air Resources Board, Inhalable Particulate Matter and Health (PM_{2.5} and PM₁₀), Accessed 07/24/2025, <https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health>

⁵South Coast Air Quality Management District, South Coast Air Basin Attainment Plan for the PM_{2.5} Standard, 2024, <https://www.aqmd.gov/docs/default-source/clean-air-plans/pm2.5-plans/final-pm2.5-plan/2012-annual-pm2.5-plan.pdf>

operations. Rule 1138 requires owners and operators of chain-driven charbroilers to install and operate emission control equipment certified by the South Coast AQMD. Certified emission control equipment must demonstrate control efficiency of 83% for PM and VOCs combined. Testing of control equipment must also adhere to South Coast AQMD-approved source test protocols.¹

FEDERAL CLEAN AIR ACT REQUIREMENTS

The South Coast Air Basin continues to exceed state and federal air quality standards for PM_{2.5}. The federal Clean Air Act (CAA) requires areas that do not meet National Ambient Air Quality Standards (NAAQS) to develop and implement strategies to reduce emissions so that healthful levels of air quality can be achieved in a timely manner. The strategy or attainment plan, along with other supporting elements, must be submitted to the United States Environmental Protection Agency (U.S. EPA) for its review and approval into the State Implementation Plan (SIP). Nonattainment areas must develop SIP(s) to attain NAAQS by specific dates or face the possibility of sanctions by the federal government and other consequences under the federal CAA. California also has air quality standards for PM_{2.5}, and, under state law, the regional nonattainment area is required to attain those standards as expeditiously as practicable. The 2012 PM_{2.5} NAAQS level is set at 12 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The South Coast Air Basin is classified as a “serious” PM_{2.5} non-attainment area for this standard, with an attainment date of December 31, 2025.

In March 2023, South Coast AQMD withdrew the previous plan addressing the standard to avoid potential disapproval of the plan by U.S. EPA. Staff subsequently developed the 2024 PM_{2.5} Plan⁶ that requests a five-year extension and demonstrates attainment of the standard by December 31, 2030.⁷ Under section 188(e) of the federal CAA, areas classified as serious non-attainment seeking an extension of the attainment date are required to demonstrate that the attainment plan includes MSM(s). U.S. EPA defines MSM as:

“The maximum degree of emission reduction that has been required or achieved from a source or source category in any other attainment plans or in practice in any other states and that can feasibly be implemented in the area seeking the extension.”

On January 30, 2024, the U.S. EPA published its finding that California failed to submit a complete SIP by omitting certain required elements for the implementation of the 2012 NAAQS for PM_{2.5} in the South Coast Air Basin. Consistent with CAA section 179(b), the U.S. EPA stated that emissions offset sanctions would apply if a complete SIP correcting the deficiencies was not submitted within 18 months. South Coast AQMD Governing Board adopted the 2024 PM_{2.5} Plan in June 2024. The plan was subsequently approved by CARB on June 27, 2024.

Subsequently, CARB sent a revised SIP addressing all the deficiencies identified by the U.S. EPA, which included a commitment to amend Rule 1138 as initiated in the 2024 PM_{2.5} Plan. On June

⁶ South Coast Air Quality Management District, Air Quality Management Plan Appendix IV-A: Stationary and Mobile Source Measures, 2024, <https://www.aqmd.gov/docs/default-source/clean-air-plans/pm2.5-plans/final-pm2.5-plan/appendix-iv-a-control-measures.pdf>

⁷ United States Environmental Protection Agency, Federal Register Vol. 85 No. 217, 2020, <https://www.govinfo.gov/content/pkg/FR-2020-11-09/pdf/2020-23033.pdf>

9, 2025, the U.S. EPA affirmatively found that the submitted revisions resulted in a complete SIP and terminated the federal sanction clock. This finding was made based on the commitment included in the revised SIP, including implementation of MSMs such as PAR 1138.

REGULATORY HISTORY

Control measures for emissions from the commercial cooking source category first appeared in the 1989 AQMP⁸ as #88-C-3 – Control of Emissions from Commercial Charbroiling (PM10, VOC). In the 1991 AQMP,⁹ emissions from this category appeared as A-C-4 – Control of Emissions from Deep-fat Frying (PM10, VOC). These control measures were combined in both the 1994¹⁰ and 1997¹¹ AQMPs as PRC-03 – Control of Emissions from Restaurant Operations (PM10, VOC). PM is categorized as either PM10 or PM2.5 based on the size of the particles. PM10 are inhalable particles of 10 micrometers or less, of which PM2.5 is a subset with particle size of 2.5 micrometer or less.

In November 1997, the South Coast AQMD Governing Board adopted Rule 1138 to reduce emissions from chain-driven charbroilers by requiring installation of control equipment demonstrating combined PM and VOC control efficiency of 83%.

After the adoption of Rule 222 – Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation II (Rule 222), at the September 11, 1998, Governing Board meeting, commercial charbroilers were included in the Rule 222 filing system. Inclusion into Rule 222 requires chain-driven charbroiler owners and operators to submit sufficient information to South Coast AQMD to estimate emissions from the source and determine if the chain-driven charbroiler is operating in compliance with local, state, and federal regulations.¹²

In March 2002, San Joaquin Valley Air Pollution Control District (SJVAPCD) adopted Rule 4692 – Commercial Charbroiling (Rule 4692). This rule required catalytic oxidizers certified to reduce PM and VOC by at least 83% to be installed on all newly installed chain-driven charbroilers by June 21, 2002, as well as existing chain-driven charbroilers by March 21, 2003. In September 2009, SJVAPCD adopted an amendment to lower the exemption limit of Rule 4692 from 875 pounds per week of cooked meat to 400 pounds per week. To account for chain-driven charbroiler operators that may see seasonal activity peaks, the amendment added an alternative exemption limit of 10,400 pounds of cooked meat per 12-month period while maintaining less than 875 pounds per week. The last amendment for Rule 4692 was on June 21, 2018, to require registration

⁸ South Coast Air Quality Management District, Air Quality Management Plan Appendix IV-A: Stationary Source Control Measures, 1989

⁹ South Coast Air Quality Management District, Air Quality Management Plan Appendix IV-A: Stationary Source Control Measures, 1991

¹⁰ South Coast Air Quality Management District, Air Quality Management Plan Appendix IV-A, Stationary Source Control Measures, 1994

¹¹ South Coast Air Quality Management District, Air Quality Management Plan Appendix IV-A: Stationary Source Control Measures, 1997, [https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/1997-air-quality-management-plan/1997-aqmp-appendix-iv\(a\).pdf](https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/1997-air-quality-management-plan/1997-aqmp-appendix-iv(a).pdf)

¹² South Coast Air Quality Management District, Rule 222 – Filing Requirements for Specific Emission Sources not Requiring a Written Permit Pursuant to Regulation II, 2023, <https://www.aqmd.gov/docs/default-source/rule-book/reg-ii/rule-222.pdf>

as well as a one-time informational report submission from owners and operators of underfired charbroilers for commercial cooking operations.¹³

In October 2004, Ventura County Air Pollution Control District (VCAPCD) adopted Rule 74.25¹⁴ – Restaurant Cooking Operations. This rule required owners or operators of conveyorized charbroilers to reduce PM and VOC by at least 83% on all applicable equipment by October 12, 2005. Conveyorized charbroilers operating prior to October 12, 2005, with throughput of less than 875 pounds of meat cooked per week are exempt from the emission control requirements. All new conveyorized charbroilers are required to meet the control efficiency requirements regardless of throughput.

In November 2007, the Bay Area Air District (BAAD) adopted Regulation 6, Rule 2: Commercial Cooking Equipment. This rule applies to anyone who owns, operates, or installs a chain-driven (conveyorized) charbroiler within a restaurant that purchases 500 pounds of beef or more per week. Chain-driven charbroilers in BAAD must be equipped with a catalytic oxidizer that limits emissions of PM₁₀ and VOCs to no more than 1.3 lbs and 0.32 lbs, respectively, per 1000 lbs of beef cooked. Alternatively, a different control device may be used if the operator can demonstrate that it will limit PM₁₀ emissions to no more than 0.74 lbs per 1000 lbs of beef cooked. This rule also has an exemption threshold of 400 pounds of beef per week based on a survey of their restaurants and cost-effectiveness calculation.

San Diego Air Pollution Control District (SDAPCD) announced initiation of rule development for Proposed New Rule 67.26 – Commercial Charbroiling Operations in 2024 and released the final staff report in March 2025. Since this proposed rule currently has a comparatively higher exemption threshold of 415 pounds of meat cooked per week, staff does not consider this rule as a MSM.¹⁵

THE NEED FOR PROPOSED AMENDED RULE 1138

The 2024 PM_{2.5} Plan identifies the South Coast AQMD's attainment strategy through source-specific control measures. Stationary Source Control measure BCM-12: Further Emission Reductions from Commercial Cooking was initially included in the 2016 AQMP as BCM-01. The measure describes the strategy of seeking further direct reductions of PM_{2.5} emissions from commercial cooking facilities. In part, the control strategy is based on the 2024 PM_{2.5} Plan Most Stringent Measures analysis which is required to be conducted as part of the federal CAA for nonattainment regions when seeking an extension of the NAAQS attainment deadline.

Appendix III of the 2024 PM_{2.5} Plan outlines the methods that staff used to identify MSM by first looking for Potential Control Measures (PCMs) via analysis of Best Available Control Measure (BACM)/Best Available Control Technology (BACT). The demonstration generally involves an

¹³ San Joaquin Valley Air Pollution Control District, Final Draft Staff Report – Amendments to Rule 4692, 2018, https://archive.valleyair.org/workshops/postings/2018/06-21-18_r4692/R4692_FinalDraftStaffReport.pdf

¹⁴ Ventura County Air Pollution Control District, Rule 74.25, Adopted 10/12/2004: <https://www.vcapcd.org/wp-content/uploads/Rulebook/Reg4/RULE%2074.25.pdf>

¹⁵ San Diego Air Pollution Control District, Proposed New Rule 67.26 – Commercial Charbroiling Operations & Corresponding Amendments to Rule 11, 12, and 40, March 2025, <https://www.sdapcd.org/content/dam/sdapcd/documents/rules/rule-workshops/041025/Rule-67.26-Staff-Report.pdf>

analysis of South Coast AQMD's control requirements as they compare to those in other jurisdictions. Other sources such as U.S. EPA guidance documents are also consulted. When South Coast AQMD's control requirements meet the BACM/BACT definition, no further analysis is required. When a regulation or control measure from another air basin or from U.S. EPA guidance is identified as more stringent than South Coast AQMD's regulation, the measure is analyzed for technological and economic feasibility.

From the list of identified PCMs based on the BACM/BACT analysis, staff applied the MSM criteria as specified in Appendix III of the 2024 PM_{2.5} Plan to identify potential MSMs. Some PCMs were rejected based on technological or economic infeasibility. Rule 1138 was one of the rules that passed both phases of this analysis with analogous rules in other air districts that can be seen in Table 1-1.

In line with existing regulations in other air districts, PAR 1138 seeks to implement MSM by lowering the exemption threshold for Rule 1138. As summarized in Table 1-1, regulations from BAAD Regulation 6, Rule 2 and SJVAPCD Rule 4692 were identified to have more stringent exemption thresholds than South Coast AQMD Rule 1138. To implement MSM, PAR 1138 will lower the existing threshold and provide two pathways for a chain-driven charbroiler to qualify for an exemption: 1) a throughput of less than 400 pounds of meat cooked per week; or 2) a throughput of less than 10,800 pounds of meat cooked per 12-month period and less than 875 pounds for any week within that 12-month period.

Table 1-1: Comparison of Regulations for Chain-Driven Charbroilers

Air District	Rule	Date Adopted/Last Amended	Exemption upper limit
South Coast AQMD	1138	11/14/1997	<875 pounds per week
Bay Area AD	Regulation 6 Rule 2	12/05/2007	<400 pounds per week (beef)
San Joaquin APCD	4692	06/21/2018	<400 pounds per week; or ≤10,800 pounds over 12 months and <875 pounds per week

AFFECTED INDUSTRY

To understand the universe of affected facilities under PAR 1138, staff obtained information on currently active restaurants and food service facilities from the health departments of four counties that are wholly or partly within South Coast AQMD's jurisdiction (Los Angeles, San Bernardino, Riverside and Orange County).¹⁶ Staff refined the received data by filtering out restaurants which do not contribute to cooking emissions (e.g. juice bars, prepackaged food stands) as well as those outside of the South Coast AQMD jurisdiction. As a result, staff were able to estimate that 33,360

¹⁶ South Coast Air Quality Management District, Jurisdiction, Accessed 07/24/2025: <https://www.aqmd.gov/nav/about/jurisdiction>

commercial cooking facilities operate within the South Coast AQMD jurisdiction. Utilizing a Pacific Environmental Services, Inc. (PES) study,¹⁷ staff engaged in a top-down approach to estimate the total number of chain-driven charbroilers affected by PAR 1138. The PES estimated that, on average, 3.73% of all commercial cooking facilities within South Coast AQMD utilize a chain-driven charbroiler. Additionally, it is estimated that, on average, there is one chain-driven charbroiler unit per commercial cooking facility that operates chain-driven charbroilers. By multiplying 33,360 with 3.73%, staff estimated a total of 1,244 chain-driven charbroilers are in operation within South Coast AQMD which would be subject to Rule 1138.

As additional research, staff analyzed submitted throughput data from charbroiler filings required by Rule 222 to better understand how many chain-driven charbroilers are exempt from Rule 1138 emission control requirements. From this analysis, 14.6% of all chain-driven charbroilers are currently exempt from Rule 1138. 3.05% of all chain-driven charbroilers will continue to be exempt if PAR 1138 is adopted.

EQUIPMENT OVERVIEW

While this rule targets restaurant operations generally, the only equipment subject to emissions control requirements are chain-driven charbroilers. Charbroilers are cooking devices that generally consist of a heating source, a high-temperature radiant surface, and a slotted grill. There are two major types of charbroilers. Underfired charbroilers are the most common type of charbroiler (e.g., grill charbroilers, flamebroilers, and direct-fired charbroilers); these units hold the meat on a slotted grill with the heat source (usually natural gas) underneath in a fixed position. Underfired charbroilers are distinct from chain-driven charbroilers, which have conveyor belts carry meat through the heating area. Typically, chain-driven charbroilers broil the meat with simultaneous flames from above and below—producing lower PM and VOC emissions than under-fired charbroilers.

At the time of Rule 1138's initial adoption in 1997, under-fired charbroilers were found to be the primary contributor of emissions from restaurants; however, chain-driven charbroilers were the best candidates for emission reductions due to a lack of cost-effective emission controls for the under-fired category. As a result, Rule 1138 only applies to chain-driven charbroilers. Independent of Rule 1138 requirements, both chain-driven as well as underfired charbroilers are subject to filing requirements under Rule 222. Catalytic oxidizers for chain-driven charbroilers have since been added to the BACT guidelines¹⁸.

Staff contacted representatives for manufacturers of chain-driven charbroilers and their control devices who, combined, make up the majority of the market share. Manufacturers were able to confirm that the industry's standard emissions control technology for chain-driven charbroilers are catalytic oxidizers. According to manufacturers, catalytic oxidizers are unique to the manufacturer for a chain-driven charbroiler but not particular models. In other words, all chain-driven charbroiler units made by the same manufacturer can use the same catalyst regardless of year of

¹⁷ Pacific Environmental Services, A Detailed Survey of Restaurant Operations in the South Coast Air Basin, Contract No. 98089, 1999

¹⁸ South Coast AQMD BACT Guidelines – Part D, February 2024, https://www.aqmd.gov/docs/default-source/bact/bact-guidelines/bact-guidelines-2024/part-d_bact-guidelines-for-non-major-polluting-facilities.pdf

manufacture. Due to this, all chain-driven charbroiler units are anticipated to be retrofittable. The catalytic oxidizer beds sit directly on top of the charbroiler units enclosed in a stainless-steel frame. They do not need utility hookups since exhaustive heat directs PM emissions through the oxidizer. Maintenance across manufacturers only involves rinsing off the catalyst with water and (if the manufacturer recommends) soap, though the frequency of maintenance for a catalytic oxidizer may vary per manufacturer recommendation from nightly to monthly. Manufacturers state that, with proper maintenance, catalytic oxidizers should last the entire useful life of a chain-driven charbroiler unit. According to one manufacturer, a catalytic oxidizer is estimated to cost around \$1,900 in 2025.

PUBLIC PROCESS

South Coast AQMD conducted Working Group Meetings on March 5 and April 17, 2025, where staff presented background information as well as proposed amendments with rule language. Staff brought the proposed amended rule to the Stationary Source Committee on June 20, 2025. On July 2, 2025, a Public Workshop was held for PAR 1138. Staff will bring the proposal to the South Coast AQMD Governing Board for consideration for adoption at the Public Hearing which is scheduled for September 5, 2025 (subject to change). Besides public meetings, staff conducted outreach to the California Restaurant Association (CRA) to discuss rule considerations and receive feedback on how Proposed Amended Rule 1138 may affect the restaurant industry. Staff additionally discussed with manufacturers to better understand the costs of owning and operating chain-driven charbroilers and their associated control technologies. As an effort to coordinate site visits, staff reached out to CRA, Disneyland Resorts, Universal Studios Hollywood, and several prominent chain restaurants in South Coast AQMD jurisdiction known to have chain-driven charbroilers including Burger King, Carls Jr., Dairy Queen, The Habit, and Red Robin. Through these correspondences, staff was able to secure one site visit and observe multiple chain-driven charbroilers in operation, providing an opportunity to understand typical operation and maintenance. Staff also reached out to the Service Employees International Union (SEIU) and Hotel Employees and Restaurant Employees Union (UNITE HERE) to ensure that labor groups were aware of the proposed amended rule and to solicit feedback. No key issues have been brought to staff's attention during the public process to date.

CHAPTER 2 : SUMMARY OF PROPOSAL

Introduction

Overall Approach

INTRODUCTION

Rule 1138 reduces emissions from chain-driven charbroilers at restaurant operations by requiring owners and operators of chain-driven charbroilers to install and operate emission control equipment which meets minimum control efficiency as certified by South Coast AQMD. PAR 1138 is developed to address federal CAA requirements for MSM and partially implement control measure BCM-12 from the 2024 PM2.5 Plan by lowering the exemption threshold of Rule 1138 and adding an alternative exemption option to be consistent with similar but more stringent rules adopted by other air districts in California. Additional administrative amendments were included to remove legacy language for requirements with past-due implementation dates. PAR 1138 will also be submitted for inclusion into the SIP.

For this chapter, when referring to PAR 1138 specific terms that are defined in the rule language, the terminology will be capitalized.

OVERALL APPROACH

The rule title, applicability - subdivision (a), recordkeeping - subdivision (d), and test methods - subdivision (f), which is currently subdivision (g), remain unchanged from the current Rule 1138 language.

Definitions – Subdivision (b)

The following definitions are removed in PAR 1138:

- *Existing Chain-Driven Charbroiler* – any Chain-Driven Charbroiler operating on or before November 14, 1997
- *New Chain-Driven Charbroiler* – any Chain-Driven Charbroiler initially installed and operated after November 14, 1997

These terms are used in Rule 1138 to distinguish Chain-Driven Charbroilers initially installed and operated prior November 14, 1997. This distinction was made to establish a 10-year grace period from the Rule's requirements for Existing Chain-Driven Charbroilers. Since the grace period ended long ago, these definitions can be removed without affecting compliance.

The definition for Meat, found in paragraph (b)(4) of PAR 1138, has been revised to remove “fish” as a redundant term and to avoid confusion over the scope of “seafood.” The Merriam-Webster's dictionary defines “seafood” as “edible marine fish and shellfish.” The California Department of Public Health also lists the definition of “seafood” to include “all fish and fishery products intended for human consumption.” Seafood also includes freshwater derivatives. As defined in the California Food and Agriculture Code Section 58623, “seafood” is, in principal part, “shellfish and every other form of animal or plant life which is taken from fresh or salt water and used for human consumption...” Accordingly, the use of the term “seafood” adequately covers fish, and all other edible marine and aquatic life, for the purposes of this rule.

Requirements – Subdivision (c)

Similar to Subdivision (b), paragraphs (c)(1) and (c)(2) in Rule 1138 are removed from PAR 1138 due to their relationship to the now-defunct grace periods. Accordingly, paragraph (c)(1) of PAR 1138 clarifies the applicability of Rule 1138 from New Chain-Driven Charbroilers (a deleted definition in PAR 1138) to all Chain-Driven Charbroilers by removing references to grace period dates which are past due and no longer applicable as of the date of rule amendment. As such, the

administrative changes to rule language in paragraph (c)(1) do not alter the applicability of current Rule 1138.

Paragraph (c)(3) of PAR 1138 clarifies that owners and operators of Chain-Driven Charbroilers are required to submit equipment filings under Rule 222 and include applicable exemptions specified in subdivision (e).

Exemption – Subdivision (e)

Subparagraph (e)(1)(A) of PAR 1138 specifies the revised exemption thresholds. A Chain-Driven Charbroiler is exempt from paragraphs (c)(1), (c)(2), and (d)(1) of PAR 1138 if the unit has a throughput that is less than 400 pounds of meat cooked weekly, or alternatively, 10,800 pounds of meat cooked in any continuous 12-month period while maintaining less than 875 pounds of meat weekly. Paragraph (e)(1)(B) of PAR 1138 is retained from the current Rule 1138 language and provides an alternative exemption option for owners and operators of Chain-Driven Charbroilers demonstrating less than one pound per day of any criteria pollutant with the test method specified in subdivision (f) and accepting permit conditions supporting such emissions limit.

Paragraph (e)(2) temporarily extends current exemption thresholds until 12 months after rule amendment date. The provided grace period allows owners or operators of chain-driven charbroilers additional time to procure compliant equipment as well as submitting update(s) to existing Rule 222 filing(s) to reflect the revised exemption threshold of PAR 1138, if necessary.

Evaluations – Previously Subdivision (f)

In Rule 1138, this subdivision requires the Executive Officer to evaluate Rule 1138 and provide a report to the Governing Board on its feasibility within 18 months of initial adoption. Given that this 18-month period expired over 20 years prior to the beginning of the PAR 1138 rule development process, this language is obsolete and has been removed.

CHAPTER 3 : Impact Assessment

EMISSIONS INVENTORY AND EMISSION REDUCTIONS

COST AND COST-EFFECTIVENESS

CALIFORNIA ENVIRONMENTAL QUALITY ACT

SOCIOECONOMIC IMPACT ASSESSMENT

DRAFT FINDINGS UNDER THE HEALTH AND SAFETY CODE

COMPARATIVE ANALYSIS

EMISSIONS INVENTORY AND EMISSION REDUCTIONS

The 1998 survey and a subsequent report conducted by PES estimated that 3.73% of all restaurants within South Coast AQMD jurisdiction contain at least one chain-driven charbroiler. Additionally, this survey suggests that facilities operating at least one chain-driven charbroiler have on average about one chain-driven charbroiler per facility.

Emission factors for PM and VOC as well as associated test methods for various combinations of appliances for cooking meat, including chain-driven charbroilers (with and without a catalytic oxidizer), were developed from a study conducted in 1995 by The UC Riverside Center for Environmental Research and Technology (CE-CERT)¹⁹ sponsored by the South Coast AQMD and the California Restaurant Association.

The emissions inventory of chain-driven charbroiler units within South Coast AQMD's jurisdiction was estimated by utilizing the emission factors from the CE-CERT study as well as the rates of chain-driven charbroiler prevalence calculated from the PES survey. To complete its estimation, staff collaborated with health departments at the county level to create a list of all permitted food service facilities within South Coast AQMD jurisdiction. From this list, staff created a filter to remove entries that were likely not associated with any sort of commercial cooking in line with justifications from the PES study. This methodology led staff to estimate that there are 1,244 chain-driven charbroilers in South Coast AQMD jurisdiction which, in 2023, were responsible for 99.78 tons per year (tpy) of PM and 30.61 (tpy) of VOC.

Emission reductions requirement from the control technology for Rule 1138 requires a combined reduction of 83% in total PM and VOC emissions. As such, staff found it reasonable to assume an 83% reduction in emissions from newly non-exempt chain-driven charbroiler units from PAR 1138. It was found that about 11.5% of chain-driven charbroiler filings under Rule 222 would be newly subject to PAR 1138. Combined with the estimate of 1,244 total chain-driven charbroilers in South Coast AQMD jurisdiction, 143 chain-driven charbroiler units are estimated to be newly non-exempt from this rule. Currently, staff assume that all newly non-exempt units do not have control technologies currently installed. This is a conservative approach as emissions control technology are widely accepted to be recommended or included with the purchase of a new chain-driven charbroiler unit. Emissions from affected chain-driven charbroilers are calculated based on the upper limits of Rule 1138's current exemption threshold of 875 lbs of meat cooked per week and assume that no newly non-exempt units will remain exempt under the alternative exemption pathway of 10,800 pounds per 12-month period while maintaining less than 875 pounds cooked per week. When combined with emission factors, from the 1995 CE-CERT Study, of 14.8 pounds of PM per ton of meat cooked and 4.54 pounds of VOC per ton of meat cooked, total emission reductions from the proposed amendment are expected to reduce PM emissions by 19.98 tpy, or about 0.05 tons per day (tpd), and additional VOC reductions of 6.13 tpy, or about 0.02 tpd, as a co-benefit.

¹⁹University of California, Riverside Bourns College of Engineering – Center for Environmental Research and Technology, Further Development of Emission Test Methods and Development of Emission Factors for Various Commercial Cooking Operations Final Report, 1997,
https://www3.epa.gov/ttnchie1/old/ap42/ch09/s133/related/rel01_c09s1303.pdf

COST AND COST-EFFECTIVENESS

Cost-effectiveness is the cost-benefit analysis comparing the relative costs of rule implementation to the outcomes. South Coast AQMD compares factors such as initial capital costs, operating and maintenance costs, and installation costs against the anticipated emission reductions across the South Coast Air Basin and calculates the cost of removing one ton of pollutant through the implementation of this regulation. There are two potential methods to calculate cost-effectiveness for emission reductions: discounted cash flow (DCF) method and levelized cash flow (LCF) method. The cost-effectiveness calculations were completed using the DCF approach. Staff believe this is the most appropriate method for this analysis based on the discussion of the two methods below.

Discounted Cash Flow (DCF) and Levelized Cash Flow (LCF) Approaches

The DCF method converts all costs, including capital investments and costs expected in the present and all future years of equipment useful life, to present value. Conceptually, it is akin to calculating the amount of funds that would be needed at the beginning of the initial year to finance the initial capital investments and to set aside funds to pay off the annual costs as they occur in the future. The funds that would be set aside are assumed to be invested, which in turn, would generate a rate of return at the discount rate chosen. Cost-effectiveness is derived by dividing the present value of all total costs by the total emissions reduced over the equipment's useful life.

By contrast, the LCF approach amortizes all costs, regardless of when they are incurred, into a yearly expenditure of equal amount over the project life. The LCF method assumes that the annual emission reductions are constant over time by comparing the annualized cost with the amount of annual emission reductions that can be potentially achieved. However, for projects that do not have linear or constant emission reductions, which is often the case for rule development projects with varying implementation schedules, the DCF method is better suited to address these variabilities when forecasting future costs.

Compliance Costs

One year after adoption, PAR 1138 would make chain-driven charbroilers that cook between 400 and 875 pounds of meat weekly subject to emissions control requirements. Compliance requires that these newly non-exempt units, if not already equipped with certified control device such catalytic oxidizers, achieve a reduction of at least 83% below baseline emissions for PM and VOC. Discussions with manufacturers revealed that the current cost of a catalytic oxidizer is approximately \$1,900. Manufacturers confirmed that no additional costs should be incurred from the installation process as the control technology can be installed with simple hand tools. Additionally, manufacturers stated that retrofits should be available for all existing chain-driven charbroiler units and that a completely new unit would not be necessary unless the unit itself is at the end of its useful life and needs replacement regardless of PAR 1138. Due to the prevalence in the market of chain-driven charbroilers certified to the South Coast AQMD protocol, chain-driven charbroilers purchased after 1997 could potentially be already equipped with compliant control device such that the facilities affected by the proposed amendments would possibly not need to take additional actions to comply with PAR 1138. Useful life of catalytic oxidizers, with proper maintenance, is anticipated to last for the entire lifetime of a chain-driven charbroiler unit. From discussions with manufacturers, typical maintenance of a catalytic oxidizer involves cleaning with water and/or soap in intervals that can range from daily to monthly. A previous cost-effectiveness analysis from the 1997 staff report for Rule 1138 assumes that chain-driven charbroilers have a

10-year useful lifespan, and therefore this number will be used in cost effectiveness calculations.²⁰ Additionally from the 1997 staff report, exhaust stack cleaning is estimated to be completed four times annually for chain-driven charbroilers without a catalytic oxidizer while units equipped with catalytic oxidizers have their exhaust stack cleaned once annually resulting in a potential cost savings. As part of staff's conservative approach, cost savings from the reduction of exhaust stack cleaning are assumed to be balanced out by the costs incurred from the additional maintenance needs of a catalytic oxidizer.

Cost Effectiveness

To calculate cost-effectiveness, staff assumed that all newly subject units would have a throughput equivalent to the current exemption limit, 875 pounds per week. Due to the popularity of beef hamburgers as surveyed in the 1997 PES study,¹⁷ meat used in this assessment was assumed to be standard 25% fat 1/3 lb hamburgers with an emission factor of 14.8 lbs PM per ton of meat cooked in line with patties used in the 1997 CE-CERT study.²¹

To calculate the present worth factor, a 4% per annum real interest rate is assumed per South Coast AQMD practice. Below is the calculation:

Equation 3-1: Present Worth Factor Multiplier After n Years

$$\begin{aligned} \text{Present Worth Factor after } n \text{ years} &= \sum_{i=1}^n \frac{1}{(1 + \text{real interest rate})^i} \\ &= \sum_{i=1}^{10} \frac{1}{(1.04)^i} \\ &= 8.1108 \end{aligned}$$

Step 1: Calculate the anticipated annual emissions for PM for one uncontrolled chain-driven charbroiler:

Equation 3-2: Annual PM Emissions per Chain-Driven Charbroiler

$$\begin{aligned} \text{PM Emissions} &= \text{lbs meat per week threshold} * \text{weeks per year} * \text{PM Emission Factor} \\ &= 875 \frac{\text{lbs meat}}{\text{week}} * 52 \frac{\text{week}}{\text{year}} * 14.8 \frac{\text{lbs PM}}{2000 \text{ lbs meat}} \\ &= 336.7 \frac{\text{lbs PM}}{\text{year}} \end{aligned}$$

²⁰South Coast Air Quality Management District, Staff Report for Proposed Rule 1138 – Control of Emissions from Restaurant Operations, October 1997

²¹University of California, Riverside Bourns College of Engineering – Center for Environmental Research and Technology, Further Development of Emission Test Methods and Development of Emission Factors for Various Commercial Cooking Operations Final Report, 1997

$$= 0.168 \text{ tpy PM}$$

Step 2: Calculate the cost per unit for one chain-driven charbroiler:

Equation 3-3: Cost per Chain-Driven Charbroiler to Adopt Control Technology
*Unit Cost = Initial Cost + (Present Worth Factor * Annual Maintenance Costs)*

$$= \$1,900 + (8.1108 * \$0) \\ = \$1,900$$

Finally, to calculate cost effectiveness, 83% reductions were assumed for PM since emissions control devices need to demonstrate a minimum 83% control efficiency of total PM + VOC emissions to become certified. Since a majority of chain-driven charbroiler units are greater than both the proposed 400 pounds per week and existing 875 pounds per week thresholds, the number of anticipated newly non-exempt chain-driven charbroilers can be quantified. This calculation was performed as shown in in the Emissions Inventory section of this Staff Report.

Equation 3-4: South Coast AQMD Cost-Effectiveness by Criteria Pollutant

$$\text{PM Cost Effectiveness} = \frac{\text{Unit Cost}}{\text{Lifespan (years)} * \% \text{ Reductions} * \text{Annual PM Emissions}} \\ = \frac{\$1,900}{10 \text{ years} * 0.83 * .168 \text{ tpy}} \\ = \$1,362.59 \text{ per ton of PM reduced}$$

Incremental Cost-effectiveness

Health and Safety Code Section 40920.6(a)(3) requires the calculation of incremental cost-effectiveness for potential control options, when the South Coast AQMD adopts rules to meet the requirements for best available retrofit control technology (BARCT) pursuant to Sections 40918, 40919, 40920, and 40920.5, or for a feasible measure pursuant to Section 40914. This Section does not apply to PM (Health and Safety Code Section 40910). PAR 1138 is not being adopted to meet BARCT requirements nor is it being adopted as a feasible measure pursuant to an alternative reduction strategy under Health and Safety Code Section 40914. Therefore, an incremental cost-effectiveness analysis is not needed.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15002(k) and 15061, the proposed project (PAR 1138) is exempt from CEQA pursuant to CEQA Guidelines Sections 15061(b)(3) and 15308. Further, there is no substantial evidence indicating that the exceptions set forth in CEQA Guidelines Section 15300.2 apply to the proposed project. A Notice

of Exemption will be prepared pursuant to CEQA Guidelines Section 15062, and if the proposed project is approved, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino counties, and with the State Clearinghouse of the Governor's Office of Land Use and Climate Innovation.

SOCIOECONOMIC IMPACT ASSESSMENT

On March 17, 1989, the 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 Sections 40440.8 and 40728.5 require a socioeconomic impact assessment for proposed and amended rules resulting in significant impacts to air quality or emission limitations. This Socioeconomic Impact Assessment has been prepared in accordance with Health and Safety Code and South Coast AQMD Governing Board requirements. The type of industries or businesses affected, and the range of probable costs, are addressed in this section. Additional information and analysis on the cost-effectiveness, discussion of potential emission reductions, and the necessity of amending the rule are included elsewhere in this report.

Introduction

PAR 1138 is designed to comply with the federal CAA MSM requirements for the 2012 PM_{2.5} NAAQS and to reduce emissions from chain-driven charbroilers in commercial cooking operations. Specifically, PAR 1138 will establish more stringent thresholds regarding the amount of meat cooked that would qualify an owner or operator of a chain-driven charbroiler for an exemption from certain requirements in the rule by: 1) changing the existing threshold of less than 875 pounds per week to less than 400 pounds per week; and 2) adding a new alternative threshold of less than 10,800 pounds in any continuous 12-month period while maintaining a weekly rate of less than 875 pounds. Implementation of PAR 1138 is expected to reduce PM emissions from existing chain-driven charbroilers that would no longer qualify for the exemption by approximately 0.05 ton per day (tpd); a co-benefit of VOC emission reductions of 0.02 tpd is also expected.

The legal mandates directly related to the socioeconomic impact assessment of PAR 1138 include South Coast AQMD Governing Board resolutions and various sections of the Health and Safety Code.

Legislative Mandates

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."

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.

However, job impact analyses are not conducted for projects with annual costs below one million U.S. dollars, as the modeling tool is unable to accurately assess macroeconomic effects of minimal-scale policy shocks.

Health and Safety Code Section 40728.5 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.

Finally, Health and Safety Code Section 40920.6 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, CO, SO_x, NO_x, VOC, and their precursors. However, this section is not applicable to PAR 1138 because this is a rule which focuses on reducing PM emissions and PM is not subject to BARCT and "all feasible measures" requirements. For this reason, an incremental cost-effectiveness analysis for PAR 1138 was not conducted.

Affected Facilities and Industries

To assess the impact of PAR 1138, South Coast AQMD staff reviewed permit data provided by health departments in the four counties (Los Angeles, San Bernardino, Riverside, and Orange).²² to identify potentially affected food service facilities. The majority of the facilities can be classified

²² Specifically, Los Angeles County Department of Public Health, San Bernardino County Department of Public Health, Orange County Health Care Agency, and Riverside County Department of Public Health.

with a North American Industry Classification System (NAICS) of 72: Accommodation and Food Services sector. After excluding unrelated businesses (e.g., juice bars) and matching ZIP codes with those in South Coast AQMD jurisdiction, approximately 33,360 commercial cooking facilities were identified. In addition, the 1999 PES study estimated that approximately 3.73% of commercial cooking facilities use chain-driven charbroilers. By applying this percentage to the 33,360 commercial cooking facilities, approximately 1,244 facilities are currently subject to Rule 1138. In an analysis conducted by staff, it is estimated that about 11.5% of current chain-driven charbroiler filings under Rule 222 would be changing from exempt to non-exempt under PAR 1138. Similarly, by applying this percentage, approximately 143 out of 1,244 facilities using chain-driven charbroilers in South Coast AQMD jurisdiction will be newly subject to the Rule 1138 emission control requirements.

Small Business Analysis

Because the exact universe of affected facilities is unknown, a small business analysis was not conducted for PAR 1138. Generally, chain-driven charbroilers are designed for high output and are common in larger business with consistent high meat throughput, such as Burger King and Carls Jr. However small businesses are expected to be most affected by the proposed changes to the exemption threshold in PAR 1138 due to lower throughput compared to larger businesses traditionally operating chain-driven charbroilers. While small businesses typically qualify for reduced permitting fees, this does not apply here, as chain-driven charbroilers are exempt from permitting requirements per Rule 219.

Compliance Costs

PAR 1138 would require each of the 143 newly affected facilities to make a one-time investment to purchase and install one catalytic oxidizer or 143 total. These catalytic oxidizers could potentially result in cost savings from maintenance due to reducing the frequency of maintenance on exhaust vents and savings from labor costs; however, as a conservative approach, those incremental cost savings will not be accounted for in this assessment.²³ Due to the prevalence of certified chain-driven charbroilers in the market, those affected facilities with chain-driven charbroilers purchased after 1997 would possibly not need to take additional actions to comply with PAR 1138 since these units are likely already equipped with compliant control device. However, to be conservative, staff assumes that all of the newly affected units will need to be retrofitted with control device to comply with PAR 1138. Additionally, charbroilers subject to Rule 1138 are generally exempt from permitting per Rule 219(d)(9)(E). While facilities do pay annual renewal fees for Rule 222 filings, that is not a result of PAR 1138 and will not be considered in this analysis. Compliance costs associated with PAR 1138 will be amortized over a 10-year period from 2026 through 2035, based on the expected 10-year useful life of the catalytic oxidizers. All costs presented in this Socioeconomic Impact Assessment are expressed in 2024 dollars. The cost assumptions for the cost estimation are outlined in the following section.

²³ More information about the maintenance costs can be found in the Compliance Cost section in Chapter 3 of this report

Catalytic Oxidizer

Currently, Rule 1138 requires owners and operators of each chain-driven charbroiler unit that grills more than, or equal to, 875 pounds of meat per week to comply with the control requirements specified in the rule. PAR 1138 will establish more stringent thresholds regarding the amount of meat cooked that would qualify an owner or operator of a chain-driven charbroiler for an exemption from certain requirements in the rule by: 1) changing the existing threshold of less than 875 pounds per week to less than 400 pounds per week; and 2) adding a new alternative threshold of less than 10,800 pounds in any continuous 12-month period while maintaining a weekly rate of less than 875 pounds. Under PAR 1138, approximately 143 existing facilities in South Coast AQMD jurisdiction will no longer be exempt from the rule which means that installations of catalytic oxidizers will be expected. According to a manufacturer's quote, one catalytic oxidizer is estimated to cost around \$1,900 and is expected to have a useful life of 10 years. The total capital cost for the one-time purchase and installation of 143 catalytic oxidizers at each affected facility is therefore estimated to be \$271,700.

Annual Average Compliance Cost

Over the period from 2026-2035, the total present value of the annualized compliance costs of PAR 1138 is estimated to be \$269,010 and \$261,250 at a 1% and 4% discount rate, respectively.²⁴ The average annual compliance costs of implementing PAR 1138 over the period is estimated to range from \$28,403 to \$32,210 or \$199 to \$225 per facility at a 1% to 4% real interest rate, respectively. Table 3-1 presents both the present value and annual average of the cost of implementing PAR 1138.

Table 3-1: Total Present Value and Average Annual Estimated Cost of PAR 1138

Cost Categories	Present Value (2025)		Annual Average Cost of PAR 1138 (2026-2035)	
	1% Discount Rate	4% Discount Rate	1% Real Interest Rate	4% Real Interest Rate
Capital Cost				
Catalytic Oxidizer	\$269,010	\$261,250	\$28,403	\$32,210
Recurring Costs				
-	-	-	-	-
Total	\$269,010	\$261,250	\$28,403	\$32,210

Note: The implementation will result in slight cost saving in maintenance, but staff did not account for the cost saving as a conservative approach. Additionally, no change in permitting fees will be involved because permitting fees for charbroilers have been exempt and renewal fees paid by facilities are a result of Rule 222 filings and not the implementation of PAR 1138. As such, there will be no recurring incremental costs due to the implementation of PAR 1138.

²⁴ Present value is calculated using discount rates of 1% and 4%, based on amortized costs using real interest rates of 1% and 4%, respectively.

Macroeconomic Impacts on the Regional Economy

Regional Economic Models, Inc. (REMI) developed the Policy Insight Plus Model (PI+ v3), which is a tool that South Coast AQMD typically uses to assess the impacts of rule development projects on the job market, prices, and other macroeconomic variables in the region when the average annual compliance cost is greater than or equal to one million current U.S. dollars.²⁵ However, when the average annual compliance cost of a project is less than one million dollars, the model cannot reliably determine the macroeconomic impacts, because resultant impacts from the project would be too small relative to the baseline economic forecast.

Since the average annual compliance cost of implementing PAR 1138 is estimated to be \$28,403 to \$32,210 at a 1% to 4% real interest rate, respectively, which is less than the \$1 million threshold, a macroeconomic impact analysis was not conducted for PAR 1138.

DRAFT FINDINGS UNDER THE HEALTH AND SAFETY CODE

Requirements to Make Findings

Health and Safety Code Section 40727 requires that prior to adopting, amending, or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, nonduplication, and reference, as defined in that section, based on relevant information presented at the Public Hearing, this written analysis, and the rulemaking record.

Necessity

PAR 1138 is needed to reduce PM2.5 emissions by partially implementing control measure BCM-12: Further Emission Reductions from Commercial Cooking and implementing Most Stringent Measure requirements from the 2024 South Coast Air Basin PM2.5 Attainment Plan for the 2012 Annual PM2.5 Standard.

Authority

The South Coast AQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from Health and Safety Code Sections 39002 40000, 40001, 40440, 40702, 40725 through 40728 and 41508.

Clarity

PAR 1138 is written and displayed so that the meaning can be easily understood by people directly affected by it.

Consistency

PAR 1138 is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, federal or state regulations.

Non-duplication

²⁵ Regional Economic Modeling Inc. (REMI). Policy Insight® for the South Coast Area (70-sector model). Version 3. 2023.

PAR 1138 does not impose the same requirements as any existing state or federal regulation, and the proposed rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD.

Reference

By adopting this proposed rule, the South Coast AQMD Governing Board will implement, interpret or make specific: Health and Safety Code Sections 40001 (rules to achieve ambient air quality standards) and 40440(a) (rules to carry out the AQMP)

COMPARATIVE ANALYSIS

Health and Safety Code Section 40727.2 requires a written analysis comparing the proposed amended rule with existing federal, state and South Coast AQMD regulations. This analysis must include averaging provisions, operating parameters, work practice requirements, and recordkeeping, monitoring, and reporting requirements associated with existing applicable rules and proposed regulations.

Federal and state regulations do not contain rules for the source category of chain-driven charbroilers. BAAD adopted Regulation 6, Rule 2: Commercial Cooking Equipment in December 2007 and SJVAPCD amended Rule 4692 – Commercial Charbroiling in June 2018. Table 3-1 compares the Bay Area rule and San Joaquin’s rule with staff’s proposal.

Table 3-2: PAR 1138 Comparative Analysis

Rules	Rule Elements		
	Applicability	Requirements	Reporting, Notifications, Recordkeeping
PAR 1138 (South Coast AQMD)	Owners and operators of commercial cooking operations that have chain-driven charbroilers	Chain-driven charbroilers must be equipped with a catalytic oxidizer or other certified control device as certified by the Executive Officer and maintained in accordance with manufacturer specifications Exemption threshold: <ul style="list-style-type: none"> - Less than 400 pounds weekly meat cooked; or - 10,800 pounds in any continuous 12-month period and less than 875 pounds weekly meat cooked 	<ul style="list-style-type: none"> - If the unit has control equipment, installation and maintenance records for the control device for at least five years - If under exemption, weekly records of the meat cooked and monthly records of meat purchased kept for at least five years - Alternative recordkeeping can be requested should the Executive Officer and EPA deem it sufficient
Regulation 6 Rule 2 (BAAD)	Owners, installers, or operators of: <ul style="list-style-type: none"> - Underfired charbroilers that purchase >1,000 pounds of beef weekly - Chain-driven charbroilers that purchase > 400 pounds of beef weekly 	Beginning 1/1/2009, chain-driven charbroilers must operate with either: <ul style="list-style-type: none"> - A catalytic oxidizer limiting PM10 emissions to 1.3 pounds per 1000 pounds of beef cooked and VOC emissions to 0.32 pounds per 1000 pounds of beef cooked - Another control device limiting PM10 emissions to 0.74 pounds per 1000 pounds of beef cooked Exemption Threshold <ul style="list-style-type: none"> - Less than 400 pounds of beef per week 	For owners or operators of non-exempt chain-drive charbroilers: <ul style="list-style-type: none"> - Date of installation of any emission control device - Maintenance, work description, and date of maintenance These records shall be maintained for at least five years
Rule 4692 (SJVAPCD)	Charbroilers used to cook meat at commercial cooking operations	A catalytic oxidizer or other control device must be equipped to a chain-driven charbroiler to achieve at least 83% and 86% reductions for PM-10 and VOC emissions, respectively. Control devices must be maintained in line with manufacturer's instructions Chain-driven charbroilers are exempt from the above requirement if the unit cooks either less than 400 pounds of meat cooked per week or less than 10,800 pounds per rolling 12-month period while maintaining less than 875 pounds of meat cooked per week.	For exempt units, to be kept at least five years: <ul style="list-style-type: none"> - Weekly records of the meat cooked on a chain-driven charbroiler - Test results showing exemption eligibility For non-exempt units, to be kept at least five years: <ul style="list-style-type: none"> - Weekly records of the meat cooked on a chain-driven charbroiler
Rule 74.25 (Ventura County Air Pollution Control District) ¹⁴	Owners or operators of conveyORIZED charbroilers	Reactive organic compound emissions and PM emissions from a conveyORIZED charbroilers must be reduced by at least 83% using a South Coast AQMD certified emissions control device. ConveyORIZED charbroilers in service before 10/12/05 are exempt if they cook less than 875 pounds of meat per week	ConveyORIZED charbroilers equipped with an emissions control device must: <ul style="list-style-type: none"> - Maintain records for the date of installation and/or replacement of the control device - Maintain records of any maintenance performed on the emissions control device including date, time, and description of maintenance. - Keep records on file for at least two years Exempt units must maintain weekly records of the amounts of meat charbroiled and monthly records of meat purchased. Records must be kept on file for at least two years.

APPENDIX A : RESPONSE TO PUBLIC COMMENTS

PUBLIC WORKSHOP COMMENTS

PUBLIC WORKSHOP COMMENTS

Staff held a Public Workshop on July 2, 2025 via teleconference to provide a summary of PAR 1138. The following is a summary of comments received on PAR 1138 and staff responses.

Comment #1:

Anonymous attendee asked in the teleconference Questions and Answers (Q&A) box for more information regarding how to access the recording for the Public Workshop.

Staff Response to Comment #1:

South Coast AQMD invites any interested members of the public to contact staff if they would like the July 2, 2025 Public Workshop recording. Alternatively, the recording can be requested through a California Public Records Act (CPRA) request. Additional information on how to submit a CPRA request can be found here: <https://www.aqmd.gov/nav/online-services/public-records>.

Comment #2

Anonymous attendee asked in the teleconference Q&A box for clarification on when this rule would take effect if adopted.

Staff Response to Commentor #2:

The South Coast AQMD Governing Board is scheduled to hold the public hearing for PAR 1138 on September 5, 2025. Should the Board vote to adopt PAR 1138, the proposed rule language will become effective immediately and changes in the exemption threshold will become effective 12 months after the date of rule adoption. Please see Chapter 2 of this staff report for additional details on the implementation schedule of PAR 1138.