



Air Pollution Control District Governing Board

San Diego County Air Pollution Control District

AGENDA ITEM #E.3

DATE: November 14, 2024

TO: SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT GOVERNING BOARD

SUBJECT:

NOTICED PUBLIC HEARING: ADOPTION OF AMENDMENTS TO RULE 69.6 - NATURAL GAS-FIRED FAN-TYPE CENTRAL FURNACES

REQUESTED ACTION:

1. Find that the adoption of proposed amended Rule 69.6 – Natural Gas-Fired Fan-Type Central Furnaces is categorically exempt from the provisions of the California Environmental Quality Act pursuant to California Code of Regulations, Title 14, Section 15308, as an action taken to assure the protection of the environment.
2. Adopt the Resolution entitled: RESOLUTION ADOPTING AMENDED RULE 69.6 – NATURAL GAS-FIRED FAN-TYPE CENTRAL FURNACES, OF REGULATION IV OF THE RULES AND REGULATIONS OF THE SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT.
3. Direct the Air Pollution Control Officer to forward a copy of this Resolution and amended Rule 69.6 to the California Air Resources Board (CARB) for approval.

OVERVIEW:

Pursuant to the Federal Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) has established the National Ambient Air Quality Standards (NAAQS) for six common, yet harmful, outdoor air pollutants to protect public health and the environment. Each area of the nation with air pollution levels exceeding a federal ambient air quality standard must be designated by the EPA as a “Nonattainment Area” for that standard. San Diego County’s ambient air quality currently meets the NAAQS for five of the six criteria air pollutants. At this time, the one exception is ozone. Federal laws require the San Diego County Air Pollution Control District (District) to adopt and implement rules to control emissions of ozone precursors – volatile organic compounds (VOC) and nitrogen oxides (NOx). In addition, as control technologies advance and new/more stringent emission limits become feasible, the District must update its rules accordingly to further protect public health.

Furnaces found in residential and commercial locations combust natural gas and produce pollutants, including but not limited to, NOx as a byproduct of combustion. Existing Rule 69.6, initially adopted in 1998, regulates NOx emissions specifically from natural gas-fired furnaces in San Diego County with a rated heat input capacity of less than 175,000 British thermal units (Btu) per hour, and combination

heating and cooling units with a rated cooling capacity of less than 65,000 Btu per hour. Existing Rule 69.6 requires furnaces to meet a 40 nanogram NO_x/joule (ng NO_x/J) limit, and currently exempts furnaces used in manufactured and mobile homes from any emission limits. Existing Rule 69.6 is also point-of-sale rule, meaning when a unit reaches the end of its useful life and is replaced, a new unit being installed must comply with specified emission limits found in the rule. Rule 69.6 has not been amended since its initial adoption.

The District is proposing amendments to Rule 69.6 that will require more stringent NO_x emission standards for furnaces countywide. The amendments support the District's 2022 Regional Air Quality Strategy (RAQS) approved by the Governing Board in March 2023, to further reduce regionwide NO_x emissions and reduce the formation of ozone. If adopted, furnaces would be required to meet a 14 ng NO_x/J standard (a 65% emission reduction), with the exception for furnaces installed in manufactured and mobile homes. Furnaces to be installed in manufactured and mobile homes would be required (for the first time) to meet an emission limit set at 40 ng NO_x/J. Despite best efforts in other regions, manufacturers of manufactured and mobile home furnaces do not yet offer units that comply with a more stringent 14 ng NO_x/J standard. The proposed NO_x standards are similar to existing rule requirements found in several other California air districts today, including South Coast Air Quality Management District, San Joaquin Valley Air Pollution Control District, and Bay Area Air Quality Management District. As a result, furnaces capable of complying with the proposed amendments are now widely available. Other minor provisions included in the proposed amendments including manufacturer sell-through periods for non-compliant equipment, manufacturer certification requirements, and valid test methods, including the District's cost-effectiveness analysis, are further described in the corresponding Staff Report (Attachment D).

The proposed amendments are estimated to reduce NO_x emissions countywide by approximately 256 tons per year upon full implementation of the rule. Using the EPA's COBRA Screening Tool, the proposed amendments upon full implementation of the rule are estimated to avoid as many as 617 cases of negative health endpoints and/or lost work or minor restricted activity days on an annual basis, which will contribute as much as \$13.1 million to the economy annually from avoided health care costs and lost productivity.

During the rule development process, the District evaluated the feasibility of requiring zero-emission furnaces as part of the proposed amendments. The District determined the proposed amendments (if adopted) would achieve significant NO_x emission reductions in the short term, providing critically needed emission reductions to meet federal attainment deadlines in 2026 and 2032 for ozone. The District also identified significant costs and barriers to immediate deployment of zero-emission alternatives. Such barriers include high costs for zero-emission technology, as well as equity concerns about mandating the installation of more expensive zero-emission devices countywide, including in low-income and disadvantaged communities. These communities could be disproportionately burdened financially due to the absence/non-qualification of available grant funding to offset these costs.

Additionally, the California Air Resources Board (CARB) is currently working to address such barriers within a statewide zero-emission appliance regulation, that is tentatively planned for its board's consideration next year. The latest draft of the proposed regulation indicates furnaces would be required to be zero-emission starting in 2029. The District supports CARB's efforts to require zero-emissions from these devices. Should the CARB regulation be adopted as anticipated, the District would consider aligning our respective local rule with CARB's statewide regulation. However, in the meantime, the District's proposed amendments to Rule 69.6 today are an expedient way to significantly reduce NOx emissions in the short term to improve public health and make progress towards attainment.

FISCAL IMPACT:

There is no fiscal impact associated with today's recommendation to amend Rule 69.6 and adopt the Resolution. Staffing costs associated with preparing this recommendation were included in the Fiscal Year 2024-25 adopted budget.

ENVIRONMENTAL STATEMENT:

There is no fiscal impact associated with today's recommendation to amend Rule 69.6 and adopt the Resolution. Staffing costs associated with preparing this recommendation were included in the Fiscal Year 2024-25 adopted budget.

PREVIOUS RELEVANT BOARD ACTIONS:

June 17, 1998 (APCB #1), NOTICED PUBLIC HEARING: ADOPTION OF NEW RULE 69.6 – NATURAL GAS-FIRED FAN-TYPE CENTRAL FURNACES.

PUBLIC ENGAGEMENT AND OUTREACH:

A virtual public workshop was conducted on June 18, 2024, to gather input on proposed amended Rule 69.6 from members of the public, regulated community, and other stakeholders, including representatives from the furnace industry. The public workshop was attended by 30 people. Bilingual informational videos were also posted on the District's website and presented to the Portside and International Border Community Steering Committees in June 2024. No significant concerns were raised by the public and all comments were addressed within the Response to Comments Report (Attachment C). A public notice regarding today's hearing was also posted in a local newspaper, on the District's website, and sent to subscribers of the District's email notification service, local chambers of commerce, CARB and the EPA. Additional outreach is planned upon adoption of the proposed rule, including possible distribution of a Compliance Advisory to affected parties to enhance awareness of the new requirements.

EQUITY IMPACT STATEMENT

Today's item supports the District's vision of 'Clean Air for All' by proposing an amended rule to control air pollution emissions and to help attain federal and state ozone standards in communities across the region.

RECOMMENDED BY:

Michael Watt, Deputy Director

CONTACT PERSON(S):

Name: Nick Cormier, Supervising Air Resources Specialist

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ATTACHMENTS:

[Item E3_AttA_Rule 69.6 Resolution.pdf](#)

[Item E3_AttB_Rule 69.6 Change Copy.pdf](#)

[Item E3_AttC_Rule 69.6 Response to Comments Report.pdf](#)

[Item E3_AttD_Rule 69.6 Staff Report.pdf](#)

Resolution No: 24-007
Meeting Date: 11/14/2024

**RESOLUTION ADOPTING AMENDED RULE 69.6 – NATURAL GAS-FIRED
FAN-TYPE CENTRAL FURNACES, OF REGULATION IV
OF THE RULES AND REGULATIONS OF THE
SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT**

On motion of Member Vargas, seconded by Member Medina, the following resolution is adopted:

WHEREAS, the San Diego County Air Pollution Control District Governing Board (Governing Board), pursuant to Section 40702 of the California Health and Safety Code, adopted Rules and Regulations of the San Diego County Air Pollution Control District (District); and

WHEREAS, said Governing Board now desires to amend said Rules and Regulations; and

WHEREAS, notice has been given and a public hearing has been held relating to the amendments of said Rules and Regulations pursuant to Section 40725 of the California Health and Safety Code and Section 51.102 of Title 40 of the Code of Federal Regulations; and

WHEREAS, pursuant to Section 40727 of the California Health and Safety Code, the Governing Board makes the following findings:

- (1) (Necessity) The adoption of proposed amended Rule 69.6 is necessary in order to fulfill aspects of the District's 2022 Regional Air Quality Strategy (RAQS), reduce 256 tons of NOx emissions per year from furnaces applicable to Rule 69.6, and contribute to realizing attainment status with state and federal ambient ozone standards in San Diego County;
- (2) (Authority) The adoption of proposed amended Rule 69.6 is authorized by Sections 39002, 40000, 40001, and 40702 of the California Health and Safety Code;
- (3) (Clarity) The adoption of proposed amended Rule 69.6 can be easily understood by persons directly affected by it, uses standard and similar wording used in existing rules, was vetted by the District's Rules Committee and public workshop attendees, and the District considered and accounted for all comments received in the final version of proposed amendments to Rule 69.6;

- (4) (Consistency) The adoption of proposed amended Rule 69.6 is in harmony with, and not in conflict with or contrary to, existing statutes, court decisions, and state and federal regulations;
- (5) (Non-duplication) The adoption of proposed amended Rule 69.6 does not duplicate and does not impose the same requirements as an existing state or federal regulation, and is the only District rule that regulates NOx emissions from applicable natural gas-fired, fan-type central furnaces;
- (6) (Reference) The adoption of proposed amended Rule 69.6 is necessary to comply with the California Health and Safety Code Sections 40716(a) and 40920 which requires adoption of every feasible control measure to reduce ozone-precursor emissions;

WHEREAS, the Governing Board further finds pursuant to the California Health and Safety Code Section 40001 that adoption of proposed amended Rule 69.6 will facilitate the attainment and maintenance of ambient air quality standards; and

WHEREAS, the Governing Board further finds that an analysis comparing proposed amended Rule 69.6 with applicable requirements of federal and local regulations is required pursuant to Section 40727.2 of the California Health and Safety Code and has been prepared; and

WHEREAS, the Governing Board further finds that an incremental cost-effectiveness analysis included within the Staff Report pursuant to Section 40920.6(a) of the California Health and Safety Code has been prepared for proposed amended Rule 69.6 and has been made available for public review and comment, and has been actively considered; and

WHEREAS, the Governing Board further finds pursuant to Section 40728.5 of the California Health and Safety Code that proposed amended Rule 69.6 only adopts requirements that are substantially similar to, or required by, state or federal statutes, regulations, or formal guidance documents, and as such, the socioeconomic analysis required to analyze either the impact of the adoption of proposed amended Rule 69.6 on employment and the economy of the region, or the availability and cost-effectiveness of alternatives to proposed amended Rule 69.6, and that as a result a socioeconomic impact analysis of the remaining factors specified in the California Health and Safety Code Section 40728.5(b) has been prepared and included within the Staff Report; and

WHEREAS, proposed amended Rule 69.6 will be submitted to the California Air Resources Board (CARB).

NOW THEREFORE IT IS RESOLVED AND ORDERED by the San Diego County Air Pollution Control District Governing Board that the Rules and Regulations of the San Diego County Air Pollution Control District be, and hereby are amended as follows:

1. Proposed amended Rule 69.6 is to read as follows:

RULE 69.6. NATURAL GAS-FIRED FAN-TYPE CENTRAL FURNACES
(Adopted June 17, 1998; Rev. Adopted & Effective *(date of adoption)*)

(a) **APPLICABILITY**

This rule shall apply to any person who manufactures, distributes, sells, offers for sale, or installs natural gas-fired, fan-type central furnaces for use in San Diego County with: (1) a rated heat input capacity of less than 175,000 Btu per hour or (2) combination heating and cooling units with a rated cooling capacity less than 65,000 Btu per hour.

(b) **RESERVED**

(c) **DEFINITIONS**

For the purpose of this rule the following definitions shall apply:

(1) **“Btu”** means British thermal units.

(2) **“Heat Output”** means the product obtained by multiplying the Annual Fuel Utilization Efficiency, as defined by Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N, by the rated heat input capacity of the furnace.

(3) **“Manufactured Home”** means a structure as defined in 42 United States Code Section 5402 and Section 18007 of the California Health and Safety Code.

(4) **“Mobile Home”** means a structure as defined in Section 18008 of the California Health and Safety Code.

(5) **“Natural Gas-Fired Fan-Type Central Furnace”** means a self-contained space heater fired by natural gas providing for circulation of heated air at pressures other than atmospheric through ducts more than 10 inches in length.

(6) **“Rated Cooling Capacity”** means the cooling capacity, in Btu per hour, as specified by the manufacturer on the nameplate of the cooling unit.

(7) **“Rated Heat Input Capacity”** means the heat input capacity of a furnace, in Btu per hour, as specified by the manufacturer on the nameplate of the furnace.

(d) **STANDARDS**

Effective *(six months after date of adoption)*, no person shall manufacture, distribute, sell, offer for sale, or install for use within San Diego County:

(1) Any natural gas-fired, fan-type central furnace that emits more than 14 nanograms of nitrogen oxides (calculated as nitrogen dioxide) per joule of heat output. This standard does not apply to furnaces used in manufactured or mobile homes.

(2) Any natural gas-fired, fan-type central furnace used in a manufactured or mobile home that emits more than 40 nanograms of nitrogen oxides (calculated as nitrogen dioxide) per joule of heat output.

(e) CERTIFICATION

(1) Upon request by the District, a manufacturer of any new natural gas-fired, fan-type central furnace to be offered for sale in San Diego County shall submit to the District a statement certifying that each model subject to the requirements of Section (d) of this rule complies with the provisions of this rule.

(i) The statement shall be signed, dated, and attest to the accuracy of all information.

(ii) The statement shall be submitted at least 30 days before the furnace model is offered for sale, sold, or installed within San Diego County.

(iii) The statement shall include:

(A) Brand name,

(B) Model number,

(C) Rated heat input capacity in Btu per hour as specified on the nameplate,

(D) Rated cooling capacity (if applicable) in Btu per hour as specified on the nameplate, and

(E) Nitrogen oxides emission test results in nanograms of nitrogen oxides per joule of each model being certified.

(2) Upon request by the District, a manufacturer shall submit to the District a new certification statement for any natural gas-fired, fan-type central furnace model whose design is changed in any manner which may alter nitrogen oxides emissions.

(3) To demonstrate compliance with Subsections (e)(1) or (e)(2), a manufacturer may submit to the District a certification from South Coast Air Quality Management District, San Joaquin Valley Air Pollution Control District or Bay Area Air Quality Management District for any furnace model. The manufacturer may also submit the same certification statement submitted to other air districts as long as it meets the provisions required in Subsection (e)(1).

(f) LABELING

On the shipping carton and the nameplate of every new natural gas-fired, fan-type central furnace to be offered for sale in San Diego County, the manufacturer shall display the

model number, the rated heat input capacity in Btu per hour, and the rated cooling capacity (if applicable) in Btu per hour.

(g) RECORD KEEPING REQUIREMENTS

A manufacturer shall keep nitrogen oxides emission test records and certification records for as long as the natural gas-fired, fan-type central furnace model is offered for sale or sold within San Diego County, or for three calendar years after manufacture, whichever is longer. Such records shall be provided to the District upon request.

(h) TEST METHODS

To determine compliance with Section (d) of this rule, measurement of nitrogen oxides shall be conducted in accordance with:

(1) San Diego County Air Pollution Control District Test Method 100 as approved by the federal Environmental Protection Agency, or

(2) South Coast Air Quality Management District Test Method 100.1 as approved by the federal Environmental Protection Agency, or

(3) Environmental Protection Agency Test Methods 7E and 3A, or

(4) Any other test method approved in writing by the District and the federal Environmental Protection Agency.

(i) EMISSION TEST REQUIREMENTS

During emission tests, operation of the natural gas-fired, fan type central furnace shall be in accordance with the procedures specified in Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N.

FURTHER RESOLVED AND ORDERED that proposed amended Rule 69.6 of Regulation IV shall take effect (*date of adoption*) and be submitted to the California Air Resources Board.

PASSED AND ADOPTED by the Air Pollution Control District Governing Board of the San Diego County Air Pollution Control District, this 14th day of November, 2024, by the following votes:

AYES: Birkbeck-Garcia, Bush, Gloria, Medina, Shu, Vargas

ABSENT: Elo-Rivera, Gomez, Lawson-Remer, Martinez, Sanchez

APPROVED AS TO FORM AND LEGALITY
COUNTY COUNSEL

BY: Heidi Gabriel-Pack, Senior Deputy

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STATE OF CALIFORNIA)

County of San Diego)^{SS}

I hereby certify that the foregoing is a full, true and correct copy of the Original Resolution entered in the Minutes of the San Diego County Air Pollution Control District Governing Board.



MARVICE MAZYCK

Clerk of the San Diego County Air Pollution Control District Governing Board

RULE 69.6. NATURAL GAS-FIRED FAN-TYPE CENTRAL FURNACES
(Adopted June 17, 1998; Rev. Adopted & Effective January 1, 1999
(date of adoption))

(a) **APPLICABILITY**

~~Except as otherwise provided in Section (b),~~ This rule shall apply to any person who manufactures, distributes, sells, offers for sale, or installs natural gas-fired, fan-type central furnaces, ~~including combination heating and cooling units,~~ for use in San Diego County with: (1) a rated heat input capacity of less than 175,000 Btu per hour or and (2) combination heating and cooling units with a rated cooling capacity less than 65,000 Btu per hour.

(b) **EXEMPTIONS RESERVED**

The provisions of this rule shall not apply to:

(1) ~~Fan type central furnaces with a rated heat input capacity of 175,000 Btu per hour or greater, or~~

(2) ~~Combination heating and cooling units with a rated cooling capacity of 65,000 Btu per hour or greater, or~~

(3) ~~Fan type central furnaces installed in mobile homes.~~

(c) **DEFINITIONS**

For the purpose of this rule the following definitions shall apply:

(1) **“Btu”** means British thermal units.

~~(2) **“Natural Gas Fired Fan Type Central Furnace”** means a self-contained space heater fired exclusively by natural gas providing for circulation of heated air at pressures other than atmospheric through ducts more than 10 inches in length that has a rated heat input capacity of less than 175,000 Btu per hour or, for combination heating and cooling units, that has a rated cooling capacity of less than 65,000 Btu per hour.~~

~~(3) **“Heat Output”** means the product obtained by multiplying the Annual Fuel Utilization Efficiency, as defined by Section 4.6 of Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N, by the rated heat input capacity of the furnace.~~

~~(4) **“Manufactured Home”** means a structure as defined in 42 United States Code Section 5402 and Section 18007 of the California Health and Safety Code.~~

~~(5) **“Mobile Home”** means a structure as defined in Section 18008 of the California Health and Safety Code.~~

(5) “Natural Gas-Fired Fan-Type Central Furnace” means a self-contained space heater fired by natural gas providing for circulation of heated air at pressures other than atmospheric through ducts more than 10 inches in length.

(5-6) “Rated Cooling Capacity” means the cooling capacity, in Btu per hour, as specified by the manufacturer on the nameplate of the cooling unit.

(6-7) “Rated Heat Input Capacity” means the heat input capacity of a furnace, in Btu per hour, as specified by the manufacturer on the nameplate of the furnace.

(d) **STANDARDS**

~~Except as otherwise provided in Section (b), e~~Effective January 1, 1999 (six months after date of adoption), no person shall manufacture, distribute, sell, offer for sale, or install for use within San Diego County:

(1) ~~a~~Any natural gas-fired, fan-type central furnace that emits more than 40 14 nanograms of oxides of nitrogen oxides (calculated as nitrogen dioxide) per joule (93 lb of oxides of nitrogen per billion Btu) of heat output. This standard does not apply to furnaces used in manufactured or mobile homes.

(2) Any natural gas-fired, fan-type central furnace used in a manufactured or mobile home that emits more than 40 nanograms of nitrogen oxides (calculated as nitrogen dioxide) per joule of heat output.

(e) **CERTIFICATION**

(1) Upon request by the District, A manufacturer of any new natural gas-fired, fan-type central furnace to be offered for sale in San Diego County shall submit to the ~~Air Pollution Control Officer-District~~ a statement certifying that each model of furnace subject to the requirements of Section (d) of this rule complies with the provisions of this rule.

(i) The statement shall be signed, dated, and attest to the accuracy of all information.

(ii) The statement shall be submitted at least 30 days before the furnace model is offered for sale, sold, or installed within San Diego County.

(iii) The statement shall include:

(A) Brand name,

(B) Model number,

(C) Rated heat input capacity in Btu per hour as specified on the nameplate, ~~and~~

(D) Rated cooling capacity (if applicable) in Btu per hour as specified on the nameplate, and

~~(D-E) Oxides of nitrogen~~ Nitrogen oxides emission test results in nanograms of nitrogen oxides per joule of each model being certified.

(2) ~~Upon request by the District, a~~ manufacturer shall submit to the ~~Air Pollution Control Officer District~~ a new certification statement for any natural gas-fired, fan-type central furnace model whose design is changed in any manner which may alter ~~oxides of nitrogen~~ oxides emissions.

(3) To ~~comply demonstrate compliance~~ with Subsections (e)(1) or (e)(2), a manufacturer may submit to the ~~Air Pollution Control Officer District~~ a South Coast Air Quality Management District certification statement for the ~~each~~ furnace model ~~from~~ from South Coast Air Quality Management District, San Joaquin Valley Air Pollution Control District or Bay Area Air Quality Management District for any furnace model. The manufacturer may also submit the same certification statement submitted to other air districts as long as it meets the provisions required in Subsection (e)(1).

(f) **LABELING**

On the shipping carton and the nameplate of every new natural gas-fired, fan-type central furnace to be offered for sale in San Diego County, the manufacturer shall display the model number, the rated heat input capacity in Btu per hour, and the rated cooling capacity (if applicable) in Btu per hour ~~of the furnace complying with Section (e) of this rule.~~

(g) **RECORD KEEPING REQUIREMENTS**

A manufacturer shall keep ~~oxides of nitrogen~~ nitrogen oxides emission test records and certification records for as long as the natural gas-fired, fan-type central furnace model is offered for sale or sold within San Diego County, or for three calendar years after manufacture, whichever is longer. Such records shall be provided to the District upon request.

(h) **TEST METHODS**

To determine compliance with Section (d) of this rule, measurement of nitrogen oxides shall be conducted in accordance with:

- (1) San Diego County Air Pollution Control District Test Method 100 as approved by the federal Environmental Protection Agency ~~in May 1995~~, or
- (2) South Coast Air Quality Management District Test Method 100.1 as approved by the federal Environmental Protection Agency ~~in March 1989~~, or
- (3) Environmental Protection Agency Test Methods 7E and 3A, or
- (4) Any other test method approved in writing by the District and the federal Environmental Protection Agency.

(i) **EMISSION TEST REQUIREMENTS**

During Emission tests, shall be performed in accordance with the procedures and methods outlined in the South Coast Air Quality Management District Protocol: Rule 1111 Nitrogen Oxides Emissions Compliance Testing for Natural Gas Fired, Fan Type Central Furnaces as it exists on June 17, 1998 operation of the natural gas-fired, fan type central furnace shall be in accordance with the procedures specified in Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N.

**SAN DIEGO COUNTY
AIR POLLUTION CONTROL DISTRICT**

ATTACHMENT C

**DRAFT PROPOSED AMENDMENTS
RULE 69.6 – NATURAL GAS-FIRED FAN-TYPE CENTRAL FURNACES**

RESPONSE TO COMMENTS REPORT

The San Diego County Air Pollution Control District (District) held a virtual public workshop on June 18, 2024, to discuss and receive input on draft proposed amendments to Rule 69.6 – Natural Gas-Fired Fan-Type Central Furnaces. A workshop notice was mailed to known manufacturers, distributors, sellers and installers of natural gas-fired furnaces in San Diego County. The notice was posted on the District’s website, on social media, and distributed to interested parties via the District’s electronic mail service. The District also produced an informational video which provided background data to help the public understand the proposed amendments and was posted on the District’s website. The informational video was presented to the Portside Community Steering Committee (CSC) on June 25, 2024, and to the International Border CSC on June 26, 2024.

The virtual workshop was attended by 30 people. A summary of the comments and District responses from the virtual workshop, each CSC meeting, and submitted written comments are provided below:

1. PUBLIC COMMENT

Do the proposed amendments allow more natural gas to be used by furnaces?

DISTRICT RESPONSE

No. The proposed amendments to Rule 69.6 do not allow more natural gas to be used in furnaces. The capacity of the applicable furnaces required to comply with Rule 69.6 will not be increasing nor decreasing. If the proposed amendments are adopted by the Governing Board, nitrogen oxides (NOx) emissions will decrease significantly while the amount of natural gas to produce the same amount of heat will not change. The proposed amendments prompt the use of readily available, cleaner combusting technology inside homes which will result in significant health benefits.

2. PUBLIC COMMENT

Is the District trying to eliminate the use of natural gas furnaces through the proposed amendments to Rule 69.6?

DISTRICT RESPONSE

No. However, as a response to climate change, there are efforts happening at the State level in parallel to the proposed amendments to Rule 69.6 that may reduce or eliminate the use of natural gas and other fossil fuel combustion devices. The California Air Resources Board (CARB) is

developing a statewide regulation to potentially transition furnaces and other combustion devices to be zero-emission. The District is supportive of CARB's efforts at the State level and will seek to align our respective rules with CARB's statewide regulation if and when it is developed. In the meantime, it is critical for the region to reduce NOx as much as possible in an equitable way to support attainment of State and federal ozone standards.

3. PUBLIC COMMENT

If the proposed amendments are adopted by the Governing Board, the requirements of the rule will be effective six months after adoption. This will result in a short time period to deplete current inventories of furnaces. The District should consider extending the six month sell-through provision.

DISTRICT RESPONSE

The District disagrees. The six-month sell-through period is considered a reasonable amount of time since furnaces that comply with the proposed amendments are readily available and have already been required for several years in air districts such as the Bay Area, South Coast and San Joaquin Valley. Should inventory remain after the six-month sell-through period elapses, furnace providers should exercise other options such as providing their non-compliant inventory to other areas where such devices are still allowed to be installed.

4. PUBLIC COMMENT

Assuming the six-month sell-through period ends on April 30, 2025 (tentative), would a 40 nanograms of nitrogen oxides per joule (ng NOx/J) furnace manufactured on April 10, 2025, still comply and allowed to be installed? Is the sell-through period of the old furnaces based on the manufactured date or installation date?

DISTRICT RESPONSE

As proposed, six months after Governing Board adoption, all furnaces manufactured, distributed, sold, offered for sale, or installed within San Diego County would be required to meet the proposed emission standard of 14 ng NOx/J. A furnace that complies with the existing 40 ng NOx/J emission standard is allowed to be manufactured and installed up and until the six-month sell-through period elapses. However, after the six-month sell-through period ends, all furnaces manufactured or installed for use in San Diego County would be required to meet the proposed 14 ng NOx/J emission standard.

Section (d) in the proposed draft amendments to Rule 69.6 will be modified as follows:

~~“Except as otherwise provided in Section (b), e~~Effective January 1, 1999 *(six months after adoption)*, no person shall manufacture, distribute, sell, offer for sale, or install for use within San Diego County;

5. PUBLIC COMMENT

Are furnaces fueled by propane required to comply with Rule 69.6?

DISTRICT RESPONSE

No. Propane-fired furnaces are not subject to Rule 69.6 and do not have to comply with its provisions.

6. PUBLIC COMMENT

If a natural gas-fired furnace is connected to a direct current electrical power supply to provide heat, would the furnace be subject to Rule 69.6?

DISTRICT RESPONSE

Rule 69.6 is intended to regulate NOx emissions from natural gas-fired furnaces. If a furnace can use natural gas and/or electricity to provide heat, it is subject to the provisions in Rule 69.6. If a furnace provides heat exclusively using electricity (either direct current or alternating current), it is not subject to Rule 69.6. The District proposes to modify Subsection (c)(2) as follows to clarify this point:

~~“Natural Gas-Fired Fan-Type Central Furnace” means a self-contained space heater fired exclusively by natural gas providing for circulation of heated air at pressures other than atmospheric through ducts more than 10 inches in length that has a rated heat input capacity of less than 175,000 Btu per hour or, for combination heating and cooling units, that has a rated cooling capacity of less than 65,000 Btu per hour.”~~

With this amendment, Section (c) will be re-alphabetized accordingly.

7. PUBLIC COMMENT

The District’s presentation at the public workshop discussed zero-emission (i.e., electric) furnaces. An HVAC-installed electric furnace that uses electrical resistance to provide heat is different from a heat pump. Using electrical resistance to heat may have lower purchase costs but can result in higher electricity usage.

DISTRICT RESPONSE

The District acknowledges the distinction between electrical resistance and heat pump technology. The District presentation which included information on zero-emission furnaces was intended to inform workshop attendees of possible upcoming zero-emission requirements for furnaces and other appliances being developed at the State level. The proposed amendments to Rule 69.6 are considered an important interim step toward the ultimate electrification of appliances throughout San Diego County.

8. PUBLIC COMMENT

The District should consider conducting hybrid workshops (in person and virtual), instead of only virtual opportunities.

DISTRICT RESPONSE

The District acknowledges the comment and will consider hybrid meeting formats for future rule development-related workshops as opportunities allow.

9. PUBLIC COMMENT

The summary of the proposed amendments to Rule 69.6 would benefit from including photos and schematic diagrams of furnaces to be more understandable.

DISTRICT RESPONSE

The District agrees. Staff will consider inclusion of photos and diagrams of furnaces and how they operate within the forthcoming Staff Report.

10. PUBLIC COMMENT

The Portside and International Border communities are adversely affected by air pollution, which disproportionately impacts vulnerable people living within these communities.

DISTRICT RESPONSE

Under Assembly Bill 617, State officials have recognized the Portside and International Border communities as being disproportionately impacted by air pollution. As a result, and under the guidance of the Governing Board, the District is addressing community-level air pollution and environmental justice efforts through Community Emission Reduction Plans (CERPs). Additional information about these efforts can be found on the District's website at <https://www.sdapcd.org/content/sdapcd/community/community-air-protection-program.html>.

The proposed amendments to Rule 69.6 will result in substantial NOx emission reductions that will improve the health of residents living in vulnerable neighborhoods like Portside and the International Border, as well as the entirety of San Diego County.

11. PUBLIC COMMENT

District Rule 11 exempts ceramics kiln from permit requirements. Ceramics kilns are a source of emissions and as a result, the exemption should be removed.

DISTRICT RESPONSE

The comment is beyond the scope of the proposed amendments to Rule 69.6. No revisions to Rule 11 are proposed at this time.

12. PUBLIC COMMENT

The proposed amendments to Rule 69.6 should be more stringent. The use of natural gas should be discontinued and the District should require the use of zero-emission (i.e., electric) furnaces.

DISTRICT RESPONSE

The District acknowledges the comment and understands the need to transition to zero-emission devices. The District evaluated the use of zero-emission furnaces as part of the proposed amendments to Rule 69.6. The District determined a significant amount of NOx emission reductions could be achieved in the short term by requiring more efficient combustion technology through the proposed amendments. Concurrently, the proposed amendments (if adopted) will work in tandem with CARB's efforts at the statewide level to create statewide zero-emission requirements for furnaces in the future. A smooth transition to zero-emission devices comes with significant challenges, such as high costs, equity and socioeconomic concerns, and legal and logistical coordination; all of which will take additional time to address and are key reasons why the District is not proposing zero-emission requirements at this time. However, CARB will be attempting to address these challenges at a statewide level, especially for residents in low-income and disadvantaged communities.

CARB's proposed statewide zero-emission appliance regulation is tentatively slated for consideration in 2025, and may propose requiring furnaces to be zero-emission by 2029. The District fully supports CARB's efforts to require zero-emission standards for these devices and other appliances. If the statewide regulation is adopted, the District would plan to align our respective rules with CARB requirements. In the meantime, the District's proposed amendments to Rule 69.6 represent an expedient way to significantly reduce NOx emissions in the short term to improve public health, and a natural step to ultimately transition San Diego County to zero-emission technology.

13. PUBLIC COMMENT

Are the proposed amendments to Rule 69.6 addressed in the Portside Community Emissions Reduction Plan (CERP)?

DISTRICT RESPONSE

Yes. The proposed amendments to Rule 69.6 are encompassed within the Portside CERP under Action C3 which calls for the District to evaluate existing rules and consider rules that can reduce emissions within the community. The Portside CERP can be found at <https://www.sdapcd.org/content/sdapcd/community/community-air-protection-program/portside-community/portside-cerp.html>.

14. PUBLIC COMMENT

Are incentives/rebates available for an ultra-low NOx furnace that complies with the proposed amendments? Similarly, are incentives/rebates available for zero-emission furnaces?

DISTRICT RESPONSE

The District is not aware of any incentives or rebates provided for purchasing ultra-low NOx furnaces that comply with the proposed amendments. Potential rebates for zero-emission furnaces may be available soon through the Inflation Reduction Act (<https://www.whitehouse.gov/cleanenergy/inflation-reduction-act-guidebook/>) and TECH Clean California (<https://techcleanca.com/incentives/>). Homeowners may also qualify for federal tax credits (<https://www.energystar.gov/about/federal-tax-credits>) for both natural gas and zero-emission furnaces. Local furnace installers may also offer individual incentives as applicable.

15. PUBLIC COMMENT

Who do these proposed amendments affect? What are the effects of these proposed changes to the average person?

DISTRICT RESPONSE

The proposed amendments and Rule 69.6 in general, primarily affect manufacturers, distributors, sellers and installers of natural gas-fired fan-type central furnaces. These furnace providers are responsible for complying with Rule 69.6. Six months after the proposed amendments are adopted, end users (i.e., prospective furnace owners) should only be able to purchase new furnaces that meet the new emission standards. Though end users are not responsible for demonstrating compliance with the rule, they are welcome to verify with the District whether their new furnace complies with Rule 69.6. The proposed amendments do not specify a date by which end users have to replace existing furnaces. Staff will include the average cost difference between a new natural-gas fired

furnace that complies with the proposed amendments, and a furnace that currently complies with existing Rule 69.6, within the forthcoming Staff Report.

16. PUBLIC COMMENT

Can the District explain the operational cost difference between using a typical natural gas furnace versus a typical zero-emission furnace?

DISTRICT RESPONSE

Yes. Staff will consider inclusion of the average cost difference between operating a natural gas and zero-emission furnace within the forthcoming Staff Report.

17. CARB COMMENT

CARB has no official comments at this time.

18. ENVIRONMENTAL PROTECTION AGENCY (EPA) COMMENT

Subsections (e)(1) and (e)(2) require manufacturers to submit certification statements upon request by the District. The "upon request" language may limit access to records needed to verify compliance. The South Coast and Bay Area air districts rules require submittal of compliance statements.

DISTRICT RESPONSE

The District appreciates EPA's review of the proposed draft amendments to Rule 69.6. The District will further evaluate the comment and will consider modifying the "upon request" at a future date should the need arise.

19. EPA COMMENT

Subsection (e)(1)(iii)(E) requires NOx emission "test results" be submitted with the certification statement for each model being certified. Is a full copy of the test report required, or can the manufacturer simply state the results of the testing?

DISTRICT RESPONSE

A copy of the full test report is not required and providing the results of the testing along with the other data required in Subsection (e)(1)(iii)(E) is considered sufficient to demonstrate compliance. With Subsection (e)(1)(i) requiring a person to "attest to the accuracy of all the information" and

Subsection (g) requiring the “emission test records and certification records” to be provided upon request, the District has the authority and capability to verify compliance. The “emission test records” are all records needed to demonstrate compliance, which include, but are not limited to, the full copy of the test report.

20. EPA COMMENT

Subsection (e)(3) allows certification statements from the referenced air districts to be submitted to comply with Subsections (e)(1) and (e)(2). The current language seems to read as if the certification statements are from the districts, rather than the manufacturers. The language could more clearly indicate that manufacturer certification statements submitted to other districts may be submitted to the District to comply with Subsections (e)(1) and (e)(2).

DISTRICT RESPONSE

The District agrees. To address the above comment, Subsection (e)(3) in the proposed draft amendments to Rule 69.6 will be modified as follows:

“To ~~comply~~ demonstrate compliance with Subsections (e)(1) or (e)(2), a manufacturer may submit to the ~~Air Pollution Control Officer District a South Coast Air Quality Management District~~ certification statement for the each furnace model ~~from~~ verified by South Coast Air Quality Management District, San Joaquin Valley Air Pollution Control District or Bay Area Air Quality Management District. The manufacturer may also submit the same certification statement submitted to other air districts as long as it meets the provisions required in Subsection (e)(1).”

21. EPA COMMENT

Subsection (e)(3) allows certification statements from the referenced districts to be submitted to comply with Subsections (e)(1) and (e)(2). Do the certification statements in the referenced air districts’ rules require, at a minimum, the same information required by Subsection (e)(1)(iii)? Could the District’s rule simply indicate that certification statements submitted to other agencies may be submitted to the District, so long as the certification statements meet the criteria of Subsection (e)(1)(iii)?

DISTRICT RESPONSE

The District acknowledges the comment. South Coast, Bay Area and San Joaquin Valley air districts each require the brand name, model number and a statement the model complies. If what is submitted to these air districts also fulfills the requirements of Subsection (e)(1) in proposed amended Rule 69.6, the same documentation may be submitted to the District to demonstrate compliance. Subsection (e)(3) is proposed to be modified as shown in the District response to Comment #20.

22. EPA COMMENT

Section (f) does not require labeling of units with the applicable NOx emission limit or date of manufacture. Could this create an enforcement issue since all who distribute, sell, offer for sale or install units are subject to the rule and may not have this information readily available?

DISTRICT RESPONSE

The District does not foresee potential enforcement issues. Persons that distribute, sell, offer for sale or install units are required to maintain records needed to demonstrate compliance with Rule 69.6 for each furnace model. Paired with a corresponding manufacturer certification statement, such documentation is sufficient to determine compliance for a point-of-sale rule. The District's proposed labeling requirement is similar to the level of detail required by Bay Area Air Quality Management District.

23. EPA COMMENT

Subsection (h)(4) gives the District discretion to allow use of test methods not approved by EPA. EPA approval of alternative test methods is also necessary to avoid "unbounded director's discretion".

DISTRICT RESPONSE

The District acknowledges the comment. Consequently, Subsection (h)(4) of the proposed amendments to Rule 69.6 is modified as follows:

"Any other test method approved in writing by the District and the Environmental Protection Agency."

24. DISTRICT COMMENT

To further clarify the labeling requirements, the District is proposing the following amendment to Section (f):

"On the shipping carton and the nameplate of every new natural gas-fired, fan-type central furnace to be offered for sale in San Diego County, the manufacturer shall display the model number, the rated heat input capacity in Btu per hour, and the rated cooling capacity (if applicable) in Btu per hour ~~of the furnace complying with Section (e) of this rule.~~"

FINAL STAFF REPORT

AMENDMENTS TO RULE 69.6 NATURAL GAS-FIRED FAN-TYPE CENTRAL FURNACES

San Diego County Air Pollution Control District
Rule Development Section

Completed by Archi dela Cruz
Reviewed by Nick Cormier

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EXECUTIVE SUMMARY

This report presents information on proposed amendments to Rule 69.6 – Natural Gas-Fired Fan-Type Central Furnaces. The proposed amendments (if adopted) will further reduce nitrogen oxides (NOx) emissions created from the combusting natural gas in residential and commercial furnaces. The proposed amendments are one of several control measures identified within the San Diego County Air Pollution Control District (District) 2022 Regional Air Quality Strategy (RAQS) which contributes to the reduction of ground level ozone, necessary to meet state and federal air quality standards.

The primary amendment proposed for Rule 69.6 is to reduce the emission standard from 40 to 14 nanograms of NOx per joule (ng NOx/J). Additionally, a new emission standard of 40 ng NOx/J for furnaces used in manufactured and mobile homes is proposed. These new requirements are estimated to reduce NOx emissions 256 tons per year in San Diego County.

There are an estimated 935,500 residential furnaces and 214,600 commercial furnaces subject to Rule 69.6 in San Diego County. With the exception of furnaces installed in manufactured or mobile homes, natural gas-fired fan-type central furnaces will be required to comply with the lower 14 ng NOx/J emission standard six months after the adoption of the proposed amendments. Natural gas-fired fan-type central furnaces installed in manufactured and mobile homes will be required to comply with a 40 ng NOx/J emission standard. For the first time in San Diego County, furnaces used in manufactured and mobile homes will be required to meet a NOx emission standard, since the existing version of Rule 69.6 currently exempts these furnaces.

Requiring a compliance date six months after the adoption of the proposed amendments will provide manufacturers, distributors and retailers a transition (or “sell-through”) period to sell or redistribute any furnaces in their inventory that are no longer compliant. Existing furnaces already installed on-site will not be required to be replaced upon adoption of the proposed amendments. However, when existing furnaces require replacement, new furnaces will be required to comply with the proposed amended rule. Full realization of the proposed amended rule is anticipated to occur within 25 years, once all existing furnaces subject to Rule 69.6 have been replaced with furnaces meeting the more stringent emission standards.

Furnaces that comply with the proposed emission standards utilize readily-available technology that are currently in place at other air districts in California, specifically South Coast Air Quality Management District (SCAQMD), San Joaquin Valley Air Pollution Control District (SJVAPCD) and Bay Area Air Quality Management District (BAAQMD). No major issues are expected with the availability of equipment able to comply with the proposed amendments.

The following statements summarize important elements of the proposed rulemaking:

Comparative Analysis

The proposed amendments have the same current emission standards as SCAQMD, SJVAPCD and BAAQMD with the following exceptions:

1. SCAQMD and SJVAPCD allows furnace manufacturers the option to pay a mitigation fee for furnaces used in manufactured and mobile homes in lieu of complying with their 14 ng

NOx/J emission standard. Due to the complexity of such a program, the District will not be administering a mitigation fee program.

2. BAAQMD requires furnaces to meet a 0 ng NOx/J standard starting on January 1, 2029, and
3. BAAQMD requires no emission standards for furnaces used in mobile homes.

Socioeconomic Impact Assessment

Furnaces capable of meeting the proposed 14 ng NOx/J standard are estimated to cost \$550 more than previous furnaces, per unit. The District anticipates this additional cost will ultimately be paid by end-users. The proposed rule amendments are not expected to have any significant impacts that would decrease employment or have any adverse effects to the local economy.

California Environmental Quality Act (CEQA)

CEQA requires environmental review of certain actions. District staff conducted a review of whether CEQA applies to the adoption of proposed amendments to Rule 69.6. The proposed rule will not result in greater air pollutant emissions in San Diego County. District staff determined the adoption of proposed amendments to Rule 69.6 is categorically exempt from the provisions of CEQA pursuant to California Code of Regulations, Title 14, Section 15308, as an authorized regulatory action taken to protect the environment.

Environmental Justice

The proposed amendments to Rule 69.6 will result in significant NOx emission reductions that will improve the health of residents living in vulnerable neighborhoods like Portside and the International Border communities, as well as the entirety of San Diego County.

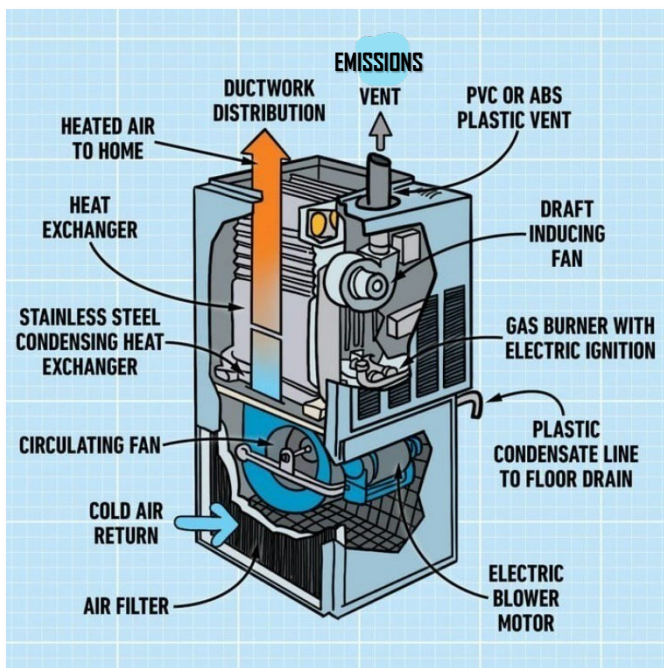
I. INTRODUCTION

Rule 69.6 – Natural Gas-Fired Fan-Type Central Furnaces, was first adopted on June 17, 1998, and became effective on January 1, 1999. The rule is applicable to furnaces that combust natural gas to generate heat and use a centralized ventilation system to distribute heat indoors. Not all sizes of furnaces are subject to Rule 69.6. The following furnaces sizes are not applicable to Rule 69.6: (1) furnaces with a rated heat input capacity of 175,000 British thermal units per hour (Btu/hour) or greater, and (2) combination heating and cooling units with a rated cooling capacity of 65,000 Btu/hour or greater. Additionally, furnaces that combust propane are not subject to the rule.

Though Rule 69.6 is not applicable to furnaces with capacities greater than those mentioned above, this equipment is not specifically exempt from permit requirements and therefore, is required to have permits to ensure compliance with other applicable District rules.

II. BACKGROUND

Furnaces subject to Rule 69.6 combust natural gas as a fuel source to generate heat. The natural gas and air are directed to a burner which is ignited, and its flame heats up a metal heat exchanger. A blower passes cold ambient air through a filter and then across the heat exchanger. The heated air is then vented via ducting to the desired areas inside the building for comfort space heating. The combustion of natural gas results in emissions of several pollutants which is vented outside the building. NO_x emissions are formed when nitrogen and oxygen in the air combine due to the high temperature in the flame.



Natural gas-fired fan-type central furnaces are commonly used in California. In San Diego County, about 26% of the natural gas combusted in residential homes are used for space heating¹ while about 14.5% of natural gas combusted in commercial buildings are used for space heating.² Once all existing furnaces are replaced with new furnaces subject to the proposed lower emission standards, NO_x emissions are estimated to decrease from 404 to 148 tons per year, a decrease of 256 tons/year from furnaces subject to proposed amended Rule 69.6.

Unlike most District prohibitory rules which hold the facility responsible for obtaining a District permit for their emitting devices, Rule 69.6 will continue

to regulate natural gas-fired fan-type central furnaces at the “point of sale”. All persons who distribute, sell or install furnaces in San Diego County are required to demonstrate the furnace

meets the emission standards specified in the rule. Furnace manufacturers are required to demonstrate compliance through certification requirements and test methods specified in the rule.

The primary amendment proposed for Rule 69.6 is to reduce the emission standard from 40 to 14 nanograms of NO_x per joule (ng NO_x/J), except for furnaces used in manufactured and mobile homes. For furnaces used in manufactured and mobile homes, a new emission standard of 40 ng NO_x/J is proposed for the first time. Since the rule's initial adoption over 20 years ago, technological advancements have been made to allow furnaces to now meet a proposed 14 ng NO_x/J emission standard through the use of ultra-low NO_x combustion technology. Despite this, the lone two manufacturers of furnaces designed for manufactured and mobile homes³ have instead prioritized meeting a possible zero-emission standard for such devices, and thus are not currently capable of meeting a 14 ng NO_x/J standard at this time.

Rule 69.6 does not specify the technology or method to use to meet the proposed lower NO_x emission standards. There is other equipment capable of providing space heat, including propane-fired furnaces, electric furnaces and electric heat pumps. Similar to natural gas-fired furnaces, combustion associated with the use of propane-fired furnaces results in NO_x emissions. However, since the percent of propane-fired furnaces used in San Diego County is very low in comparison to natural gas-fired and electric furnaces,¹ the District did not include such devices into the proposed amendments. Furthermore, propane furnaces tend to be off-the-shelf natural gas-fired devices that are retrofit for use with propane.

Electric furnaces and electric heat pumps do not combust natural gas and do not directly emit NO_x. Therefore, they are not subject to Rule 69.6. The District encourages the use of electric equipment and is working to enhance adoption of electric equipment through existing programs. Future requirements to use electric furnaces in San Diego County are planned to coincide with additional State regulations, that are anticipated to require zero-emission furnaces beginning in 2029 statewide. In the meantime, the District sees transitional and health benefits of obtaining immediate NO_x emission reductions through the proposed Rule 69.6 amendments. The proposed amendments are part of many ongoing and upcoming requirements moving San Diego County and the rest of California to zero-emitting appliances.

III. CONTROL TECHNOLOGIES

Add-on control devices for furnaces are not specified in the proposed amendments to Rule 69.6. The lower emission standards are anticipated to be achieved through the installation of furnaces intrinsically designed and built to more efficiently combust natural gas in a manner that meets the proposed lower emission standard. Ultra-low NO_x furnaces capable of meeting the 14 ng NO_x/J emission standard are readily available for residential and commercial use. Additionally, low NO_x furnaces capable of meeting the 40 ng NO_x/J emission standard are readily available for manufactured and mobile homes. Both of these technologies have been proven in other California air districts.

Ultra-low NO_x burners reduce NO_x emissions in their combustion process by pre-mixing natural gas and air and burning the mixture at a lower temperature when compared to older equipment.⁴

Ultra-low NO_x furnaces combust natural gas in a fuel-rich and low oxygen environment. The deficiency of oxygen reduces the formation of NO_x. Additionally, the amount of NO_x emissions can be further reduced by having the combustion occur in an environment which has air without pollutants.⁵

IV. SUMMARY OF PROPOSED RULE AMENDMENTS

The primary proposed rule amendments are summarized below:

Section (c) – Definitions

The definition of “fan-type central furnace” was amended to clarify subject equipment are fired with natural gas.

A new definition of “manufactured home” was added to identify a manufactured home.

Section (d) – Requirements

The emission standard of 40 ng NO_x/J was reduced to 14 ng NO_x/J. The 14 ng NO_x/J emission standard does not apply to furnaces used in manufactured and mobile homes.

A new emission standard of 40 ng NO_x/J was added to apply to furnaces used in manufactured and mobile homes.

Section (e) – Certification

Furnace manufacturers are now required to submit a certification statement upon the District’s request.

Instead of submitting a certification statement, furnace manufacturers may submit certification verified by SCAQMD, SJVAPCD or BAAQMD, or they can also submit what they provided to these air districts as long as it contains the required information in the rule.

Section (f) – Labeling

Labeling requirements were amended to require new furnace nameplates to include the rated heat input capacity in Btu/hour or the rated cooling capacity in Btu/hour (whichever is applicable to the type of equipment).

Section (h) – Test Methods

The version date of the Test Method was deleted so that the most recent approved Test Method at the time testing will be used.

Two Environmental Protection Agency (EPA) test methods were added.

Other test methods are allowed if approved in writing by the District and EPA.

Section (i) – Emission Test Requirements

The Emission Test Requirements replaces SCAQMD compliance testing with procedures specified in the Code of Federal Regulations.

V. STATUTORY REQUIREMENTS

Prior to adopting, amending, or repealing a rule or regulation, California Health and Safety Code (CH&SC), Section [40727](#) requires findings of necessity, authority, clarity, consistency, non-duplication, and reference, based upon information developed pursuant to CH&SC Section 40727.2, information in the rulemaking record maintained pursuant to CH&SC Section 40728, and relevant information presented in the Governing Board hearing. District staff has made these findings and present the details of the analysis in the Resolution for adopting the proposed amendments to Rule 69.6.

Pursuant to CH&SC Section 40727.2(j), the District determined no additional fees would need to be collected from regulated entities to recover any additional costs imposed by the development and implementation of the proposed amendments to Rule 69.6.

VI. COMPARATIVE ANALYSIS

CH&SC Section 40727.2(a) requires a written comparative analysis of the proposed amendments to Rule 69.6 with existing federal air pollution control requirements. However, the District's review resulted in no federal air pollution control requirements that apply to natural gas-fired, fan-type central furnaces. In accordance with CH&SC Section 40727.2(b), within 60 days after the publication of the 2022 RAQS (which was approved by the Governing Board on March 9, 2023), any person may inform the District of any existing federal or state air pollution control requirement that applies to natural gas-fired, fan-type central furnaces. During this 60-day period, the District did not receive any information regarding this matter. Therefore, a comparative analysis of the proposed amendments to Rule 69.6 with any federal air pollution control requirements cannot be done.

There are no existing State air pollution control requirements that apply to natural gas-fired, fan-type central furnaces. However, other air districts in California have their own local rules that regulate furnaces. For informational purposes, a comparative analysis of the proposed amendments to Rule 69.6 and other California air district rules are presented in Table 1 below. For reference, existing Rule 69.6 is also included in Table 1.

Comparative Analysis

All district rules presented below are similar in the following manner:

1. Furnace manufacturers, distributors, sellers, and installers are responsible for demonstrating compliance.
2. The equipment applicable to the rule are natural gas-fired, central fan-type furnaces with heat input capacity of <175,000 BTU/hour, and combination heating/cooling unit with a cooling capacity of <65,000 BTU/hour.
3. Furnaces used in residential and commercial buildings are subject to the rule.
4. The equipment is required to be certified as meeting the applicable emission standard.
5. Approved test methods and record keeping are required to demonstrate compliance.

Table 1. Rule Comparison

District	SDAPCD	SDAPCD	SCAQMD	SJVAPCD
Rule	69.6 (existing)	69.6 (proposed)	1111	4905
Version Date	1/1/1999	11/14/2024 (proposed)	10/18/2023	12/16/2021
Exemption	Units used in mobile homes	NA	Furnaces installed in mobile homes prior to 10/1/2012. Furnaces in SCAQMD prior to compliance date and sold/installed within 300 days after. Four other exemptions not listed here. Please refer to SCAQMD Rule 1111.	Natural gas furnaces converted to propane usage.
Standards (ng NOx/J)	40	14 (for all units except for units used in mobile homes) 40 (for units used in mobile homes)	14	14
Compliance Date	1/1/1999	6 months after adoption	4/1/2015 for condensing furnaces 10/1/2015 for non-condensing furnaces 10/1/2016 for weatherized furnaces 10/1/2018 for mobile home furnaces	4/1/2015 for condensing furnaces 10/1/2015 for non-condensing furnaces 10/1/2016 for weatherized furnaces 10/1/2018 for mobile home furnaces
Optional Requirement	NA	NA	Pay mitigation fee for each unit in lieu of complying with standards by Compliance Date	Pay mitigation fee for each unit in lieu of complying with standards by Compliance Date
Mitigation Fee End Date	NA	NA	9/30/2025 for mobile home furnaces	9/30/2023 for mobile home furnaces

Table 1 (continued). Rule Comparison

District	SDAPCD	SDAPCD	BAAQMD	Ventura County APCD
Rule	69.6 (existing)	69.6 (proposed)	Regulation 9, Rule 4	419
Version Date	1/1/1999	11/14/2024 (proposed)	3/15/2023	11/9/1993
Exemption	Units used in mobile homes	NA	NA	Units installed in mobile homes.
Standards (ng NO _x /J)	40	14 (for all units except for units used in mobile homes) 40 (for units used in mobile homes)	14 (starting in 1/1/2024) 0 (starting in 1/1/2029)	40
Compliance Date	1/1/1999	6 months after adoption	1/1/2024 (to meet the 14 ng NO _x /J standard) 1/1/2029 (to meet the 0 ng NO _x /J standard)	5/31/1994
Optional Requirement	NA	NA	NA	NA
Mitigation Fee End Date	NA	NA	NA	NA

VII. EMISSION SOURCES AND IMPACTS

The emissions units subject to Rule 69.6 are natural gas-fired, central fan-type furnaces with a rated heat input capacity of less than 175,000 Btu/hour and combination heating and cooling units with a rated cooling capacity of less than 65,000 Btu/hour. These furnaces are used to heat indoor spaces by circulating heated air via ducts within residential and commercial buildings. Natural gas is used by the furnace as a combustion fuel to heat the air. The combustion of natural gas results in NOx emissions and other pollutants.

There are an estimated 935,500 residential furnaces and 214,600 commercial furnaces currently subject to Rule 69.6. The replacement of these existing furnaces and any new furnaces installed in San Diego County are affected by the proposed amendments to Rule 69.6.

The proposed amendments to Rule 69.6 will impact furnace manufacturers, distributors, sellers, and installers who are required to comply with the emissions standards, test methods, certification, labeling and record keeping requirements. The proposed amendments will lower the emissions standard from 40 to 14 ng NOx/J, except for furnaces used in manufactured and mobile homes. The additional cost for 14 ng NOx/J furnaces is estimated to be \$550 per device. This additional cost will likely be passed down from the furnace manufacturers to furnace end-users. For furnaces used in manufactured and mobile homes, a new emission standard of 40 ng NOx/J is proposed. No additional cost is expected to comply with this new emission standard. Once all existing furnaces are replaced with new furnaces subject to the proposed lower emission standards, NOx emissions are estimated to reduce by 256 tons NOx/year in San Diego County.

VIII. ECONOMIC IMPACTS & COST-EFFECTIVENESS

Statutory Requirements

CH&SC Section [40703](#) requires that in adopting any regulation, the District shall consider, pursuant to CH&SC Section 40922, and make available to the public, its findings related to the cost effectiveness of a control measure, as well as the basis for the findings and the considerations involved. The District shall make reasonable efforts, to the extent feasible within existing budget constraints, to make specific reference to the direct costs expected to be incurred by regulated parties, including businesses and individuals. The District shall also comply with CH&SC Section [40920.6\(a\)](#) pertaining to cost-effectiveness of best available retrofit control technology as applicable.

Cost Effectiveness

Cost effectiveness is calculated by dividing the annualized costs (amortized capital costs and operating costs) by the total number of tons of emission reductions expected each year:

$$\text{Cost effectiveness (\$/pound)} = \frac{\text{Annualized Cost (\$/pound)}}{\text{Annual Emission Reduction (pound/year)}}$$

District staff reviewed available data that affect costs associated with complying with the proposed amendments. Based on these data, District staff estimated the cost effectiveness for the proposed amendment. The cost effectiveness for replacing an existing natural gas-fired furnace complying

with the 40 ng NO_x/J standard with a furnace that complies with the proposed lower emission standard of 14 ng NO_x/J standard is presented below in Table 2. Cost effectiveness presented on Table 2 is for furnace installation in homes that are not manufactured or mobile homes. Cost effectiveness estimates are not necessary for furnace installation in manufactured and mobile homes since no net increase in compliance costs are expected.

Table 2. Incremental Cost Effectiveness Summary per furnace*

Cost of Ultra-Low NO_x furnace (\$)	Net Increase Compliance Cost (\$)[‡]	Annualized Net Increase Compliance Cost (\$/year)[†]	Annual NO_x Reductions (tons NO_x/year)	Cost Effectiveness (\$/lbs NO_x)
\$5,650	\$550	\$43	0.000227	\$95

* Details of the cost effectiveness evaluation can be found in Reference 7.

[‡] Net increase compliance cost is the additional amount an ultra-low NO_x furnace cost when compared with a low NO_x furnace (i.e., 14 ng NO_x/J versus 40 ng NO_x/J).

[†] Annualized net increase compliance cost is spread across the expected lifetime of the ultra-low NO_x furnace which is assumed to be 25 years.

Incremental Cost-Effectiveness and Other Costs

CH&SC Section 40920.6(a) requires the District to identify one or more potential control options that achieve at least the same benefit as the proposed amended rule, assess the cost-effectiveness of those options, and calculate the incremental cost-effectiveness of each identified option. Incremental cost-effectiveness is defined as the difference in control costs divided by the difference in emission reductions between two potential control options achieving the same emission reduction goal of a regulation.

One other technology that will provide a higher NO_x emission reduction than the proposed amendments is a catalytic reduction process. However, catalytic reduction requires add-on control equipment which is not currently utilized on small furnaces applicable to Rule 69.6, since it would be significantly more expensive and not practical.

Though not subject to Rule 69.6, an electric heat pump is another alternative technology that is available and is presented here for informational comparison. An electric heat pump results in zero NO_x emissions. The incremental cost effectiveness of an electric heat pump when compared to an ultra-low NO_x furnace was determined to be \$20,396/lb NO_x.⁶

Socioeconomic Impacts Assessment (SIA)

CH&SC Section [40728.5\(a\)](#) requires that whenever a district intends to propose the adoption, amendment, or repeal of a rule or regulation that will significantly affect air quality or emissions limitations, that agency shall, to the extent data are available, perform an assessment of the socioeconomic impacts of the adoption, amendment, or repeal of the rule or regulation. The Governing Board shall actively consider the socioeconomic impact of regulations and make a good faith effort to minimize adverse socioeconomic impacts. This section does not apply to the adoption, amendment, or repeal of any rule or regulation that results in any less restrictive

emissions limit if the action does not interfere with the district's adopted plan to attain ambient air quality standards and does not result in any significant increase in emissions.

The proposed rule amendments for Rule 69.6 will result in significant NO_x emissions reductions and help improve air quality. Therefore, a socioeconomic impact analysis is required. The requirements for a socioeconomic analysis are satisfied through this section which examines the following items:

- The type of industries or businesses affected by the proposed rule amendments.
- The impact of the rule on employment and the economy of San Diego County.
- The range of probable costs, including cost to industry or businesses.
- The availability and cost-effectiveness of alternatives to the proposed rule amendments.
- The emission reduction potential of the proposed rule amendment.
- The necessity of adopting, amending, or repealing the rule or regulation to attain state and federal ambient air standards.

Type of Industries (and others) Affected

Natural gas-fired, fan-type central furnaces are commonly used in a variety of settings. The proposed amendments to Rule 69.6 will have some affect on the following groups:

- End-users of furnaces.
- Furnace manufacturers.
- Furnace distributors, sellers and installers.

End-users of furnaces include persons who use furnaces in residential and non-residential buildings. Residential buildings include, but are not limited to, single family homes, multi-family homes, apartments, condominiums, manufactured homes and mobile homes. Non-residential buildings include, but are not limited to, offices, manufacturing facilities, hotels, restaurants, hospitals, schools, and houses of worship.

Rule 69.6 is a point-of-sale rule that does not require end-users to replace existing furnaces within a certain time frame; rather, when their existing furnace reaches the end of its useful life, the end-user would be limited to purchase a furnace that meets the lower proposed emission standard of 14 ng NO_x/J. Thus, end-users will not incur additional costs when their current units are functioning adequately.

Manufacturers of furnaces would be affected by the proposed rule amendments. However, District staff has not identified any furnace manufacturing facility in San Diego County. The proposed rule amendments are expected to have a minimal impact to furnace manufacturers. Any additional costs to manufacture 14 ng NO_x/J compliant furnaces would be passed on to the end-users. Since the 14 ng NO_x/J emission limit has already been required in other air districts for several years, it is unlikely manufacturers will have difficulty providing furnaces for San Diego County that will comply with the proposed amendments.

Distributors, sellers and installers of furnaces will be allowed to sell their inventory of existing 40 ng NOx/J furnaces for six months after the proposed amendments are adopted. After this six-month period, furnaces meeting the 14 ng NOx/J emission standard are required to be installed. Distributors, sellers and installers are not expected to be affected by the proposed amendments. Their profit margins are anticipated to remain the same as any increase in cost would be incorporated into the sale and installation price of new furnaces.

Impacts to Employment and Economy

The proposed rule amendments are not expected to have any significant impacts that would decrease employment or have any adverse effects to the local economy.

Probable Costs

Furnaces capable of meeting the proposed 14 ng NOx/J emission standard are estimated to cost an additional \$550 more compared to a furnace meeting the previous emission standard of 40 ng NOx/J. There are no expected additional costs for requiring the 40 ng furnaces for manufactured and mobile homes. Compliant furnaces are readily available in San Diego County since they have been previously required by neighboring air districts (specifically SCAQMD and SJVAPCD).

It should be noted that ultra-low NOx units which are capable of complying with the proposed amendments have a higher efficiency than existing conventional units. A higher efficiency results in fuel cost savings and is likely to offset the higher cost of ultra-low NOx units. Furthermore, the additional cost may reduce as demand for ultra-low NOx units increases over time and manufacturing costs fall, while demand for non-compliant units decreases and per-unit manufacturing costs rise. Therefore, proposed amended Rule 69.6 will not have a negative economic impact on industry including small business in San Diego County.

Availability and Cost Effectiveness of Alternatives

For natural gas-fired furnaces applicable to Rule 69.6, the proposed NOx emission limit is considered the lowest achievable NOx emission limit in practice. Currently, there are no alternative equipment or technology applicable to the rule and commonly used in practice that are more stringent or achieve lower emissions reductions. Electric furnaces are not subject to Rule 69.6 and are outside the scope of this evaluation, and therefore are not considered here. However, the role of electric furnaces is further discussed in Section XI of this report.

Emission Reduction Potential

The proposed amendments to Rule 69.6 are expected to result in 256 tons per year of NOx emission reductions after all existing furnaces are replaced with new furnaces that comply with the proposed amendments.

Necessity of Adopting, Amending, or Repealing

The discussion of the necessity of adopting, amending, or repealing a rule to attain state and federal ambient air quality standards is met through the discussion within the other sections of this Staff Report and in the corresponding Board Resolution.

IX. ENVIRONMENTAL ANALYSIS

California Environmental Quality Act (CEQA)

CEQA requires environmental review of certain actions. District staff conducted a review of whether CEQA applies to the adoption of proposed amended Rule 69.6. The proposed rule will not result in greater air pollutant emissions at stationary sources in San Diego County. District staff determined the adoption of proposed amended Rule 69.6 is categorically exempt from the provisions of CEQA pursuant to California Code of Regulations, Title 14, Section 15308, as an action taken to assure the protection of the environment, where the regulatory process involves procedures for protection of the environment. In this case, this action is being taken in response to federal and state requirements to reduce emissions of ozone (via reducing its precursor NOx) in order to achieve ambient air quality standards.

Environmental Justice

If the proposed amendments are adopted, emission reductions are anticipated to occur as older furnaces are replaced with new furnaces in both residential and commercial buildings. As old furnaces are replaced with lower emitting furnaces, end-users will play an active and vital role in reducing NOx emissions within their domicile. Significant NOx emission reductions will help improve the health of residents living in vulnerable neighborhoods like the Portside and the International Border communities, as well as the entirety of San Diego County. The proposed amendments to Rule 69.6 will help fulfill Action C3 in the Portside Community Emissions Reduction Plan, which requires existing rules to be considered for amendments that could result in further emission reductions in the community. There are approximately 20,000 furnaces within the Portside and International Border communities, and if the proposed amendments are adopted, NOx emissions in these communities would be reduced by a total of 4.5 tons.

X. RULE DEVELOPMENT AND PUBLIC PARTICIPATION PROCESS

The District's 2022 RAQS included a measure to reduce the existing NOx emission standard found within Rule 69.6 as a potential emission control measure that would result in significant emission reductions. District staff determined current and available technology is now a feasible control measure. Staff presented a draft of proposed amendments to the District Rules Committee for review. Comments from the Rules Committee were considered and, if appropriate, accounted for in the proposed rule.

Further, staff conducted outreach and invited furnace manufacturers, distributors, sellers, and installers to a virtual public workshop held on June 18, 2024. The workshop announcement was advertised on the District's social media accounts, posted on the District's website, and sent via hard copy to stakeholders. Outreach was also conducted to identify potentially affected furnace providers via internet searches. Though no furnace manufacturers were found in San Diego County, the District mailed the Workshop Notice to known furnace manufacturers outside San Diego County as well as local furnace providers. The District also developed and made available simple informational videos in English and Spanish on the District's website, to help ensure the public fully understood the proposed amendments.

On June 25 and 26, 2024, these informational videos were presented virtually to the Portside and International Border Community Steering Committees (CSC). Recorded video of the public workshop, as well as each CSC meeting, have been available on the District’s website since the meetings took place. Attendees were encouraged to submit comments via email or regular mail to the District. All comments received during the public comment period were considered and, if appropriate, accounted for in the proposed draft of Rule 69.6 for consideration, as documented within the corresponding Response to Comments Report. The Response to Comments Report was also sent out to workshop attendees, and can be found on the District website and within the Board documentation.

Public Notice of Governing Board Hearing

A Public Notice was published in a local newspaper on October 15, 2024, informing the public about the Governing Board hearing to consider the proposed amendments to Rule 69.6. It included a summary of the proposed amendments and the website to view the change copy documentation of the proposed amendments. The notice was also posted on the District's website, sent via U.S. mail to local chambers of commerce and electronically to over 11,000 subscribers to the District’s email notification service, California Air Resources Board (CARB) and EPA. The hearing is scheduled for November 14, 2024.

Rule Change Copy Formatting

The District uses specific formatting procedures in draft rule change copies, as shown in Table 3, that are released for public review. This ensures all changes can be adequately tracked by staff and the public throughout the rule development process.

Table 3. Rule Development Change Copy Formatting Procedures

	New Rule	Example Language	Revised Rule	Example Language
Public Workshop Change Copy (Prior to Public Workshop)	Normal text, no formatting needed	“Change of Ownership”	Single underline/ Single strikeout	<u>“Change of Ownership”</u> “Change of Ownership”
Post-Workshop Change Copy (Prior to Governing Board consideration)	Single underline/ Single strikeout	<u>“Change of Ownership”</u> “Change of Ownership”	Double underline/ Double strikeout	<u><u>“Change of Ownership”</u></u> “Change of Ownership”
2nd Public Workshop Change Copy if needed (After first workshop and prior to Governing Board consideration)	Double underline/ Double strikeout	<u><u>“Change of Ownership”</u></u> “Change of Ownership”	Single underline/ Single strikeout/ Italics	<u><u>“Change of Ownership”</u></u> “Change of Ownership” <i>and location</i>
Post 2nd Workshop Change Copy or other changes if needed	Single underline/ Single strikeout/ Italics	<u><u>“Change of Ownership”</u></u> <i>and location</i>	Double underline/ Double strikeout/ Italics	<u><u>“Change of Ownership”</u></u> “Change of Ownership” <i>and location</i>

XI. OTHER REGULATORY ACTIVITIES

The District's proposed rule amendments to Rule 69.6 specifically reduce NOx emissions from natural gas-fired fan-type central furnaces. Currently, there are no other existing local, State, or federal regulations that regulate natural gas-fired fan-type central furnaces in San Diego County. However, there are State regulatory activities currently in process that are expected to affect these furnaces in the future.

In the 2022 State Implementation Plan (SIP) Strategy, the California Air Resources Board (CARB) signaled their intention to develop a zero-emission appliance regulation with a draft 2029 implementation date for furnaces. Currently, CARB is in the initial stages of developing this regulation with the intent of eliminating all emissions from many different kinds of appliances, including furnaces.⁴

District staff sees the proposed rule amendments to Rule 69.6 as being complementary to the proposed zero-emission regulation strategy being pursued by CARB. The District thoroughly evaluated the use of zero-emission electric furnaces as part of the proposed amendments. Through this evaluation, the District determined achieving a significant amount of NOx reductions in the short term with the proposed amendments, would work in concert with CARB's efforts to develop a statewide zero-emission appliance regulation for implementation at a later date. As proposed currently, CARB is planning to adopt a zero-emission regulation for appliances in the 2025-2026 timeframe and may require the installation of zero-emission furnaces starting in 2029.

To illustrate how NOx emissions may decrease across the lifespan of existing furnaces, the District evaluated three different scenarios in Figure 1. These scenarios include:

Scenario 1 – the proposed amendments to Rule 69.6 would be effective in 2025 and CARB zero-emission furnaces requirements would start in 2029.

Scenario 2 – the proposed amendments to Rule 69.6 would be effective in 2025 which would include a requirement for zero-emission furnaces prior to 2029 (an arbitrary starting year of 2028 is chosen for comparison purposes).

Scenario 3 – no proposed amendments to Rule 69.6 are considered/adopted, and CARB zero-emission furnaces requirements start in 2029.

Figure 1 demonstrates that in Scenario 1, there would be 41 tons of NOx emission reductions that would be realized with the proposed amendments to Rule 69.6 if they were to become effective in 2025 and through 2029, prior to the start of CARB's zero-emission furnace requirements. These emission reductions would be delayed if the District pursued Scenario 3. Figure 1 also demonstrates simply requiring zero-emission furnaces prior to CARB's 2029 starting date, would not result in substantial emission reduction in the short term, in comparison to Scenario 1.

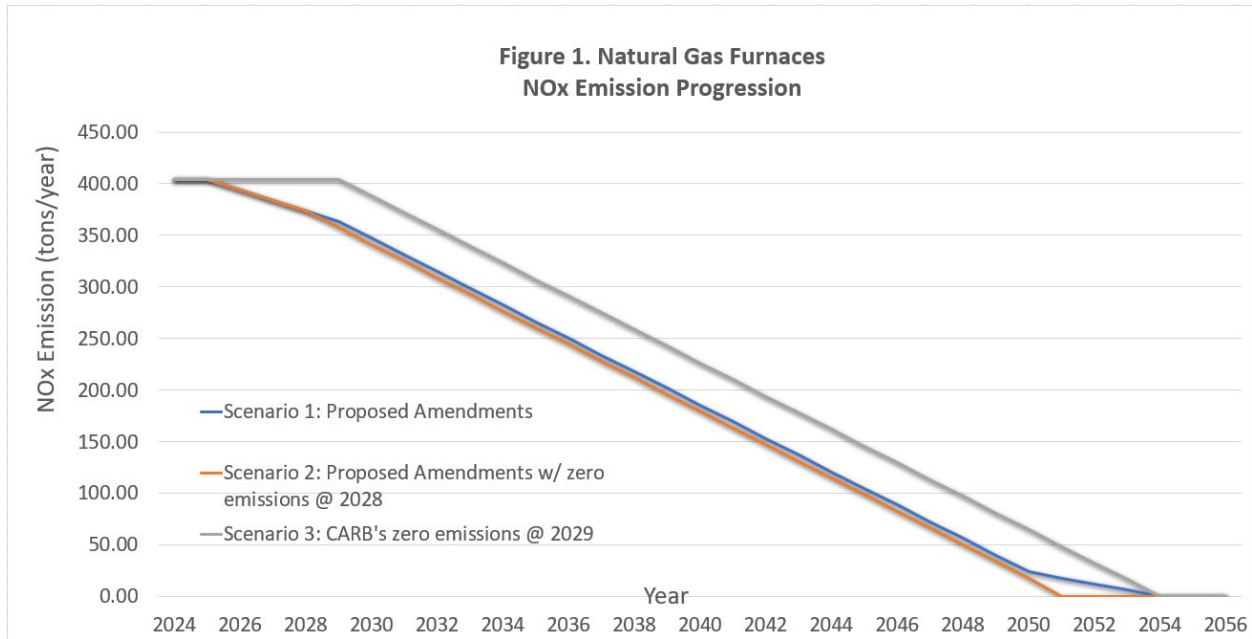


Table 3 below presents information for the three scenarios presented above. The data presented in Scenario 2 represents the *additional* emission reductions, compliance costs, health benefits, and health cost savings that the District would achieve if the proposed amended 14 ng limit was adopted *alongside* a local zero-emission standard for furnaces in a future rulemaking in 2028. The 2028 timeline was selected for specific reasons, including: (1) the likelihood of when zero-emission technology availability is anticipated to be widespread for furnaces, based on estimates from CARB, industry, and other local air districts, (2) high costs associated with devices at the present time, which would potentially impact low-income residents who may not qualify for incentive funding if such replacements are needed in the short-term, and (3) the feasibility for the District to proceed with such a rulemaking, which would require enhanced environmental and socioeconomic analyses which would take upwards of 18 months to complete. Altogether, the timeline of 2028 represents the most realistic scenario that such a local zero-emission standard could be adopted locally if pursued.

That said, Table 3 and Figure 1 illustrate that there would be minimal (if any) cost or benefit difference between the District pursuing a zero-emission standard locally versus CARB pursuing a statewide standard. The *combined* total benefits/costs of Scenario 1 and 2 (which could be achieved locally by 2028), are almost identical to the costs and benefits represented in Scenario 3, which is when CARB is likely to enact a zero-emission standard for furnaces at the statewide level in 2029. The minimal costs/benefit difference between the total of Scenarios 1 and 2, in comparison to Scenario 3, demonstrate that equivalent emission reductions from this source category will be achieved in the same approximate timeframe, whether a District pursues a zero-emission standard locally or if CARB's regulation is adopted as anticipated.

Table 3. Effects of Proposed Amendments and Other Scenarios

	Scenario 1: Proposed Amendments	Scenario 2: Additional benefits/ costs of Proposed Amendments with SDAPCD going to Zero Emissions in 2028*	Scenario 3: CARB Zero Emissions in 2029
Emission Reductions ^{**†} (tons NOx / year)	256	+148	404
Net Increase Compliance Cost per furnace [†] (\$)	\$550	+\$2,400 to \$29,500*	\$2,900 to \$30,000*
Cost Effectiveness [†] (\$ / lbs NOx reduced)	\$95	\$1,100 to \$7,800*	\$390 to \$2,800*
Estimated Health Benefits [‡] (Decrease of adverse health effect incidents)	617	+359	976
Estimated Health Cost Savings [‡] (\$)	\$5.8 to \$13.1 million	+\$3.4 to \$7.6 million	\$9.2 to \$20.7 million

* Data presented in this column indicates the proposed amendments and the zero-emission scenario. Calculated amounts represent the additional costs/benefits that would be achieved for going beyond the proposed amendments.

** Emission reduction represents when the regulation is fully realized (i.e., when all existing furnaces are ultimately replaced around 2054).

† Data obtained from Reference 6.

* Low end of range only accounts for the replacement furnace. High end of range includes the cost of an electrical panel upgrade and underground wiring upgrade that requires excavation.

‡ Data obtained from EPA COBRA (<https://cobra.epa.gov/>) and compiled in Reference 6.

The District fully supports the eventual transition to zero-emission furnaces. However, given the significant costs of such devices at this time, and the potential to financially harm low-income residents with the requirement to replace such equipment when existing furnaces no longer function, the District believes a requirement to do so within the proposed amendments would be premature. Though incentive programs and tax rebates are advertised as being available to help with this transition, such incentives are not ubiquitous, not all qualify, and funding is not guaranteed long-term. Through its statewide regulatory process, it is the District’s understanding that CARB will be further evaluating solutions that could further reduce the costs of such devices, as well as additional solutions that could remove other barriers to entry for low-income residents.

Given the complexity and equity challenges associated with requiring zero-emission furnaces at this time, the District believes the prudent course of action is to proceed with the proposed amendments to achieve immediate and significant NOx emission reductions (and corresponding health benefits) from NOx emission reductions that would result from the proposed amendments. The District fully supports CARB’s efforts to require zero-emission standards for these devices and others, and plans to align our respective rules with CARB requirements once they are adopted in the future. In the meantime, the District’s proposed amendments to Rule 69.6 are an expedient

way to significantly reduce NOx emissions in the short term to improve public health, and a natural step to ultimately transition San Diego County to zero emitting furnaces.

XII. CONCLUSION

This Staff Report addresses all the requirements specified in CH&SC Sections 40725 through 40728.5 for rule development. The District recommends the Governing Board adopt the proposed amendments to Rule 69.6.

XIII. REFERENCES

1. 2019 California Residential Appliance Saturation Study (RASS) done for California Energy Commission (CEC), July 2021, pages 12, 14.
[<https://www.energy.ca.gov/sites/default/files/2021-08/CEC-200-2021-005-ES.pdf>]
2. San Diego Regional Decarbonization Framework – Technical Report, 2022, page 125.
[https://www.sandiegocounty.gov/content/dam/sdc/lueg/regional-decarb-frameworkfiles/RDF_Technical_Report_FINAL_2022.pdf]
3. SJVAPCD Workshop presentation, February 13, 2024, slide 7.
[https://ww2.valleyair.org/media/xd4fj05c/r4905-workshop_english.pdf]
4. Final Staff Report, Proposed Amendments To Building Appliance Rules – Regulation 9, Rule 4: Nitrogen Oxides from Fan Type Residential Central Furnaces and Rule 6: Nitrogen Oxides Emissions from Natural Gas-Fired Boilers and Water Heaters, Bay Area Air Quality Management District, March 2023, pages 19, 42.
[https://www.baaqmd.gov/~media/dotgov/files/rules/reg-9-rule-4-nitrogen-oxides-from-fan-type-residential-central-furnaces/2021-amendments/documents/20230307_fsr_rules0904and0906-pdf.pdf?la=en]
5. Ultra Low-NOx Burners: Everything You Should Know, [<https://burnertec.com/ultra-low-nox-burner-everything-you-should-know/>].
6. “Rule 69.6 cost effectiveness evaluation” Excel workbook, San Diego Air Pollution Control District, August 2024.

XIV. ATTACHMENTS

There are no attachments to this report.