

Members of the California Air Resources Board:

This integrated State Implementation Plan (SIP) for fine particulate matter (PM_{2.5}) fails to adopt the most stringent measures (MSM) required by the Clean Air Act (CAA) for regions in serious nonattainment of a PM_{2.5} National Ambient Air Quality Standard (NAAQS) seeking a deadline extension.

Fulfillment of the MSM requirement is a four step process as described in 40 CFR Parts 50, 51, and 93, Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements; Final Rule.

Part IV of that process is as follows:

“iv. Adopt and Implement Any MSM That are More Stringent Than Any Measures That Are Already Approved Into the SIP

The fourth step requires the adoption of any MSM that are more stringent than existing measures as a regulation, and requires submission of the regulation as part of the SIP,”

—[Federal Register / Vol. 81, No. 164, pg. 58097](#)

[<https://www.gpo.gov/fdsys/pkg/FR-2016-08-24/pdf/2016-18768.pdf>]

This SIP does not fulfill this MSM requirement with respect to several source categories of residential wood-burning—source categories of SJVAPCD’s own making, source categories that SJVAPCD has adopted in its own Rule 4901, and source categories that parallel the distinctly regulated source categories recognized and defined by other air quality regulatory agencies as well, and that are included in their SIP measures regulating residential wood-burning emissions.

[Rule 4901](#) is the body of measures that regulates residential wood burning in SJVAPCD.

Rule 4901 does not regulate residential wood burning as a single source category.

Rule 4901 groups residential wood-burning into discrete source categories for the purpose of regulation.

This SIP seeks to evade the CAA MSM requirement with respect to measures regulating these discrete source categories by pretending that the CAA MSM requirement applies to a class of sources *en masse*, “holistically” as the authors of the SIP creatively phrase it, rather than to the individual source categories that SJVAPCD Rule 4901 clearly and explicitly defines.

But we cannot rob Peter to pay Paul. SJVAPCD measures of greater stringency as applied to some categories of residential wood-burning, or greater stringency with respect to residential wood-burning *in toto*, cannot atone for measures of lesser stringency applied to particular source categories—less stringent than what other states have adopted in their SIPs or achieved in practice as applied to those source categories.

There is no *de minimis* source category concept in the final rule governing MSM requirements in PM2.5 nonattainment areas according to the Final Rule governing State Implementation Plan Requirements for National Ambient Air Quality Standards for Fine Particulate Matter:

“[VI.D. 2. b.] iii. No de Minimis Source Category Analysis for PM2.5 NAAQS Implementation
[...]

Some commenters suggested that a *de minimis* source category approach for either Moderate or Serious areas would allow the state to ignore a set of control measures that later in the control measure evaluation process could be determined to provide for a more expeditious attainment date. They believe that allowing the exemption of *de minimis* source categories would undermine any analysis to evaluate whether a collection of measures could advance the attainment date by a year. For example, it would be possible for a state to identify multiple *de minimis* source categories at the beginning of the process, and then after all potential control measures are identified, the state and the EPA would be unable to determine whether the collective reductions and air quality impact of the exempted categories could actually be sufficient to advance the attainment date.

[...]

After taking the range of comments on the *de minimis* source category concept into consideration, the EPA has decided to not finalize a *de minimis* source category approach for the purposes of implementing the PM2.5 NAAQS.

[...]

If the final rule were to include an explicit step to conduct a *de minimis* source category analysis on the entire inventory early in the control measure identification process, the EPA believes that there is a risk that such an analysis may bring about investment of scarce time and analytical resources on analysis of categories to exclude rather than on the identification of the most beneficial control measures for reducing PM2.5 and its precursors to achieve expeditious attainment of the standard. In addition, the EPA finds merit in comments suggesting that an upfront exemption of multiple *de minimis* source categories in an area would undermine the ability of the state (or other interested parties) to evaluate, after the identification of potential control measures, whether the area could advance the attainment date in order to attain “as expeditiously as practicable.”

—[*Federal Register* / Vol. 81, No. 164](#), p. 58082

[<https://www.gpo.gov/fdsys/pkg/FR-2016-08-24/pdf/2016-18768.pdf>]

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What follows is a detailed examination of a clearly defined source category of Residential Wood Burning, Wood Burning Heaters:

SJVAPCD Rule 4901 has an explicitly defined source category, “Wood Burning Heaters”:

“3.29 Wood Burning Heater: an enclosed, wood burning appliance capable of and intended for space heating (i.e. wood stove, pellet-fueled wood burning heater, or wood burning fireplace insert).

[<https://www.valleyair.org/rules/currentrules/r4901.pdf>]

SJVAPCD further subdivides the source category into two sub-categories, differentiating them for the purpose of regulation: those two source categories are Wood Burning Heaters that are “EPA certified” & “registered” (Rule 4901 explicitly defines both terms) and those Wood Burning Heaters that are not EPA certified & not registered. (See: 4901-9,10,11)

Other air districts or jurisdictions have made these same category distinctions, but unlike SJVAPCD, these other jurisdictions have applied more stringent measures to both of these two source categories:

I. No other PM_{2.5} nonattainment area allows the use of EPA certified Wood Burning Heaters on days forecast with an average PM_{2.5} density above 35µg/m³ except in homes with no other source of heat. South Coast Air Quality Management District forbids their use at a threshold of 30µg/m³.

By contrast, SJVAPCD only forbids the use of this source category of ‘Wood Burning Heaters that are registered and EPA certified’ when a curtailment threshold of 65µg/m³ in the non hot-spot county is predicted, or 35µg/m³ in the hot-spot counties, a decidedly less stringent and health protective measure.

II. Other jurisdictions have simply banned the use of ‘Wood Burning Heaters that are *not* EPA certified’, banned their use entirely. (See: [Santa Rosa, California](#) in the Bay area Air Quality Management District and [Tacoma-Pierce County Smoke Reduction Zone](#))

By contrast, SJVAPCD applies a far less stringent measure to this source category, and bans the use of ‘Wood Burning Heaters that are *not* EPA certified’ only for four months of the year, November through February, and only when average PM_{2.5} pollution levels in a county are predicted to reach or exceed 20 µg/m³. Eight months of the year there are no restrictions applied to this source category whatsoever. In the proposed amendment to Rule 4901 in this SIP, the wood-burning curtailment threshold for this source category would be strengthened to 12µg/m³ in three of the eight SJVAPCD counties—Madera, Fresno and Kern—for four months of the year, but this is still far less stringent a measure applied to this source category than banning their use entirely.

What’s more, SJVAPCD has exempted entirely the use of this source category of ‘Wood Burning Heaters that are *not* EPA-certified’ in homes with no other source of heat. BAAQMD bans their use in homes with no other source of heat on days exceeding 35µg/m³ and applies a more stringent measure to that district’s definition of homes with no other source of heat, not allowing homes with propane or electric heat to qualify as such. More on SJVAPCD’s so called “natural gas exemption” measure (which exempts homes without natural gas service from mandatory curtailments) in the comprehensive list of required MSM to follow.

Potential emissions from the discrete source category of ‘Wood Burning Heaters that are *not* EPA-certified’ are substantial. Using SJVAPCD estimates, in 2015 that there were 26,758 of these older, high emitting residential wood-burning devices in this source category.* This means this source category is capable of cumulative emissions in excess of three-quarters of a ton of direct PM_{2.5} per hour (1769 pound, using EPA’s emissions estimate of 30g/hr.)

*See: 2015 Area Source Emissions Inventory Methodology 610 – RESIDENTIAL WOOD COMBUSTION [https://www.arb.ca.gov/ei/areasrc/districtmeth/sjvalley/sjvrwc2016_oct18.pdf] p39 Table A-5: Wood Stoves – Number of Devices)

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The following is a list of individual measures—measures already implemented by other air quality regulatory agencies in the various US locales noted—that should be adopted by the SJVAPCD in its PM 2.5 State Implementation Plan to meet the Clean Air Act statutory requirement for most stringent measures. This group of measures would contribute to significant emission reductions and more expeditious PM2.5 NAAQS attainment.

With regard to the distinct source category of non EPA-certified wood-burning heaters (as defined in [SJVAPCD Rule 4901](#) and already detailed above):

- Forbid **operation** of any uncertified wood heater as in the [Tacoma-Pierce County Smoke Reduction Zone](#) of Washington and in [Santa Rosa, California](#). All wood heaters in Tacoma/Pierce not EPA-certified must be removed and recycled or rendered inoperable, except in homes with no other source of heat.


With regard to the distinct source category of residential wood-burning in homes with no other source of heat:

- Require the use of wood-burning devices that are EPA-certified in those homes with no other source of heat, as [BAAQMD Regulation 6, Rule 3](#) requires.
- Exclude homes with propane-fired heaters or permanently installed electric heaters from the definition of ‘homes with no other source of heat’ as [BAAQMD](#), [SCAQMD](#) and Albuquerque [Bernalillo County Air Quality Control Board](#) do (instead of allowing the inclusion in that definition of homes equipped with these other sources of heat under [SJVAPCD Rule 4901](#), which exempts homes without natural gas service from its mandatory wood-burning curtailments. (See: Rule 4901-8. SJVAPCD refers to this as a “Natural Gas Exemption” in its [Appendix C: Stationary Source Control Measure Analyses](#) summary at C264 and C274.)
- Require the registration of all such homes claiming no other source of heat as [BAAQMD](#), [Utah DEQ](#), [Colorado DPHE](#) and [Bernalillo County Air Quality Control Board](#) do.

With regard to the distinct source category of registered, EPA-certified wood-burning heaters.

- Proscribe use of all EPA-certified wood-burning heaters on days forecast above 30µg/m3. “Applies to the entire South Coast Air Basin whenever a PM2.5 level of greater than 30 µg/m3 is predicted for a source receptor area containing a monitoring station that has recorded a violation of the federal 24-hour PM2.5 National Ambient Air

Quality Standard for either of the two previous three-year design value periods.”
[SCAQMD Rule 445](#) This should apply valley-wide based on relevant 98th percentile data: (See data table below)

 Air Resources Board					
Select 8 Summary					 FAQs
Monitoring Sites	PM2.5				
	National 98th Percentile				
	2013	2014	2015	2016	2017
San Joaquin Valley					
Fresno County					
Clovis-N Villa Avenue	56.2	64.5	45.7	37.7	50.6
Fresno-Garland	63.8	66.7	52.0	42.7	68.0
Fresno-Hamilton and Winery	71.6	61.8	42.0	40.0	73.2
Kern County					
Bakersfield-410 E Planz Road	96.7	76.7	56.5	50.7	69.7
Bakersfield-5558 California Avenue	71.8	79.9	57.2	47.0	71.8
Kings County					
Corcoran-Patterson Avenue	56.1	71.0	99.2	45.9	59.5
Hanford-S Irwin Street	67.6	81.9	51.4	43.3	38.6
Madera County					
Madera-28261 Avenue 14	54.6	56.0	43.7	35.7	*
Merced County					
Merced-2334 M Street	57.2	45.9	39.0	34.6	40.3
Merced-S Coffee Avenue	42.3	43.8	40.3	32.8	39.0
San Joaquin County					
Stockton-Hazelton Street	56.3	44.5	39.1	32.4	44.2
Tracy-Airport	*	*	*	*	*
Stanislaus County					
Modesto-14th Street	56.4	49.5	30.8	36.2	51.1
Turlock-S Minaret Street	55.4	51.2	47.3	38.5	38.5
Tulare County					
Porterville-1839 Newcomb Street	*	*	*	*	*
Visalia-N Church Street	62.5	75.4	45.8	40.7	74.6

With regard to PM 2.5 emissions from residential wood-burning generally, which encompasses most residential wood-burning source categories, further emission reductions could be gained by adopting these more stringent measures:

- Begin the wood-burning curtailment period on October 1st as [Bernalillo County Air Quality Control Board](#) does in Albuquerque, New Mexico.
- End the wood-burning curtailment period on March 31st as the [Colorado Department of Public Health and Environment](#) does in Metro Denver.

Additional general enforcement measures other air districts have applied to residential wood-burning that are more stringent than SJVAPCD:

- Increase fines for violation of mandatory wood-burning curtailments:
 - “...second violations will result in a \$500 ticket, subsequent ticket amounts will be higher.” [BAAQMD](#)
 - [Utah Division of Air Quality](#): raised penalties for using a fireplace, wood stove or any other solid-fuel burning device on a designated “no-burn” day to \$150 for a first-time offense. Repeat offenders will pay \$299.
 - [Tacoma-Pierce County Smoke Reduction Zone](#): wood burning during a ban may result in fines up to \$1,000.
- Forbid wood-smoke emissions greater than 20% opacity for more than three minutes in any 60-minute period including startup time as the [Oregon Department of Environmental Quality](#) has for any area classified as a nonattainment area for PM2.5
- Limit residential wood-smoke emissions to six minutes at 20% smoke opacity year round—even for homes with permanent, sole source of heat exemptions as in the [Tacoma-Pierce County Smoke Reduction Zone](#).

Additional regulatory MSM for reduced emissions in future years:

- Forbid the installation of wood-burning devices of any kind in new homes or buildings and require residents who begin a chimney or fireplace remodeling project that costs over \$15,000 and that necessitates a building permit to install a gas-fueled, electric or EPA-certified device. ([BAAQMD](#))
- Require anyone selling or leasing property with a wood-burning device to disclose the health hazards of wood smoke as part of the signed disclosure documents in the real estate purchase or rental transaction. ([BAAQMD](#))
- No longer provide incentive funds for wood-burning replacement devices of any kind *throughout the district* as is the practice with [BAAQMD](#).

The use of wood for cooking

- Include cooking in the mandatory residential wood-burning curtailments. [SCAQMD Rule 445](#) prohibits all non-essential residential wood-burning including residential wood-burning for the purpose of cooking, both indoor and outdoor, on days forecast above 30µg/m3. [SJVAPCD Rule 4901](#) exempts cooking from its mandatory residential wood-burning curtailments.

Until this SIP fulfills its CAA requirements with respect to Most Stringent Measures, it should be rejected by the California Air Resources Board.

—Submitted by Thomas Menz, 22nd day of January, 2019
Re: sjvsip2018

<https://docs.google.com/document/d/1bVmJMsAgDrOW2i3oRr90JNXqSspqjip3H3LRW9S3i7U/edit?usp=sharing>