


RULE 1111 IMPLEMENTATION UPDATE

WORKING GROUP MEETING #1
APRIL 14, 2020 10 AM (PST)

Zoom meeting: <https://scaqmd.zoom.us/j/96380099376>
Meeting ID: 963 8009 9376
Conference Call: (669) 900-6833

RULE 1111 BACKGROUND

- ❑ Adopted in December 1978 and established a NOx limit of 40 ng/J
- ❑ Applies to manufacturers, distributors, sellers, and installers of residential and commercial natural gas furnaces
- ❑ NOx limit was lowered to 14 ng/J in November 2009
- ❑ Extended mitigation fee deadlines for all categories except furnaces for mobile homes

Category	Final Compliance Date (14 ng/J NOx)
Condensing/ Non-Condensing	October 1, 2019 
High-Altitude ¹ Condensing/ Non-Condensing	October 1, 2021
Weatherized	October 1, 2021
Mobile Home	October 1, 2021

¹ 4,200 feet above sea level or higher

RULE 1111 BACKGROUND – COMPLIANCE DATE EXTENSION

Amendments	November 2009	September 2014	March 2018	December 2019	September 2020	Final Compliance Dates
	Initial Compliance Dates for 14 ng/J	Delayed Compliance With 14 ng/j Limit				Final Compliance Dates
Condensing/ Non-Condensing	October 1, 2014 /October 1, 2015	Delayed Until 2018	Delayed Until 2019	–	–	October 1, 2019
High-Altitude ¹ Condensing/ Non-Condensing		–		Delayed Until 2020	Delayed Until 2021	October 1, 2021
Weatherized	October 1, 2016	Delayed Until 2019	Delayed Until 2020	–	Delayed Until 2021	October 1, 2021
Mobile Home	October 1, 2018	Delayed Until 2021	–	–	–	October 1, 2021

¹ 4,200 feet above sea level or higher

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SUMMARY OF SEPTEMBER 2020 AMENDMENT AND RESOLUTION

September 4, 2020 amendment to Rule 1111



- Provided second year exemption to meet 14 ng/J NOx limit for condensing and noncondensing furnaces at higher elevations; and
- Provided one year extension of mitigation fee period of weatherized furnaces

Board Resolution directed staff to report to Stationary Source Committee no later than May 21, 2021 on:

- Progress on implementation of the Clean Air Furnace Rebate Program
- Development of high-altitude furnaces and mobile home furnaces; and
- Feasibility of weatherized dual fuel systems with a non-compliant 40 ng/J furnaces for the Basin

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AREAS OF DISCUSSION

 <p>Rebate Program</p> <ul style="list-style-type: none"> • Progress of Clean Air Furnace Rebate Program 	 <p>High-Altitude</p> <ul style="list-style-type: none"> • Availability of high-altitude furnaces for the October 1, 2021 compliance date 	 <p>Weatherized Furnaces</p> <ul style="list-style-type: none"> • Availability of weatherized furnaces (package units) for the October 1, 2021 compliance date 	 <p>Mobile Home Furnaces</p> <ul style="list-style-type: none"> • Availability of mobile home furnaces for the October 1, 2021 compliance date 	 <p>Dual Fuel Systems</p> <ul style="list-style-type: none"> • Feasibility of weatherized dual fuel systems with a non-compliant 40 ng/J furnaces
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CLEAN AIR FURNACE REBATE PROGRAM



- ❑ *CLEANair* Rebate Program established to help commercialize 14 ng/J furnaces
- ❑ South Coast AQMD initiated a contract with EGIA to manage the Clean Air Furnace Rebate Program on May 3, 2018
- ❑ Rebate website launched on June 28, 2018 to incentivize installation of:
 - 14 ng/J condensing and non-condensing furnaces
 - Initial funding of \$3 million exhausted – over 5,000 rebates

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CLEAN AIR FURNACE REBATE PROGRAM



- ❑ Additional funding of \$3.5 million* approved in September 2020 to incentivize installation of:
 - 14 ng/J weatherized furnaces
 - 14 ng/J furnaces for high-altitude installation
 - Electric heat pumps (central-ducted) that replace Rule 1111 furnaces
 - About \$2.2 million funding remaining as of March 26, 2021
 - Incentives provided for 564 heat pumps and six weatherized units

	Weatherized	High-altitude	Electric heat pumps
Rebate	\$500	\$500	\$1,500
Limit for total rebate applications	200 units and no later than September 30, 2021	600 units and no later than September 30, 2021	2,000 units or when funds depleted

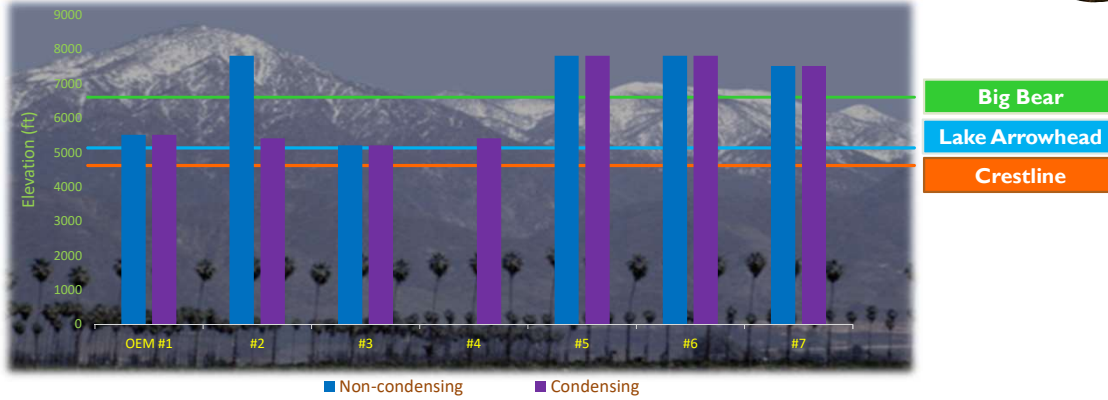
* A minimum of 25 percent reserved for installations in disadvantaged and low-income communities as identified under SB535 and AB1550

FURNACE AVAILABILITY FOR HIGH ALTITUDE INSTALLATION



- ❑ Exemption for furnaces in high altitude installation ends October 1, 2021
- ❑ All manufacturers have made progress in testing non-condensing and condensing furnaces for high altitude installations
 - Four manufacturers have compliant non-condensing furnaces for installation at 7,500-7,800 ft elevation
 - Three manufacturers have compliant condensing furnaces for installation at 7,500-7,800 ft elevation
- ❑ Manufacturers have no additional plans for high altitude furnace development

FURNACE AVAILABILITY FOR HIGH-ALTITUDE INSTALLATION



Staff is seeking input from Working Group Meeting regarding:

- Not extending the exemption for high altitude furnace installations

WEATHERIZED FURNACE UPDATE



- ❑ Mitigation fee period for weatherized furnaces ends October 1, 2021
- ❑ Weatherized furnaces use the same burner configurations as condensing and non-condensing furnaces
 - Rule 1111 certification for weatherized units is based on existing condensing and non-condensing furnaces with no additional testing required
- ❑ Commercialization of weatherized units started in fourth quarter of 2020
- ❑ By the October 1, 2021 compliance date:
 - All manufacturers informed staff that 14 ng/J weatherized furnaces will be available
 - In addition to basic models, some manufacturers will provide higher efficiency models
 - Two manufacturers will provide weatherized furnaces for installation at elevations up to 5,000 and 7,800 ft

Staff Recommendation:

- No further extension of the mitigation fee period

MOBILE HOME FURNACE UPDATE



- ❑ Mitigation period fee for mobile home furnaces ends October 1, 2021
- ❑ Four manufacturers of mobile home furnaces
- ❑ Development status:
 - None of the manufacturers have developed 14 ng/J mobile home furnace
 - Manufacturers have informed staff that they:
 - Need to develop propane kits for condensing and non-condensing furnaces for mobile home installations (HUD requirement for propane compatibility);
 - Can offer single phase weatherized units for mobile home applications; or
 - Plan to provide electrical heating such as heat pumps as the alternative
 - Manufacturers suggested to align compliance date with the upcoming Department of Energy standards required on January 1, 2023

Staff Recommendation:

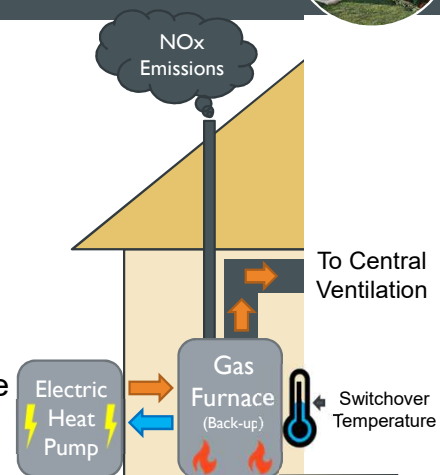
- Extend the mitigation fee to September 30, 2023

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DUAL FUEL HEATING SYSTEM BACKGROUND



- ❑ Dual fuel heating system is a natural gas furnace paired with an electric heat pump
- ❑ Primary heating is provided by the electric heat pump
 - Gas-fired furnace is used as auxiliary heating when temperatures are very low
- ❑ The furnace operation is determined by adjustable switchover temperature
 - Higher the switchover set temperature, more often the furnace operates and more emissions



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DUAL FUEL HEATING SYSTEMS



Product availability

- All seven manufacturers have dual fuel systems with compliant (14 ng/J NOx) furnaces available

Emission reduction

- 14 ng/J NOx dual fuel systems provide more emission reduction than non-compliant 40 ng/J NOx dual fuel systems

Other concerns

- The concerns on regulatory loophole and additional enforcement challenges remain for non-compliant 40 ng/J NOx

Staff Recommendation:

- Support dual fuel systems with 14 ng/J compliant furnaces

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SUMMARY AND NEXT STEPS

- Staff is contemplating the following recommendations and seeking input:
 - No further extension to high-altitude exemption;
 - No further extension of weatherized furnace mitigation fee end date;
 - Amend Rule 1111 to extend mitigation fee end date to September 30, 2023 for Mobile home furnaces;
 - Support dual fuel units with a compliant 14 ng/J NOx furnace; and
 - Continue to monitor the implementation of Rule 1111 and CLEANair Furnace Rebate Program
- Provide updates and recommendations to the Stationary Source Committee on May 21, 2021
- Continue to work with stakeholders for the upcoming rulemaking

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CONTACTS

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