

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Draft Staff Report Proposed Amended Rule 445 – Wood-Burning Devices

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EXECUTIVE SUMMARY

PM_{2.5} (particulate matter less than or equal to 2.5 microns in aerodynamic diameter) is an air pollutant that is either directly emitted into the atmosphere or formed in the atmosphere through chemical reactions. PM_{2.5} is the main cause of reduced visibility and can penetrate deep into lung tissues. Wood smoke and biomass burning contains harmful air pollutants, including PM_{2.5}, that can cause a variety of adverse health effects even with short-term exposure. Residential wood-burning is a significant source of PM_{2.5} emissions.

South Coast Air Quality Management District (South Coast AQMD or District) Rule 445 – Wood-Burning Devices (Rule 445) was first adopted in March 2008 to reduce PM_{2.5} emissions from residential wood combustion. Rule 445 prohibits burning of products not intended for use as fuel, prohibits sale of unseasoned wood, and mandates curtailment of wood-burning on “No-Burn” days during the wood-burning season. The wood-burning season begins from the beginning of November through the end of February. Wood-burning curtailment is mandatory on No-Burn days where the ambient PM_{2.5} concentration is forecast to exceed a threshold limit, currently set at 29 micrograms per cubic meter (µg/m³). If ozone contingency measure provisions specified in subdivision (g) of the current rule are triggered, the curtailment program will be expanded to include the months of September, October, March, and April when the daily maximum 8-hour ozone levels are forecasted to be higher than 80 parts per billion.

Although the South Coast Air Basin (Basin) is in attainment of the 1997 PM_{2.5} National Ambient Air Quality Standard (NAAQS) and meets the 2006 PM_{2.5} NAAQS, it is a “serious” nonattainment area for the 2012 PM_{2.5} NAAQS. Proposed Amended Rule 445 (PAR 445) focuses on reducing PM_{2.5} emissions from residential wood-burning to comply with the federal Clean Air Act Most Stringent Measure (MSM) requirements for the 2012 PM_{2.5} NAAQS. PAR 445 implements control measure BCM-18: Further Emission Reductions from Wood-Burning Fireplaces and Wood Stoves, from the 2024 PM_{2.5} Attainment Plan by lowering the mandatory PM_{2.5} curtailment thresholds and removing the existing low-income exemption that allows operation of a wood-burning device during an active No-Burn day. Due to a large number of residential properties in the Basin that have been destroyed due to large scale natural disasters, including wildfires and earthquakes, the addition of a narrow, limited exemption allows for previously installed, lawful wood-burning devices to be replaced during instances of damage or destruction due to natural disasters declared as a State of Emergency under Rule 118. Minor editorial changes and removal of obsolete information are made to improve rule clarity and conform with District practice. PAR 445 is anticipated to have minimal cost impacts associated with the lowering of the curtailment threshold and the removal of the low-income exemption as wood-burning in the Basin is mainly for aesthetic and ambiance purposes. As the rule does not propose any new requirements resulting in changes to wood-burning devices, no new costs are anticipated. Emission reductions from the removal of the low-income exemption are not quantified due to high level of uncertainty. It is estimated that lowering the curtailment threshold will reduce PM_{2.5} emissions by 0.25 tons per day.

Two public comments regarding PAR 445 were raised and South Coast AQMD staff responded to the comments in the Draft Staff Report.

CHAPTER 1 – BACKGROUND

INTRODUCTION

PM_{2.5} (particulate matter less than or equal to 2.5 microns in aerodynamic diameter) 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} products, 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 (VOC), and ammonia (see Figure 1-1). PM_{2.5} is the main cause of reduced visibility. Numerous studies have linked high levels of particulate air pollution with detrimental health effects such as respiratory and cardiovascular disease and premature death as smaller particles in the PM_{2.5} range can penetrate and deposit deep in lung tissues. The South Coast Air Basin (Basin) is among the most polluted PM_{2.5} regions in the United States.

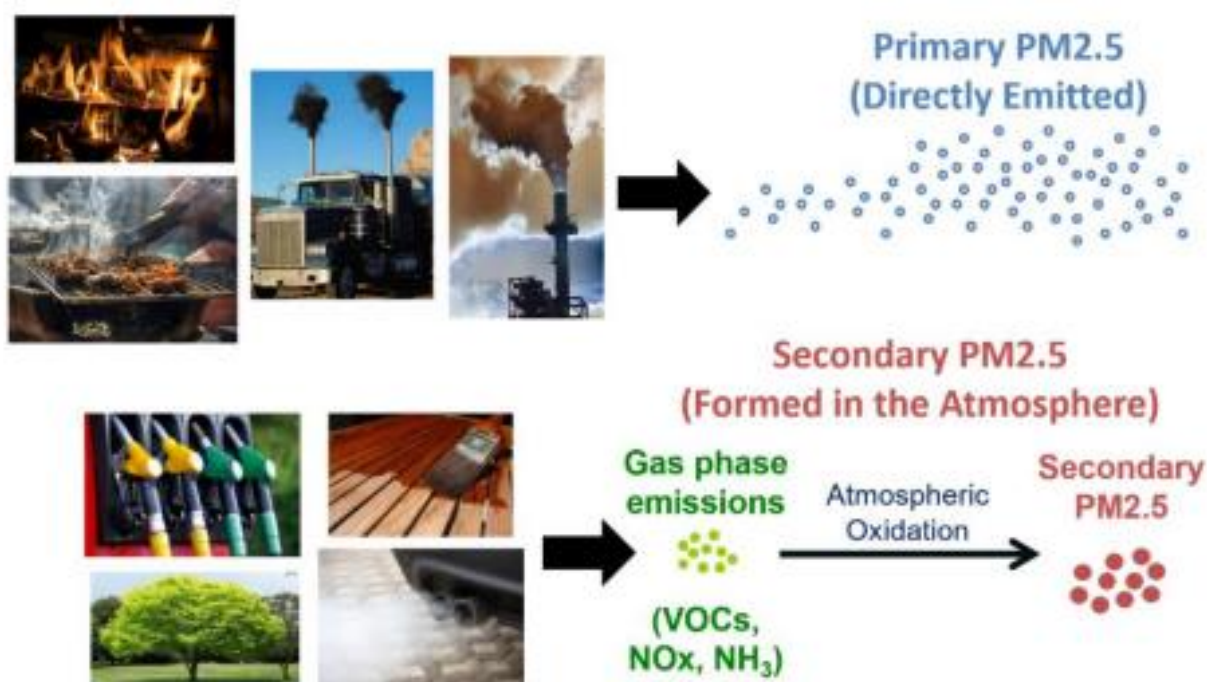


Figure 1-1: PM_{2.5} Formation Mechanisms

Emissions from residential wood-burning devices are caused primarily by incomplete combustion and include PM, CO, NO_x, SO_x, and VOC. Residential wood-burning is a significant source of PM emissions. Studies indicate that the vast majority of particulate emissions from residential wood combustion is PM_{2.5}.¹ The type of devices used to burn wood in a typical residential household are fireplaces and wood stoves. Fireplaces and any similar permanently installed indoor or outdoor wood-burning devices are very inefficient heat sources. Given the temperate climate in the Basin, fireplaces and comparable wood-burning devices are used primarily for aesthetic and

¹ South Coast Air Basin Attainment Plan for the 2012 Annual PM_{2.5} Standard. APPENDIX IV-A South Coast AQMD's Stationary and Mobile Source Measures. <https://www.aqmd.gov/docs/default-source/clean-air-plans/pm2.5-plans/final-pm2.5-plan/appendix-iv-a-control-measures.pdf>

ambiance purposes. The Basin includes densely populated areas where residential chimneys could be affixed near neighboring properties. The close proximity of neighboring chimneys increases the likelihood that individuals may inhale harmful smoke from nearby wood-burning.

Multiple Air Toxics Exposure Study V (MATES V) is a monitoring and evaluation study conducted in the Basin. Monitoring data collected as part of MATES V were used to provide information on the levels and risks associated with air toxics. Particulate species, including levoglucosan, were measured during sampling for MATES V. Levoglucosan is a widely used tracer of biomass burning contributions to atmospheric particulate loading. Levoglucosan has been historically shown to be present at very high concentrations in PM_{2.5} emissions from both residential wood combustion and wildland biomass combustion, making it a robust indicator for key biomass burning processes in the Basin. Monitoring data from MATES V showed the highest levels of wood smoke during the wintertime, from November through February.²

CLEAN AIR ACT REQUIREMENTS

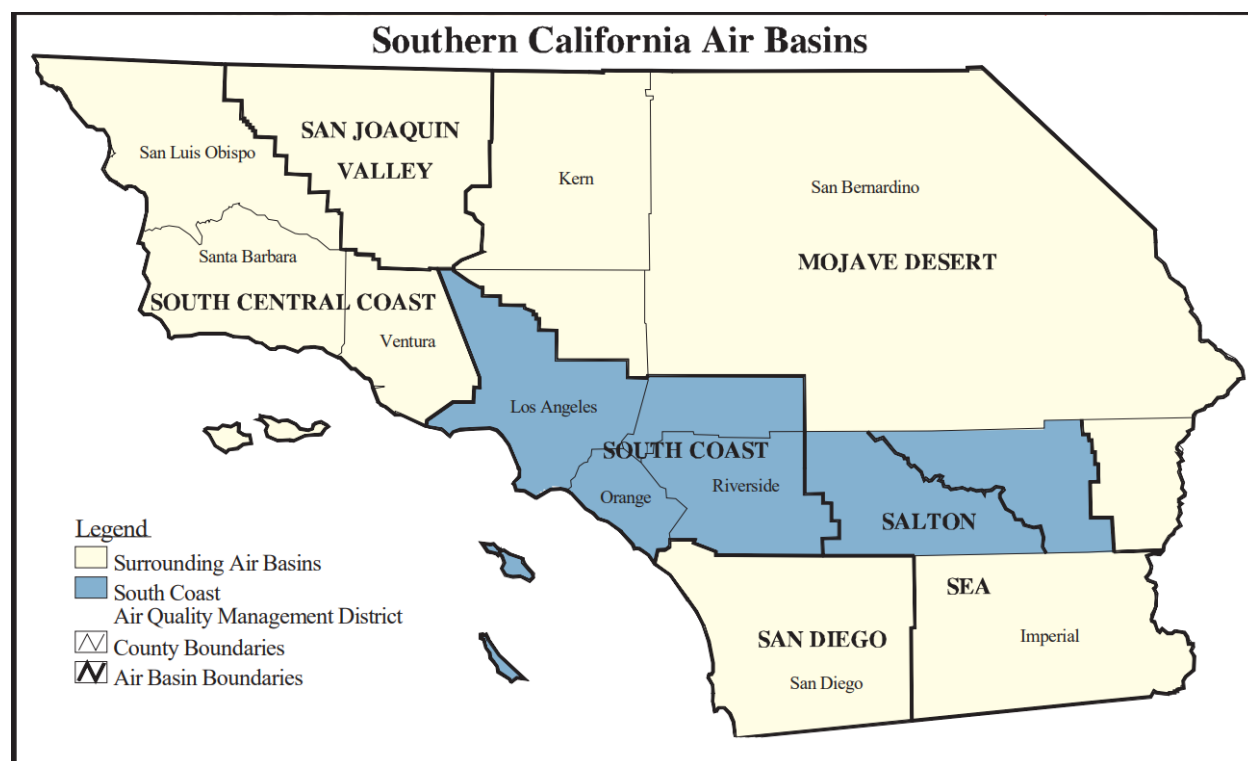


Figure 1-2: Map of South Coast AQMD Jurisdiction

The federal Clean Air Act requires areas that do not meet a National Ambient Air Quality Standard (NAAQS) to develop and implement strategies to reduce emissions so that healthy levels of air quality can be achieved in a timely manner. The Basin's region, highlighted as the "South Coast" portion, in Figure 1-2 above, is in nonattainment of the 2012 annual PM_{2.5} NAAQS. 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

² South Coast AQMD. *Appendix XII mates V final report biomass burning ...* MATES V Final Report. http://www.aqmd.gov/docs/default-source/planning/mates-v/appendixxii_final.pdf

Implementation Plan (SIP). Regions must develop SIPs to attain a NAAQS by specific dates or face the possibility of sanctions by the federal government and other consequences under the federal Clean Air Act. California also has air quality standards for PM_{2.5} and under state law, the region is required to attain those standards as expeditiously as practicable.

In 1997, the U.S. EPA promulgated the NAAQS for PM_{2.5} by setting an annual standard at 15 micrograms per cubic meter (µg/m³) and a 24-hour standard at 65 µg/m³. In 2006, the U.S. EPA strengthened the 24-hour PM_{2.5} NAAQS from 65 µg/m³ to 35 µg/m³. In 2012, the U.S. EPA revised the annual PM_{2.5} NAAQS, lowering it to 12 µg/m³ and further to 9 µg/m³ in 2024.

As of May 2025, the Basin is in attainment with both the 24-hour and annual 1997 PM_{2.5} NAAQS of 65 µg/m³ and 15 µg/m³, respectively. In addition, the Basin meets the 24-hour 2006 PM_{2.5} NAAQS based on monitoring data collected over the past several years. For the 2012 annual PM_{2.5} NAAQS, the Basin is designated as a “serious” nonattainment area, with an attainment date of 2025.

Clean Air Act section 172(c)(9) requires contingency measures in the event that an area fails to meet reasonable further progress milestones or to attain the NAAQS by the specified attainment deadline. U.S. EPA, implementing regulations for particulate matter (40 CFR § 51.1014(a)), requires that these contingency measures take effect with minimal further action following a determination by the U.S. EPA that the area has failed: (1) to meet any approved reasonable further progress requirement, (2) to meet any approved quantitative milestone, (3) to submit a required quantitative milestone report, or (4) to attain the standard by the applicable attainment date.

Areas classified as “serious” nonattainment where an extension was requested for the area are required to demonstrate that the attainment plan includes the Most Stringent Measure (MSM) requirements under Clean Air Act section 188(e). MSM is defined as³:

“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.”

SOUTH COAST AIR BASIN ATTAINMENT PLAN FOR 2012 ANNUAL PM_{2.5} STANDARD (2024 PM_{2.5} PLAN)

Effective April 15, 2015, the U.S. EPA designated the Basin as a “moderate” nonattainment area for the 2012 annual PM_{2.5} NAAQS with an attainment date of December 31, 2021.⁴ In response, South Coast AQMD adopted the 2016 Air Quality Management Plan (AQMP) which concluded that meeting the 2021 deadline was impractical, and included a plan to attain the 2012 PM_{2.5} NAAQS by 2025 as a “serious” nonattainment area. The 2016 AQMP was submitted to U.S. EPA in 2017, but U.S. EPA delayed acting on the plan. Meanwhile, near-road air quality monitoring data became eligible for inclusion in attainment demonstrations and the “serious” area plan was withdrawn in 2023 to account for this new data and to satisfy other planning requirements. Since adopting the 2016 AQMP, South Coast AQMD has implemented control measures and achieved emission reductions. However, due to unforeseen challenges, including unfavorable meteorology,

³ *Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements*. Federal Register.

<https://www.federalregister.gov/d/2016-18768/p-1655>

⁴ Air Quality Designations for the 2012 Primary Annual Fine Particle (PM_{2.5}) National Ambient Air Quality Standards (NAAQS), 80 Fed. Reg. 2206 (Jan. 15, 2015)

wildfires, increases in emissions in the goods movement sector during the COVID-19 pandemic, and the addition of the near-road monitors, the South Coast AQMD requested an extension of the attainment date under Clean Air Act section 188(e).

The federal Clean Air Act requires areas designated as being in nonattainment with the NAAQS to develop and implement an emissions reduction strategy that will bring the area into attainment at the soonest practicable time. For the South Coast AQMD, the strategies and underlying technical analysis for how the Basin will meet the 2012 annual PM_{2.5} NAAQS as expeditiously as practicable is set forth in the South Coast Air Basin Attainment Plan for the 2012 Annual PM_{2.5} NAAQS (2024 PM_{2.5} Plan) since the Basin has been redesignated as a “serious” PM_{2.5} nonattainment area for the 2012 annual PM_{2.5} NAAQS and has not yet met attainment. The 2024 PM_{2.5} Plan included:

- An attainment date extension request until 2030 for the 2012 annual PM_{2.5} NAAQS;
- A demonstration of the proposed control strategy for implementation of the MSM that meets requirements of the federal Clean Air Act; and
- The anticipated annual emission reductions for certain proposed control strategies.⁵

The South Coast AQMD Governing Board adopted the 2024 PM_{2.5} Plan in June 2024 to demonstrate how the Basin will meet the 2012 annual PM_{2.5} NAAQS as expeditiously as practicable, but no later than December 31, 2030.

CONTROL MEASURE BCM-18: FURTHER EMISSION REDUCTIONS FROM WOOD-BURNING FIREPLACES AND WOOD STOVES

Appendix IV-A of the 2024 PM_{2.5} Plan⁶ identifies the South Coast AQMD’s stationary source attainment strategy through source-specific control measures. Control measure BCM-18: Further Emission Reductions from Wood-Burning Fireplaces and Wood Stoves (BCM-18), identified in the 2024 PM_{2.5} Plan, describes the strategy to seek further PM_{2.5} emissions reductions from residential wood-burning activities. The control strategy is based on the 2024 PM_{2.5} Plan MSM analysis that identified California air districts with wood-burning regulations that include more stringent measures than Rule 445. Table 1-2 includes a general comparison of California air district PM_{2.5} wood-burning curtailment thresholds and exemptions to the respective rules. As noted in the table, other air districts such as San Joaquin Valley APCD Rule 4901 have more stringent measures than South Coast AQMD Rule 445 (lower PM_{2.5} curtailment thresholds resulting in higher amounts of emission reductions). Therefore, Rule 445 is required to be amended to lower the PM_{2.5} curtailment thresholds to be as stringent as other adopted regulations to meet federal Clean Air Act requirements to adopt the MSM.

In addition to lowering the Rule 445 PM_{2.5} curtailment threshold, control measure BCM-18 proposes to remove the low-income exemption in Rule 445. A low-income household is identified as any household that receives financial assistance through reduced electric or gas bills from an electric or natural gas utility based on household income levels. Rule 445 currently allows low-income households to be exempt from the Basin-wide mandatory PM_{2.5} curtailment. This would

⁵ *South Coast Air Basin Attainment Plan for the 2012 Annual PM_{2.5} Standard*. APPENDIX III South Coast AQMD’s Stationary and Mobile Source BACM/MSM. https://www.aqmd.gov/docs/default-source/clean-air-plans/pm2.5-plans/final-pm2.5-plan/appendix-iii---bacm_msm.pdf

⁶ *South Coast Air Basin Attainment Plan for the 2012 Annual PM_{2.5} Standard*. APPENDIX IV-A South Coast AQMD’s Stationary and Mobile Source Measures. <https://www.aqmd.gov/docs/default-source/clean-air-plans/pm2.5-plans/final-pm2.5-plan/appendix-iv-a-control-measures.pdf>

allow an exempted household to operate a wood-burning device during an active No-Burn day. The removal of the low-income exemption in Rule 445 does not affect the other remaining exemptions. Households with no other source of heating than wood-burning are exempt from Rule 445 under the ‘sole source of heat’ exemption (located in subparagraph (i)(7)(A)).

Table 1-1: Comparison of Most Stringent Measures

Agency/ Rule	Applicability	Curtailment Threshold	Exemptions
South Coast AQMD 445	All counties and wood-burning device types	29 $\mu\text{g}/\text{m}^3$	<ul style="list-style-type: none"> • Ceremonial Fires Exempt Under South Coast AQMD Rule 444 • Geographical Location $\geq 3,000$ ft Above Mean Sea Level • No Natural Gas Service Within 150 ft • Sole Source of Heat • Low-Income Household
San Joaquin Valley APCD 4901	Counties of Madera, Fresno, and Kern Level 1 for all wood-burning device types except registered devices; Level 2 for all wood-burning device types	Level 1: 12 $\mu\text{g}/\text{m}^3$ Level 2: 35 $\mu\text{g}/\text{m}^3$	<ul style="list-style-type: none"> • Cookstoves Described in Code of Federal Regulations 60.531 • Exclusively Gaseous-Fueled Devices • Open Burning on the Ground Under San Joaquin Valley APCD Rule 4103 • Sole Source of Heat
	Counties of San Joaquin, Stanislaus, Merced, Kings, and Tulare Level 1 for all wood-burning device types except registered devices; Level 2 for all wood-burning device types	Level 1: 20 $\mu\text{g}/\text{m}^3$ Level 2: 65 $\mu\text{g}/\text{m}^3$	
Bay Area AQMD Reg. 6 Rule 3	All counties and wood-burning device types	35 $\mu\text{g}/\text{m}^3$	<ul style="list-style-type: none"> • Non-functional, permanently installed heater • Loss of natural gas and/or electric power • Sole Source of Heat

REGULATORY HISTORY

Rule 445 – Wood-Burning Devices

Rule 445 – Wood-Burning Devices was first adopted in March 2008 to implement BCM-03 of the 2007 AQMP. Rule 445 aimed to reduce PM_{2.5} emissions from residential wood combustion. Rule provisions apply to manufacturers, vendors, commercial firewood sellers, and any persons owning or operating a wood-burning device.

The rule was first amended in May 2013 to implement control measures from the 2012 AQMP that would further reduce PM_{2.5} emissions from wood-burning devices. The 2013 amendments expanded the wood-burning curtailment restrictions by lowering the curtailment threshold from

35 to 30 $\mu\text{g}/\text{m}^3$, establishing criteria for Basin-wide curtailment, and setting labeling standards for commercially sold solid-fuel.

In 2020, South Coast AQMD amended Rule 445 twice to extend the No-Burn day requirement by mandating a Basin-wide curtailment in all cases where any source receptor area⁷ exceeds a daily PM_{2.5} air quality forecast of 30 $\mu\text{g}/\text{m}^3$. Ozone and PM contingency measures were also added, including the establishment of new curtailment thresholds. Under the Rule 445 provisions, only gaseous-fueled hearth devices are allowed to be installed in new developments. For additions or modifications to existing developments, Rule 445 allows any gaseous-fueled device, but any wood-burning devices sold or installed must be U.S. EPA Phase II-certified or equivalent.

Rule 445 prohibits the burning of any product not intended for use as fuel (e.g., trash) in a wood-burning device and requires commercial firewood facilities to only sell seasoned (20 percent or less moisture content) firewood from July through February. Rule 445 also established a mandatory wood burning curtailment program extending from November 1 through the end of February each winter season. During a wood-burning curtailment period, the public is required to refrain from both indoor and outdoor solid fuel burning when PM_{2.5} air quality is forecasted to exceed 30 $\mu\text{g}/\text{m}^3$. The No-Burn provisions apply to the entire Basin whenever a PM_{2.5} level of greater than 30 $\mu\text{g}/\text{m}^3$ is forecasted for any area of the Basin. In 2021, the No-Burn threshold was reduced to 29 $\mu\text{g}/\text{m}^3$, when the first contingency measure in the rule was triggered due to a failure to attain the PM_{2.5} 24-hour NAAQS by the due date. Lastly, Rule 445 requires commercial firewood or other wood-based fuel sellers to notify the public of the Check Before You Burn wood-burning curtailment program through a labeling requirement. Commercial firewood sellers are to attach a permanently affixed indelible label to each package of firewood advising consumers that there are times during the year when there may be a restriction on product usage (referring to No-Burn days during the wood-burning season).

To ensure that the public and other stakeholders are aware of the wood-burning curtailment requirements, extensive outreach is conducted each year through the following efforts:

- South Coast AQMD Check Before You Burn web page with program information including links, videos, and the Check Before You Burn map
- Advisories on No-Burn days
- text and email notifications
- toll-free number (866) 966-3293
- news pitches to local news desks
- press interviews
- official National Weather Service notifications
- social media (Facebook, X, and Instagram)

Households that qualify for one or more of the Rule 445 exemptions may operate a wood-burning device during an active No-Burn day. Exemptions are included for low-income households, where the wood-burning device is the sole source of heating or no natural gas service is available within 150 feet of the property line, geographic elevations 3,000 feet or higher above mean sea level, and for ceremonial fires that are defined in Rule 444 – Open-Burning.

⁷ Source Receptor Areas are geographical areas in the South Coast Air Basin used for forecasting air quality conditions.

NEED FOR PROPOSED AMENDED RULE 445

As the South Coast Air Basin is in “serious” nonattainment for the 2012 annual PM_{2.5} NAAQS and South Coast AQMD is seeking an extension of the attainment deadline, the Basin is required to meet the MSM requirement. Four source categories, including residential wood-burning, were identified in the 2024 PM_{2.5} Plan where rule amendments are needed to meet MSM.⁸ Control measure BCM-18 seeks additional emission reductions through reducing the Basin-wide curtailment threshold in Rule 445 from 29 µg/m³ to 25 µg/m³ on any day during the wood-burning season. To satisfy contingency measure requirements, South Coast AQMD proposes to further reduce the curtailment threshold to 23 µg/m³ and 21 µg/m³ upon any of the aforementioned applicable triggering events. Also as discussed earlier in this chapter, control measure BCM-18 proposes to remove the low-income exemption in Rule 445 due to a MSM analysis. The MSM analysis identified other air districts included more stringent measures than Rule 445 by achieving a greater emission reduction due to curtailment and not exempting low-income households.

AFFECTED INDUSTRY

Rule 445 applies to any person that manufactures, sells, offers for sale, or supplies a wood-burning device; any commercial firewood seller that sells, offers for sale, or supplies wood or other wood-based fuels intended for burning in a wood-burning device; and any property owner or tenant that operates a wood-burning device. An estimated 1.4 million⁹ wood-burning devices are subject to the provisions of Rule 445. While the number of affected sources is not anticipated to change greatly since wood-burning devices have lengthy useful lifetimes and since Rule 445 prohibits the installation of wood-burning devices in new developments, emission reductions will be achieved by decreasing the number of days that the devices can be operated. Households that are categorized as low-income and which are currently exempted from Rule 445 may be affected by the removal of the low-income exemption; however, some low-income households may qualify for a different exemption instead (e.g., the ‘sole source of heat’ exemption).

PUBLIC PROCESS

The development of PAR 445 has been conducted through a public process. A PAR 445 Working Group was formed to allow the public and stakeholders to discuss details of the proposed rule amendment and provide South Coast AQMD staff with input during the rule development process. South Coast AQMD has held two Working Group Meetings via Zoom videoconference and teleconference. The meetings were held on December 17, 2024 and April 2, 2025. A Public Workshop was held on May 20, 2025, via Zoom to present the preliminary draft rule language for PAR 445 and receive public comment. A Stationary Source Committee meeting was held on June 20, 2025 to present an overview of the proposed rule amendments.

⁸ South Coast Air Quality Management District, South Coast Air Basin Attainment Plan for the 2012 Annual PM_{2.5} Standard, June 2024.

Available <https://www.aqmd.gov/docs/default-source/clean-air-plans/pm2.5-plans/final-pm2.5-plan/2012-annual-pm2.5-plan.pdf>

⁹ James E. Houck and Brian N. Eagle, “Residential Wood Combustion Emission Inventory South Coast Air Basin and Coachella Valley Portion of Salton Sea Air Basin 2002 Base Year”. October 24, 2006. <http://www.omni-test.com/publications/SCAQMD-RWC4.pdf>

CHAPTER 2 - SUMMARY OF PROPOSED AMENDED RULE 445

OVERALL APPROACH

PAR 445 addresses the federal Clean Air Act’s MSM requirements by removing the low-income household exemption and lowering the mandatory wood-burning curtailment threshold and respective contingency measures. An exemption to address instances of damage or destruction from a natural disaster will be added. The sole source of heat definition will be clarified. For this chapter, when referring to PAR 445-specific terms that are defined in the rule language, the terminology will be capitalized.

The following is a summary for the proposed amendments to Rule 445.

Definitions – Subdivision (b)

Fireplace, Wood-Based Fuel, and Wood-Fired Cooking Device

As discussed in the staff reports of prior amendments to Rule 445, charcoal, commonly used for cooking in the Basin, was intended to be excluded from No-Burn day requirements as emissions from a charcoal-based cooking fire are lower than those from wood-based cooking fire. This is due to charcoal being previously burned wood that has already been subject to the initial high emission wood burn rate.^{10 11} PAR 445 clarifies this intent by revising the definitions for Fireplace, Wood-Based Fuel, and Wood-Fired Cooking Device.

PAR 445 clarifies the definition of Fireplace by adding “can be” to the term “used for”. A Fireplace is primarily used for aesthetic or space-heating purposes, however, clarification is needed for when a Fireplace is being used for cooking purposes. The addition of “can be” removes the need for assessing the current activity of the device. The implementation and enforcement of No-Burn day requirements would remain the same, where observations of smoke or other indicators of operations of Fireplaces is evidence of a violation of a No-Burn day. A device that can be used for aesthetic or space-heating purposes would be considered a Fireplace regardless of the purpose of the operation.

PAR 445 clarifies the definition of Wood-Based Fuel by limiting the exclusion of charcoal as a Wood-Based Fuel to be when it is used in a Wood-Fired Cooking Device, such as an outdoor grill or Cookstove. If charcoal is used in other devices (e.g., Portable Outdoor Wood-Burning Device, Wood-Burning Device, Wood-Burning Heater), it would be considered a Wood-Based Fuel and the respective device would be subject to the requirements of this rule. For example, a Fireplace, which meets the definition as a Wood-Burning Device, would remain subject to No-Burn day requirements even if using charcoal for cooking.

The current Rule 445 language inadvertently prohibits use of charcoal in Wood-Fired Cooking Devices during No-Burn days. In the current Rule 445 definition, a Wood-Fired Cooking Device that is “designed for” burning Wood-Based Fuel for cooking purposes is subject to No-Burn day requirements. Thus, cooking devices “designed for” multiple types of fuel (e.g. wood, wood pellets or charcoal), are subject to No-Burn requirements even if only charcoal is being used. By deleting “designed for” in the definition of Wood-Fired Cooking Device, whether No-Burn day requirements apply depend on the type of fuel being used. A cooking device burning charcoal to

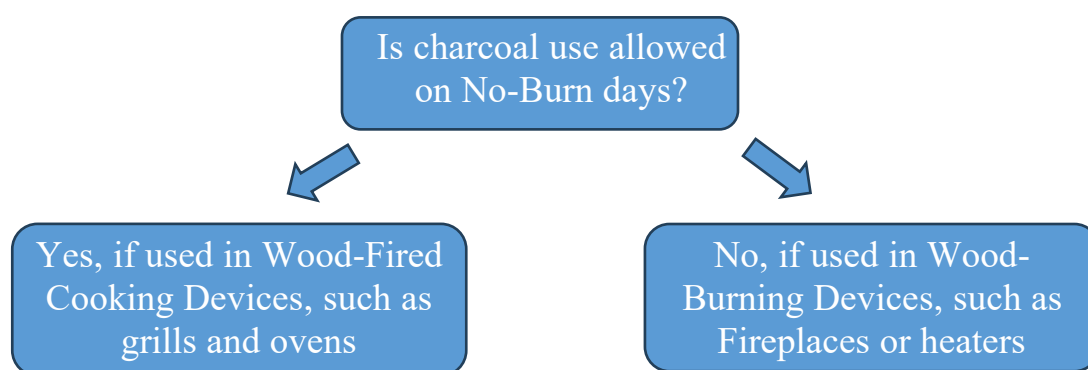
¹⁰ *South Coast Air Quality Management District*, Final Staff Report Proposed Amended Rule 445 - Wood-Burning Devices Proposed Amended Rule 444 - Open Burning (May 2013) A-4-A-5 (2013).

¹¹ *AP 42, Fifth Edition Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*. United States Environmental Protection Agency - Air Emissions Factors and Quantification. (n.d.). <https://www.epa.gov/sites/default/files/2020-10/documents/c10s07.pdf>

cook will not be subject to No-Burn day requirements even if it is designed to also burn firelogs, wood, or pellets (Wood-Based Fuel).

Additionally, PAR 445 specifies that Wood-Fired Cooking Device excludes Wood-Burning Devices, such as Fireplaces or heaters. The primary or typical purpose of a Wood-Burning Device is for aesthetics or heat, not cooking. In other words, for example, making smores in a Fireplace would not transform the Fireplace into a cooking device.

Considering the proposed exclusion of Wood-Burning Device from the definition of Wood-Fired Cooking Device alongside the proposed revisions to the definition of Wood-Based Fuel makes clear: charcoal is not considered a Wood-Based Fuel when used for cooking in a Wood-Fired Cooking Device; it is considered a Wood-Based Fuel when used in a Wood-Burning Device. Thus, a Wood-Burning Device, such as a Fireplace, using charcoal would be subject to No-Burn day requirements.



Low-Income Household

The definition of low-income household will be removed.

PM2.5

The definition of PM2.5 will be corrected to align with the definition of PM10 in other South Coast AQMD rules, i.e. Rule 1157 – PM10 Emission Reductions from Aggregate and Related Operations, and other uses of the term PM2.5 in other regulatory publications. The correction will be made to include particulate matter that is not only less than 2.5 microns in diameter, but also equal to 2.5 microns in diameter.

Sole Source of Heat

PAR 445 will clarify the definition of a household that uses a wood-burning device as a sole source of heat. A wood-burning device that is used as a Sole Source Of Heat during the wood-burning season includes when the wood-burning device is used during temporary service outages as determined by the gas or electrical utility service. When a Notice of Violation is sent to a noncompliant residential household, the respondent may provide a screenshot, email, or copy of the temporary service outage from the gas or electrical utility provider as evidence of the Wood-Burning Device being used as a Sole Source Of Heat during the noncompliant occurrence. If the respondent is unable to provide such evidence themselves, the claim investigator will request an inquiry about past service outages from the respective gas or electrical utility provider.

Source Receptor Area

The definition of a source receptor area will be removed as No-Burn days are no longer called by source receptor areas and are basin-wide.

Wood-Burning Season PM_{2.5} Mandatory Burning Curtailment – Subdivision (e)

Paragraph (e)(1) will lower the mandatory wood-burning curtailment threshold from 29 $\mu\text{g}/\text{m}^3$ to 25 $\mu\text{g}/\text{m}^3$. As discussed in Chapter 1, this amendment is required to satisfy the MSM requirements and meet the NAAQS as expeditiously as practicable, but no later than December 31, 2030. Lowering the curtailment threshold will allow for additional emission reductions in the Basin, which are discussed in Chapter 3.

PM_{2.5} Contingency Measures – Subdivision (f)

This subdivision establishes requirements for applicable households to comply with the Basin-wide, mandatory wood-burning curtailment contingency measures. Subparagraph (f)(2)(A) will lower the contingency curtailment threshold from 29 $\mu\text{g}/\text{m}^3$ to 23 $\mu\text{g}/\text{m}^3$. Subparagraph (f)(2)(B) will lower the contingency curtailment threshold from 28 $\mu\text{g}/\text{m}^3$ to 21 $\mu\text{g}/\text{m}^3$.

Exemptions – Subdivision (i)

The exemption from the mandatory PM_{2.5} and ozone wood-burning curtailments applicable to low-income households in subparagraph (i)(8)(B) will be removed as it does not adhere to the MSM requirements. Although low-income households will no longer be eligible for an exemption from the mandatory curtailments, several other exemptions will remain in the rule. In particular, many households which would previously qualify for the low-income exemption may also qualify for the Sole Source Of Heat exemption.

A large number of residential properties in the Basin have been destroyed due to large scale natural disasters, including wildfires and earthquakes. To allow property owners a limited opportunity to replace a Wood-Burning Device that was initially installed consistent with Rule 445, but lost due to extraordinary circumstances beyond their control, paragraph (i)(4) will exempt a Wood-Burning Device from the provisions of paragraphs (d)(1) and (d)(2), provided the previously installed Wood-Burning Device at the property had been damaged or destroyed by a natural disaster declared as a State of Emergency as defined in Rule 118. Only Wood-Burning Devices that were lawfully built, including installation prior to Rule 445's New Development prohibition, prior to the occurrence of the natural disaster are eligible to be replaced.

As the size of the Wood-Burning Device increases, the emission potential increases due to an increased throughput potential. However, if the Wood-Burning Device replaces a previously installed device, the emission potential is not expected to increase. These developments would still be subject to other requirements of Rule 445, including but not limited to, a mandatory wood-burning curtailment being called.

Penalties – Subdivision (k)

This subdivision establishes requirements for violators of subdivision (e) who violate the mandatory wood-burning curtailment. This subdivision regarding penalties for violating the rule will be removed to allow South Coast AQMD to resolve each violation of subdivision (e) on a case-by-case basis, which is consistent with how violations of other South Coast AQMD rules are resolved.

CHAPTER 3 - IMPACT ASSESSMENT

EMISSIONS AND EMISSION REDUCTIONS

According to the 2016 AQMP, emissions were 4.9 tons per annual average day from this source category. Since 69% of emissions occurred during the wood-burning season, emissions during that period were estimated at 12.99 tons per wood-burning season day. Annual average day is a term that refers to the number of wood-burning days occurring within 365 days (e.g., within the entire calendar year). Wood-burning season day is a term which refers to the number of wood-burning days occurring within the 120-day wood-burning season. Following the adoption of the 2016 AQMP, the 2020 amendments to Rule 445 led to further emission reductions of 0.07 and 0.13 tons per annual average day. As such, the baseline emissions relied upon for this analysis are 4.7 tons per annual average day.

Lower Curtailment Threshold

A detailed methodology¹² based on a statistical analysis of relevant historical daily PM_{2.5} concentrations in the Basin is used to estimate PM_{2.5} emission reductions from the proposed rule amendment. The emissions from the 2020 rule amendments were used as a baseline for PAR 445. The methodology evaluates the PM_{2.5} emission reductions associated with the increased number of No-Burn days when the curtailment threshold is lowered. Table 3-1 shows the additional emission reductions that would occur if the curtailment threshold is reduced to 25 µg/m³ and for each of the subsequent proposed reductions in the curtailment threshold. Under the proposed amendments, the curtailment will be implemented Basin-wide when the daily PM_{2.5} air quality forecast for any area of the Basin exceeds 25 µg/m³.

Table 3-1: Expected PM_{2.5} Emission Reductions Due to Lower Curtailment Threshold

Category	Curtailment Threshold (µg/m ³)	Curtailed Emissions (tons per year)	Estimated Emission Reductions (tons per year)	Estimated Emission Reductions With 75% Rule Effectiveness	
				(tons per annual average day)	(tons per wood-burning season day)
Current Rule	29	342.0	-	-	-
PAR 445	25	462.0	120.0	0.25	0.75
	23	578.1	236.1	0.49	1.48
	21	645.2	303.2	0.62	1.90

Based on historical data from 2019 to 2023, lowering the existing Rule 445 curtailment threshold from 29 µg/m³ to 25 µg/m³ could result in an approximate 38% increase in the number of No-Burn days (approximately 10 additional days)¹³ during the wood-burning season. Lowering the mandatory Basin-wide curtailment threshold to 25 µg/m³ could reduce Basin-wide ambient PM_{2.5} emissions by about 0.25 tons per annual average day, assuming a 75% rule effectiveness, which is consistent with prior Rule 445 amendments. When the first contingency measure is triggered, the curtailment threshold will automatically decrease from 25 to 23 µg/m³ resulting in an estimated

¹² South Coast Air Basin Attainment Plan for the 2012 Annual PM_{2.5} Standard. APPENDIX III South Coast AQMD's Stationary and Mobile Source BACM/MSM. https://www.aqmd.gov/docs/default-source/clean-air-plans/pm2.5-plans/final-pm2.5-plan/appendix-iii---bacm_msm.pdf

¹³ South Coast Air Basin Attainment Plan for the 2012 Annual PM_{2.5} Standard. APPENDIX III South Coast AQMD's Stationary and Mobile Source BACM/MSM. https://www.aqmd.gov/docs/default-source/clean-air-plans/pm2.5-plans/final-pm2.5-plan/appendix-iii---bacm_msm.pdf

additional emission reduction of 0.24 ton per annual average day and approximately 9 additional No-Burn days. While it is not anticipated that any additional contingency measures will be triggered, if that occurs, additional emission reductions are anticipated as the curtailment threshold is lowered, as shown in Table 3-1. It should be noted that while limiting residential wood-burning activities is primarily intended to reduce PM_{2.5} emissions, there is an added co-benefit of reducing emissions of CO, VOC, NO_x, SO_x, and hazardous air pollutants and further reducing ambient levels of ozone.

Removal of Low-Income Exemption

Among approximately 17 million¹⁴ residents in the Basin, approximately 1.3 million¹⁵ households in the Basin participate in a program that considers household income levels, such as CARE or FERA, to receive financial assistance through reduced electric or gas bills from an electric or natural gas utility. However, the number of households in the Basin that actually utilize the low-income exemption during an episodic No-Burn day is unknown. Due to the high levels of uncertainty, emission reductions for the removal of the low-income exemption cannot be accurately quantified at this time and will be updated in future emission inventories.

Addition of Natural Disaster Exemption

The replacement of a previously standing or existing wood-burning device that has been destroyed or damaged due to a natural disaster declared as a state of emergency is not expected to produce additional PM_{2.5} emissions nor emission reductions. Only properties that previously had an existing wood-burning device prior to the event of the natural disaster would be eligible for this exemption. As the new Wood-Burning Device is replaces a previously installed device, the emission potential is not expected to increase. In addition, these Wood-Burning Devices are still subject to No-Burn days, thus not affect the emission reductions achieved by other proposed amendments.

COST AND COST EFFECTIVENESS

Compliance Costs

The proposed amendments to Rule 445 would increase the number of No-Burn days in the Basin and could potentially result in the loss of sales by affected firewood sellers. The majority of commercial firewood sellers are expected to be small businesses. A lack of data on the number of employees and gross annual sales of the affected commercial firewood sellers precludes staff from determining their small business status. However, the increase in number of No-Burn days is expected to be very small (approximately 10 days) and is anticipated to decrease as PM_{2.5} air quality improves. As a result, the cost impacts of curtailment on firewood sellers are expected to be minimal. No additional cost impacts to the general public are expected to be incurred as residential wood-burning in the Basin is done mainly for ambiance and aesthetic purposes. Additionally, there are cost-effective alternatives to wood-burning for space heating purposes. Eligible residents could use incentives provided by the South Coast AQMD and switch existing wood-burning devices to less polluting, cost-effective alternatives such as gaseous-fueled or electrical heating devices. Incentives through South Coast AQMD's Wood Stove and Fireplace

¹⁴ 2023: ACS 1-year Estimates Subject Table. United States Census Bureau.

<https://data.census.gov/table/ACSST1Y2023.S0101?g=050XX00US06037,06059,06065,06071&y=2023>

¹⁵ Annual Report of Southern California Gas Company (U 904 G) on Low Income Assistance Programs for 2022. Energy Savings Assistance Program and California Alternate Rates for Energy Program Annual Report. <https://liob.cpuc.ca.gov/wp-content/uploads/sites/14/2023/06/SoCalGas-PY2022-Low-Income-Annual-Report.pdf>

Changeout Incentive Program are available for eligible residents residing in the Boyle Heights area, Norco/Corona area, Chino/Ontario/Corona area, City of San Bernardino area, and City of Riverside area. Wood-burning devices that are the sole source of heat for a dwelling or structure are specifically exempted from the No-Burn mandate.

Cost Effectiveness

Cost-effectiveness is the cost to benefit analysis comparing the relative cost to the outcomes. The cost effectiveness of PAR 445 has not been determined. Increasing the number of Rule 445 curtailment days would result in relatively minimal cost impacts to the affected communities as there are cost-effective alternatives to burning wood such as gaseous-fueled or electrical heating devices. Additionally, the proposed amendments do not change existing mandatory curtailment exemptions provided for households that utilize the wood-burning device as a sole source of heat.

Incremental Cost Effectiveness

Health and Safety Code Section 40920.6(a)(3) requires the South Coast AQMD to perform an incremental cost effectiveness analysis prior to adopting rules to meet the requirements for a Best Available Retrofit Control Technology (BARCT) rule, or to implement feasible measures pursuant to use of an alternative emission reduction strategy under Health and Safety Code Section 40914. This Section does not apply to particulate matter. (Health and Safety Code Section 40910.) PAR 445 is not being adopted to meet a BARCT requirement 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

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15002(k) and 15061, the proposed project (PAR 445) 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

PAR 445 would lower the curtailment threshold of 29 $\mu\text{g}/\text{m}^3$ to 25 $\mu\text{g}/\text{m}^3$, which is expected to reduce PM_{2.5} emissions by 0.25 ton per annual average day. PAR 445 would potentially affect commercial firewood sellers in the Basin and the general public who use wood-burning fireplaces and other wood-burning devices by restricting the burning of firewood in these devices during a mandatory wood-burning curtailment (No-Burn) day. The additional number of No-Burn days that may occur as a result of making the curtailment threshold in PAR 445 more stringent is expected to be relatively small (about 10 days) during the wood-burning season.

The cost impacts of Basin-wide curtailment on firewood sellers are expected to be minimal because PAR 445 only restricts the burning of firewood without restricting the sale of firewood during curtailment events. Commercial firewood sellers belong to the industry of fuel dealers with a North American Industry Classification System (NAICS) 454319. While the majority of commercial firewood sellers are expected to be small businesses, since data on the number of employees and

gross annual sales is not available, the small business status of the affected commercial firewood sellers cannot be determined.

Cost impacts to the general public as a result of PAR 445 are also expected to be minimal because wood-burning in the South Coast AQMD jurisdiction is done mainly for aesthetic purposes. Also, the removal of the low-income exemption is not expected to result in any cost impacts because there are other, more cost-effective alternatives to burning wood for heating regardless of whether a No-Burn day has been issued. Lastly, for residential or commercial properties where a wood-burning device is the sole source of heat, PAR 445 does not propose any changes to the existing exemption.

DRAFT FINDINGS UNDER HEALTH AND SAFETY CODE SECTION 40727

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, non-duplication, and reference based on relevant information presented at the public hearing and in the staff report.

Necessity

PAR 445 is needed to reduce PM2.5 emissions by implementing control measure BCM-18: Further Emission Reductions from Wood-Burning Fireplaces and Wood Stoves from the 2024 South Coast Air Basin PM2.5 Attainment Plan for the 2012 Annual PM2.5 Standard, implementing the Most Stringent Measures for PM2.5 to comply with the federal Clean Air Act, and adopting PM2.5 contingency measure provisions.

Authority

The South Coast AQMD Governing Board has authority to adopt PAR 445 pursuant to the Health and Safety Code Sections 39002, 40000, 40001, 40440, 40702, 40725 through 40728, and 41508.

Clarity

PAR 445 is written or displayed so that its meaning can be easily understood by the persons directly affected by it.

Consistency

PAR 445 is in harmony with and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations.

Non-Duplication

PAR 445 will not impose the same requirements as any existing state or federal regulations. The proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, South Coast AQMD.

Reference

By adopting PAR 445, the South Coast AQMD Governing Board will be implementing, interpreting, and making specific provisions of the Health and Safety Code Section 40001 (rules to achieve ambient air quality standards) and 40440(a) (rules to carry out the AQMP), and federal Clean Air Act Sections 188(e) for Most Stringent Measures and 172(c)(9) for contingency measure requirements for PM_{2.5}.

COMPARATIVE ANALYSIS

Under Health and Safety Code Section 40727.2, South Coast AQMD is required to perform a comparative written analysis when adopting, amending, or repealing a rule or regulation. The comparative analysis is relative to existing federal requirements, existing or proposed South Coast AQMD rules and air pollution control requirements and guidelines which are applicable to wood-burning devices. The proposed amendments to Rule 445 would not conflict or overlap with existing federal requirements for PM_{2.5} for wood-burning devices in U.S. EPA's New Source Performance Standards, 40 CFR Part 60, Subpart AAA. The only other South Coast AQMD rule pertaining to burning, Rule 444, regulates open burning and does not conflict with or have any overlapping requirements with the proposed amendments to Rule 445. See Table 3-2 for the comparative analysis by rule element.

Table 3-2: PAR 445 Comparative Analysis

Rule Element	PAR 445	U.S. EPA NSPS 40 CFR Part 60, Subpart AAA
Purpose	To reduce the emission of particulate matter from wood-burning devices.	To establish the best system of emission reduction for new residential wood heaters.
Applicability	Manufacturers, sellers, installers of wood-burning devices; commercial firewood sellers; owners or operators of wood-burning devices.	Manufacturers, sellers, testers, owners, installers and operators of wood heaters.
New Installations	Prohibits permanent installation of wood-burning devices into any new development.	None
Proposed Changes	<p>Lowers the curtailment threshold; Removes the low-income exemption; Exempts wood-burning devices replaced due to damages from a natural disaster declared as a State of Emergency as defined in Rule 118.</p>	None
Wood-Burning Devices Offered For Sale / Manufactured / Installed	<p>Prohibits sale, offer, supply, or offer to install indoor or outdoor wood-burning device unless:</p> <ul style="list-style-type: none"> • A U.S. EPA Certified wood-burning heater; or • A pellet-fueled woodburning heater; or • A masonry heater; or • A dedicated gaseous fueled fireplace. 	Establishes manufacturer certification; requires certified manufacture in some instances.

Prohibited Fuel	<p>Prohibits burning any product not intended for use as fuel in a wood-burning device including, but not limited to:</p> <ul style="list-style-type: none"> • garbage • treated wood • particle board • plastic products • rubber products • waste petroleum products • paints coatings or solvents • coal 	<p>Prohibits burning in an affected wood heater:</p> <ul style="list-style-type: none"> • Residential or commercial garbage; • Lawn clippings or yard waste; • Materials containing rubber, including tires; • Materials containing plastic; • Waste petroleum products, paints or paint thinners, or asphalt products; • Materials containing asbestos; • Construction or demolition debris; • Paper products, cardboard, plywood, or particleboard. The prohibition against burning these materials does not prohibit the use of fire starters made from paper, cardboard, sawdust, wax and similar substances for the purpose of starting a fire in an affected wood heater; • Railroad ties, pressure treated wood or pallets; • Manure or animal remains; • Salt water driftwood or other previously salt water saturated materials; • Unseasoned wood; • Any materials that are not included in the warranty and owner's manual for the subject wood heater; or • Any materials that were not included in the certification tests for the subject wood heater.
Operating Parameters	<p>Wood-burning devices may not be used when a No-Burn day is declared.</p>	<p>The user of an affected residential wood heater must operate in a manner consistent with the owner's manual. The owner's manual must clearly specify that operation in a manner inconsistent with the owner's manual would avoid the warranty.</p>
Monitoring, Reporting, Recordkeeping	<p>None</p>	<p>None</p>

CHAPTER 4 – COMMENTS AND RESPONSE TO COMMENTS

PUBLIC COMMENTS AND RESPONSES

A PAR 445 public workshop was held on May 20, 2025. In addition to the oral comments at the meeting, staff received written comments for PAR 445 during a comment period that closed on June 3, 2025. The following are responses to these written comments, followed by South Coast AQMD responses.

TABLE OF CONTENTS

1. Hearth, Patio and BBQ Association, Pacific Affiliate Comment Email (5/28/2025)
2. Kurt Burchtold Comment Email (6/2/2025)

Hello Ms. Dang,

I am writing on behalf of the Hearth, Patio and BBQ Association, Pacific Affiliate.

We have appreciated being part of your Rule 445 workshops over the last several weeks.

On the last workshop, you had indicated that those who had been affected by the recent wildfires were able to put the exact same fireplace/unit that they previously had in their home when rebuilding. I want to make sure we heard that correctly. Do you have a document that speaks to this? We would like to share this information with our members.

1-1

Thank you,

Kaity

Kaity Van Amersfort, Executive Director

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Response to Hearth, Patio and BBQ Association, Pacific Affiliate Comment Email, submitted May 28, 2025

- 1-1 Response: The Draft Rule Language and Draft Staff Report can be found on the proposed rule page (<https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule--445>). The documents include the proposed exemption that would allow the replacement of wood-burning device damaged or destroyed due to a natural disaster declared as a State of Emergency defined in South Coast AQMD Rule 118.

June 2, 2025

Ashley Dang, Air Quality Specialist

South Coast Air Quality Management District

adang@aqmd.gov

COMMENTS ON PAR 445

Ms. Deng,

Thank you for the opportunity to provide comments on Proposed Amendment of Rule (PAR) 445. These comments are in follow-up to my oral comments at the Public Workshop held on May 20, 2025. I appreciate the efforts of South Coast Air Quality Management District (SCAQMD) to propose amendments to this rule to help to address our serious air quality issues with PM_{2.5}. As a former Executive Officer of the Santa Ana Regional Water Quality Control Board, I recognize both the importance and challenges of this work. I have the following comments on the current draft amendment of Rule 445:

1. **“No burn day” curtailments should be imposed year-round based on appropriate air quality triggers.** As noted in the staff presentation at the Public Workshop, wood burning in the South Coast Basin is “primarily for aesthetic and ambiance purposes.” As such, burning of wood is not dependent on weather conditions and is not limited to the wood-burning season as currently defined. While air quality data suggest that wood burning is more common in the winter months, it is clear that wood burning also occurs at other times of the year. Speakers at the Public Workshop described the negative health and air quality impacts of wood burning that occurs frequently throughout the year. Thus, there would be air quality benefits to curtailing wood burning any time air quality conditions warrant, regardless of time of year. There would also not be any significant adverse impacts to additional curtailments throughout the year. I noted that the Bay Area AQMD currently imposes curtailments year-round. While there are climatic differences between the two basins, as noted above wood burning is not directly related to weather conditions and therefore should be reduced year-round.
2. **SCAQMD should consider additional regulatory measures to reduce PM_{2.5} emissions due to wood burning.** The South Coast Basin currently suffers from some of the worst PM_{2.5} air quality in the country and is in serious non-attainment for PM_{2.5}. It is clear that aggressive actions will be needed to address our problem with PM_{2.5}, meet air quality standards, and protect the health of our residents. Burning of wood in the South Coast Basin is a non-essential activity. The aesthetic and ambiance benefits provided by the burning of wood can be achieved via the use of gaseous-fueled devices or these devices can be eliminated entirely. Given this, SCAQMD should consider further restrictions on existing (pre-2009) wood-burning devices, possibly including full prohibition of those devices. In particular, existing, outdoor wood-burning devices are a

2-1

2-2

category that should be prohibited entirely. These devices are more likely to be used year-round (since it is clear they are used solely for aesthetic and ambiance purposes), may be installed closer to property lines, and may have lower chimney heights, creating significant adverse air quality and health impacts on neighboring residents and properties. While fire prevention is not SCAQMD's jurisdiction, I am also concerned about fire risks associated with this category of wood-burning devices. There are no significant adverse impacts associated with prohibiting these outdoor devices. I am familiar with an outdoor wood-burning device in my neighborhood that is in frequent use (approximately three times per week) for at least nine months of the year. I believe that similar use of outdoor wood-burning devices is likely common throughout the South Coast Basin. Given our serious air quality problems with PM_{2.5}, the known adverse health effects of PM_{2.5}, and the challenges in meeting air quality standards, emissions from this category of device are entirely unjustified and must be eliminated.

2-2

Thank you for considering these comments and for your work on this important amendment. Please contact me if you have any questions.

Kurt Berchtold
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Response to *Kurt Berchtold Comment Email, submitted June 2, 2025*

- 2-1 Response: The South Coast Air Basin is in “serious” nonattainment for the 2012 annual PM_{2.5} National Ambient Air Quality Standard. As South Coast AQMD is seeking an extension of the attainment deadline, PAR 445 must incorporate the Most Stringent Measures as required by the federal Clean Air Act. The curtailment program in each air district is unique and expanding the No-Burn Season was not identified as a Most Stringent Measure in the 2024 PM_{2.5} Plan for the 2012 annual PM_{2.5} standard. While it is acknowledged that emissions from wood burning occur outside of the winter months, the curtailment program is currently set for the period (November through February) when historically high levels of PM_{2.5} were observed in the South Coast Air Basin.

As discussed in Chapter 1, Bay Area AQMD Reg. 6 Rule 3's curtailment program is active throughout the year but has a curtailment threshold set at 35 µg/m³. Rule 445 has a more stringent curtailment threshold of 29 µg/m³. PAR 445 is proposing to lower the curtailment threshold to 25 µg/m³, which will be 10 µg/m³ lower than the curtailment threshold in the Bay Area AQMD Reg. 6 Rule 3.

2-2 Response: As discussed in Chapter 1, the health effects of public exposure to PM_{2.5} are well documented. South Coast AQMD is proposing to amend four different rules to incorporate the Most Stringent Measures to reduce PM_{2.5} levels across the Basin for the 2012 annual PM_{2.5} National Ambient Air Quality Standard, which includes PAR 445. The more stringent restrictions identified by the commenter were not identified as Most Stringent Measures in the 2024 PM_{2.5} Plan for the 2012 annual PM_{2.5} standard, and are not considered for PAR 445 as PAR 445 is intended to satisfy the Most Stringent Measures required by the Clean Air Act.

PAR 445 addresses Basin-wide PM_{2.5} emissions from residential wood-burning by prohibiting wood-burning when PM_{2.5} levels are forecasted to exceed the curtailment thresholds during the No-Burn season and by removing the low-income exemption. The No-Burn season is from the beginning of November through the end of February, when historically high levels of PM_{2.5} were observed in the South Coast Air Basin. Local PM_{2.5} levels may be higher than what is forecasted in the Basin due to residential wood-burning. Other existing South Coast AQMD rules address local air pollution issues by prohibiting the release of air contaminants that cause a nuisance to the public throughout the year.

As acknowledged by the commenter, fire prevention is outside South Coast AQMD's jurisdiction.