

California Air Quality Part 11 Model Reach Code – 2024
Draft 4/03/2024

Air Quality Part 11 Model Reach Code

Peninsula Clean Energy (PCE) and Silicon Valley Clean Energy (SVCE) provide the Air Quality Part 11 Model Reach Code. Additions are underlined, ~~deletions are stricken through~~, and comments explain the rationale or edits needed by jurisdiction.

Version Date	Summary of Updates
March 8, 2024	1 st Draft
April 3, 2024	Added findings for reference

ORDINANCE NUMBER X

AMENDING [CHAPTER X.X] (GREEN BUILDING STANDARDS CODE) OF [TITLE X] OF THE [CODE NAME] AND ADOPT REGULATIONS THAT REQUIRE NEW RESIDENTIAL BUILDINGS AND SUBSTANTIALLY ALTERED EXISTING RESIDENTIAL BUILDINGS TO BE CONSTRUCTED WITH ZERO NO_x EMISSION EQUIPMENT

WHEREAS, much of the Greater Bay Area, including [jurisdiction], remains a nonattainment area that does not meet the federal air quality standards established to protect public health; and

Commented [FF1]: Generic findings are included for reference. Jurisdictions should customize as needed.

WHEREAS, Nitrous Oxide and Nitrous Dioxide (collectively NO_x) emissions from building appliances contribute significantly to the formation of ozone and other harmful air pollutants that are present at levels that violate federal standards; and

WHEREAS, the Bay Area Air Quality Management District approved rules on June 21, 2023 that outlaw the sale of NO_x-emitting water heaters and furnaces in 2027 and 2029 respectively for installation into Bay Area buildings; and

WHEREAS, preparing the structures in the [jurisdiction] for the upcoming implementation of the Bay Area Air Quality Management District’s rules will promote efficiency and cost savings that will benefit [jurisdiction] residents; and

WHEREAS, Section 39002 of the California Health and Safety Code authorizes local agencies to establish air pollution standards that are stricter than statewide or federal standards; and

WHEREAS, California Health and Safety Code section 17958 requires that cities adopt building regulations that are substantially the same as those adopted by the California Building Standards Commission and contained in the California Code of Regulations – Title 24; and;

WHEREAS, the [jurisdiction] adopted such regulations on [date] with modifications as provided by California Health and Safety Code Sections 17958.5, 17958.7 and 18941.5 which specify that

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the City may make changes or modifications to the building standards contained in the California Building Standards based upon express findings that such changes or modifications are reasonably necessary because of local climatic, geological or topographical conditions;

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Part 11 – California Green Building Standards Code (CALGreen)

CHAPTER 2 – DEFINITIONS

ADDITION. An extension or increase in floor area of an existing building or structure.

ALTERATION OR ALTER. Any construction or renovation to an existing structure other than repair for the purpose of maintenance or addition.

NEWLY CONSTRUCTED (or NEW CONSTRUCTION). A newly constructed building (or new construction) does not include additions, alterations or repairs.

NITROGEN OXIDES (NOX). The sum of nitrogen oxide (NO) and nitrogen dioxide (NO₂), collectively expressed as nitrogen dioxide.

NOX EMITTING EQUIPMENT. Any equipment or appliance used for space heating, water heating, cooking, clothes drying and/or lighting that emits more than 0.0 nanograms of nitrogen oxides expressed as NO_x per joule of heat and/or light output.

REPAIR. Reconstruction, replacement, or renewal of any part of an existing building for the purpose of its maintenance or to correct damage, as defined in the California Existing Building Code.

SUBSTANTIALLY ALTERED STRUCTURE. Any structure that is voluntarily altered such that more than fifty (50) percent of the structure’s permitted floor area is altered, or more than fifty (50) percent of the existing framing above the sill plate is removed or replaced for purposes other than repair, or fifty (50) percent of the structure’s combined wall and floor area is altered, or more than fifty (50) percent of the existing structure’s permitted floor area is added. If any of these criteria are met within a three-year period, measured from the date of the most recent previously obtained permit final date, the structure shall be considered a substantially altered structure.

ZERO-NOX EMISSION BUILDING. A building with zero, on-site, NO_x emissions that utilizes zero-NO_x emitting equipment to protect public health and safety by reducing exposure to pollutants that impact outdoor air quality.

ZERO-NOX EMITTING EQUIPMENT. Any equipment or appliance that emits no more than 0.0 nanograms of nitrogen oxides (expressed as NO_x) per joule of heat and/or light output. Equipment and appliance uses include, but are not limited to, space heating, water heating, cooking, clothes drying, and lighting.

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CHAPTER 4 – RESIDENTIAL MANDATORY MEASURES

DIVISION 4.5 Environmental Planning

**SECTION 4.508
OUTDOOR AIR QUALITY**

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4.508.1 Zero-NOx emission buildings. New construction buildings and substantially altered structures shall comply with Section 4.508.1.1 or 4.508.1.2.

4.508.1.1. New construction. Newly constructed buildings, newly constructed detached accessory dwelling units, and other newly constructed detached habitable structures shall be zero-NOx emission buildings.

4.508.1.2. Substantially altered structures. Substantially altered structures shall be zero-NOx emission buildings.

CHAPTER 5 – NONRESIDENTIAL MANDATORY MEASURES

Division 5.5 Environmental Planning

**SECTION 5.508
OUTDOOR AIR QUALITY**

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5.508.3 Zero-NOx emission buildings. New construction buildings and substantially altered structures shall comply with Section 5.508.3.1 or 5.508.3.2.

5.508.3.1. New construction. Newly constructed buildings and other newly constructed detached habitable structures shall be zero-NOx emission buildings.

5.508.3.2. Substantially altered structures. Substantially altered structures shall be zero-NOx emission buildings.

Note: Items from Appendix A may be included in the above code language to customize the policy per jurisdiction. Delete this note before finalizing code.

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APPENDIX A

Language contained in this appendix may be included in the model code above to customize code language per jurisdiction. Specific sections can be selected for inclusion.

CHAPTER 2 – DEFINITIONS

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COMMERCIAL FOOD HEAT-PROCESSING EQUIPMENT. An equipment used in a food establishment for heat-processing food or utensils and that produces grease vapors, steam, fumes, smoke, or odors that are required to be removed through a local exhaust ventilation system, as defined in the California Mechanical Code.

TECHNICALLY INFEASIBLE. With respect to an alteration of a building or a facility, there is a low likelihood of successfully completing the alteration because existing building or site constraints prevent the modification or addition of elements, spaces, or features that would fully and strictly comply with the minimum requirements for new construction and are necessary for compliance. Examples include but are not limited to, utility conflicts, service capacity constraints, or construction limitations due to environmental conditions.

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CHAPTER 4 – RESIDENTIAL MANDATORY MEASURES

Division 4.5 Environmental Planning

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**SECTION 4.508
OUTDOOR AIR QUALITY**

4.508.1 Zero-NOx emission buildings

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4.508.1.1 New construction.

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Exceptions:

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1. Outdoor cooking equipment, outdoor fireplaces, portable space heaters, generators, and pool/spa heaters for residential building projects are exempt from the requirements of 4.508.1.1, or
2. Indoor cooking equipment for residential building projects is exempt from the requirements of 4.508.1.1. The applicant shall comply with Section 4.508.1.3.
3. Multifamily residential building projects that have approved entitlements before the effective date of this ordinance may install NOx emitting equipment for water heating systems serving multiple dwelling units. The applicant shall comply with Section 4.508.1.3.

Jurisdiction shall have the authority to approve alternative materials, design and methods of construction or equipment per California Building Code Section 104.

4.508.1.2 Substantially altered structures.

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1. Outdoor cooking equipment, outdoor fireplaces, portable space heaters, generators, and pool/spa heaters for residential building projects are exempt from the requirements of 4.508.1.2, or
2. Indoor cooking equipment for residential building projects is exempt from the requirements of 4.508.1.2. The applicant shall comply with Section 4.508.1.3, or
3. Substantially altered structures are exempt from the requirements of 4.508.1.2 if the electrical utility service is underground and the installation of zero-NOx emitting equipment is technically infeasible as determined by the Building Official per 4.508.1.4, or
4. Substantially altered structures are exempt from the requirements of 4.508.1.2 if the primary electrical utility customer of record at the residence is enrolled in the PG&E California Alternate Rates for Energy Program (CARE) and Family Electric Rate Assistance Program (FERA) Programs.

4.508.1.3 Zero-NOx readiness requirements for indoor cooking equipment.

Where NOx emitting indoor cooking equipment is allowed as an exception under 4.508.1.1 or 4.508.1.2, the construction drawings shall provide for the infrastructure and physical space needed to accommodate the future installation of a zero-NOx emitting cooking appliance in the following ways, as certified by a registered design professional or licensed electrical contractor:

1. A dedicated 240-volt branch circuit wiring shall be installed within 3 feet from the cooktop and accessible to the cooktop with no obstructions. The branch circuit conductors shall be rated 50 amps minimum. The blank cover shall be identified as "240V ready". All electrical components shall be installed in accordance with the California Electrical Code.

2. The main electrical service panel shall have a reserved space to allow for installation of a double pole circuit breaker for a future electric cooktop installation. The reserved space shall be permanently marked as "For Future 240V use."

4.508.1.4 Technical Infeasibilities. For technical infeasibilities, the property owner shall submit a request to use alternate means and methods. The property owner shall provide any additional information required by the Building Official to make a determination on the request per the 2022 CALGreen, Section 101.8. The determination of the Building Official may be appealed to the City Council, as provided in Section 1-4.01.

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CHAPTER 5 – NONRESIDENTIAL MANDATORY MEASURES

Division 5.5 Environmental Planning

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SECTION 5.508 OUTDOOR AIR QUALITY

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5.508.3 Zero-NOx emission buildings.

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5.508.3.1. New construction.

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Exceptions:

1. Nonresidential buildings containing kitchens located in a place of public accommodation, as defined in the California Building Code Chapter 2, may apply to the local enforcing agency for a modification to install commercial food heat-processing equipment that is NOx emitting equipment. The local enforcing agency may grant the modification if they find:
 - a. A business-related need to cook with NOx emitting equipment; and
 - b. The need cannot be achieved equivalently with zero-NOx emitting equipment;
and

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- c. The applicant has installed energy efficient equipment based on Energy Star or California Energy Wise qualifications, as available.
- d. The applicant shall comply with Section 5.508.3.3.

[Jurisdiction] shall have the authority to approve alternative materials, design and methods of construction or equipment per California Building Code Section 104.

5.508.3.2. Substantially altered structures.

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Exceptions:

- 1. Nonresidential buildings containing kitchens located in a place of public accommodation, as defined in the California Building Code Chapter 2, may apply to the local enforcing agency for a modification to install commercial food heat-processing equipment that is NOx emitting equipment. The local enforcing agency may grant the modification if they find:
 - a. A business-related need to cook with NOx emitting equipment; and
 - b. The need cannot be achieved equivalently with zero-NOx emitting equipment; and
 - c. The applicant has installed energy efficient equipment based on Energy Star or California Energy Wise qualifications, as available.
 - d. The applicant shall comply with Section 5.508.3.3.

[Jurisdiction] shall have the authority to approve alternative materials, design and methods of construction or equipment per California Building Code Section 104.

5.508.3.3. Zero-NOx readiness requirements for commercial food heat-processing equipment.

Where NOx emitting commercial food heat-processing equipment is allowed as an exception under 5.508.3.1, or 5.508.3.2, the construction drawings shall provide for the infrastructure and physical space needed to accommodate the future installation of a zero-NOx emitting commercial food heat-processing appliance in the following ways, as certified by a registered design professional or licensed electrical contractor:

- 1. Dedicated branch circuit wiring, electrically isolated and designed to serve zero-NOx emitting equipment in accordance with manufacturer requirements, including the appropriate voltage, phase, minimum amperage, and an electrical receptacle or junction box within five feet of the appliance that is accessible with no obstructions. Appropriately sized conduit may be installed in lieu of conductors. All electrical components shall be installed in accordance with the California Electrical Code; and

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2. Reserved circuit breakers in the electrical panel for each branch circuit, permanently marked as “For Future Zero-NOx Range”, and positioned on the opposite end of the panel supply conductor connection.

5.508.3.4 Technical Infeasibilities. For technical infeasibilities, the property owner shall submit a request to use alternate means and methods. The property owner shall provide any additional information required by the Building Official to make a determination on the request per the 2022 CALGreen, Section 101.8. The determination of the Building Official may be appealed to the City Council, as provided in Section 1-4.01.

Commented [TT3]: To be updated per jurisdiction

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