



PAR 445

Wood-Burning Devices

PUBLIC WORKSHOP

Date: May 20, 2025

Time: 10:30 am

Dial In: +1 669 900 6833

Meeting ID: 957 6907 2739

Zoom Link: <https://scaqmd.zoom.us/j/95769072739>

Agenda



Federal Clean Air Act Requirements for PM_{2.5}



Rule 445 Background



Proposed Amended Rule 445



Regulatory Impacts






Socioeconomic Impact Assessment and CEQA



Next Steps

Meeting Information

- Working group meetings will be held remotely via videoconference and teleconference (through Zoom)
- Although it is a different format, staff will take the time to listen to all stakeholder comments
 - Please use the “raise hand” feature to speak:
 -  Click on the  button
 -  Dial *9
- When it is your turn to speak, your name will be announced
 - If you are a panelist, use the “unmute” feature to speak:
 -  Click on the  button
 -  Dial *6
 - If you are not a panelist, the meeting host will unmute you
- In addition to working group meetings, staff is available for individual meetings

South Coast AQMD



- Local air pollution control agency
 - 10,743 square miles
 - 17 million residents
 - Largest of the 35 local air agencies in CA and in the U.S.
- Roles and Responsibilities
 - Administer over \$200 million of incentive and grant funding annually
 - Develop and implement plans to meet national air quality standards
 - Permit and inspect about 28,400 affected businesses and communities
 - Regulate emissions primarily from stationary sources





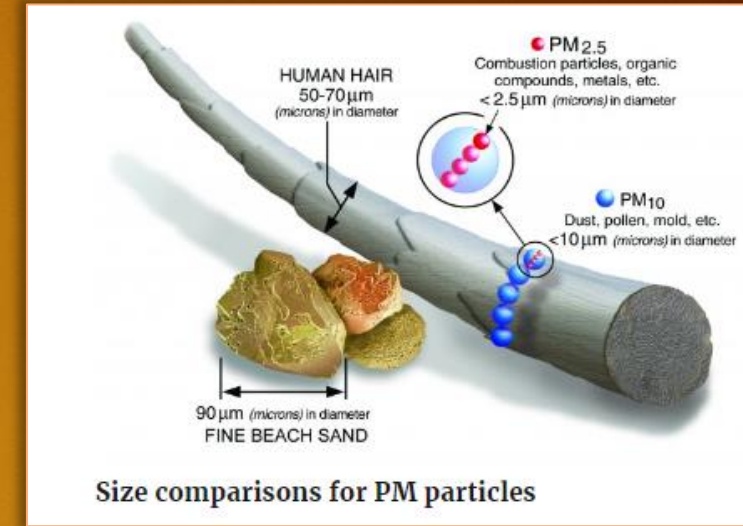
PAR 445
Wood-Burning Devices

Federal Clean Air Act Requirements for PM_{2.5}

PM_{2.5} Background



- Particulate matter (PM) are small, inhalable particles found in the air
 - PM_{2.5} is particulate matter $\leq 2.5 \mu\text{m}$ in diameter
 - Linked to adverse cardiovascular and respiratory health effects including premature death, asthma, and lung cancer
- Sources of PM_{2.5} include:
 - Direct emissions – smoke, dust, diesel soot
 - Secondary formation – formed from reactions of precursor pollutants in the atmosphere



PM_{2.5} Background (cont.)



- Wood-burning contributes to the formation of PM_{2.5}
- Although wood-burning may occur in one area, PM_{2.5} and its effects are not localized
 - Due to weather conditions (including wind), PM_{2.5} disperses through the air into surrounding areas
- For example, Pomona residents may still be affected by a fire in a wood-burning device from Santa Monica

PM_{2.5} National Ambient Air Quality Standards



- The U.S. EPA has promulgated four National Ambient Air Quality Standards for PM_{2.5}
- Areas not meeting the PM_{2.5} standards (based on ambient air quality data) are designated as nonattainment areas based on exceedance level:

Moderate



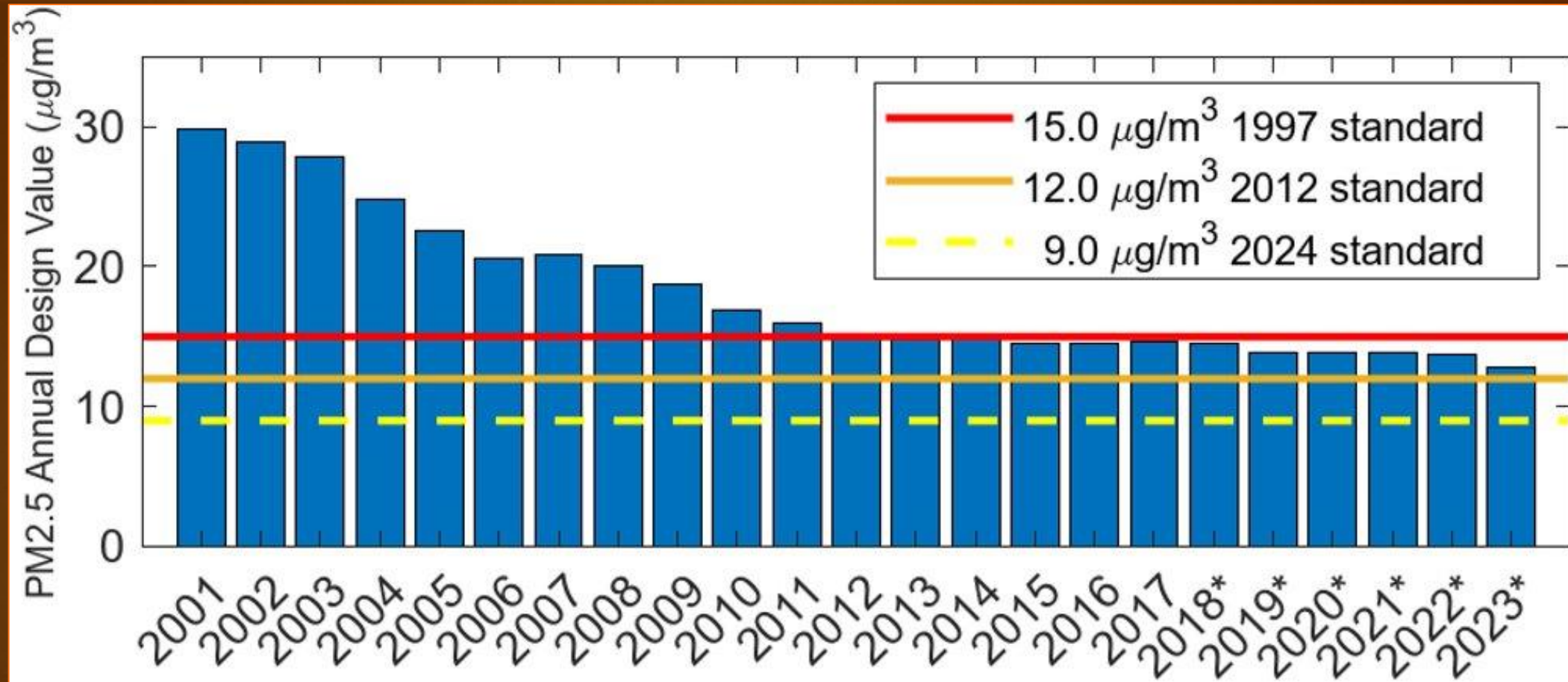
Serious

- Attainment deadlines are established based on classification, with more time provided for areas with worse air quality

NAAQS Year	NAAQS Level	Averaging Time	South Coast Air Basin Classification
1997	65 µg/m ³	24-Hour	Attainment
	15 µg/m ³	Annual	Attainment
2006	35 µg/m ³	24-Hour	Serious Nonattainment*
2012	12 µg/m ³	Annual	Serious Nonattainment
2024	9 µg/m ³	Annual	Designations Expected in 2026

* Attainment expected based on preliminary data for 2023

Annual PM_{2.5} Trend

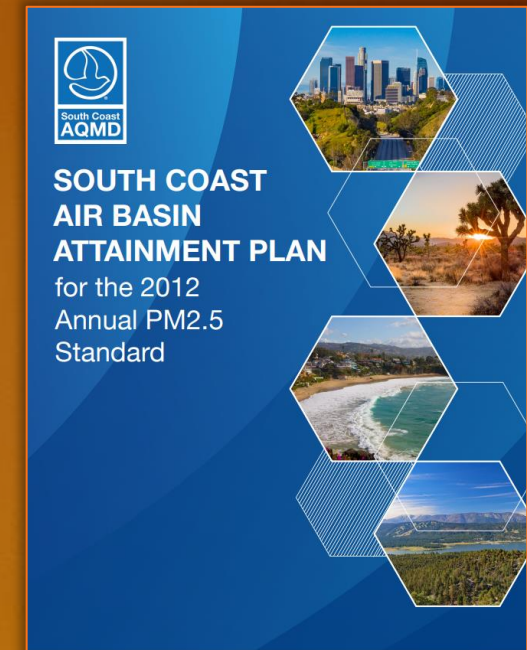


* Data likely to be approved as exceptional events by U.S. EPA were removed

2024 PM_{2.5} Attainment Plan



- The region will not meet the 2012 annual PM_{2.5} National Ambient Air Quality Standards (NAAQS) by the attainment deadline of December 31, 2025
- To meet federal Clean Air Act requirements, a revised attainment plan (PM_{2.5} Attainment Plan) was prepared and submitted in 2024 seeking an extension on the attainment date from 2025 to 2030
- Clean Air Act Section 188(e) requires a demonstration of Most Stringent Measures (MSM)* for areas that seek an extension of the attainment date



*Most Stringent Measure is defined as: "is any permanent and enforceable control measure that achieves the most stringent emissions reductions in direct PM_{2.5} emissions and/or emissions of PM_{2.5} plan precursors from among those control measures which are either included in the SIP for any other NAAQS, or have been achieved in practice in any state, and that can feasibly be implemented in the relevant PM_{2.5} NAAQS nonattainment area."**

* 81 FR 58151; 40 CFR Section 51.1000.

Wood-Burning Curtailment Comparison



- The following table compares local air districts' rules with similar wood-burning curtailment programs:

	South Coast AQMD	San Joaquin Valley APCD	Bay Area AQMD	Sacramento Metro AQMD
Curtailment Structure	Same for All Counties and Device Type	Dependent on County and Device Type	Same for All Counties and Device Type	Same for All Counties Dependent on Device Type
Curtailment Season	Nov – Feb	Nov – Feb	Year Round	Nov – Feb
PM_{2.5} Curtailment Threshold	29 µg/m ³	* Level 1: 12 or 20 µg/m ³ Level 2: 35 or 65 µg/m ³	35 µg/m ³	* Voluntary: 25 µg/m ³ Stage 1: 31 µg/m ³ Stage 2: 35 µg/m ³

* Level/Stage 1 episodic wood-burning curtailment establishes limitations for the operation of a wood-burning device while Level/Stage 2 prohibits any operation of a wood-burning device

Wood-Burning Curtailment Exemptions/Exclusions Comparison



- The following table compares local air districts' rules with similar wood-burning curtailment programs:

	South Coast AQMD Rule 445	San Joaquin Valley APCD Rule 4901	Bay Area AQMD Reg 6-3	Sacramento Metro AQMD Rules 417 and 421
Exemptions/Exclusions from Wood-Burning Curtailment	<ol style="list-style-type: none"> 1. Ceremonial Fires Exempt Under South Coast AQMD Rule 444 2. Geographical Location $\geq 3,000$ ft Above Mean Sea Level 3. No Natural Gas Service Within 150 ft 4. Low-Income Household 5. Sole Source of Heat 	<ol style="list-style-type: none"> 1. Cookstoves Described in Code of Federal Regulations 60.531 2. Exclusively Gaseous-Fueled Devices 3. Open Burning on the Ground Under San Joaquin Valley APCD Rule 4103 4. Sole Source of Heat 	<ol style="list-style-type: none"> 1. Non-functional, permanently installed heater 2. Loss of natural gas and/or electric power 3. Sole Source of Heat 	<ol style="list-style-type: none"> 1. Religious Activity 2. Cookstoves 3. Exclusively Gaseous-Fueled Devices 4. Certified Wood Heaters and Pellet Stoves 5. Economic Hardship 6. Sole Source of Heat

2024 PM_{2.5} Attainment Plan



- As part of a comprehensive PM_{2.5} control strategy, the 2024 PM_{2.5} Attainment Plan identified control measures for both directly emitted PM_{2.5} and PM_{2.5} precursor emissions
- Control Measure *BCM-18: Further Emission Reductions from Wood-Burning Fireplaces and Wood Stoves** seeks additional emission reductions from residential wood burning in the South Coast Air Basin by:
 - Lowering the curtailment threshold
 - Removing the existing low-income exemption
- The PM_{2.5} Attainment Plan was adopted by South Coast AQMD in June 2024

South Coast Air Basin Attainment Plan for the 2012 Annual PM_{2.5} Standard

CM # BCM-18

BCM-18: FURTHER EMISSION REDUCTIONS FROM WOOD-BURNING FIREPLACES AND WOOD STOVES
[PM_{2.5}]

CONTROL MEASURE SUMMARY		
SOURCE CATEGORY:	RESIDENTIAL WOOD COMBUSTION	
CONTROL METHODS:	REMOVE LOW-INCOME EXEMPTION ALLOWING WOOD-BURNING ON NO-BURN DAYS	
EMISSIONS (TONS/DAY):		
ANNUAL AVERAGE [PM _{2.5}]:	2018	2030
POLLUTANT INVENTORY	4.94	4.82
POLLUTANT REDUCTION	-	0.33
POLLUTANT REMAINING	-	4.49
CONTROL COST:	TBD	
INCENTIVE COST:	TBD	
IMPLEMENTING AGENCY:	SOUTH COAST AQMD/LOCAL OR REGIONAL AGENCIES	

* BCM-18 – Further Emission Reductions from Wood-Burning Fireplaces and Wood Stoves can be accessed from [https://www.aqmd.gov/home/air-quality/air-quality-management-plans/other-state-implementation-plan-\(sip\)-revisions/2012-annual-pm2-5-plan](https://www.aqmd.gov/home/air-quality/air-quality-management-plans/other-state-implementation-plan-(sip)-revisions/2012-annual-pm2-5-plan)



PAR 445
Wood-Burning Devices

Rule 445

Background

Rule 445 Overview



- Adopted in March 2008
- Aims to reduce ambient PM_{2.5} levels from residential wood-burning
- Applies to manufacturers, vendors, commercial firewood sellers, and persons owning or operating indoor and outdoor wood-burning devices
- Applicable to wood-burning devices, wood-burning heaters and wood-fired cooking devices (e.g. fireplaces)



Rule 445 Requirements – No Burn Days



- Refers to prohibition of burning wood:
 - During wood-burning season from beginning of November – end of February
 - When daily PM_{2.5} air quality is forecasted to reach high levels due to air emissions and stagnant weather conditions
- Average of 18 No Burn Days in the last two wood-burning seasons
- Current curtailment threshold is 29 µg/m³ of PM_{2.5} (based on 24-hour air quality forecast)
- Contingency measures included for PM_{2.5} and ozone for South Coast Air Basin
 - May be triggered upon U.S. EPA's finding of failure to attain or comply with certain requirements



Rule 445 – Curtailment Exemptions



1. Sole source of heat
 - The only permanent source of heat that can meet the space heating needs of a household
2. Low-income household
 - Household that receives financial assistance through reduced electric or gas bills from an electric or natural gas utility based on household income levels
3. No natural gas service within 150 feet
4. Geographical location \geq 3,000 feet above mean sea level
5. Ceremonial Fires exempted under Rule 444 – Open Burning

Rule 445 – Other Key Requirements



1. No permanent installation of a wood-burning device into any *new* development after March 9, 2009
2. Restrictions set on products used as fuel in a wood-burning device
 - Only wood-based fuels are allowed (e.g. no garbage, plastic, etc)
3. Commercial firewood sellers can only sell seasoned wood from July 1 – end of April the following year
4. Labeling for wood and wood-based products by commercial firewood sellers

U.S. EPA Identified Deficiencies



1. Curtailment Threshold

- U.S. EPA determined that the current residential wood-burning PM_{2.5} curtailment threshold is less stringent compared to similar programs in other districts
- Existing contingency measures thresholds to be lowered

2. Low-Income Exemption

- U.S. EPA determined that the low-income exemption is less stringent compared to similar programs in other districts

Current Rule 445

Low-income household

Sole source of heat

No natural gas service within 150 ft

Geographical location ≥ 3,000 feet above mean sea level

Ceremonial fires exempt under Rule 444

Need for PAR 445



- Address the deficiencies identified to demonstrate “Most Stringent Measures” requirements for $PM_{2.5}$ set by the Clean Air Act and U.S. EPA
- Help reduce $PM_{2.5}$ emission from wood-burning devices to meet attainment of $PM_{2.5}$ National Ambient Air Quality Standard
- Address wood-burning devices damaged/destroyed from instances of natural disasters
- Other updates (e.g. clarifications) as needed





PAR 445
Wood-Burning Devices

Proposed Amended Rule 445

General Amendments



- Minor editorial changes to improve rule clarity
- Capitalize defined terms throughout the rule
- Remove obsolete information including source receptor areas
- Clarify definitions, such as:
 - Sole source of heat definition to include instances of temporary loss of gas or electrical services
 - Wood-based fuel definition to clarify charcoal is not considered a wood-based fuel only when used for cooking

(c) Definitions

~~(16)~~(15) SOLE SOURCE OF HEAT means the only permanent source of heat that is capable of meeting the space heating needs of a household. This includes loss of a permanent source of heat due to a temporary service outage, for the duration of the service outage, as determined by the gas or electrical utility service.



Lower Curtailment Threshold



- Lower the mandatory PM_{2.5} curtailment threshold for residents in the South Coast Air Basin to meet Clean Air Act MSM requirements, paragraph e(1)
- Lower contingency measures thresholds to maintain stringency and ensure adequate emission reductions, paragraph f(2)

(e) **Wood-Burning Season PM_{2.5} Mandatory Burning Curtailment (No-Burn day)**
No person shall operate an indoor or outdoor ~~W~~wood-~~B~~urning ~~D~~evice, ~~P~~portable ~~O~~utdoor ~~W~~wood-~~B~~urning ~~D~~evice, or ~~W~~wood-~~F~~ired ~~C~~ooking ~~D~~evice on a calendar day during the wood- burning season for PM_{2.5} so declared to the public by the Executive Officer to be a mandatory wood-burning curtailment (No-Burn) day based on the specified geographic area below 3,000 feet above mean sea level and applicable ~~D~~aily PM_{2.5} ~~A~~ir ~~Q~~uality ~~F~~orecast as follows:

(1) Basin-wide if the ~~D~~aily PM_{2.5} ~~A~~ir ~~Q~~uality ~~F~~orecast for any ~~S~~ource ~~R~~eceptor ~~A~~rea exceeds ~~25~~30 µg/m³, or

(f) **PM_{2.5} Contingency Measures**

(2) A Basin-wide, mandatory wood-burning curtailment during the ~~W~~wood-~~B~~urning ~~S~~season if the ~~D~~aily PM_{2.5} ~~A~~ir ~~Q~~uality ~~F~~orecast for any SRA exceeds:

(A) ~~29-23~~ µg/m³, upon a final determination of a failure to comply with any of the provisions of paragraph (f)(1); and

(B) ~~28-21~~ µg/m³, upon a final determination of a failure to comply with any two or more of the provisions in paragraph (f)(1); ;

(C) ~~27~~ µg/m³, upon a final determination of a failure to comply with any three of the provisions in paragraph (f)(1); and

(D) ~~26~~ µg/m³, upon a final determination of a failure to comply with any four of the provisions in paragraph (f)(1).

Removal of Low-Income Exemption



- Delete exemption and associated definition
- Amendment would satisfy Clean Air Act MSM requirements by removing the exemption to be as stringent as other air districts

(c) Definitions

~~(7) LOW INCOME HOUSEHOLD means any household that receives financial assistance through reduced electric or gas bills from an electric or natural gas utility based on household income levels.~~

(i) Exemptions

~~(7)(8)~~ The provisions of subdivisions (e), (f), and (g), shall not apply under the following circumstances:

- (A) Residential or commercial properties where a Wood-Burning Device is the Sole Source Of Heat; or
- (B) ~~A low income household; or~~

Addition of Natural Disaster Exemption



- New provisions added to address rebuilds/replacements of wood-burning devices at properties destroyed under a state of emergency (e.g. recent wildfires)
 - Narrow, limited exemption with requirements and restrictions in place to allow for reconstruction of a previously standing wood-burning device destroyed due to extraordinary circumstances beyond owner's control

(i) Exemptions

- (4) The provisions of paragraph (d)(1) or (d)(2) shall not apply to a Wood-Burning Device that is replacing a previously installed Wood-Burning Device at a property damaged or destroyed by a natural disaster declared as a State of Emergency, as defined in Rule 118 - Emergencies, provided either:
 - (A) The New Wood-Burning Device is constructed under like-for-like rebuild or replacement, as established by the applicable local government entity;
or
 - (B) Dimensions of the New Wood-Burning Device do not exceed the dimensions of the previously installed Wood-Burning Device.



PAR 445
Wood-Burning Devices

PAR 445 – Regulatory Impacts

Impact of Removal of Low-Income Exemption



- Nonexempt households who own or operate a wood-burning device in the South Coast Air Basin will be subject to PAR 445 curtailment requirements
- As wood-burning is used primarily for aesthetic and ambiance purposes in the South Coast Air Basin, removing the low-income exemption will:
 - Have minimal impact on applicable Rule 445 communities
 - Not affecting those that qualify for any of the four other exemptions, including use of a wood-burning device as a sole source of heat
 - Not affecting eligibility for the Fireplace Changeout Incentive Program
 - Demonstrate compliance with Clean Air Act requirement for Most Stringent Measures

Current Rule 445



Low-income household

Sole source of heat

No natural gas service within 150 ft

Geographical location $\geq 3,000$ feet above mean sea level

Ceremonial fires exempt under Rule 444

Impact of Lower Curtailment Threshold



- Staff estimated the impact of lowering curtailment threshold on the number of No Burn Days and PM_{2.5} emission reductions

	Current Rule 445		PAR 445
Curtailment Threshold	29 µg/m ³	↓	25 µg/m ³
No Burn Days*	26 days	↑	approx. 36 days
Emission Reductions	342 tons/year	↑	462 tons/year

* Estimated number of No Burn Days that are the days that may be mandated-according to data from 2019 to 2023

Emission Reductions from Removal of Low-Income Exemption



Removal of Low-Income Exemption

- Number of households that utilize the low-income exemption is highly uncertain
- Some low-income households may qualify for other exemptions (e.g. no natural gas infrastructure, sole source of heat or located 3,000 ft or above) and remain exempt from curtailment
 - Limited data on number of households that qualify for the sole source of heat exemption
- Emission reductions will be reflected in the future through emission inventory updates

Emission Reductions from Lower Curtailment Threshold



Lower curtailment threshold from $29 \mu\text{g}/\text{m}^3$ to $25 \mu\text{g}/\text{m}^3$

- 2025 baseline emissions: 4.6 tons per annual average day
- Impacts:
 - Approximately 10 additional curtailment days
 - $\text{PM}_{2.5}$ emission reductions estimated at 0.25 tons per day

2025 Cost Impact Summary



1. Removal of Low-Income Exemption

2. Lower Curtailment Threshold from $29 \mu\text{g}/\text{m}^3$ to $25 \mu\text{g}/\text{m}^3$

- No cost impacts are anticipated
 - Assuming wood burning is mostly for ambiance and aesthetic purposes for non-exempted households
 - Assuming no changeout of wood-burning devices



PAR 445
Wood-Burning Devices

Socioeconomic Impact Assessment and California Environmental Quality Act (CEQA)

Socioeconomic Impact Assessment



- Preliminary analysis indicates estimated annual costs will be minimal
- Socioeconomic Impact Assessment will be made available in the Draft Staff Report at least 30 days prior to the Public Hearing on September 5, 2025 (subject to change)

California Environmental Quality Act (CEQA)



- PAR 445 is a project subject to CEQA
- South Coast AQMD, as lead agency, is reviewing PAR 445 to determine if it will result in any potential adverse environmental impacts
- Appropriate documentation will be prepared based on the analysis



PAR 445
Wood-Burning Devices

Next Steps

Next Steps



Working group and stakeholder meetings continue throughout process

**Information
Gathering and
Analysis**

**Preliminary
Draft Rule and
Staff Report**

**Public
Workshop**

**Draft Rule
and Staff
Report**

**Public
Hearing**

Key Dates



Action	Date
Written Comments Due	June 3, 2025
Stationary Source Committee	June 20, 2025
Set Hearing	August 1, 2025
Public Hearing	September 5, 2025

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Check Before You Burn



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Check Before You Burn



Información en español

November marks the start of South Coast AQMD's annual Check Before You Burn season. From **November through the end of February**, residents are asked to check before burning wood in their fireplaces to limit emissions of fine particulate matter (PM2.5).

A No-Burn day is a 24-hour ban on wood-burning in residential fireplaces, stoves or outdoor fire pits in the South Coast Air Basin. South Coast AQMD forecasters call for residential No-Burn Days when PM2.5 is expected to reach Unhealthy levels due to air emissions and stagnant weather conditions.

South Coast AQMD's No-Burn Day alerts do not apply to mountain communities above 3,000 feet in elevation, the Coachella Valley or High Desert, homes that rely on wood as a sole source of heat, low income households and those without natural gas service. Gas fireplaces are also exempt.

South Coast AQMD is providing several resources to the public to make following No-Burn Days as convenient as possible:

- **E-Mail Notification Program**

Sign up to receive [Air Alerts](#) on air quality and to be notified when a mandatory No-Burn alert has been issued for your neighborhood.

- **Check Before You Burn Map**

Visit the [Check Before You Burn map](#) on our website for daily forecast information.

- **Toll-Free Phone Number**

Call 866-966-3293 for daily Check Before You Burn information.

- **Mobile App**

Download the [South Coast AQMD app](#) to check local air quality and receive notifications when No-Burn Days are called.

- **Social Media**

Follow South Coast AQMD's social media accounts on [Facebook](#), [Twitter](#) and [Instagram](#).

The South Coast AQMD also encourages you to take the [pledge](#) to Check Before You Burn.

PAR 445 Staff Contacts



Please contact staff with any questions or comments

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