

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

RESOLUTION No. 2023 – 03

**A Resolution of the Board of Directors of the Bay Area Air Quality Management District
Amending Regulation 9, Rule 4 (Nitrogen Oxides from Fan-Type Residential Furnaces)
and Amending Regulation 9, Rule 6 (Nitrogen Oxides Emissions from Natural Gas-Fired
Boilers and Water Heaters);
and
Certifying a California Environmental Quality Act Environmental Impact Report**

RECITALS

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has the authority and the responsibility to adopt, amend and repeal rules and regulations as necessary and appropriate to control air pollution from stationary sources in the San Francisco Bay Area as provided in Sections 40000, 40001, 40702 of the California Health & Safety Code;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has determined that a need exists to strengthen the District's rules and regulations that address nitrogen oxides ("NOx") emissions from natural gas-fired space and water heating appliances by adopting amendments to Regulation 9, Rule 4 (currently titled: Nitrogen Oxides from Fan-Type Residential Furnaces; proposed amended title: Nitrogen Oxides from Natural Gas-Fired Furnaces) ("Rule 9-4") as set forth in Attachment A hereto and Regulation 9, Rule 6 (Nitrogen Oxides Emissions from Natural Gas-Fired Boilers and Water Heaters) ("Rule 9-6") as set forth in Attachment B hereto (Attachments A and B are herein referred to collectively as "Proposed Amendments");

WHEREAS, the Proposed Amendments include both groundbreaking zero-NOx emissions standards for natural-gas fired space and water heating appliances with future compliance dates ranging from 2027-2031, and a near-term ultra-low NOx emissions standard for natural-gas fired water heaters;

WHEREAS, the Proposed Amendments do not ban natural gas use in buildings and do not address gas cooking appliances;

WHEREAS, while the Proposed Amendments require that new natural gas-fired space and water heating appliances sold and installed beginning in 2027-2031 emit zero-NOx, and staff understands that the development of zero-NOx natural gas fired appliances is technically possible, based on currently available zero-NOx technology, staff assumed for purposes of conservative analysis of the emissions reductions, socioeconomic impacts, and environmental effects of the Proposed Amendments that natural gas-fired appliances would be replaced with electric solutions upon burnout beginning in 2027-2031 if the proposed zero-NOx standards are adopted;

WHEREAS, exposure to NOx and their atmospheric reaction products can greatly impact health, resulting in irritation of airways in the human respiratory system, aggravation and development of respiratory diseases, particularly asthma, hospital admissions and visits to emergency rooms;

WHEREAS, NO_x reacts with other chemicals in the air to form both secondary fine particulate matter and ozone, and both of these pollutants are also harmful when inhaled, contribute to regional air pollution, and have been linked to a broad range of adverse health effects, including premature mortality, adverse respiratory health effects, cardiovascular diseases, impacts to cognitive function, and cancer;

WHEREAS, the Bay Area does not currently attain all state and national ambient air quality standards for particulate matter and ozone, and further reductions of particulate matter and ozone through the implementation of all feasible measures are needed for attainment and maintenance of the standards;

WHEREAS, the federal Environmental Protection Agency has proposed its intention to strengthen the national ambient air quality standard for fine particulate matter; Air District staff anticipates the need to submit a particulate matter attainment plan in response to this new standard once it is finalized; and the particulate matter reductions achieved through adoption of the Proposed Amendments would help the Air District to attain any new standard;

WHEREAS, the Air District's Advisory Council has determined that particulate matter is "the most important health risk driver in Bay Area air quality," and that reductions in particulate matter levels are needed to achieve further clean air and public health benefits;

WHEREAS, emissions from building appliances were highlighted in measures SS30 (reduce NO_x and carbon monoxide from residential and commercial furnaces) and BL2 (explore potential Air District rulemaking options to reduce all emissions from fossil fuel-based space and water heating systems for both residential and commercial use) in the Air District's 2017 Clean Air Plan;

WHEREAS, emissions from natural-gas fired space and water heating appliances generate a substantial portion of nitrogen oxides (NO_x) emissions in the Bay Area, approximately 4,267 tons of NO_x per year in 2018, which is estimated to surpass the NO_x emissions of passenger vehicles in the Bay Area;

WHEREAS, staff has estimated that implementation of the Proposed Amendments would achieve NO_x emissions reductions of approximately 3,236 tons per year;

WHEREAS, staff has estimated the reductions in NO_x (and resultant secondary particulate matter reductions) achieved by the Proposed Amendments would avoid an estimated 23 to 52 deaths per year and about 71 new cases of asthma per year, and that these health benefits are valued at an estimated 400 million U.S. dollars annually based on the federal Environmental Protection Agency's Environmental Benefits Mapping and Analysis Program;

WHEREAS, if electric heat pump technologies are installed in place of existing natural gas-fired space and water heating appliances upon burnout after the compliance dates of the Proposed Rules go into effect, additional health benefits would be achieved through the reduction of primary particulate matter, avoiding 37 to 85 premature deaths per year and about 110 new cases of asthma each year, which benefits are valued at an estimated 890 million U.S. dollars annually based on the federal Environmental Protection Agency's Environmental Benefits Mapping and Analysis Program;

WHEREAS, if electric heat pump technologies are installed in place of existing natural gas-fired space and water heating appliances upon burnout after the compliance dates of the Proposed Rules go into effect, the Proposed Rules would also achieve significant greenhouse gas emissions reductions benefits, estimated by staff at up to 4.81 million metric tons of carbon dioxide equivalent per year;

WHEREAS, the Board of Directors understands that these estimated greenhouse gas emissions reductions are not guaranteed by the Proposed Amendments, and that greenhouse gas emissions reductions would be lower if zero-NOx natural gas-fired space and water heating appliances are developed and adopted by consumers at scale;

WHEREAS, in 2021 Air District staff convened and met periodically with a Stakeholder Working Group, which included community and environmental advocates, equipment manufacturers, local city staff and representatives from the California Air Resources Board, the California Energy Commissions and others, to discuss concepts and specific issues relating to Rules 9-4 and 9-6 and drafting amendments;

WHEREAS, Air District staff held a public workshop on October 7, 2021 to present and discuss draft regulatory amendments for Rules 9-4 and 9-6, along with a workshop report;

WHEREAS, based on comments received and additional research, Air District staff revised the draft rule amendments and published revised draft rule amendments on or about May 18, 2022;

WHEREAS, the Air District held a scoping meeting in a virtual format on June 9, 2022 and accepted comments on the draft revised rule language through June 21, 2022;

WHEREAS, Air District staff presented briefings to various committees of the Board of Directors during this rule development process, including to the Stationary Source & Climate Impacts Committee on November 19, 2020, April 19, 2021, October 18, 2021, November 15, 2021, April 18, 2022, October 17, 2022, and February 15, 2023;

WHEREAS, in response to feedback from the public, interested stakeholders, and Air District staff, as well as the Board of Directors, Air District staff prepared revised Proposed Amendments and a detailed Staff Report, along with a request for public comment, which staff published on the District website on December 20, 2022 and for which comments were accepted until February 6, 2023;

WHEREAS, the Air District received more than five hundred comments on the Proposed Amendments, many of which are supportive of the Proposed Amendments and others which are opposed, and has carefully reviewed these comments;

WHEREAS, Air District staff have prepared summaries of the comments received and staff's responses in a Response to Comments document, which has been considered by the Board of Directors and is incorporated herein by reference;

WHEREAS, on or before December 20, 2022, Air District staff published in newspapers, and published and distributed on the Air District's website a notice of a public hearing on or after March 15, 2023, to consider adoption of the Proposed Amendments;

WHEREAS, Air District staff have prepared and presented to the public and to the Board of Directors a final Staff Report describing the purpose of and need for the Proposed Amendments, which has been considered by the Board of Directors and is incorporated herein by reference;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District held a public hearing on March 15, 2023, which was properly noticed in accordance with the provisions of Health & Safety Code Section 40725 and was conducted in accordance with the provisions of Health & Safety Code Section 40726, to consider the Proposed Amendments in accordance with all provisions of law;

WHEREAS, at the public hearing, the subject matter of the Proposed Amendments was discussed with interested persons in accordance with all provisions of law;

WHEREAS, in accordance with Health & Safety Code Section 40727, and based on substantial evidence presented at the hearing and described in the Staff Report and other documentation, the Board of Directors of the Bay Area Air Quality Management District has found and determined that the Proposed Amendments are necessary; that the District has the authority to adopt the Proposed Amendments; that the Proposed Amendments are clearly written and displayed; that the Proposed Amendments are consistent with other legal requirements; that the Proposed Amendments are not impermissibly duplicative of existing regulatory requirements; and that the Proposed Amendments will implement specific provisions of law as referenced and identified below;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has determined that a need exists to adopt the Proposed Amendments to address NOx, ozone and secondary particulate matter emissions in the Bay Area to improve and protect air quality and public health;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has determined that the Air District has the authority to adopt the Proposed Amendments pursuant to Sections 40000, 40001, 40702 of the Health & Safety Code, which authorize the Air District to adopt and implement regulations to control air pollution from stationary sources, and to execute the powers and duties imposed upon the Air District, among other things;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has determined, based on a review of the text of the Proposed Amendments set forth in Attachments A and B and the rulemaking materials prepared by Air District staff, that the Proposed Amendments are written and displayed so that their meaning can be easily understood by the persons directly affected by the Proposed Amendments, and by the public at large;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has determined that the Proposed Amendments are in harmony with and not in conflict with or contradictory to existing statutes, court decisions, and state and federal regulations;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has determined that the Proposed Amendments do not impose the same requirements as any existing state or federal regulations, except to the extent necessary and proper to execute the powers and

duties granted to and imposed upon the Air District as the agency with authority to control air pollution emissions from stationary sources in the San Francisco Bay Area;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has identified and determined that the Proposed Amendments will implement, interpret and/or make specific the provisions of Sections 40000, 40001, 40702 and 40727 of the California Health & Safety Code;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District finds and intends that its determinations stated in the preceding paragraphs constitute the findings the Board is required to make before adopting the Proposed Amendments pursuant to Health & Safety Code Section 40727;

WHEREAS, in accordance with the requirements of Health & Safety Code Section 40728 and other requirements of law, the Air District has maintained a file of the documents and other materials that constitute the record of proceedings on which this rulemaking project is based (including the environmental analysis for the project prepared in accordance with the California Environmental Quality Act), which record documents and other materials are located at the Bay Area Air Quality Management District, 375 Beale Street, Suite 600, San Francisco, 94105, and the custodian for which is Marcy Hiratzka, Clerk of the Boards;

WHEREAS, in accordance with the requirements of Health & Safety Code Section 40728.5, to the extent that such requirements are applicable, and also as a matter of sound public policy notwithstanding whether or not such requirements are applicable, the Board of Directors of the Bay Area Air Quality Management District has actively considered the socioeconomic impacts of the Proposed Amendments, having reviewed and considered the analysis thereof in the Staff Report and the report prepared by Applied Development Economics, Inc., referenced and incorporated there and herein, and has made a good faith effort to minimize any adverse socioeconomic impacts of the Proposed Amendments through consideration of delayed compliance dates for the zero-NO_x standards, which will allow time for technology options to increase and costs to decrease, and inclusion of required reporting from Staff to the Board of Directors on topics including zero-NO_x technology options and cost prior to the compliance dates;

WHEREAS, the Proposed Amendments include the requirement that staff report back to the Board of Directors in "interim reports" no later than two years prior to each compliance date on the availability and accessibility of zero-NO_x space and water heating appliances, including information on zero-NO_x technology options currently (and projected to be) available; the projected costs of purchase and installation of such technology, including any ancillary costs, as applicable; any incentive programs available to reduce these costs; and infrastructure readiness associated with rule compliance;

WHEREAS, the Board of Directors understands that staff plans to convene an Implementation Working Group comprised of community-based organizations, environmental justice groups, advocacy and subject matter expert organizations, building technology experts, affordable and market rate housing developers and managers, local and state government staff, funding and financing agencies, equipment manufacturers and distributors, tenant representation organizations and labor organizations to assist staff in gathering information for the aforementioned interim

reports to the Board of Directors and assist staff in working towards implementation of the Proposed Amendments;

WHEREAS, the Air District is especially concerned with equitable implementation of the Proposed Amendments, and the Board understands that Air District staff will work towards equitable implementation of the Proposed Amendments, with assistance from the Implementation Working Group, and will report to the Board in the interim reports on the availability and accessibility of financial incentive programs to reduce compliance costs for the Bay Area's low income residents and disadvantaged communities;

WHEREAS, the Board has considered the estimated cost-effectiveness of the Proposed Amendments, which staff estimates ranges from \$54,100/ton of NO_x reduced to \$594,000/ton of NO_x reduced for the proposed zero-NO_x standards, based on currently available zero-NO_x technology;

WHEREAS, the Board of Directors finds and determines that the Proposed Amendments are collectively a "project" ("Proposed Project") pursuant to the California Environmental Quality Act ("CEQA") (Public Resources Code § 21000 et seq.);

WHEREAS, the Air District is the CEQA lead agency for this project pursuant to Section 21067 of CEQA and Sections 15050 and 15051 of the CEQA Guidelines ("Guidelines") (Title 14 of the California Code of Regulations);

WHEREAS, Air District staff has prepared an Environmental Impact Report ("EIR") for the Proposed Project pursuant to the requirements of CEQA, in connection with and based on information and analysis developed by the District's CEQA contractor, Ascent Environmental, Inc., of Sacramento, California;

WHEREAS, as part of the development of the EIR, District staff prepared and published (with the assistance of Environmental Audit, Inc.) an Initial Study and Notice of Preparation for the EIR, which was published and noticed in accordance with the requirements of CEQA (including CEQA Sections 21082.1, 21091, 21092 and Guidelines Sections 15080 et seq.) on May 19, 2022;

WHEREAS, Air District staff also convened a CEQA scoping meeting on June 9, 2022, to solicit input from interested members of the public on the Initial Study and on the scope and contents of the EIR and the potential environmental impacts to be evaluated in it;

WHEREAS, Air District staff then completed a Draft EIR, and published the Draft EIR and provided notice of such publication to the public and to interested parties and agencies, in accordance with the requirements of CEQA (including CEQA Sections 21082.1, 21091, 21092 and Guidelines Sections 15080 et seq.) on or before December 20, 2022;

WHEREAS, the Draft EIR finds that the Proposed Project will have the potential to create significant and unavoidable impacts on utility resources, as fully detailed in the report prepared by Energy and Environmental Economics, Inc. (E3), which is appended to the Draft EIR at Appendix C and incorporated by reference as if fully set forth herein, that cannot be mitigated to a level that is less than significant, as described in Chapter 3.3 of the Draft EIR;

WHEREAS, the Draft EIR also finds that the Proposed Project will have the potential to create a significant adverse environmental impact due to potential operational noise from certain zero-NOx appliances both inside and outside of residences and commercial buildings, that cannot be mitigated to a level that is less than significant, as described in Chapter 3.4 of the Draft EIR;

WHEREAS, the Draft EIR finds that the Proposed Project will not have the potential to create any other significant adverse environmental impacts;

WHEREAS, the Draft EIR discusses potential alternatives to the Proposed Project which would achieve the project objectives but avoid or substantially lessen its potentially significant effects related to noise and utility resources, including Alternative 3, the Draft EIR's "environmentally superior" alternative, that would delay compliance dates for the proposed standards to 2035 and as a result lessen potential impacts to utility resources, but that alternative would result in reduced air quality and public health benefits compared to the Proposed Project, and air quality and public health benefits are the purpose of the Proposed Project;

WHEREAS, substantial evidence in the record demonstrates that the potentially significant and unavoidable impacts related to noise and utility resources are acceptable as provided in Guidelines Section 15093 because the air quality and public health benefits from the Proposed Amendments outweigh the Proposed Amendments' potentially significant unavoidable impacts;

WHEREAS, the Draft EIR was circulated for public review during the period from December 20, 2022 to February 6, 2023;

WHEREAS, the Air District received comments on the Draft EIR;

WHEREAS, Air District staff prepared responses to all comments received on the Draft EIR and the Proposed Amendments and published a Final EIR;

WHEREAS, this matter has been duly noticed and heard in compliance with applicable requirements of the Health & Safety Code and the Public Resources Code;

WHEREAS, Air District staff provided copies of (i) the Proposed Amendments, and (ii) the Final EIR, which is comprised of the comments received on the Draft EIR and staff's responses thereto, to each of the members of the Board of Directors for their review and consideration in advance of the public meeting of the Board of Directors on March 15, 2023;

WHEREAS, Air District staff has recommended that the Board of Directors certify the Final EIR, which was prepared as the CEQA document for the Proposed Project, as being in compliance with all applicable requirements of CEQA, and adopt accompanying CEQA Findings and a Statement of Overriding Considerations;

WHEREAS, the Board of Directors concurs with recommendations of Air District staff regarding the Final EIR, CEQA Findings and Statement of Overriding Considerations for the Proposed Project;

WHEREAS, Air District staff recommends that the Board of Directors adopt the Proposed Amendments;

WHEREAS, the Board of Directors concurs with the recommendations of Air District staff regarding the Proposed Amendments.

RESOLUTION

NOW THEREFORE, based on the above recitals, which are true and correct and are incorporated herein by reference, and on all of the information provided in the rulemaking record for the Proposed Amendments, including but not limited to the public comments received and staff's responses thereto and all of the information presented at the public hearing, the Board of Directors of the Bay Area Air Quality Management District hereby resolves as follows:

BE IT RESOLVED, that the Board of Directors does hereby certify and adopt the Final EIR pursuant to CEQA for the Proposed Project.

BE IT FURTHER RESOLVED that the Board of Directors hereby makes the findings and certifications that are summarized below and detailed in full in Attachment C to this Resolution, which is incorporated by reference as if fully set forth herein:

1. The Final EIR for the Proposed Project has been prepared in accordance with all requirements of CEQA.
2. The Final EIR for the Proposed Project was duly presented to the Board of Directors for its consideration in accordance with CEQA and other applicable legal requirements.
3. The Board of Directors has reviewed and considered the information in the Final EIR and the evidence in the record described and summarized in the Final EIR, including but not limited to (i) the Final EIR's conclusion that the Proposed Project may have significant noise and utility resources impacts as described in the Final EIR, (ii) the lack of Air District authority to implement mitigation measures to mitigate the potentially significant noise and utility resources impacts outlined in the Final EIR, and (iii) the alternatives considered to avoid or substantially lessen the potentially significant noise and utility resources impacts that are evaluated in the Final EIR.
4. The Board of Directors finds that there are no feasible mitigation measures that have been identified that can be implemented by the Air District to mitigate the potentially significant noise and utility resources impacts.
5. The analysis of alternatives set forth in Chapter 4 the Draft EIR has provided the Board of Directors with a basis for considering ways in which the potentially significant noise and utility resources impacts could be avoided or substantially lessened while still achieving all or most of the project's objectives. The alternatives analysis in the EIR is sufficient to carry out the purposes of such analysis under CEQA.

6. The Board of Directors finds that there is a pressing need to reduce NO_x emissions to protect public health and the environment, which the Proposed Project addresses. The Board of Directors finds that, while Alternative 3 lessens the Proposed Project's noise and utility resources impacts, Alternative 3 provides fewer air quality and public health benefits than the Proposed Project, and for that reason, Alternative 3 is rejected.
7. The Final EIR (including responses to comments) is complete, adequate and in full compliance with CEQA as a basis for considering and acting upon the Proposed Amendments.
8. The Final EIR reflects the independent judgment and analysis of the Bay Area Air Quality Management District.
9. The Board of Directors has exercised its own independent judgment in reviewing, considering and certifying the Final EIR and in making the findings and certifications set forth in this Resolution, which reflects the independent judgment and analysis of the Board of Directors.

BE IT FURTHER RESOLVED that the Board of Directors of the Bay Area Air Quality Management District does hereby adopt the proposed amendments to Rules 9-4 and 9-6 as set forth in Attachments A and B, respectively, with instructions to staff to correct any typographical or formatting errors before final publication.

BE IT FURTHER RESOLVED that in support of and as part of its adoption of the Proposed Amendments, the Board of Directors hereby makes the following additional findings and certifications:

1. For all of the reasons contained in the Staff Report, Section X, which are incorporated by reference as if fully set forth herein, the Proposed Amendments are necessary; the Air District has the authority to adopt the Proposed Amendments; the Proposed Amendments are clearly written and displayed; the Proposed Amendments are consistent with other legal requirements; the Proposed Amendments are not impermissibly duplicative of existing regulatory requirements; and the Proposed Amendments will implement specific provisions of law as referenced and identified.
2. The Board of Directors' approval of the Proposed Amendments is based on and supported by (among other things) the Board's consideration of the Final EIR for the Proposed Project.
3. The Board of Directors has balanced the benefits of the Proposed Project against its unavoidable environmental risks in determining whether to approve the Proposed Project. The Board of Directors finds that the Proposed Project's benefits in reducing air pollution emissions and protecting public health outweigh the adverse impacts to noise and utility resources that may result from implementing the Proposed Project. The Board of Directors therefore finds that these potentially significant impacts from the Proposed Rule are acceptable pursuant to Section

15093 of the CEQA Guidelines, 14 Cal. Code Regs. § 15093; and makes this finding as a “Statement of Overriding Considerations” pursuant to Section 15093. The specific reasons supporting this finding and Statement of Overriding Considerations are detailed in Attachment C to this Resolution, which is incorporated by reference as if fully set forth herein.

BE IT FURTHER RESOLVED that the Board of Directors directs staff to focus on equitable implementation of the amendments to Rules 9-4 and 9-6, and to include in the interim reports to the Board information on the availability and accessibility of financial incentive programs to reduce compliance costs for the Bay Area’s low income residents and disadvantaged communities.

BE IT FURTHER RESOLVED that the record documents and other materials supporting this Resolution shall be maintained and made available for public review at the headquarters of the Bay Area Air Quality Management District at 375 Beale Street, Suite 600, San Francisco, CA 94105, and that the custodian for these documents and other materials shall be Marcy Hiratzka, Clerk of the Boards.

The foregoing Resolution was duly and regularly introduced, passed and adopted at a regular meeting of the Board of Directors of the Bay Area Air Quality Management District on the Motion of CHAIRPERSON BAUTERS, seconded by DIRECTOR LOPEZ, on the 15th day of MARCH, 2023, by the following vote of the Board:

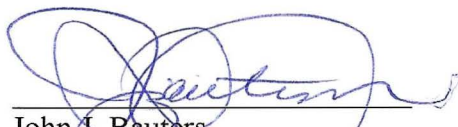
AYES: MARGARET ABE-KOGA, BRIAN BARNACLE, JOHN J. BAUTERS, KEN CARLSON, NOELIA CORZO, JOELLE GALLAGHER, JOHN GIOIA, JUAN GONZALEZ, ERIN HANNIGAN, LYNDA HOPKINS, DAVINA HURT, TYRONE JUE, OTTO LEE, SERGIO LOPEZ, MYRNA MELGAR, NATE MILEY, KATIE RICE, MARK ROSS, VICKI VEENKER, STEVE YOUNG.

NOES: NONE.

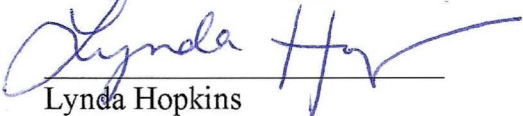
ABSTAIN: RAY MUELLER.

ABSENT: DAVID HUDSON, DAVID HAUBERT, SHAMANN WALTON.

ATTEST:



John J. Bauters
Chair of the Board of Directors



Lynda Hopkins
Secretary of the Board of Directors



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

APPENDIX A

Amendments to Rule 9-4

**REGULATION 9
INORGANIC GASEOUS POLLUTANTS
RULE 4
NITROGEN OXIDES FROM NATURAL GAS-FIRED ~~FAN-TYPE RESIDENTIAL~~
~~CENTRAL~~ FURNACES**

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Bay Area Air Quality Management District

March 15, 2023

REGULATION 9
INORGANIC GASEOUS POLLUTANTS
RULE 4
NITROGEN OXIDES FROM NATURAL GAS-FIRED ~~FAN-TYPE RESIDENTIAL~~
~~CENTRAL~~ FURNACES

9-4-100 GENERAL

9-4-101 Description: This Rule limits emissions of nitrogen oxides from natural gas-fired ~~fan type-residential-central~~ furnaces.

(Amended December 7, 1983)

9-4-102 Applicability: This Rule applies to any person who sells, installs, or offers for sale a natural gas-fired furnace for use within the District (Section 9-4-300s Standards) and any manufacturer who intends to sell or distribute for sale or installation a natural gas-fired furnace for use within the District (Section 9-4-400s Administrative Requirements and Section 9-4-600s Manual of Procedures).

9-4-200 DEFINITIONS

~~9-4-201 Fan Type Central Furnace:~~ ~~A self-contained space heater providing for circulation of heated air at pressures other than atmospheric through ducts more than 25 cm (10 in) in length with an input rate of less than 175,000 BTU/hr, excluding heating/cooling units utilizing three-phase electric current.~~

~~*(Amended December 7, 1983)*~~

9-4-201² Annual Fuel Utilization Efficiency (AFUE): The efficiency as defined by Section 4.2.35 of the Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N.

(Amended December 7, 1983)

9-4-202 BTU: British thermal unit or units.

9-4-203 Furnace: A product with a heat input rate less than 175,000 BTU/hr which is designed to be a source of interior space heating.

203.1 Natural Gas-Fired Furnace: A furnace that utilizes single-phase, three-phase or direct current in conjunction with natural gas.

203.2 Natural Gas-Fired Fan Type Central Furnace: A self-contained space heater providing for circulation of heated air at pressures other than atmospheric through ducts more than 25 cm (10 in) in length with a heat input rate of less than 175,000 BTU/hr. This includes combination heating/cooling units with natural gas heating and also an electric cooling rate less than 65,000 BTU/hr.

9-4-204 Heat Input: The heat of combustion based on the gross (higher) heating value of the fuel, excluding the enthalpy of incoming combustion air.

9-4-205 Natural Gas: A mixture of gaseous hydrocarbons containing at least 80 percent methane by volume as determined by ASTM Standard D1945, 2003.

9-4-206 Nitrogen Oxides (NO_x): The sum of nitrogen oxide (NO) and nitrogen dioxide (NO₂), collectively expressed as nitrogen dioxide.

9-4-207³ **Useful Heat Delivered to the Heated Space:** The Annual Fuel utilization efficiency (expressed as a fraction) multiplied by the heat input.

(Amended December 7, 1983)

9-4-300 STANDARDS

9-4-301 ~~**Residential Central Natural Gas-Fired Furnace Emission Standards:**—A person shall not sell, install or offer for sale within the District any stationary residential natural gas-fired fan type central furnace manufactured after January 1, 1984 that emits more than 40 nanograms of oxides of nitrogen expressed as NO₂ per joule of useful heat delivered to the heated space.~~ A person shall not sell, install or offer for sale within the District:

301.1 Any stationary residential natural gas-fired fan type central furnace manufactured after January 1, 1984, that emits more than 40 nanograms of nitrogen oxides expressed as NO₂ per joule of useful heat delivered to the heated space.

301.2 Any natural gas-fired fan type central furnace manufactured after January 1, 2024, that emits more than 14 nanograms of nitrogen oxides expressed as NO₂ per joule of useful heat delivered to the heated space.

301.3 Any natural gas-fired furnace manufactured after January 1, 2029, that emits more than 0.0 nanograms of nitrogen oxides expressed as NO₂ per joule of useful heat delivered to the heated space. This includes non-central installations such as wall furnaces as well as units installed in non-residential applications.

This section does not apply to furnaces used for mobile homes.

(Amended December 7, 1983)

9-4-302 **Certified Furnaces:** A person shall not sell, install or offer for sale within the District furnaces subject to the requirements of Section 9-4-301 unless such furnaces are certified in accordance with Sections 9-4-401, 402, 403, and 404.

9-4-400 ADMINISTRATIVE REQUIREMENTS

9-4-401 Certification: The manufacturer shall have each appliance model tested in accordance with the following:

- 401.1 Nitrogen oxides, carbon dioxide and oxygen measurements, test equipment, and other required test procedures shall be in accordance with ~~Oxides of nitrogen measurements, test equipment, and other required test procedures shall be in accordance with methods and standards or equivalent procedures approved by the APCO. Section 9-4-601.~~
- 401.2 Operation of the furnace shall be in accordance with the procedures specified in Section 3.1 of the Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N.
- 401.3 ~~The following calculation~~ One of the two formulas shown below shall be used to determine the ~~nanograms~~ emissions of NO_x in units of nanograms per joule of useful heat delivered to heated space:

$$N = \frac{3.655 \times 10^{10} \times P}{(20.9 - Y) \times Z \times E}$$

or

$$N = \frac{4.566 \times 10^4 \times P \times U}{H \times C \times E}$$

Where:

- N = ~~Nanograms~~ Calculated mass emissions of NO_x per unit of useful heat (~~nanograms emitted~~ per joule of useful heat delivered to the heated space).
- P = Measured concentration of NO_x in flue gas (~~P~~parts per million ~~of NO_x~~ by volume).
- Y = Measured concentration ~~Percentage~~ of O₂ in flue gas (percentage by volume).
- Z = Gross Heating value of gas ~~in~~ (joules per cubic (meter)³ at 0.0 degrees Celcius, 1 atm).
- E = AFUE (percentage), as defined in Section 9-4-201.
- U = ~~Volume percent~~ Concentration of CO₂ in water-free flue gas for stoichiometric combustion (percentage by volume).
- H = Gross heating value of the fuel, (BTU/cu. ft. per cubic foot, ~~(60°F, 30-in Hg.)~~).
- C = Measured ~~volume percent~~ concentration of CO₂ in ~~water-free~~ flue gas, (percentage by volume) ~~assuming complete combustion and no CO present~~.

(Amended December 7, 1983)

9-4-402 Compliance Statement: The manufacturer shall submit to the APCO ~~a~~ either of the following:

402.1 A statement that each affected furnace ~~the~~ model meets the standards set forth in Section 301 of this Rule. The statement shall be signed and dated, and shall attest to the accuracy of all information. The statement shall include the brand name and model number as it ~~s~~ appears on the furnace rating plate. ~~, and be on forms provided by the APCO. or~~

402.2 A valid South Coast Air Quality Management District (SCAQMD) certification for SCAQMD Rule 1111 for furnaces demonstrating compliance with Section 9-4-301.2.

(Amended December 7, 1983)

9-4-403 Identification: The manufacturer shall display the model number of the furnace complying with this rule on the shipping carton and rating plate.

9-4-404 Enforcement: The APCO may require the emission test results to be provided when deemed necessary to verify compliance and may periodically conduct such tests as are deemed necessary to ~~i~~ensure compliance.

9-4-405 Interim Report: At least two years prior to the compliance date listed in Section 9-4-301.3, the APCO shall present to the Air District Board of Directors for consideration at a public meeting a report that includes the technology options currently (and projected to be) available to be sold, installed or offered for sale that do not conflict with the standard in Section 9-4-301.3; the projected costs of purchase and installation of such technology, including any ancillary costs, as applicable; any incentive programs available to reduce these costs; and infrastructure readiness associated with rule compliance.

9-4-600 MANUAL OF PROCEDURES

9-4-601 Determination of Emissions: Furnaces subject to Sections 9-4-301 and 302 shall be tested in accordance with the following provisions:

601.1 Each furnace model shall receive certification based on emission tests of a randomly selected unit of that furnace model.

601.2 The measurement of nitrogen oxides emissions shall be conducted in accordance US EPA Reference Method RM-7 (40 CFR Part 60, Appendix A, Test Method 7E.

601.3 The measurement of carbon dioxide shall be conducted in accordance with the Manual of Procedures, Volume IV, Method ST-5 or US EPA Method 3A.

601.4 The measurement of oxygen shall be conducted in accordance with the Manual of Procedures, Volume IV, Method ST-14 or US EPA Method 3A.



BAY AREA
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APPENDIX B

Amendments to Rule 9-6

**REGULATION 9
INORGANIC GASEOUS POLLUTANTS
RULE 6
NITROGEN OXIDES EMISSIONS FROM
NATURAL GAS-FIRED BOILERS AND WATER HEATERS
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REGULATION 9
INORGANIC GASEOUS POLLUTANTS
RULE 6
NITROGEN OXIDES EMISSIONS FROM NATURAL GAS-FIRED WATER
HEATERS

(Adopted April 1, 1992)

9-6-100 GENERAL

9-6-101 Description: This rule limits the emissions of nitrogen oxides from natural gas-fired water heaters and boilers.

(Amended November 7, 2007)

9-6-102 Applicability: This Rule applies to any person who sells, installs, or offers for sale a natural gas-fired water heater for use within the District (Section 9-6-300s Standards) and any manufacturer who intends to sell or distribute for sale or installation a natural gas-fired water heater for use within the District (Section 9-6-400s Administrative Requirements and Section 9-6-600s Manual of Procedures).

9-6-110 Exemptions: The requirements of Section 9-6-301 shall not apply to the following:

- 110.1 Natural gas-fired boilers and water heaters with a rated heat input capacity of greater than 2,000,000 BTU/Hour.
- 110.2 Natural gas-fired water heaters used in recreational vehicles.
- 110.3 Water heaters using a fuel other than natural gas.
- 110.4 Natural gas-fired pool/spa heaters with less than 400,000 Btu/Hour rated heat input capacity used exclusively to heat swimming pools, hot tubs or spas.

(Amended November 7, 2007)

9-6-200 DEFINITIONS

9-6-201 Boilers and Water Heaters: Any combustion equipment used to heat water or produce steam and that is not exclusively used to produce electricity for sale. For the purposes of this Rule, a boiler does not include any waste heat recovery boiler that is used to recover sensible heat from the exhaust of a combustion turbine or any unfired waste heat recovery boiler that is used to recover sensible from the exhaust of any combustion equipment.

(Adopted November 7, 2007)

9-6-202 BTU: British thermal unit or units.

(Adopted November 7, 2007)

9-6-203 Direct-Vent Water Heater: A storage tank water heater with air intake and exhaust ducts that use a gravity system to collect air from outside a building for combustion and exhaust combustion byproducts to the outside of a building.

(Adopted November 7, 2007)

9-6-204 Heat Input: The heat of combustion released by fuels burned in a unit based on the higher heating value of fuel. This does not include the enthalpy of incoming combustion air.

(Adopted November 7, 2007)

9-6-205 Heat Output: The product obtained by multiplying the recovery efficiency, as defined by Section 6.1.3 of the Code of Federal Regulation, Title 10, Part 430, Subpart B, Appendix E, by the input rating of the water heater.

(Renumbered November 7, 2007)

- 9-6-206 Instantaneous Water Heater:** A device in which water is heated only when the water flows through a heat exchanger.
(Adopted November 7, 2007)
- 9-6-207 Mobile Home Water Heater:** A closed vessel manufactured exclusively for mobile home use in which water is heated and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus by which heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210°F (99°C).
(Adopted November 7, 2007)
- 9-6-208 Natural Gas:** A mixture of gaseous hydrocarbons containing at least 80 percent methane by volume as determined according to Standard Method ASTM D1945-64.
(Renumbered November 7, 2007)
- 9-6-209 NO_x Emissions:** The sum of nitric oxide and nitrogen dioxide in the flue gas, collectively expressed as nitrogen dioxide.
(Adopted November 7, 2007)
- 9-6-210 Pool/Spa Heater:** A device in which water is heated when pool or spa water circulates through a heat exchanger.
(Adopted November 7, 2007)
- 9-6-211 Power Direct-Vent Water Heater:** A storage tank water heater with an air intake duct outside of a building with a blower installed to assist in the expulsion of exhaust gases.
(Adopted November 7, 2007)
- 9-6-212 Power-Vent Water Heater:** A storage tank water heater with an air intake duct outside of a building with a blower installed to assist in the expulsion of exhaust gases.
(Adopted November 7, 2007)
- 9-6-213 Rated Heat Input Capacity:** The heat input capacity specified on the nameplate of the combustion unit.
(Renumbered November 7, 2007)
- 9-6-214 Storage Tank Water Heater:** A closed vessel, in which water is heated and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus by which heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210°F.
(Renumbered November 7, 2007)
- 9-6-300 STANDARDS**
- 9-6-301 Natural Gas-Fired Storage Tank Water Heaters with a Rated Heat Input Capacity of 75,000 BTU/Hour or Less:**
- 301.1 No person shall sell, install, or offer for sale within the District any natural gas-fired storage tank water heater, manufactured after July 1, 1992, with a rated heat input capacity of 75,000 BTU/Hour or less, that emits more than 40 nanograms of nitrogen oxides (calculated as NO₂) per joule of heat output.
- 301.2 No person shall sell, install, or offer for sale within the District any natural gas-fired storage tank water heater less than or equal to 50 gallons capacity that is manufactured after January 1, 2009, and that emits more than 10 nanograms of nitrogen oxides (calculated as NO₂) per joule of heat output. This subsection shall not apply to direct-vent, power-vent, power direct-vent water storage tank heaters and water heaters used for mobile homes.

301.3 No person shall sell, install, or offer for sale within the District any natural gas-fired storage tank water heater greater than 50 gallons capacity that is manufactured after January 1, 2010, and that emits more than 10 nanograms of nitrogen oxides (calculated as NO₂) per joule of heat output. This subsection shall not apply to direct-vent, power-vent, power direct-vent storage tank water heaters and water heaters used for mobile homes.

301.4 No person shall sell, install, or offer for sale within the District any natural gas-fired storage tank water heater that is manufactured after January 1, 2011, and that emits more than 10 nanograms of nitrogen oxides (calculated as NO₂) per joule of heat output. This subsection shall not apply to water heaters used for mobile homes.

301.5 No person shall sell, install, or offer for sale within the District any natural gas-fired storage tank water heater that is manufactured after January 1, 2027, with a rated heat input rating of 75,000 BTU/hour or less, that emits more than 0 nanograms of nitrogen oxides (calculated as NO₂) per joule of heat output. This subsection shall not apply to mobile home water heaters.

(Amended November 7, 2007)

9-6-302 Certification of Boilers and Water Heaters: No person shall sell, install, or offer for sale within the District any water heaters subject to Section 9-6-301, 303, 304, or 305 unless the water heater manufacturer brand name and model is certified in accordance with Sections 9-6-401 and 402.

(Amended November 7, 2007)

9-6-303 Natural Gas-Fired Boilers and Water Heaters with a Rated Heat Input Capacity of 75,001 to 2,000,000 BTU/Hour:

303.1 No person shall sell, install, or offer for sale within the District any large natural gas-fired boiler, storage tank water heater, or instantaneous water heater with a rated heat input capacity from 75,001 to 400,000 BTU/Hour, inclusive, manufactured after January 1, 2008, that emits more than 40 nanograms of nitrogen oxides (calculated as NO₂) per joule of heat output.

303.2 No person shall sell, install, or offer for sale within the District any large natural gas-fired boiler, storage tank water heater, or instantaneous water heater with a rated heat input capacity from 75,001 to 400,000 BTU/Hour, inclusive, manufactured after January 1, 2013, that emits more than 14 nanograms of nitrogen oxides (calculated as NO₂) per joule of heat output.

303.3 No person shall sell, install, or offer for sale within the District any large natural gas-fired boiler, storage tank water heater, or instantaneous water heater with a rated heat input capacity from 400,001 to 2,000,000 BTU/Hour, inclusive, manufactured after January 1, 2008, that emits more than 20 nanograms of nitrogen oxides (calculated as NO₂) per joule of heat output, or more than 30 ppm NO_x at 3% O₂, dry.

303.4 No person shall sell, install, or offer for sale within the District any large natural gas-fired boiler, storage tank water heater, or instantaneous water heater with a rated heat input capacity from 400,001 to 2,000,000 BTU/Hour, inclusive, manufactured after January 1, 2013, that emits more than 14 nanograms of nitrogen oxides (calculated as NO₂) per joule of heat output, or more than 20 ppm NO_x at 3% O₂, dry.

303.5 No person shall sell, install, or offer for sale within the District any large natural gas-fired boiler, storage tank water heater, or instantaneous water heater with a rated heat input capacity from 75,001 to 2,000,000 BTU/Hour, inclusive, manufactured after January 1, 2031, that emits more than 0.0 nanograms of nitrogen oxides (calculated as NO₂) per joule of heat output.

(Adopted November 7, 2007)

9-6-304 Natural Gas-Fired Mobile Home Water Heaters: No person shall sell, install, or offer for sale within the District any natural gas-fired mobile home water heater

manufactured after January 1, 2008, that emits more than 40 nanograms of nitrogen oxides (calculated as NO₂) per joule of heat output.

(Adopted November 7, 2007)

9-6-305 Natural Gas-Fired Pool/Spa Heaters:

305.1 No person shall sell, install, or offer for sale within the District any natural gas-fired pool/spa heater with an input rating from 400,001 to 2,000,000 BTU/Hour, inclusive, manufactured after January 1, 2008, that emits more than 40 nanograms of nitrogen oxides (calculated as NO₂) per joule of heat output, or more than 55 ppm NO_x at 3% O₂, dry.

305.2 No person shall sell, install, or offer for sale within the District any natural gas-fired pool/spa heater with an input rating from 400,001 to 2,000,000 BTU/Hour, inclusive, manufactured after January 1, 2013, that emits more than 14 nanograms of nitrogen oxides (calculated as NO₂) per joule of heat output, or more than 20 ppm NO_x at 3% O₂, dry.

(Adopted November 7, 2007)

9-6-400 ADMINISTRATIVE REQUIREMENTS

9-6-401 Compliance with Emissions Standards: The manufacturer shall obtain confirmation from an independent testing laboratory that each boiler or water heater model it intends to sell or distribute for sale into the District that is subject to the requirements of Sections 9-6-301, 303, 304, or 305 has been tested in accordance with the procedures in [Section 9-6-601](#).

(Amended November 7, 2007)

9-6-402 Compliance Statement: Application for Certification: ~~The manufacturer shall submit to the APCO either of the following:~~

402.1 ~~The Each~~ manufacturer shall submit ~~an application a statement~~ to the APCO ~~that each boiler or water heater model meets the emission standard set forth in Section 9-6-301 or 9-6-303, for certification of their compliant boiler or water heater model.~~ The compliance statement application must:

402.1.1 Provide the following general information: name and address of manufacturer, brand name, trade name, model number and heat input rating as it appears on the water heater rating plate.

402.1.2 Provide a description of the model being certified

402.1.3 Include a complete certification source test report demonstrating that the boiler or water heater model was tested in accordance with procedures in Section 9-6-601 and a written statement that the model complies with Section 9-6-301, 303, 304, or 305 ~~and is tested in accordance with procedures in Section 9-6-601.~~

402.1.4 Be submitted to the District APCO no more than 90 days after the date of the emissions compliance test conducted in accordance with Section 9-6-401.

402.1.5 Be submitted to the District APCO no less than 90 days before the intention to sell or distribute a new water heater model within the District, or no less than 90 days before the effective dates in Section 9-6-301, 303, 304, 305.

~~402.2 After completing review of the application for certification and source test report, the APCO will approve, or will deny approval of, the device.~~

~~402.3 Certification status shall be valid for three years from the date of approval by the APCO. After the third year, recertification shall be required according to the requirements in 9-6-402.~~

~~402.24~~ In lieu of submitting an application as provided in Section 9-6-402.1, tThe manufacturer ~~may shall~~ submit to the District APCO an approved South Coast Air Quality Management District (SCAQMD) certification issued pursuant to SCAQMD Rules 1121 and 1146.2 to demonstrate compliance that complies

with Section 9-6-301.1 through 301.4, 303.1 through 303.4, 304, or 305. This option does not apply to units demonstrating compliance with Sections 9-6-301.5 and 303.5.

(Amended November 7, 2007)

9-6-403 Identification: The water heater manufacturer shall display the model number and the certification status of a water heater complying with this rule on the shipping carton and on the rating plate of each unit.

(Amended November 7, 2007)

9-6-404 Interim Report: At least two years prior to the compliance date listed in Sections 9-6-301.5 and 303.5, the APCO shall present to the Air District Board of Directors for consideration at a public meeting a report that includes the technology options currently (and projected to be) available to be sold, installed or offered for sale that do not conflict with the standard in Section 301.3; the projected costs of purchase and installation of such technology, including any ancillary costs, as applicable; any incentive programs available to reduce these costs; and infrastructure readiness associated with rule compliance.

9-6-600 MANUAL OF PROCEDURES

9-6-601 Determination of Emissions: Emissions of oxides of nitrogen from water heaters subject to Section 9-6-301, 303, 304, or 305 shall be tested in ~~accordance with the South Coast Air Quality Management District Protocol: "Nitrogen Oxides Emission Compliance Testing for Natural Gas-Fired Water Heaters and Small Boilers, January 1995", or in~~ accordance with the following provisions:

- 601.1 ~~Each water heater model shall receive certification Confirmation shall be~~ based on emission tests of a randomly selected unit of ~~that each~~ water heater model.
- 601.2 The measurement of nitrogen oxides emissions shall be conducted in accordance with ~~the Manual of Procedures, Volume IV, Method ST-13B or~~ EPA Reference Method 7, including 7A-7E.
- 601.3 Each tested water heater shall be operated in accordance with Section 2.4 of American National Standards ANSI Z21.10.1-1990 at normal test pressure, input rates, and with a five-foot exhaust stack installed during the nitrogen oxides emissions tests.
- 601.4 The following procedure shall be used to calculate the NO_x emission rate in nanograms of NO_x per joule of heat output:

$$N = \frac{4.566 \times 10^4 \times P \times U}{H \times C \times E}$$

Where:

- N = NO_x Emission Rate in nanograms of NO_x emitted per joule of heat output
- P = Concentration of NO_x in the flue gas in parts per million (volume)
- U = Dry volume percent of CO₂ in flue gas necessary for stoichiometric combustion
- H = Gross heating value of the gas, BTU/ft³ (at 60°F and 30"Hg)
- C = Dry volume percent of CO₂ in flue gas
- E = Recovery efficiency, percentage, as defined in Section 6.1.3 of the Code of Federal Regulation, Title 10, Part 430, Subpart B, Appendix E.

(Amended November 7, 2007)



BAY AREA
AIR QUALITY
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APPENDIX C

**CEQA FINDINGS OF FACT AND STATEMENT OF
OVERRIDING CONSIDERATIONS OF THE BAY AREA
AIR QUALITY MANAGEMENT DISTRICT FOR
PROPOSED AMENDMENTS TO BUILDING
APPLIANCE RULES – REGULATION 9: INORGANIC
GASEOUS POLLUTANTS, RULE 4: NITROGEN
OXIDES FROM FAN TYPE RESIDENTIAL CENTRAL
FURNACES AND REGULATION 9: INORGANIC
GASEOUS POLLUTANTS, RULE 6: NITROGEN
OXIDES EMISSIONS FROM NATURAL GAS-FIRED
BOILERS AND WATER HEATERS**

The Bay Area Air Quality Management District (BAAQMD), as lead agency, prepared an environmental impact report (EIR) for the proposed amendments to Regulation 9: Inorganic Gaseous Pollutants, Rule 4: Nitrogen Oxides from Fan Type Residential Central Furnaces (Rule 9-4) and Regulation 9: Inorganic Gaseous Pollutants, Rule 6: Nitrogen Oxides Emissions from Natural Gas-Fired Boilers and Water Heaters (Rule 9-6) (proposed rule amendments or Project). The document consists of the December 2022 Draft EIR and the March 2023 Final EIR (State Clearinghouse No. 2022050430) (collectively referred to as the EIR). The EIR for the Project presents an assessment of the reasonably foreseeable and potentially significant adverse environmental effects that may occur from implementing the Project. These findings have been prepared in accordance with the California Environmental Quality Act (CEQA)

(Public Resources Code [PRC] Section 21000 et seq.) and its implementing guidelines (CEQA Guidelines) (California Code of Regulations [CCR] Title 14, Section 15000 et seq.). The BAAQMD Board of Directors (Board) is the lead agency under CEQA and is the decision-making authority for the Project. The Board adopts these findings in that capacity.

SECTION 1 - PROJECT DESCRIPTION

The BAAQMD is proposing amendments to Rules 9-4 and 9-6. Rule 9-4 applies to the natural gas-fired space-heating furnaces commonly found in single-family homes, and Rule 9-6 applies to natural gas-fired water heaters commonly found in residential and commercial applications. Space- and water-heating appliances generate a large portion of nitrogen oxide (NO_x) emissions from sources in the Bay Area. NO_x is formed during natural gas combustion when ambient nitrogen and oxygen combine at high temperatures. If adopted, the proposed rule amendments would substantially reduce NO_x emissions from these appliances.

A. PROJECT LOCATION

The proposed amendments to Rules 9-4 and 9-6 would apply to building appliances within the BAAQMD's jurisdiction, which encompasses 5,600 square miles. The area of BAAQMD's jurisdiction includes all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The San Francisco Bay Area is characterized by a large, shallow basin surrounded by coastal mountain ranges tapering into sheltered inland valleys. The combined climatic and topographic factors result in increased potential for the accumulation of air pollutants in the inland valleys and reduced potential for buildup of air pollutants along the coast.

B. BACKGROUND AND NEED FOR THE PROJECT

The BAAQMD has regulated NO_x emissions from space- and water-heating appliances for several decades. Rule 9-4 for furnaces was first adopted in 1983, with this version of the rule still in place. Rule 9-6 was first adopted in 1992 and was most recently updated with more stringent NO_x emissions standards for certain equipment in 2007. All versions of these rules have included a NO_x emissions standard expressed as nanograms of NO_x per joule of useful heat (ng/joule) delivered by the appliance.

In addition, the South Coast Air Quality Management District (SCAQMD) and San Joaquin Valley Air Pollution Control District (SJVAPCD) have adopted regulations that are similar in structure and standards to Rules 9-4 and 9-6. SCAQMD Rule 1111 and SJVAPCD Rule 4905, which are similar to Rule 9-4 in applicability to furnaces, have been updated within the last ten years and require a NO_x emissions standard of 14 ng/joule, the same initial standard identified in the proposed amendments. Rule 9-6 for water heaters and small boilers currently contains NO_x emission standards equivalent to those in SCAQMD Rules 1146.2 and 1121 and SJVAPCD Rules 4308 and 4902 for similar equipment.

The proposed rule amendments to the two rules focus on NO_x emissions from natural gas-fired space- and water-heating appliances in buildings. Space and water heaters are the greatest source of NO_x emissions in the building sector.

Nitrogen oxides are a key criteria pollutant as a precursor to ozone and secondary particulate matter (PM) formation. Secondary PM is formed from the conversion of NO_x to ammonium nitrate through atmospheric chemical reactions with ammonia. Particulate matter, a diverse mixture of suspended particles and liquid droplets, is the air pollutant most harmful to the health of Bay Area residents. The Bay Area is currently classified as non-attainment for particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less (PM_{2.5}) under the annual and 24-hour California Ambient Air Quality Standards (CAAQS) and non-attainment (24-hour standard) and unclassifiable (annual standard) under National Ambient Air Quality Standards (NAAQS). Exposure to PM_{2.5}, on either a short-term or long-term basis, can cause a wide range of respiratory and cardiovascular health effects, including strokes, heart attacks, and premature deaths. Because NO_x compounds in the atmosphere contribute to the formation of secondary PM, any NO_x emission reduction would also result in PM_{2.5} reductions.

In addition, the Bay Area is currently designated as a non-attainment area for ozone, a regional pollutant, under all CAAQS and NAAQS. Emissions of reactive organic gases (ROG) and NO_x throughout the Bay Area contribute to ozone formation in downwind areas. ROG and NO_x react through atmospheric chemical reactions to form ozone. Therefore, reductions in emissions of ROG and NO_x are needed throughout the region to decrease ozone levels. As the ambient temperature rises, ground-level ozone forms at an accelerated rate. Ozone levels are usually highest on hot, windless summer afternoons, especially in inland valleys. Exceedances of State or national ozone standards in the Bay Area occur only on hot, relatively stagnant days. Because weather conditions have a strong impact on ozone formation, ozone levels can vary significantly from day to day or from one summer to the next. Longer and more severe heat waves expected as a result of climate change may cause more ozone formation, resulting in more frequent exceedances of ozone standards.

C. PROJECT OBJECTIVES

The overall purpose of the proposed amendments is to reduce NO_x emissions from natural gas-fired space- and water-heating appliances in buildings in the Bay Area. Specifically, the objectives of the proposed amendments to Rules 9-4 and 9-6 are to:

- ▶ for Rule 9-4, introduce an “ultra-low” NO_x standard for space-heating appliances with a compliance date in 2024;
- ▶ for Rule 9-4, establish a zero-NO_x standard in 2029;
- ▶ for Rule 9-6, establish a zero-NO_x standard for water heaters with compliance dates ranging from 2027 to 2031 based on equipment type, use, and size;
- ▶ expand the applicability of Rule 9-4 to a larger breadth of space-heating appliances;
- ▶ update and clarify the certification and calculation methods contained in the rules;
- ▶ ensure equitable implementation of the rules; and
- ▶ improve the clarity and enforceability of the rules.

(Draft EIR, p. 2-1.)

D. CHARACTERISTICS OF THE PROJECT

The proposed amendments for Rule 9-4 include introducing an “ultra-low” NO_x standard for space-heating appliances with a compliance date in 2024 and setting a zero-NO_x standard in 2029. Like the current rule, amended Rule 9-4 would apply only to new devices and only to natural gas-fired devices. The proposed new lower and zero-NO_x standards would apply to appliance retailers/wholesalers, and installers and would affect Bay Area consumers when they replace their existing furnaces.

The proposed amendments for Rule 9-6 include setting a zero-NO_x standard for water heaters with compliance dates ranging from 2027 to 2031 based on equipment type, use, and size. Like the current rule, amended Rule 9-6 would apply only to new devices and only to natural gas-fired devices. The proposed new zero-NO_x standards would apply to appliance retailers/wholesalers, and installers and would affect Bay Area consumers when they replace their existing water heaters.

The proposed rule amendments would be in effect beginning in 2024. They would apply to appliance retailers/wholesalers, and installers and would affect Bay Area consumers when they replace their existing furnaces and water heaters. The equipment changeout is projected to be completed in 2046.

E. DISCRETIONARY APPROVALS

The following actions from the Board are necessary to implement the Project:

- ▶ certification of the Final EIR for the Project, and
- ▶ approval of the Project.

SECTION 2 - ENVIRONMENTAL REVIEW PROCESS

The BAAQMD issued a notice of preparation (NOP) and Initial Study on May 19, 2022, to inform agencies and the general public that an EIR was being prepared and to invite comments on the scope and content of the document. The NOP and Initial Study were submitted to the State Clearinghouse, which then distributed the NOP to potential responsible and trustee agencies; posted on the BAAQMD's website (<https://www.baaqmd.gov/>); posted with the applicable County Clerks; and made available at the BAAQMD's office. In addition, the NOP was distributed directly to public agencies. The NOP was circulated for a 34-day review period, with comments accepted through June 21, 2022. In accordance with CCR Section 15082(c), a noticed scoping meeting for the EIR was held virtually on June 9, 2022, from 6:00 p.m. to 8:00 p.m. The NOP, Initial Study, and all comments received on the NOP are presented in Appendix A of the Draft EIR.

The BAAQMD published the Draft EIR for public and agency review on December 20, 2022. A 48-day public review period was provided, ending on February 6, 2023. The Draft EIR was submitted to the State Clearinghouse for distribution to reviewing agencies (State Clearinghouse No. 2022050430); posted on the BAAQMD's website (<https://www.baaqmd.gov/>); and was made available at the BAAQMD's office during normal business hours. A notice of availability (NOA) of the Draft EIR was published in the San Francisco Chronicle, East Bay Times and the Mercury News on December 20, 2022 and distributed to a project-specific mailing list. A public meeting for the Draft EIR was not conducted.

As a result of these notification efforts, written and verbal comments were received from 3 comment letters from state and local agencies, 22 letters from organizations, and more than 500 letters from individuals. Those comments relevant to CEQA were addressed in compliance with the State CEQA Guidelines (Sections 15088, 15132). While 3 comment letters were received from public agencies, none of these comments presented issues related to the Draft EIR or CEQA compliance; rather, these comments were related to policy considerations regarding the proposed amendments. A public hearing was conducted on March 15, 2023, and the Final EIR was released in advance of the hearing.

The Final EIR includes comments received on the Draft EIR and responses to these comments. The Draft and Final EIR were made available for public review on the BAAQMD's website (<https://www.baaqmd.gov/>).

SECTION 3 - RECORD OF PROCEEDINGS

In accordance with PRC Section 21167.6(e), the record of proceedings for the BAAQMD's decision on the Project includes the following documents:

- ▶ The NOP, comments received on the NOP, and all other public notices issued by the BAAQMD regarding the Project (e.g., NOA);

- ▶ The Draft EIR and Final EIR, including comment letters and responses, and technical materials cited in the documents;
- ▶ All official reports and memoranda prepared by the BAAQMD and consultants in relation to the EIR;
- ▶ Minutes and transcripts of the discussions regarding the Project and/or Project components at public meetings held by the BAAQMD;
- ▶ Staff reports associated with Board meetings on the Project;
- ▶ Those categories of documents, materials, and testimony included in the record or proceedings identified in PRC Section 21167.6.

The documents and materials that constitute the record of proceedings are available for review during normal business hours at the BAAQMD office (375 Beale Street, Suite 600, San Francisco).

SECTION 4 - CONSISTENCY WITH APPLICABLE PLANS

The Project is in alignment and consistent with BAAQMD's most recent air quality plan, the 2017 Clean Air Plan: Spare the Air – Cool the Climate.

SECTION 5 - FINDINGS REQUIRED UNDER CEQA

PRC Section 21002 provides that “public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects[.]” The same statute provides that the procedures required by CEQA “are intended to assist public agencies in systematically identifying both the significant effects of projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.” Section 21002 goes on to provide that “in the event [that] specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof.”

The mandate and principles presented in PRC Section 21002 are implemented, in part, through the requirement that agencies must adopt findings before approving projects for which EIRs are required. For each significant environmental effect identified in an EIR for a project, the approving agency must issue a written finding reaching one or more of three permissible conclusions. The first such finding is that “changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.” The second permissible finding is that “such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding, and such changes have been adopted by such other agency or can and should be adopted by such other agency.” The third potential conclusion is that “specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.” (State CEQA Guidelines Section 15091.) PRC

Section 21061.1 defines “feasible” to mean “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, legal, and technological factors.” The State CEQA Guidelines Section 15364 adds another factor: “legal” considerations. (See *Citizens of Goleta Valley v. Bd. of Supervisors* (“*Goleta II*”) (1990) 52 Cal.3d 553, 565.)

The concept of “feasibility” also encompasses the question of whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project. (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417.) Moreover, “feasibility” under CEQA encompasses ‘desirability’ to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, legal, and technological factors.” (*Ibid.*; see also *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 715; *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 1001 (“*CNPS*”).)

For purposes of these findings, the term “avoid” refers to the effectiveness of one or more mitigation measures to reduce an otherwise significant effect to a less-than-significant level. In contrast, the term “substantially lessen” refers to the effectiveness of such measure or measures to substantially reduce the severity of a significant effect, but not to reduce that effect to a less-than-significant level. These interpretations appear to be verified by the holding in *Laurel Hills Homeowners Association v. City Council* (1978) 83 Cal.App.3d 515, 519-521 (“*Laurel Hills*”), in which the Court of Appeal held that an agency had satisfied its obligation to substantially lessen or avoid significant effects by adopting numerous mitigation measures, not all of which rendered the significant impacts in question less than significant.

Although the State CEQA Guidelines Section 15091 requires only that approving agencies specify that a particular significant effect is “avoid[ed] or substantially lessen[ed],” these findings, for purposes of clarity, in each case will specify whether the effect in question has been reduced to a less-than-significant level, or has simply been substantially lessened but remains significant. Moreover, although Section 15091, read literally, does not require findings to address environmental effects that an EIR identifies as merely “potentially significant,” these findings will nevertheless fully account for all such effects identified in the Final EIR.

CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that would otherwise occur. Project modification or alternatives are not required, however, where such changes are infeasible or where the responsibility for modifying the project lies with some other agency. (State CEQA Guidelines Section 15091[a], [b].)

With respect to a project for which significant impacts are not avoided or substantially lessened, a public agency, after adopting proper findings, may nevertheless approve the project if the agency first adopts a statement of overriding considerations setting forth the specific reasons why the agency found that the project’s “benefits” rendered “acceptable” its “unavoidable adverse environmental effects.” (State CEQA Guidelines Sections 15093, 15043[b]; see also PRC Section 21081[b].) The California Supreme Court has stated, “[t]he wisdom of approving . . . any development project, a delicate task which requires a balancing of interests, is necessarily left to the sound discretion of the local officials and their constituents who are responsible for such decisions. The law as we interpret and apply it simply requires that those decisions be informed, and therefore balanced.” (*Goleta II, supra*, 52 Cal.3d at p. 576.)

The Board has adopted the third permissible finding with respect to all significant and unavoidable effects identified in the EIR, concluding that not all effects can be mitigated to less-than-significant levels. The Board therefore must consider the feasibility of project alternatives. (PRC Section 21002; *Laurel Hills, supra*, 83 Cal.App.3d at p. 521; see also *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 730-731; and *Laurel Heights Improvement Assn. v. Regents of the Univ. of Cal.* (1988) 47 Cal.3d 376, 400-403.)

As noted above, certain significant environmental impacts of the Project will not be mitigated to less-than-significant levels. Thus, the BAAQMD is required to adopt a Statement of Overriding Considerations for the Project.

SECTION 6 - LEGAL EFFECT OF FINDINGS

These findings constitute the BAAQMD's best efforts to set forth the evidentiary and policy bases for its decision to approve the Project in a manner consistent with the requirements of CEQA. These findings, in other words, are not merely informational, but rather constitute a binding set of obligations that will come into effect when the Board adopts a resolution approving the Project.

SECTION 7 - MITIGATION MONITORING AND REPORTING PROGRAM

PRC Section 21081.6(a)(1) requires lead agencies to "adopt a reporting and mitigation monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment." An MMRP has not been prepared for the Project because no mitigation measures are available for adoption by the BAAQMD to reduce the Project's significant and unavoidable impacts.

SECTION 8 - SIGNIFICANT EFFECTS AND MITIGATION MEASURES

The potential environmental impacts that would result from implementation of the Project are listed in Table ES-1 in the Executive Summary of the Draft EIR. In some cases, there would be no impact or impacts would be less than significant. In other instances, there are no feasible mitigation measures, or alternatives, that would avoid or reduce the impact to a less-than-significant level. Those impacts would remain as significant unavoidable adverse impacts. (See Section 5.2, "Significant and Unavoidable Adverse Impacts," in the Draft EIR.) For these impacts, the BAAQMD has adopted a Statement of Overriding Considerations.

The BAAQMD's findings with respect to the Project's significant and potentially significant effects and mitigation measures are set forth in **Section 10**, below. This section does not attempt to describe the full analysis of each environmental impact contained in the EIR. Instead, the section provides a summary description of each impact, describes applicable mitigation measures identified in the EIR, and states the Board's findings on the residual significance of each impact. A full explanation of these environmental findings and conclusions can be found in the EIR, and these findings hereby incorporate by reference the discussion and analysis in those documents supporting the EIR's determinations regarding mitigation measures and the Project's mitigation measures designed to address those impacts. In making

these findings, the Board ratifies, adopts, and incorporates into these findings the analysis and explanation in the EIR, and ratifies, adopts, and incorporates in these findings the determinations and conclusions of the EIR relating to environmental impacts and mitigation measures, except to the extent any such determinations and conclusions are specifically and expressly modified by these findings.

SECTION 9 - FINDINGS REGARDING RECIRCULATION OF THE DRAFT EIR

The Board adopts the following findings with respect to whether to recirculate the Draft EIR. Under Section 15088.5 of the State CEQA Guidelines, recirculation of an EIR is required when “significant new information” is added to the EIR after public notice is given of the availability of the Draft EIR for public review but prior to certification of the Final EIR. The term “information” can include changes in the project or environmental setting, as well as additional data or other information. New information added to an EIR is not “significant” unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project’s proponents have declined to implement. “Significant new information” requiring recirculation includes, for example, a disclosure showing that:

- (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
- (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
- (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project’s proponents decline to adopt it.
- (4) The Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. (State CEQA Guidelines Section 15088.5.)

Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR. The above standard is “not intend[ed] to promote endless rounds of revision and recirculation of EIRs.” (*Laurel Heights Improvement Assn. v. Regents of the University of California* (1993) 6 Cal. 4th 1112, 1132.) “Recirculation was intended to be an exception, rather than the general rule.” (*Ibid.*)

The BAAQMD finds that recirculation of the Draft EIR is not required because no revisions were made to the Draft EIR.

SECTION 10 - FINDINGS REGARDING IMPACTS THAT CANNOT BE MITIGATED BELOW A LEVEL OF SIGNIFICANCE

A. SECTION 3.3: UTILITIES AND SERVICE SYSTEMS (ENERGY RESOURCES)

Impact 3.3-1: Require the Relocation or Construction of New or Expanded Electric Facilities That Would Result in an Adverse Environmental Impact

Assuming that heat pumps are used to replace existing natural gas-fired space and water heating appliances, the Project would, under the “worst case” Low Policy Reference Scenario evaluated by Energy + Environmental Economics (E3) (Appendix C of the Draft EIR), over the long term, result in increased energy demand beyond the planned electric grid capacity growth represented in this scenario. E3 estimated that the proposed zero-NO_x standards could result in 6.2 terrawatt-hours per year of additional electric load growth by 2050, which would represent 2.2 percent of the total statewide electrical load by 2020 standards. The E3 study estimates that this level of demand could be met by the development of approximately 2,180 megawatts (MW) of incremental utility-scale solar capacity, corresponding to 19,500 acres of direct land use impacts, under the “worst case” Low Policy Reference Scenario. For context, this represents 0.6 to 1.2 percent of the State’s total projected land needed for the State to meet its stated climate goals, which is estimated to be between 1.6 and 3.1 million acres for solar and wind projects (not including off-shore wind and other energy sources). Almost all of this energy production is anticipated to occur outside of the Bay Area, and a portion of it will likely be developed outside California. The potential construction and operational impacts associated with these energy facilities could be potentially significant, and may include substantial changes to visual character; obstruction of views; increased light and glare; conversion of Farmland and other impacts to agricultural resources and operations; construction-related air pollution, greenhouse gas (GHG) emissions, and noise; archaeological resources; tribal cultural resources; adverse effects to wildlife species and habitat; adverse effects to other natural resources and waterways; impacts related to geology and paleontological resources; operational noise; conflicts with air traffic; transportation and storage of hazards and hazardous materials; and wildfire and associated environmental effects. Mitigation measures are likely available to minimize these impacts to a less-than-significant level for many of the environmental issue areas; however, it is likely that some would remain significant and unavoidable. Therefore, under the Low Policy Reference Scenario, the Project would result in a substantial contribution to a significant cumulative impact, and this impact would be potentially significant.

Mitigation Measures

As described under Impact 3.3-1 in the Draft EIR, the location and type of these energy projects are currently speculative but based on current projections as presented in the E3 study, their associated environmental impacts would generally be located outside the Bay Area, and potentially outside California. The energy projects located in California would be evaluated in separate, future EIRs by various lead agencies and would ultimately be implemented by these

other agencies. For these reasons, the BAAQMD has no jurisdiction over the approval of these projects and cannot identify, monitor, or enforce mitigation. Therefore, the BAAQMD cannot identify feasible mitigation to reduce the Project's contribution to these impacts and the impact remains potentially significant and unavoidable under the Low Policy Reference Scenario.

FINDING

Specific economic, legal, social, and technological, or other considerations make infeasible any further mitigation, and the effects therefore remain significant and unavoidable. (PRC Section 21081[a][3]; State CEQA Guidelines Section 15091[a][3].) The BAAQMD concludes, however, that the Project's benefits outweigh the potentially significant and unavoidable effects of the Project, as set forth in the Statement of Overriding Considerations below. (PRC Section 21081[b].)

This potentially significant impact would result from the Project's long-term increase in electricity demand as more electric appliances are installed. To serve new energy loads in California (including the Project), utility-scale solar resources will be developed as well as land-based-wind, offshore wind, geothermal, biomass, and/or other energy resources. These energy projects would be evaluated in separate, future EIRs by various lead agencies and would ultimately be implemented by these other agencies. For these reasons, the BAAQMD has no jurisdiction over the approval of these projects and cannot identify, monitor, or enforce mitigation. Therefore, the BAAQMD cannot identify feasible mitigation to reduce the Project's contribution to these impacts. Thus, this impact would remain potentially significant and unavoidable.

B. SECTION 3.4: NOISE

Impact 3.4-1: Potential to Generate Long-Term Operational Noise

The proposed amendments would include installation of stationary sources such as heat pump units, which would be installed inside and outside of existing buildings. The potential operational noise impacts associated with this equipment could be potentially significant depending on the existing ambient noise environment, noise levels associated with the units, and the noise standards of the jurisdiction in which the units would be installed. Mitigation measures are likely available to minimize these impacts to a less-than-significant level; however, it is likely that noise from some units would remain significant and unavoidable, especially because the BAAQMD does not have jurisdiction to monitor or enforce any of these mitigation measures. Therefore, the Project would result in a substantial long-term operational noise impact, and this impact would be potentially significant.

Mitigation Measures

As described under Impact 3.4-1 in the Draft EIR, the installation of appliances that meet the proposed NO_x standards would occur throughout the nine-county Bay Area and operation of these appliances would generate noise. Mitigation measures, such as enclosures or screening, are likely available to minimize operational noise impacts to a less-than-significant level;

however, it is likely that some would remain significant and unavoidable. The BAAQMD does not have land use authority to require these mitigation measures for individual equipment installations nor jurisdiction to monitor or enforce any of these measures. Therefore, the Project's contribution to these impacts and the impact remains potentially significant and unavoidable.

FINDING

Specific economic, legal, social, and technological, or other considerations make infeasible any further mitigation, and the effects therefore remain significant and unavoidable. (PRC Section 21081[a][3]; State CEQA Guidelines Section 15091[a][3].) The BAAQMD concludes, however, that the Project's benefits outweigh the potentially significant and unavoidable effects of the Project, as set forth in the Statement of Overriding Considerations below. (PRC Section 21081[b].)

This potentially significant impact would result from the Project's long-term increase in operational noise from operation of new appliances that meet the proposed NO_x standards. Mitigation measures, such as enclosures or screening, are likely available to minimize operational noise impacts to a less-than-significant level; however, it is likely that some would remain significant and unavoidable. The BAAQMD does not have land use authority to require these mitigation measures for individual equipment installations nor jurisdiction to monitor or enforce any of these measures. Therefore, the Project's contribution to these impacts and the impact remains potentially significant and unavoidable.

SECTION 11 - FINDINGS REGARDING IMPACTS THAT ARE NOT SIGNIFICANT OR THAT CAN BE MITIGATED BELOW A LEVEL OF SIGNIFICANCE

A. SECTION 3.1: AIR QUALITY

Impact 3.1-1: Long-Term Operational-Related Emissions of ROG, NO_x, PM₁₀, and PM_{2.5}

The proposed amendments would result in a reduction in NO_x emissions generated by natural gas-fired space- and water-heating appliances. This would be achieved through the replacement of these appliances with ultra-low and zero-NO_x natural gas appliances or electric appliances. Operation of ultra-low and zero-NO_x natural gas appliances would inherently result in a reduction in NO_x emissions within the San Francisco Bay Area Air Basin (SFBAAB). Moreover, any turnover to electric appliances would eliminate emissions of all criteria air pollutants from on-site natural gas combustion and associated emissions from this activity. For these reasons, the proposed amendments would have a less-than-significant (beneficial) impact to regional air quality.

FINDING

Under CEQA, no mitigation measures are required for impacts that are less than significant. (PRC Section 21002; State CEQA Guidelines Sections 15126.4[a][3], 15091.)

B. SECTION 3.2: GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Impact 3.2-1: Potential to Generate GHG Emissions

The proposed amendments would result in a decrease in GHG emissions over the next 24 years. This decrease exceeds the net zero threshold of significance and would assist the state in meeting its long-term GHG reduction goals extending to 2045. Therefore, the proposed amendments would not have a cumulatively considerable contribution to climate change. This impact would be less than significant (beneficial).

FINDING

Under CEQA, no mitigation measures are required for impacts that are less than significant. (PRC Section 21002; State CEQA Guidelines Sections 15126.4[a][3], 15091.)

C. SECTION 3.5: AESTHETICS

Impact 3.5-1: Substantial Adverse Effects on a Scenic Vista

The proposed Project—specifically proposed Rule 9-4, which imposes NO_x limitations on residential and commercial central furnaces—could result in replacement of existing furnaces located entirely within a building's interior with a heat pump unit that includes exterior equipment (similar in size and appearance to an air conditioner). Even the largest of these units would not likely be large enough to substantially adversely affect a scenic vista, especially given that the outdoor units would be mounted on or next to structures that would be much larger and more noticeable than the equipment. For these reasons, the Project would result in a less-than-significant impact related to scenic vistas.

FINDING

Under CEQA, no mitigation measures are required for impacts that are less than significant. (PRC Section 21002; State CEQA Guidelines Sections 15126.4[a][3], 15091.)

Impact 3.5-2: Substantially Damage Scenic Resources, Including, but not Limited to, Trees, Rock Outcroppings, and Historic Buildings within a State Scenic Highway

Proposed amendments to Rule 9-4, which impose NO_x limitations on residential and commercial central furnaces, could result in replacement of existing furnaces located entirely within a building's interior with a heat pump unit that includes exterior equipment (similar in size and appearance to an air conditioner). Implementation of this rule change would not affect trees, rock outcroppings, or other natural scenic resources. Although furnace replacement in existing historic buildings may include exterior heat pumps where no pumps currently exist, any such equipment to be placed on the exterior of historic structures is typically regulated by local municipalities. Even if such regulations did not apply, heating ventilation and air conditioning (HVAC) and air conditioning units are commonplace on historic structures, and the addition of this equipment to the exterior of a historic structure would not be considered "substantial damage" to the historic building itself or to a scenic resource as viewed from a State Scenic Highway. The Project would therefore result in a less-than-significant impact.

FINDING

Under CEQA, no mitigation measures are required for impacts that are less than significant. (PRC Section 21002; State CEQA Guidelines Sections 15126.4[a][3], 15091.)

Impact 3.5-3: Substantially Degrade the Existing Visual Character or Quality of Public Views Sites in Rural Areas, or Conflict with Applicable Zoning or Other Regulations Governing Scenic Quality in Urban Areas

In rural areas, replacement of furnaces that would place exterior equipment on existing buildings where no such equipment currently exists would not substantially degrade the visual character of the site because, by definition, an existing building would already exist in these circumstances, and addition of a small piece of external equipment on an existing building would not change the visual character of the site or adversely affect public views. In urbanized areas, exterior equipment is commonplace and the addition of outdoor heat pump units as a result of the Project would not likely conflict with any existing zoning or other regulations governing scenic quality. If such regulations exist, the entity replacing the equipment would be required to comply. For these reasons, the Project would not substantially degrade the existing visual character or quality of public views of the Bay Area or conflict with applicable zoning or other regulations governing scenic quality, and this impact would be less than significant.

FINDING

Under CEQA, no mitigation measures are required for impacts that are less than significant. (PRC Section 21002; State CEQA Guidelines Sections 15126.4[a][3], 15091.)

Impact 3.5-4: Create a New Source of Substantial Light or Glare That Would Adversely Affect Day or Nighttime Views in the Area

Outdoor heat pump units do not include bright lights and are not made of reflective materials (i.e., polished metal or mirrored glass). The proposed rule amendments would not require new lighting fixtures. Therefore, the Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. No impact would occur.

FINDING

Under CEQA, no mitigation measures are required for impacts that are less than significant. (PRC Section 21002; State CEQA Guidelines Sections 15126.4[a][3], 15091.)

SECTION 12 - FINDINGS REGARDING INFEASIBILITY OF PROJECT ALTERNATIVES

A. BASIS FOR ALTERNATIVES FEASIBILITY AND ENVIRONMENTAL IMPACT ANALYSIS

CEQA mandates that every EIR evaluate a no project alternative, plus a range of potentially feasible alternatives to the project or its location that would avoid or substantially lessen the significant impacts of the project (State CEQA Guidelines Section 15126.6[a][b]). The Board finds that the range of alternatives studied in the EIR reflects a reasonable range of alternatives.

These findings consider the feasibility of each alternative analyzed in the EIR. Under CEQA, “feasible” means “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.” (State CEQA Guidelines Section 15364.) As described above, the concept of feasibility permits agency decisionmakers to consider the extent to which an alternative is able to meet some or all of a project’s objectives. In addition, the definition of feasibility encompasses desirability to the extent that an agency’s determination of infeasibility represents a reasonable balancing of competing economic, environmental, social, and technological factors. (See *CNPS, supra*, 177 Cal.App.4th 957, 1001.) An “alternative that ‘is impractical or undesirable from a policy standpoint’ may be rejected as infeasible.” (*Ibid.*) Additionally, an alternative “may be found infeasible on the ground it is inconsistent with the project objectives as long as the finding is supported by substantial evidence in the record.” (*Ibid.*)

B. ALTERNATIVES SELECTED FOR DETAILED ANALYSIS

The EIR identified and compared the significant environmental impacts of the alternatives listed below. In accordance with the provisions of the State CEQA Guidelines Section 15126.6, the following alternatives were evaluated:

- ▶ **Alternative 1: No Project Alternative** assumes no actions would be taken by the BAAQMD and the proposed rule amendments would not be adopted. The BAAQMD's existing Rules 9-4 and 9-6, which already establish NO_x emissions standards for natural gas-fired space- and water-heating appliances, would remain in effect without any changes.
- ▶ **Alternative 2: Earlier Compliance Date** would establish a zero-NO_x standard with a compliance date of January 1, 2026, which is approximately three years earlier than the compliance date for the Project (phased in between 2027 and 2031). Except for the earlier compliance date, the proposed amendments to Rules 9-4 and 9-6 would be the same as the Project.
- ▶ **Alternative 3: Later Compliance Date** would establish a zero-NO_x standard with a compliance date of January 1, 2035, which is approximately six years later than the compliance date for the Project (phased in between 2027 and 2031). Except for the later compliance date, the proposed amendments to Rules 9-4 and 9-6 would be the same as the Project.

Further details on these alternatives, and an evaluation of their environmental effects relative to the environmental effects of the Project, are provided below. Table 4-7 in Chapter 4, "Alternatives," in the Draft EIR provides a qualitative summary of the environmental effects of these alternatives in comparison to the effects of the Project.

1. Alternative 1: No Project Alternative

DESCRIPTION

Under Alternative 1, the No Project Alternative, no actions would be taken by the BAAQMD and the proposed rule amendments would not be adopted. The BAAQMD's existing Rules 9-4 and 9-6, which already establish NO_x emissions standards for natural gas-fired space- and water-heating appliances, would remain in effect without any changes. For a description of these current rules, see Section 2.4, "Background," in Chapter 2, "Project Description," in the Draft EIR.

COMPARISON OF ENVIRONMENTAL IMPACTS

Compared to existing conditions, the No Project Alternative would not reduce NO_x emissions from natural gas-fired space- and water-heating appliances in buildings in the Bay Area beyond what is required under the existing rules. Therefore, compared with the Project, the No Project Alternative would have greater air quality and GHG impacts because the No Project Alternative would not reduce the existing significant impacts related to air quality and GHG emissions and climate change. However, the No Project Alternative would avoid significant potential Project impacts associated with noise and would also avoid the Project's potential considerable contribution to significant impacts related to electrical infrastructure expansion (including renewable energy expansion). Similar to the Project, no impacts related to aesthetics would occur under the No Project Alternative.

FEASIBILITY AND ATTAINMENT OF PROJECT OBJECTIVES

The No Project Alternative would not meet the project objectives. For example, the No Project Alternative would not establish a zero-NO_x standard; expand the applicability of Rule 9-4 to a larger breadth of space-heating appliances; update and clarify the certification and calculation methods contained in the rules; or improve the clarity and enforceability of the rules. For these reasons, the No Project Alternative's desirability is not on balance with the Project in terms of its economic, environmental, social, and technological elements. The Project is the more desirable choice for the region. Therefore, the Board rejects the No Project Alternative.

2. Alternative 2: Earlier Compliance Date

As described in Chapter 2, "Project Description," in the Draft EIR, the Project would establish a zero-NO_x standard with a compliance date in 2029 for Rule 9-4 and compliance dates ranging from 2027 to 2031 based on equipment type, use, and size for Rule 9-6.

There are currently appliances available on the market that meet the zero-NO_x requirements included in the proposed rule amendments. As such, Alternative 2 would require compliance with the zero-NO_x standard at an earlier date compared with the Project. This alternative would establish a zero-NO_x standard with a compliance date of January 1, 2026 for all appliances covered by the proposed zero-NO_x requirements in Rules 9-4 and 9-6. That is approximately three years earlier than the compliance date for the Project (phased in between 2027-2031).

Alternative 2 would achieve an 88-percent reduction of NO_x emissions compared to the baseline by the time the equipment changeout is projected to be completed in 2043; comparatively, the Project would not achieve the same 88-percent reduction until 2046, three years later than could be achieved under Alternative 2 (see Table 2-1 in Chapter 2, "Project Description," in the Draft EIR). While electric heat pump technology is available to meet the earlier compliance dates in Alternative 2, this technology is currently more expensive to install and can be in short supply. The later compliance dates in the proposed Project provide time for additional technology development (including potential natural gas-fired zero NO_x technology) and expected decreases in cost and increases in supply of electric heat pump technology.

COMPARISON OF ENVIRONMENTAL IMPACTS

Alternative 2 would achieve reductions in NO_x emissions three years earlier than could be achieved under the Project (2043 as compared with 2046) and lead to greater NO_x reductions over the long term due to the earlier implementation date. Alternative 2 would result in similar air quality, GHG, noise, and aesthetic impacts compared to the Project. However, this change in compliance date would ultimately result in greater impacts related to the construction of new or expanded grid capacity. Alternative 2 would also not reduce the Project's significant noise impacts.

FEASIBILITY AND ATTAINMENT OF PROJECT OBJECTIVES

Alternative 2 is a feasible alternative to the Project. Further, implementation of Alternative 2 would achieve most of the project objectives except those related to specific compliance dates that allow for equitable implementation of the amendments. However, because of Alternative

2's greater impacts related to the construction of new or expanded grid capacity and its failure to address the significant cost and equity concerns with earlier implementation dates, Alternative 2's desirability is not on balance with the Project in terms of its economic, environmental, social, and technological elements. The Project is the more desirable choice for the region. Therefore, the Board rejects Alternative 2.

3. Alternative 3: Later Compliance Date

Alternative 3 would require compliance with the zero-NO_x standard at a later date compared with the Project. A later compliance date could have potential benefits related to consumer costs, technology development timelines, and electric infrastructure expansion and updates. Later compliance dates would allow for the market of zero-NO_x appliances to mature further, likely resulting in decreased consumer costs for appliance replacement. Based on current projections for State policies requiring building decarbonization and renewable energy development, a later compliance date would also result in removing the need for an accelerated build of electric resources to supply the project. This alternative would establish a zero-NO_x standard with a compliance date of January 1, 2035 for all appliances covered by the proposed zero-NO_x requirements in Rules 9-4 and 9-6. That is approximately six years later than the compliance date for the Project (phased in between 2027 and 2031).

Alternative 3 would achieve an 88 percent reduction of NO_x emissions compared to the baseline by the time the equipment changeout is projected to be completed in 2052; comparatively, the Project would achieve the same 88-percent reduction in 2046, six years earlier than could be achieved under Alternative 3 (see Table 2-1 in Chapter 2, "Project Description," in the Draft EIR).

COMPARISON OF ENVIRONMENTAL IMPACTS

Alternative 3 would not achieve the same rate of reduction in NO_x emissions until six years after the Project could achieve the same rate of reduction (2052 as compared with 2046) and would achieve fewer NO_x reductions overall due to the later implementation date. Alternative 3 would result in similar GHG, noise, and aesthetic impacts compared to the Project. However, under Alternative 3, a significant and unavoidable impact of the Project could be slightly reduced (although not eliminated) because the compliance date would be delayed six years, thereby requiring a slightly smaller amount of new solar, new batteries, new transmission capacity, and distribution capacity compared with the Project.

FEASIBILITY AND ATTAINMENT OF PROJECT OBJECTIVES

Alternative 3 is a feasible alternative to the Project. Except for the compliance date, Alternative 3 would meet most of the project objectives. However, delayed implementation of the proposed rule amendments would result in delayed health benefits resulting from air quality improvements in the region and an overall increase in total NO_x emissions in the Bay Area versus the Project. Because the Project would achieve higher levels of NO_x and GHG reduction than Alternative 3 and would address existing significant air quality impacts in the Air Basin, Alternative 3's desirability is not on balance with the Project in terms of its economic, environmental, social, and technological elements. The Project is the more desirable choice for the region. Therefore, the Board rejects Alternative 3.

SECTION 13 - STATEMENT OF OVERRIDING CONSIDERATIONS

As set forth in the findings above, the Board's approval of the Project will result in significant adverse environmental effects that cannot be avoided and there are no feasible alternatives or mitigation measures that would mitigate or substantially lessen the impacts. Despite the occurrence of these effects, however, the Board chooses to approve the Project because, in its view, the air quality and public health benefits that the Project will produce will render the significant effects acceptable.

In making this Statement of Overriding Considerations in support of the findings of fact and the Project, the Board has considered the information contained in the EIR for the Project as well as the public testimony and the record of proceedings in which the Project was considered. The Board has balanced the Project's benefits against the unavoidable adverse impacts identified in the EIR. The Board hereby determines that the Project's benefits outweigh the significant unmitigated adverse impacts, as discussed in **Section B**, below.

A. SIGNIFICANT AND UNAVOIDABLE IMPACTS

As discussed in the findings above, the Project will result in the following significant and unavoidable impacts:

Utilities and Service Systems (Energy Resources)

- ▶ Impact 3.3-1: Require the Relocation or Construction of New or Expanded Electric Facilities That Would Result in an Adverse Environmental Impact

Noise

- ▶ Impact 3.4-1: Potential to Generate Long-Term Operational Noise

B. OVERRIDING CONSIDERATIONS

In the Board's judgment, the Project and its benefits outweigh its unavoidable significant effects. The following statement identifies the reasons why, in the Board's judgment, the benefits of the Project as approved outweigh its unavoidable significant effects. The Board finds that the noted benefits are individually meritorious, and taken together, provide substantial public benefits that are sufficient to justify approval of the Project.

The Rule Amendments are expected to have significant benefits from the reduction of air pollution. NOx emissions reductions are estimated to be 3,236 tons per year upon full implementation of the proposal. These reductions are significant, with an 88 percent reduction of emissions from the baseline by the projected date of complete equipment changeout in 2046. Exposure to NOx and their atmospheric reaction products can greatly impact health. Breathing air with a high concentration of NOx can irritate airways in the human respiratory system. Such exposures over short periods can aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms, hospital admissions and visits to emergency rooms. Longer exposures to elevated concentrations of NOx may contribute to the development of asthma and potentially increase susceptibility to respiratory infections.

Implementation of the Project would result in significant air quality improvements due to the reduction of NOx emissions, and resultant reductions in ozone and secondary particulate

matter pollution. NOx reacts with other chemicals in the air to form both fine particulate matter and ozone. Both of these pollutants are also harmful when inhaled. Fine particulate matter has been linked to a broad range of health effects, including premature mortality, adverse respiratory health effects, cardiovascular diseases, impacts to cognitive function, and cancer. Particulate matter pollution disproportionately impacts residents of color throughout the nine Bay Area counties. Reducing NOx will reduce the formation of and exposure to secondary particulate matter, thus improving health and saving lives, especially those most impacted by air pollution.

The NOx reductions achieved by the Project are projected to result in the prevention of an estimated 23-52 deaths per year and 71 new cases of asthma per year. Should electric heat pumps be used in large scale for compliance with the Rules, these benefits would increase (due to the co-benefit reduction of primary particulate matter) to the prevention of 37-85 premature deaths and 110 new cases of asthma per year. These health benefits can be valued between 400 to 890 million U.S. dollars annually, based on EPA's Environmental Benefits Mapping and Analysis Program.

The Bay Area is not in attainment with the federal and state ambient air quality standards for particulate matter and ozone, and must take all feasible measures to achieve these standards as soon as possible. The Project represents a feasible measure that the Board can take in furtherance of its goal to attain the federal and state ambient air quality standards.

Exposures associated with emissions from building appliances are not distributed equally amongst different communities and race/ethnicity groups. The Project would have benefits for residents throughout the Bay Area, but modeling indicates that these benefits will be greater in denser communities.

The Project also may result in significant GHG emissions reductions, in furtherance of the Board's goals to address climate change. Though these benefits are not guaranteed, based on currently available zero-NOx technology, if electric heat pumps are employed at scale upon implementation of the Rule amendments, GHG emissions would be reduced significantly in the Bay Area.

These significant air pollution reduction and public health benefits must be weighed against the Project's potentially significant environmental impacts related to noise and utility resources. While the Board does not have jurisdiction to mitigate the potentially significant noise and utility resources impacts, and thus they must remain unmitigated and potentially significant for purposes of this analysis, it is aware that local jurisdictions have the authority to adopt, and have adopted, noise ordinances that may mitigate any noise impacts of the Project. Similarly, state, local and public utility entities will undergo thorough CEQA review and approval processes prior to construction of new utility resources, at which time all available mitigation will be considered and required to the extent feasible. Notwithstanding this, assuming the noise and utility impacts remain potentially significant because the Board lacks jurisdiction to mitigate these impacts, the Board determines that the air pollution and public health benefits outweigh these potentially significant impacts to noise and utility resources. The Board is tasked with protecting and improving air quality in the Bay Area and is committed to taking all feasible measures in support of this mission.

C. CONCLUSION

The Board has balanced these benefits and considerations against the potentially significant unavoidable environmental effects of the Project and has concluded that the impacts are outweighed by these benefits, among others. After balancing environmental costs against Project benefits, the Board has concluded that the benefits the Bay Area will derive from the Project, as compared to existing and planned future conditions, outweigh the risks. The Board believes the Project benefits outlined above override the significant and unavoidable environmental costs associated with the Project.

In sum, the Board approves the Project and finds that any residual or remaining effects on the environment resulting from the Project, identified as significant and unavoidable in the Findings of Fact, are acceptable due to the benefits set forth in this Statement of Overriding Considerations.