Regular Meeting of the Building Inspection Commission

April 15, 2026

Agenda Item 8

City and County of San Francisco
Department of Building Inspection

Daniel Lurie, Mayor
David Kane, S.E. Interim Director

April 8, 2026

Building Inspection Commission
49 South Van Ness Avenue
San Francisco, CA 94103

Re: Administrative Bulletin (AB-112) Implementation of Regulations for All Electric New Construction and Major Renovations

Honorable Members of the Commission:

On April 8, 2026 the full Code Advisory Committee (CAC) met to consider adoption of Administrative Bulletin (AB-112) and associated forms updated to reflect changes in the 2025 San Francisco Building Code to include Major Renovations to All Electric Regulations. After a presentation by Barry Hooper, with the Department of the Environment, and a recommendation of adoption by the Green Building and Mechanical, Electrical, Plumbing and Fire Sub-Committees, the CAC voted unanimously to recommend the Building Inspection Commission approve the adoption of AB-112 and associated forms with minor amendments.

Respectfully submitted,

Thomas Fessler
DBI Technical Services
Secretary to the Code Advisory Committee

cc. David Kane, S.E. Interim Director
Jimmy Cheung, Acting Deputy Director
Mary Wilkinson-Church, Permit Services Manager
Christine Gasparac, Assistant Director
Tate Hanna, Legislative Affairs Manager
Vivian Huang, Technical Services Manager
J. Edgar Fennie, Chair, Code Advisory Committee

Attach: AB-112 and associated forms

AB-112 Implementation of Regulations for All Electric New Construction and Major Renovations

NO. AB-112

DATE: Effective *Insert date of BIC approval.*

SUBJECT: Administration and General Design

TITLE: Implementation of Regulations for All Electric New Construction and Major Renovations

PURPOSE: The purpose of this Administrative Bulletin is to detail standards and procedures for the implementation of the all-electric requirements of the San Francisco Building Code.

REFERENCE: San Francisco Building Code;
San Francisco Green Building Code;
San Francisco Administrative Bulletin 005: Procedures for Approval of Local Equivalencies;
California Building Standards Code;
San Francisco Environment Code, Chapter 7.

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1) DISCUSSION

San Francisco Building Code 106A.1.17 requires newly constructed buildings and major renovations to existing buildings to be designed and constructed such that all space conditioning, water heating, cooking, and clothes drying systems are all-electric, as defined. San Francisco Building Code 106A.1.17 prohibits installation of infrastructure, piping systems, or piping for distribution of natural gas or propane to such uses, and allows limited exceptions.

APPLICABILITY

San Francisco Building Code Section 106A.1.17 applies to all permit applications submitted on or after June 1, 2021 proposing to construct one or more new buildings, and to all permit applications submitted on or after July 1, 2026 proposing a major renovation to an existing building in San Francisco.

In the case of Site Permits, the effective date is the date the Site Permit application (not an addendum) is filed with the Department of Building Inspection. Addenda to site permits and revisions to permit applications received before the dates above are not required to meet the requirements of San Francisco Building Code Section 106A.1.17, unless the addenda or revisions change the scope of the project such that current codes are generally applicable, or such that an exception is no longer warranted.

WHAT IS AN ALL-ELECTRIC BUILDING

An All-Electric Building or Project as defined by San Francisco Building Code Section 202 relies on electricity as the source of energy for space heating, space cooling, water heating, cooking, and clothes drying. In addition, building permits are prohibited for projects proposing to install gas piping systems, fixtures, or infrastructure for decorative uses and lighting or onsite generation of electricity.

Steam generated off-site may be used for space conditioning, water heating, or laundry equipment.

MAJOR RENOVATIONS TO EXISTING BUILDINGS

A 'Major Renovation' is an extensive alteration or addition that proposes replacing mechanical systems. Specifically, a Major Renovation is defined by San Francisco Building Code:

> **Major Renovation:** In addition to substantial upgrade to mechanical systems, the project fits one or more of the following categories:
>
> *(1) a Non-structural Alteration that is substantial pursuant to … Section 304.5[1] of the San Francisco Existing Building Code;*
>
> *(2) a Substantial Structural Alteration as defined by Section 202 of the San Francisco Existing Building Code;*
>
> *(3) an addition that is a Substantial Improvement as defined by* Section 202 *of the San Francisco Existing Building Code.*
>
> **Substantial Upgrade to Mechanical Systems:** The proposed project:

[1] As of January 2026, the section of San Francisco Existing Building Code (2025 edition) describing a non-structural alteration was relocated to Section 304.5. Section 503.11.1 is no longer applicable.

(1) "Replaces space heating and hot water heating system for the entire building; or
(2) Installs space heating or water heating systems that will serve 80% or more of the total conditioned floor area of the building; or
(3) Installs space conditioning or water heating systems serving the area of addition."

EXCEPTIONS

In the following circumstances natural gas or propane piping systems, fixtures, or infrastructure may be installed to the minimum extent necessary for the operation of equipment installed as part of the proposed project.

All buildings or projects covered by San Francisco Building Code 106A.1.17 shall comply with the *Design Guidelines and for Public Safety and Electric Ready Construction* (Attachment 1).

Exceptions (A) through (G) below describe exceptions that apply prescriptively to circumstances specified in the San Francisco Building Code. Exception (H) allows flexibility if it is not physically or technically feasible to build all-electric.

A. USES NOT SPECIFICALLY REGULATED

Gas piping systems, fixtures, or infrastructure may be installed strictly to serve areas and systems outside the scope of the definitions of All-Electric Buildings and Mixed-Fuel Buildings. For example, industrial processes are not specifically addressed by either definition. In an industrial project, natural gas piping systems, infrastructure, and fixtures may be installed as needed for a proposed industrial process – but space heating, space cooling, water heating, cooking, and clothes drying must be all-electric.

B. APPLIANCES CERTIFIED BY THE MANUFACTURER AS MEETING FEDERAL ENERGY STANDARDS

The federal *Energy Policy and Conservation Act* (EPCA) empowers the US Department of Energy (US DOE) to set standards for energy efficiency of appliances sold in the United States. US DOE adopts standards by issuing regulations that specify the specific characteristics of appliances that a standard applies to, minimum energy efficiency, and testing procedures. US DOE maintains public records of which appliances have been certified by the manufacturer to meet a given standard. If a specific gas-fueled appliance has been certified to meet a given EPCA energy efficiency standard, the appliance may be installed in an 'all-electric' project.

In a project where a gas-fueled appliance is installed, natural gas piping and infrastructure associated with this exception shall be limited to the operation of appliances specified and installed in the project. Gas piping systems, fixtures, and infrastructure shall not be installed to serve the location of any appliance that does not require natural gas to operate, nor any appliance not certified as meeting an EPCA efficiency standard.

To propose installation of gas-fueled appliances complete the form in Attachment 5: "Application to Install Gas-Fueled Appliance Meeting a Federal Efficiency Standard."

C. COMMERCIAL COOKING AREAS – NEW CONSTRUCTION

For new construction projects which submit an initial application for permit:

- On or after June 1, 2021 and before January 1, 2022: Areas specifically designated for commercial food service may provide gas piping systems, fixtures, and infrastructure exclusively for cooking equipment within the area designated for commercial food service.

- January 1, 2022 or thereafter: Permission may be granted to install gas piping systems, fixtures, and infrastructure exclusively to serve cooking equipment within an area designated for a specific commercial food service establishment, such as a specific restaurant. Proposed gas infrastructure and piping shall be documented by completing Attachment 3: Application for Gas in Commercial Food Service. Include the name of the food service establishment, proposed gas cooking appliances, and fuel consumption rating for each device.

D. COMMERCIAL COOKING AREAS – MAJOR RENOVATIONS TO EXISTING BUILDINGS

In Major Renovation projects where an initial application for permit is submitted on or after July 1, 2026, gas piping systems, fixtures, and/or infrastructure shall be limited to areas designated for installation of gas-fueled cooking equipment for a food facility. Gas piping may be installed to serve a food facility that is part of the proposed project or a future food facility.

Proposed gas infrastructure and piping shall be documented by completing Attachment 3: Application for Gas in Commercial Food Service.

For food facility water heating systems, see also Physical or Technical Infeasibility below.

E. AFFORDABLE HOUSING

All-electric requirements apply to construction of new buildings, including affordable housing, where an initial application for permit is submitted on or after June 1, 2021.

For projects which submit an initial application for permit for a major renovation to an existing building which will create or preserve 100% affordable housing:

- Prior to July 1, 2027: The project is exempt from all-electric requirements including *Design Guidelines and for Public Safety and Electric Ready Construction*. Other regulations may continue to apply, such as electric-ready provisions of Title 24 Part 6 (2025) and Bay Area Air District Regulation 9 Rule 6: Nitrogen Oxide Emissions from Water Heaters.

- From July 1, 2027 to January 1, 2031: If the cost of converting to All-Electric would conflict with a project's ability to meet project Affordable Housing Goals, Mayor's Office of Housing and Community Development (MOHCD) shall submit a waiver request to the Environment Department, documenting:

    - The project's affordable housing goals as defined by MOHCD,

    - The issue facing the project,

    - The specific gas piping systems, infrastructure, and fixtures requested, and

- Proposed modified compliance with Design Guidelines for Public Safety and Electric Ready Construction, if necessary to the project's Affordable Housing Goals.

The waiver request shall be submitted via email to: greenbuilding@sfgov.org. The Environment Department shall review the waiver request via the procedures described in Environment Code Section 705.

- January 1, 2031 and thereafter: Shall be all-electric.

F. NON-RESIDENTIAL TO RESIDENTIAL CONVERSION

Projects proposing to convert an existing building from primarily non-residential use to primarily multifamily residential use (R-2 occupancy) prior to January 1, 2031 are exempt from all-electric requirements of San Francisco Building Code 106A.1.17.3. Note that this exemption does not apply to relevant state and regional regulations, such as Bay Area Air District Rule 9-4 limiting nitrous oxide (NOx) emissions from water heaters and boilers, and Rule 9-6 limiting nitrous oxide emissions from furnaces.

G. EXISTING DEVELOPMENT AGREEMENT OR CONTRACT

Some development agreement projects or other multiphase projects may entail separate applications for permits to construct infrastructure serving an area versus buildings constructed after infrastructure is developed. San Francisco Building Code Section 106A.1.17 applies to any application to construct a building submitted to the Department of Building Inspection on or after June 1, 2021, or an application to construct a major renovation to an existing building submitted on or after June 1, 2026. If a project sponsor believes that application of San Francisco Building Code Section 106A .1.17 to a phase of development or to an individual building would violate the terms of a development or other agreement with the City, the project sponsor may seek a determination using Attachment 4: Application for Review of an Existing Agreement. Department of Building Inspection staff will refer the matter to the City Attorney's Office to analyze the request for exception and the extent to which all or part of San Francisco Building Code Section 106A .1.17 will apply. An exception shall only apply to the extent required under the development agreement or other contract.

H. PHYSICAL OR TECHNICAL INFEASIBILITY

A case-by-case exception for mixed-fuel construction may be granted when all-electric design is not feasible due to physical or technical constraints specific to the site and occupancy, and the same project is feasible if gas-fueled equipment is allowed to serve a specific system or area. Installation of natural gas piping systems, fixtures, or infrastructure shall be allowed only to the extent necessary to resolve the demonstrated infeasibility.

Section 2 of this bulletin describes the criteria for a situation to be physically or technically infeasible. Section 3 describes the process to determine whether an issue of physical or technical infeasibility applies.

2) DETERMINATION OF PHYSICAL OR TECHNICAL INFEASIBILITY

Physical or technical infeasibility is understood to refer to an exceptional situation where:

> A project proposal cannot be accomplished due to physical or technical constraints specific to the site and occupancy that prohibit elements, spaces or features necessary to comply with all requirements that apply to the proposed project;
>
> AND
>
> The project proposal is feasible and able to fully comply with all applicable requirements if gas piping systems, fixtures and infrastructure are allowed to serve a specific system or area.

Table 1 below describes criteria to identify situations that may result in physical or technical infeasibility.

Table 1: Criteria for physical or technical infeasibility:

<table>
<tr><th>Category</th><th>Criteria</th></tr>
<tr><td>A) Energy Standards</td><td>Compliance with Title 24 Part 6 Energy Standards for all-electric design may be infeasible only if there is no prescriptive option for compliance with the Energy Standards, nor an option for compliance under the performance method for any system or technology serving the specific use.

Proposal to install a technology, system, or design not allowed under the Energy Standards does not demonstrate infeasibility where available all-electric technologies, systems, or designs would comply with the Energy Standards.</td></tr>
<tr><td>B) Electric Utility Infrastructure Delay - General</td><td>All new construction and most renovations entail installation or modification of electric utility infrastructure. All-electric construction is infeasible only if all-electric design would impose substantially greater delay to construct electric utility infrastructure than an equivalent mixed-fuel design. “Substantially greater” refers to a delay that adversely impacts viability of the project.

Recent California laws (SB410 & AB50, 2023) require PG&E to improve customer service for new and modified electric service. The CPUC has set the following targets:
<table>
<tr><th>Utility Activity</th><th>Average Target
(calendar days)</th><th>Maximum
(calendar days)</th></tr>
<tr><td>Review Application</td><td>10</td><td>45</td></tr>
<tr><td>Energize Line Extension

- Either from secondary transformer to meter, from substation to</td><td>182</td><td>357</td></tr>
</table>
</td></tr>
</table>

secondary transformer, or both combined		
New Distribution Circuit (12 kV or greater)	–	684
Substation Upgrade	–	1,021
New Substation	–	3,242

More info:

cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/energization

To determine whether electric infrastructure is physically or technically infeasible:

• Prepare electric load calculations for both mixed-fuel and all-electric design, with equivalent occupancies, functions, and floor area; and

• Submit an application for service to the electric utility serving the project.

New Construction

The all-electric option shall be deemed infeasible if:

- The time required to construct the utility infrastructure for the all-electric design option is substantially greater than for mixed-fuel, and
- The utility-estimated delivery date for such electric infrastructure improvements is significantly later than the proposed date for completion of construction.

Major Renovation

The all-electric option shall be deemed infeasible if the project qualifies for the new construction exception above, OR the CPUC's Maximum Target timeline for improvements associated with the all-electric project (see table above) is ≥45% longer than for mixed fuel.

> Example: Mixed fuel requires a line extension (Maximum: 357 days).
> All-electric requires a new distribution circuit (Maximum: 684 days).
> 684 days is 47% longer than 357 days: all-electric is infeasible.

See *Section 3, Review for Determination of Feasibility* for streamlined process determination of feasibility due to electric utility infrastructure for small infill sites and major renovations producing housing.

C) Electric Utility Infrastructure: Delay – New Construction

For a new construction project where electric service is being provided to a customer by the San Francisco Public Utilities Commission ("SFPUC"), and SFPUC confirms the peak electric demand requested for the all-electric design option would directly or indirectly require SFPUC to do any of the following:

Served by SFPUC	(i) Revise a previously submitted application for service to Pacific Gas and Electric Company ("PG&E") that is currently under review by PG&E; (ii) Submit a new application for service to PG&E to serve a load for which there is an existing service agreement with PG&E; (iii) Alter plans for electric infrastructure that have been approved or alter infrastructure under construction; or (iv) Make changes to existing infrastructure that would impair or limit a contract right that exists as of the effective date of this ordinance. Situations (i) to (iv) above do not represent a basis for a finding of infeasibility if the same issue applies to a mixed-fuel design constructed at the same site with equivalent occupancies, functions, and floor area. Situations (i) to (iv) will only apply to developments where an application for wholesale electric service relating to the parcel has been submitted to and deemed complete by PG&E as of the effective date of the ordinance (June 1, 2021), and the project sponsor demonstrates it is physically or technically infeasible to build all-electric within the electrical capacity constraints documented in existing applications for service to PG&E for the purpose of serving buildings that were planned but not yet permitted as of the effective date of the ordinance. An over-estimation of ampacity requirements for all-electric design compared to mixed fuel is not a basis for exception. Under California Public Utilities Commission Rule 2.C, utilities are obligated to provide service. Request by the utility for the customer's proposal to comply with applicable tariff, easement, safety, and reliability requirements, or for reasonable time to construct improvements, is not a basis for infeasibility.
D) Physical Constraint in Small Infill Sites	All-electric design may be infeasible if based on the rules published by the electric utility serving the site: 1) Mixed-fuel design does not require the installation of an electric service transformer; and 2) All-electric design with the same features would require the installation of an electric transformer; and Either *New Construction:* • The site has a linear footage of street frontage of 75 feet or less;[i] and • The Planning Department confirms there is no feasible option to locate an electrical transformer on the premises. OR *Major Renovation:* • The site has a linear footage of street frontage of 75 feet or less; and

	• The existing utility service capacity serving the site (and the sum of capacity of service transformers if applicable) are:
	  • insufficient for the proposed all-electric design, and
	  • sufficient for mixed fuel.
	
	This exception does not apply if the proposed mixed-fuel design will install a new transformer on the premises or a sub-surface vault in the public right of way, including replacement with a transformer of greater capacity than was previously installed.

E) Food Service Water Heating – Existing Buildings	In addition to meeting San Francisco Plumbing Code, water heating systems for commercial food facilities must be approved by the San Francisco Department of Public Health as complying with California Retail Food Code §114192(a), which requires hot water to be supplied at 120°F minimum. The California Conference of Directors of Environmental Health (CCDEH) Guidelines for Sizing Water Heaters (2020) provide a clear and repeatable standard for minimum sizing. The Heat Pump Plan Review for Food Facilities technical bulletin published by the Environment Department and Department of Public Health explains that tank-type hybrid heat pump water heaters with built-in electric resistance coils can satisfy 2020 CCDEH sizing guidelines. However, hybrid heat pump water heaters and electric resistance water heaters may be infeasible for large food facilities or facilities that utilize dish machines to clean eating and drinking utensils for public use. An exception applies if: • If dish machines are proposed: Each machine is a heat-recovery with cold water input only • The minimum input for an electric water heater (including heat pump water heaters) per CCDEH Guidelines (2020) Section VI. Sizing Requirements for Storage Water Heaters is 12 kW or greater. As of March 2026, CCDEH and California utilities are collecting field performance data to revise the CCDEH guidelines to better address all types of water heaters, including additional heat pump-based designs suitable for large food facilities. It is recommended that the Environment Department, Department of Public Health, and Department of Building Inspection review and revise this exception when CCDEH Guidelines are updated.
F) Exceptional Circumstance	All-electric design may be infeasible if • It is demonstrated physical or technical constraints specific to site and occupancy prohibit elements, spaces or features necessary for full and strict compliance with all-electric construction; and

	• If gas piping systems and fixtures are substituted for electrical equipment serving a specific system or area, the project can attain full and strict compliance with all-electric construction. Proposal to install a technology, system, or design that is inconsistent with, or not allowed by the discretionary determination by a City agency shall not be a basis for demonstration of infeasibility.

3) REVIEW FOR DETERMINATION OF INFEASIBILITY

Compliance with San Francisco Building Code Section 106A.1.17 and all other requirements for new construction have been determined to be practical and feasible in general. San Francisco Building Code Section 106A.1.17 allows for approval of exception allowing gas infrastructure and piping systems to be installed on a case-by-case basis where All-Electric construction is demonstrated to be infeasible.

The conditions of infeasibility depend substantially on design details, and design development provides the opportunity to address physical and technical conditions. An application for design review for exception due to infeasibility will not be approved in the absence of substantial architectural detail, including the architectural addendum and Title 24 compliance documentation.

Prior to DBI review of an application for exception due to infeasibility, a Review of All-Electric Infeasibility must be completed by engineers with specialized understanding of electrical engineering, mechanical design, energy efficiency including compliance with Title 24 Energy Standards, and experience with the design of all-electric systems for space conditioning and water heating. In all cases, it is the responsibility of the Design Professional of Record, with the support of the entire project team, to apply all available energy efficiency and electric load minimization practices.

Review of All-Electric Infeasibility

A Review of All-Electric Infeasibility answers two core questions:

- What specific physical or technical constraint makes an all-electric design infeasible, but does not affect a mixed-fuel design?
- Can the constraint be solved through reasonable design changes?

To address these questions, the review shall include the following steps:

1. **Identify the Constraint**
    - Clearly describe the physical or technical issue that prevents All-Electric construction. Provide enough detail to show why the issue does not apply to a mixed fuel design.
2. **Identify Alternatives**

    A Review of All-Electric Infeasibility shall

- Be prepared by professionals experienced with successful all-electric construction, as described in *Qualifications for All-Electric Infeasibility Reviewers*, below.

  The project sponsor is responsible for all costs related to All Electric Infeasibility Review, including hiring reviewers.

- Review plans, calculations, and supporting documentation to determine whether the constraint can be resolved.

  For projects utilizing commissioning, the Owners Project Requirements and Basis of Design shall be shared with reviewers. (CalGreen 5.410 requires commissioning for non-residential projects of 10,000 square feet or larger. Residential projects that apply the LEED BD+C rating system will also undergo commissioning.)

  Consider alternatives in three areas:

  - **Efficiency Options:**
    - Confirm all applicable energy efficiency design and construction practices have been applied, and the design meets or is more efficient than Title 24 Energy Standards, including each applicable compliance metric.
    - Verify all equipment is no less efficient than the prescriptive baseline specified by Title 24 Energy Standards.
    - Confirm all feasible design and construction practices have been applied in order to reduce peak electrical load and electrical capacity required for the project.
  - **Mechanical Options**
    - Determine whether alternative mechanical equipment size and type, piping and ducting layout, or envelope design can reduce peak heating and cooling loads in order to reduce peak electrical demand.
    - Determine whether mechanical system output can be reduced while maintaining Basis of Design consistent with Owners Project Requirements. Right-sizing heat pumps can significantly reduce the cost of mechanical and electric construction.
  - **Electrical Options:**
    - Review electrical panel schedule and load calculations for the all-electric design. Confirm connected electrical load and demand electric load are calculated in accord with California Electrical Code, and consistent with the design used in Title 24 Energy Standards compliance calculations .
    - Make a specific recommendation as to whether proposed utility electric service capacity can be reduced in order to eliminate the constraint and enable all-electric construction.

- **Comparable Examples**
    - Document examples of all-electric construction in similar circumstances and identify the design and construction approaches that differ from the proposed design.

Document Available Solutions:

- Identify the specific area and system proposed as mixed fuel.
- Document the options considered.
- Demonstrate that a mixed-fuel exception is the only option that will resolve the constraint.
- Confirm gas piping, fixtures or systems are strictly limited to the area where all-electric compliance is infeasible.

3. Apply Electric-Ready and Safety Requirements.

If mixed fuel is allowed, the affected area must be built electric-ready, which means the design includes sufficient space, safety features, and capacity for both safe operation and future installation of electric equipment. A complete All-Electric Infeasibility Review shall:

- Comply with *Design Guidelines for Public Safety and Electric Ready Construction (Attachment 1).*

  If complete adherence to the Design Guidelines conflicts with the basis for an exception, staff shall approve modified compliance to the extent necessary to the viability of the project.

- Review construction methods, equipment, and features proposed for the mixed-fuel area and recommend any additional measures needed to ensure health, safety, and fire protection equivalent to an all-electric design.

4. Submit a Review of All-Electric Infeasibility for approval

Submit a Local Equivalency Request (Administrative Bulletin 005), with two copies of the following:

- Project plans specifying the area and system proposed for mixed-fuel construction
- Complete All Electric Infeasibility Review document, including design alternatives considered and comparable examples, and signatures of reviewers for electrical, mechanical, and architectural/Title 24 and stamp by the Design Professional of Record.
- Proposed plans and specifications consistent *Design Guidelines for Public Safety and Electric-Ready Construction.* If any aspects of *Design Guidelines* cannot be met, indicate the specific issue and proposed modification.

Pay plan review fees as noted in Administrative Bulletin 005.

5. Project Review Meeting

The Department of Building Inspection will lead a review meeting with participation of the Environment Department, Design Professional of Record, Project Mechanical Engineer, and All-Electric Infeasibility Reviewers. The participants shall:

- Review plans, calculations, Title 24 compliance documents, the Basis of Design where applicable, and supporting documentation described in "2. Identify Alternatives" above, in order to confirm:
    - All possible energy-efficiency measures and design alternatives were considered.
    - Gas piping systems, fixtures, and infrastructure are proposed only to the extent necessary for project feasibility.
    - The proposed design meets the *Design Guidelines for Public Safety and Electric-Ready Construction,* in order to provide equivalent fire protection and health and safety to all-electric design.

DBI will issue one of the following decisions

- Approved with conditions determined by Department of Building Inspection with concurrence by Department of Environment,
- Placed on "hold" pending submittal of additional information, or
- Disapproved.

Determinations may be appealed to the Board of Examiners, as established under Section 105.1 of the San Francisco Building Code. See https://sfdbi.org/board-examiners for details.

Upon approval, a copy of the signed *Request for Approval of Local Equivalency* (AB-005) approving the indicating all conditions of approval will be part of the permanent record of the project, and a copy will be sent to the project sponsor. The project sponsor shall include all specified conditions in plans, specifications, and addenda.

QUALIFICATIONS FOR ALL-ELECTRIC INFEASIBILITY REVIEWERS

All-Electric Infeasibility Reviewers must apply specialized knowledge and experience in the application of energy efficiency design and construction; compliance of all-electric systems with Title 24 Energy Standards, and experience with the design of all-electric systems for space conditioning and water heating. The review team must include each of the following:

Item	Qualification	Minimum Experience
1	Licensed Professional Engineer with Mechanical Specialty	Design and demonstration of compliance for at least one all-electric project which is:

2	Licensed Professional Engineer with Electrical Specialty	• Either multifamily (3 or more housing units), or commercial (minimum of 10,000 square feet floor area); AND • Either - Construction of a new building, OR - Alteration where scope included replacement of space conditioning and water heating systems.
3	California Association of Building Energy Consultants – Certified Energy Analyst	Title 24 documentation accepted for compliance for at least one all-electric new construction project of the same or similar occupancy to the project under review.

Each discipline above must be represented by a third party, i.e. individuals not employed by a company responsible for the design or construction of the project.

Due to the qualifications required, review is expected to be performed by a team, but individuals holding multiple qualifications may serve more than one role.

Simplified Process for Small Infill Sites:

For projects seeking exception on the basis of physical constraint for small infill sites:

1. Persons responsible for the design of the project may be responsible for preparation of the review.
2. Reviewer(s) must include:
    - Licensed Professional Engineer with Electrical Specialty, AND
    - Either Licensed Professional Engineer with Mechanical Specialty, or CABEC Certified Energy Analyst.
3. Prepare a *Review for Determination of All-Electric Infeasibility* as described above.

Simplified Process for Electric Utility Infrastructure Delay:

Where delay to construct electric utility infrastructure for all-electric construction would result in substantially greater delay compared to a mixed-fuel alternative (Table 1, item B), the process for Review for All-Electric Infeasibility shall be limited to:

1. Persons responsible for the design of the project may be responsible for preparation of the review.
2. Reviewer(s) must include:
    - Licensed Professional Engineer with Electrical Specialty, AND

- Either Licensed Professional Engineer with Mechanical Specialty, or CABEC Certified Energy Analyst.

3. Prepare a *Review for Determination of All-Electric Infeasibility* as described above. As detailed in Table 1, Criteria B, document the projected date of utility electric service connection for both the all-electric and mixed-fuel options, projected date to complete the construction of the project, and the reason the resulting delay in utility electric service would adversely impact viability of the project.

4) PROJECT COMPLETION

Final compliance verification documentation (Attachment 2) is required prior to final inspection. No final Certificate of Completion may be issued until All-Electric Ordinance: Final Compliance Verification has been received, reviewed, and accepted by the Department of Building Inspection.

Failure to ensure the project is designed and constructed in a manner consistent with an exception and conditions approved will subject the project to the enforcement and abatement remedies detailed in the San Francisco Building Code.

5) LIST OF ALL-ELECTRIC INFEASIBILITY REVIEWERS

The Department of Building Inspection with the assistance of Department of Environment shall conduct an Open Call for Interest and Qualification to Review All Electric Infeasibility to identify professionals with specialized knowledge and experience in the design and construction of all-electric systems Title 24 Energy Standards.

Department of Building Inspection shall provide upon request a list of individuals who have provided evidence of holding such qualifications. *Review of All-Electric Infeasibility* will only be considered when prepared by individuals holding the appropriate qualifications. A project sponsor may use reviewers not on the list, provided the proposed reviewer submits the same information required to establish qualifications of listed reviewers.

Submittal of substantially inadequate or incorrect analysis shall be grounds for removal from the list of qualified reviewers.

Originally signed by:

David Kane [DATE]

Acting Director

Department of Building Inspection

Approved by the Building Inspection Commission on [DATE]

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Attachment 1: Design Guideline for Public Safety and Electric Ready Construction

Attachment 2: Final Compliance Verification - Form

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Attachment 6: Summary of Investor-Owned Utility Options for Proposed Electric Load Exceeding Capacity of Utility Infrastructure

[i] The linear footage of street frontage is calculated by adding the lengths of all property lines directly adjacent to the right of way.

Attachment 1: Design Guidelines for Public Safety and Electric Ready Construction

Introduction

In order to improve safety, protect public health, and facilitate disaster recovery – and reduce carbon emissions as a consequence – San Francisco Building Code Section 106A.1.17 set electricity as the fuel source for new buildings and major renovations. Limited exceptions allow installation of natural gas piping systems, infrastructure, and fixtures in new construction and major renovations to the minimum extent necessary. Administrative Bulletin 112 *Implementation of Regulations for All Electric New Construction and Major Renovations* details the process to determine when an exception may apply.

This guideline explains how to meet two requirements of San Francisco Building Code Section 106A.1.17:

- Project designs that include gas piping, "shall provide equivalent health, safety, and fire protection to a design with no gas piping systems," and
- All projects "shall be Electric-Ready as specified" in this design guideline.

Public Safety

San Francisco Building Code 106A.1.17 requires projects installing natural gas piping systems, infrastructure and equipment to provide for "equivalent health, safety, and fire protection" to all-electric construction. The risks associated with natural gas are significant.

Natural gas infrastructure may rupture, fail, or explode due to seismic activity. San Francisco's combination of topography, building density, and population density add to these risks. For example, gas line ruptures caused 40% of San Francisco's fires in the aftermath of the 1989 Loma Prieta earthquake,[1] and in February 6, 2019, a gas line explosion on Geary Street burned five buildings.[2] The 2020 Lifelines Performance Project recommended requiring electrification of existing buildings to accelerate disaster recovery because PG&E has estimated that after a 7.9 earthquake, it would take six months to restore gas services citywide while electricity could be restored in less than a week.[3]

The combustion of natural gas also emits a wide range of pollutants that are detrimental to human health, including carbon monoxide (CO), nitrogen oxide (NOx), and particulate matter (PM). These pollutants contribute to acute and chronic health effects including asthma in children, respiratory illness, cardiovascular

[1] Earthquake Safety Implementation Program (2017) "Study of options to reduce post-earthquake fires in San Francisco" ESIP Task A.6.i, Table 2.
[2] ABC 7 News (2019) "NTSB releases preliminary report on gas line explosion in San Francisco" abc7news.com/ntsb-releases-preliminary-report-on-gas-line-explosion-in-san-francisco/5160531/
[3] San Francisco Lifelines Council (2020) "Lifelines Restoration Performance Project" https://onesanfrancisco.org/lifelines.

disease, and premature death.[4] Gas combustion in buildings is responsible for 31% of NOx emissions from stationary sources in the Bay Area – a bigger impact than light duty vehicles. [5] In homes with combustion appliances, indoor concentrations of NOx are about twice as high as outdoors.[6]

Safety

In order to minimize hazards associated with natural gas, projects installing natural gas piping systems, infrastructure and equipment shall:

1) Install ventilation, fire protection, and monitoring related to gas uses as required by applicable codes.
   AND
2) In the vicinity of each gas utility meter, install an Earthquake-Activated Gas Shutoff Valve as described by CA Plumbing Code 1211.8, and meeting CCR T24 Part 12 Ch 12-16-1. This valve is to be installed in addition to any valve that may be required upstream of the utility meter.
   AND
3) At each floor where gas is supplied, install one Excess Flow Automatic Gas Shutoff Valve (EFV).
   AND
4) For each gas-fueled residential range or cooktop: At the time of construction, complete a combustion safety test of each gas-fueled residential range or cooktop and associated ventilation per Building Performance Institute protocol – ANSI/BPI-1200. Construction permits shall only be approved if maximum carbon monoxide (CO) concentration recorded 6 horizontal feet from the stove is less than allowed to enter the living space.

Electric-Ready

SFBC Section 202 defines Electric Ready as:

> ***ELECTRIC-READY.*** *A building, project, or portion thereof that is designed and constructed to be ready in all respects for a future retrofit to electricity as the source of energy for all building systems regulated by San Francisco Building Code 106A.1.17, including heating, water heating, clothes drying, cooking, and onsite generation of electricity (except where primarily fueled by onsite digestion of organic material).*

A project that is electric-ready in all respects must be prepared in all occupancies and areas for installation of electric equipment in the future, including:

---

[4] See for example:

UCLA Fielding School of Public Health (2020) "Effects of Residential Gas Appliances on Indoor and Outdoor Air Quality and Public Health in California". https://docs.cpuc.ca.gov/PublishedDocs/SupDoc/A2112009/5594/497733215.pdf

Lin, Brunekreef, Gehring (2013) "Meta-analysis of the effects of indoor nitrogen dioxide and gas cooking on asthma and wheeze in children". academic.oup.com/ije/article/42/6/1724/737113, and

Nicole (2014) "Cooking Up Indoor Air Pollution". ehp.niehs.nih.gov/doi/pdf/10.1289/ehp.122-A27

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[6] US Environmental Protection Agency "Nitrogen Dioxide's Impact on Indoor Air Quality," accessed April 19, 2023. https://www.epa.gov/indoor-air-quality-iaq/nitrogen-dioxides-impact-indoor-air-quality

- Physical space for installation and infrastructure for operation of all equipment – including the future installation of electrically-powered equipment,
- Dedicated wiring and associated electrical safety measures, and reserved capacity in electric service gear, switchgear, and protection sufficient for future replacement with electrical equipment.

There are three paths to demonstrate that a project is Electric-Ready:

Path 1: Electricity Only:

A project that complies with applicable building codes, uses a permanent supply of electricity for all space conditioning, water heating, cooking, and clothes drying, and installs no gas piping systems is electric-ready.

Equipment and uses that are not part of the definition of an "All-Electric Project or Building" are not required to be electric-ready if served by gas piping systems, fixtures, or infrastructure.

Path 2: All-Electric Baseline with Exception due to Physical or Technical Infeasibility:

If an exception due to physical or technical infeasibility is approved, the project shall prepare a complete all-electric design to serve as the baseline – including mechanical, electrical, and architectural features of the proposed project. The all-electric baseline design:

- Shall include specifications and plan set for construction, and identify the specific electric equipment proposed for heating, cooling, and clothes drying for all occupancies, and non-commercial cooking.
  AND
- Shall be designed in all aspects for all-electric construction, including electric utility service capacity, electric conductors or raceways, overcurrent protection, bus bar capacity, electric switchgear, space for electric utility infrastructure, space for equipment, ventilation or heat exchange for the operation of heat pumps, and condensate management for the installation of the specified electric systems.[7]
  AND
- Shall include all Title 24 Part 6 calculations and compliance forms applicable to pre-construction project phases as part of *Review of All-Electric Infeasibility.*

[7] A specific commercial food service establishment may designate gas-fueled commercial cooking equipment needed for the function of the establishment. Gas-fueled equipment designated in an "Application for Exception for Food Service" (Attachment 3) shall be considered the baseline design, and commercial cooking is not required to be electric-ready except as required by Title 24 Part 6 Section 120.6(k) for newly constructed quick-service and institutional kitchens.

Mixed-Fuel Design

The new construction or major renovation project shall meet the electric-ready provisions of Title 24 Part 6 (2025) that apply to uses of gas in newly constructed buildings based on the proposed system(s) and occupancy. (See reference Table A-1, below.)

In addition, for each system or detail where Title 24 Part 6 does not require electric-ready construction, the new construction or major renovation project shall retain the same or greater value(s) as the baseline all-electric design, including:

a) The same or greater physical space for future replacement of gas-fueled devices with electric equipment;

b) Space conditioning system water supply temperature of 130 °F or less;

c) Ventilation, physical space, or heat exchange for the function of heat pumps;

d) Drains or equivalent for condensate management; and

e) Electrical panel schedule, conductors, bus capacity, and utility service capacity for all-electric design.

For example:

> **Central Hot Water Heating for Multifamily:** Title 24 Part 6 (2025) Section 160.9(f) and Joint Appendix JA15.2.1 address each of the considerations in (a) to (e) above for central heat pump water heating systems. Compliance with 160.9(f) and JA15.2.1 constitutes an electric-ready central water heating system.
>
> **Space heating for Nonresidential:** Title 24 Part 6 (2025) Section 120.2(l) limits hot water supply temperature to ≤ 130 °F for zones that use hot water for space heating. An electric-ready project must provide the physical space, ventilation or heat exchange, condensate management, and electrical infrastructure as the all-electric baseline design.

If limited electric utility service capacity or delay for electric utility service are approved as the basis for a physical or technical infeasibility, staff shall approve modified compliance to the extent necessary to the viability of the project, provided the modification is not otherwise prohibited by applicable codes.

For example:

> **Limited Utility Electric Service in a Major Renovation:** Due to one of the situations in Administrative Bulletin 112, Table 1, a project is limited to 400A 3-phase utility electric service, and the efficient all-electric design presented in *Review of All-Electric Infeasibility* would require a minimum of 500A service. The electrical system design may be modified to reduce required service capacity until the project can be approved for construction with 400A 3-phase service. However, the project shall maintain design supply water temperature for space conditioning (if applicable) no greater 130F, space

for future replacement of gas-fueled devices with electric equipment, space for ventilation or heat exchange for the function of heat pumps, drains or equivalent condensate management, and space for future installation of electrical conductors.

(If the project in this example was newly constructed, the electric-ready provisions of Title 24 Part 6 would continue to apply.)

Path 3: Prescriptive Exception

Administrative Bulletin 112 Section 1, *Exceptions* items (a) through (g) describes six circumstances where prescriptive exceptions allow gas piping and infrastructure. Where one of the following exceptions applies, the project shall:

- **Newly Constructed Buildings:** Meet all applicable provisions of Title 24 Part 6. (See summary in Table A-1, below.) A local exception does not affect applicability of Title 24 Part 6.

- **Major Renovations to Existing Buildings:**

  Food facilities: Shall install electric service sufficient for future food facilities to comply with Title 24 Part 6 (2025) section 120.6(k).

  Residential occupancy:

  - Single family shall comply with Title 24 Part 6, Sections 150.0 (h), (n), (t), (u), and (v).
  - Multifamily and other R Occupancy shall comply with Title 24 Part 6, Section 160.9 (all applicable subsections) and Table A-2 below.

  Non-residential occupancy shall comply with Table A-1 and A-2 below.

  100% affordable housing:
  - Permit application prior to July 1, 2027: This guideline does not apply.
  - July 1, 2027 – Jan 2031:
    - Comply with Title 24 Part 6, Sections 150.0(h) and (t); 160.9 (c), (d), (e), (f); and Table A-2 below.
    - If an exception due to conflict with housing goals applies, this guideline can be moderated to the extent necessary to meet housing goals.
  - Jan 1, 2031 or after: See “Residential Occupancy” above.

  Office to residential conversion: This guideline does not apply to permit applications received prior to January 1, 2031.

  Existing development agreement: Where the City Attorney’s Office determines San Francisco Building Code 106A.1.17 does not apply, this guideline does not apply.

In each circumstance above, applicable state or regional codes cannot be waived.

Table A-1: Electric-Ready Provisions of California Energy Standards - Title 24 Part 6 (2025)

System[8]	Project Type		
	Single Family (1-2 Units)	**Multifamily (≥3 Units) and other R Occupancy**	**Nonresidential Occupancy**
Space Heating	150.0(h): System sizing, defrost, controls, and supplementary heat. 150.0(t): Dedicated 240v 30A circuit minimum	In-unit: 160.9(b): Dedicated 240v 30A circuit minimum. Note: If a unitary heat pump is installed as the permanent source of heating for a unit, the circuit can be sized per manufacturer specifications. Central: See Table A-2 for local guidelines	120.2(l): Limits hot water supply temperature to 130 °F or less *See Table A-2 for additional local guidelines.*
Water Heating	150.0(n): Comprehensive criteria to ensure the building is heat pump ready.	160.9(e) & (f): Comprehensive criteria to insure individual and central water heating must be heat pump ready	110.3(c)7: Mandatory heat pump water heating
Cooking[9]	150.0(u): Dedicated 240v branch circuit with conductors rated at 50A minimum, and double pole circuit breaker reserved.	160.9(c): Dedicated 240v branch circuit with conductors rated at 50A minimum, and double pole circuit breaker reserved.	120.6(k): Newly constructed quick-service and institutional kitchens shall install dedicated branch circuit and outlets accessible to cookline appliances, 50A per circuit minimum, additional 50A breaker, and 800A service minimum. Excludes all-electric commercial kitchens.
Clothes Dryer[10] **serving individual dwelling unit**	150.0(v): Dedicated 240v branch circuit with conductors rated at 30A minimum, and double pole circuit breaker reserved for electric clothes dryer.	160.9(d): Dedicated 240v branch circuit with conductors rated at 30A minimum, and double pole circuit breaker reserved for electric clothes dryer.	*Not Applicable*
Clothes Dryer[11] **serving common use area**	See 160.9(d)	160.9(d): Install conductors and raceway serving 24A 208/240V per clothes dryer, 2.6kVa per 10kBtu/hour rated gas input or pipe capacity, or electric power required to provide	*See Table A-2 for local guidelines.*

[8] For each system in Table A-1, if no gas hookup is installed serving the appliance, the installed electric appliance or system is electric ready. Circuits serving electric appliances can be sized per manufacturer specifications and other applicable codes.

[9] If no gas cooking device is proposed, Table A-1 does not apply. Circuits serving electric appliances can be sized per manufacturer specifications and other applicable codes.

[10] If no gas clothes dryer is proposed, Table A-1 does not apply. For example, if a listed appliance combining clothes washer and heat pump dryer is installed, and the manufacturer's specification requires a single 120v 15A circuit, a separate circuit for a dryer would not be required.

[11] If no gas clothes dryer is proposed, Table A-1 does not apply.

		equivalent functionality to the gas-powered equipment.	

Table A-2: Electric-Ready Provisions of Specific to San Francisco if Gas-Fueled Equipment is Installed

System	Project Type	
	Multifamily (≥3 Units) and other R Occupancy	**Nonresidential Occupancy**
Space Heating	Electric capacity - Provide either: Electric power to the location designated for future installation of a heating system with not less than 30A at 240V per dwelling unit served by the system – per CA Energy Code 160.9(b) OR The electrical power required to provide equivalent functionality of the gas-powered equipment as calculated and documented by a licensed design professional associated with the project. In addition: For zones that use hot water for space heating limit heating hot water supply temperature to 130 °F. Designate physical space for future installation of heat pump system, and install condensate drain.	Provide the electrical power required to provide equivalent functionality of the gas-powered equipment as calculated and documented by a licensed design professional associated with the project. Packaged HVAC Units Installed to Exterior: N/A - no further requirement. Custom Central HVAC: Provide space, ventilation or heat management, and condensate management for system specified in *Review of All-Electric Infeasibility.* Other, such as ceiling-mounted garage heaters: Install conductors and raceway to supply the location of the heater with 2.6kVa per 10kBtu/hour rated gas input or pipe capacity, or electric power required to provide equivalent functionality to the gas-powered equipment.
Clothes Dryer	See Table A-1	Comply with T24 (2025) 160.9(d): Install conductors and raceway serving 24A 208/240V per clothes dryer, or minimum 2.6kVa per 10kBtu/hour rated gas input or pipe capacity, or electric power required to provide equivalent functionality to the gas-powered equipment.

Project Review

Based on the applicable path for complying with these guidelines, supplemental review may be required:

- Projects proposing electricity as the sole fuel source for loads regulated by SF Building Code 106A.1.17 (Path 1) may discuss details at a pre-application or pre-addendum review meeting, if desired.
- Projects seeking exception on the basis of physical or technical infeasibility (Path 2 above) may review adherence to these guidelines at a *Review of All-Electric Infeasibility* meeting. Electric readiness requirements relating to California Energy Standards shall be documented via applicable documentation and procedures as adopted by the California Energy Commission.

- Projects applying for exception on the basis of prescriptive exceptions (Path 3) shall document compliance via standard plans, forms and specifications submitted to the Department. No special review meeting is required. Pre-application or pre-addendum review are available if desired.

Prior to final approval of completion, the inspector shall confirm the quantity and type of installed gas appliances is equal to or less than approved in the most recent addendum, or Application for Exception for Commercial Food Service (Attachment 3), Application for Review of Pre-Existing Agreement (Attachment 4), or the form for a Gas-Fueled Appliance Meeting a Federal Efficiency Standard (Attachment 5).

All-Electric Ordinance: Final Compliance Verification

Attachment 2

This form must be completed prior to issuance of a final Certificate of Completion.

Address: _____

Permit Application Numbers: _____

This project has been designed and constructed to comply with San Francisco Building Code Section 106A.1.17.1. Check one:

☐	No gas piping systems have been installed.
☐	Gas piping systems have been installed

If gas piping systems have been installed:

☐	The project is Mixed-Fuel, and gas piping systems, fixtures, and infrastructure have been installed, but are limited to the specific system and area approved under AB-112 and AB-005.	
	Indicate System(s):	Indicate Area(s). Include reference to plan sheets.
	_____ _____	_____ _____
☐	Gas piping systems and infrastructure have been installed serving uses not specifically regulated by San Francisco Building Code Section 106A.1.17.1. List systems below:	
	Indicate System(s):	Indicate Area(s). Include reference to plan sheets and AB-005 approval.
	_____ _____	_____ _____

As the Design Professional of Record, I verify the project has been constructed to comply with San Francisco's Building Code Section 106A.1.17.1.

Every area served by gas piping (as indicated above) has been designed and constructed for future conversion to all-electric, in a manner consistent with AB-112 *Design Guideline for Electric Ready Buildings* to the maximum extent possible. All conditions approved under AB-005 for provision of equivalent health, safety, and fire-protection have been fulfilled.

Signed: _____ Date: _____

Affix professional stamp:

Staff Use Only: Project has been inspected: Sign & Date:

_____

All-Electric Ordinance:

Attachment 3

Commercial Food Service Exception

San Francisco Building Code Section 106A.1.17.1(2) allows installation of gas piping systems, fixtures, and infrastructure in order to fuel cooking equipment for commercial foodservice. This form documents the proposed scope of gas piping systems, in two parts:

- (This page) Application by the project applicant proposing to install gas piping serving commercial food service, and
- (Following page) Detail about each specific food service establishment proposing to utilize gas for cooking.

The date of permit application and project category (new construction vs. renovation) determine the exception that may apply:

Category	New Construction		Major Renovations to Existing Buildings
Date of Initial Application	June 1, 2021 – December 31, 2021	January 1, 2022 or After	July 1, 2026 or After
Gas Piping is Limited to:	Cooking equipment within area designated for commercial foodservice		
Required to Designate a Specific Commercial Foodservice Establishment	No	Yes	No
SFDBI Must Find Gas is Necessary to Specific Cooking Devices and Cooking Processes	No	Yes	No

Project Address: _____ _____

Permit Application Numbers: _____

Number of proposed food service establishments where gas piping systems will be installed:	
The maximum capacity of gas piping systems, infrastructure, and equipment shall be no greater than necessary to serve the specific gas-fueled appliances approved to be installed. *(Initial at left)*	

Proposed gas piping systems will exclusively serve cooking equipment in designated commercial food service area approved by the Department of Building Inspection.

Design Professional of Record

Signed: _____ Date: _____

Print Name: _____

Affix professional stamp:

All-Electric Ordinance: Exception for Commercial Food Service – Detail for New Construction

This form documents the scope of gas piping systems proposed to serve commercial cooking functions in newly constructed buildings. Where multiple food service establishments are proposed in a newly constructed building, attach one copy of this form for each establishment proposing to utilize gas in a cooking process. This application can only be accepted as part of the initial permit package or addenda for a newly constructed building.

Food Service Establishment Seeking Exception to All Electric Requirements for New Construction:

Name of Establishment	
Company Name (if different)	
Address	
Owner Contact Name	
Phone and Email	
Primary type of foodservice proposed (restaurant, bakery, etc)	
Indicate processes that require gas	

Specify each proposed gas-fueled cooking device below and state the specific reason gas is necessary to performing the food preparation process. (Please limit responses to technical reasons and cooking techniques. Cost is not a basis for exception to a building code.)

Inventory of Proposed Gas Cooking Equipment

Equipment Type	Number of Units	Gas BTU Rating per Unit	Reason Gas is Determined Necessary

All-Electric Ordinance: Application for Review of Pre-Existing Agreement

Attachment 4

San Francisco Building Code Section 106A.1.17.1 prohibits the issuance of building permits for mixed-fuel buildings for new construction projects that submit an initial application for building permit on or after June 1, 2021 and major renovations to existing buildings that submit an initial application for building permit on or after June 1, 2025. Some projects may entail separate applications for permit to construct infrastructure serving an area versus buildings constructed after infrastructure is developed. If a project sponsor believes that application of San Francisco Building Code Section 106A.1.17.1 to a building would violate the terms of a development or other agreement with the City, the Department of Building Inspection will refer the matter to the City Attorney's Office to analyze the extent of any prospective conflicts and the extent to which all or part of San Francisco Building Code Section 106A.1.17.1 will apply. This form serves solely to document an alleged conflict in order to facilitate tracking by Department of Building Inspection staff.

Pre-Existing Agreement	
Project Name	
Development Agreement or Contract	
Contract Date	
Amendment, if applicable	
Building Permit Application (The current project)	
Project Name (if different from above)	
Block/Lot	
Street Address	
Primary Occupancy	
Gross Building Area	
Permit Number	
Date of Initial Application for Permit:	
This Form	
Date submitted to SF DBI	
Submitted by (sign and print name)	
Company	
Address	
Phone	
Email	
Describe the end uses in the proposed building requested to utilize natural gas piping, infrastructure, and equipment:	

All-Electric Ordinance: Gas-Fueled Appliance Meeting a Federal Efficiency Standard

Attachment 5

The US Department of Energy (US DOE) sets energy efficiency standards for appliances as authorized by the federal Energy Policy and Conservation Act (EPCA). Each efficiency standard applies to appliances with specific characteristics. San Francisco Building Code Section 106A.1.17 allows a permit to be issued to install any appliance that is certified as meeting a federal energy efficiency standard. Gas piping systems, fixtures, and infrastructure may be installed to the minimum extent necessary to the function of the appliance.

All projects subject to San Francisco Building Code Section 106A.1.17 must comply with *Design Guidelines and Review Procedures for Public Safety and Electric Ready Construction* (DBI Administrative Bulletin 112, Attachment 1).

Instructions`

1. The Design Professional of Record shall provide the information requested below.
2. On the following page, indicate each appliance where natural gas is proposed as a source of energy.
3. For each type of proposed appliance, complete one row of the form. To confirm the appliance has been certified as meeting a specific Appliance Standard, use either the US Dept of Energy eeCompass database: regulations.doe.gov/eecompass or the Modernized Appliance Efficiency Database System (MAEDbS) published by the California Energy Commission: cacertappliances.energy.ca.gov
4. Provide the total Gas BTU input for all proposed appliances combined, and reference to the proposed utility supply pipe capacity (BTU/hour pipe capacity)

At final project conclusion the quantity and type of gas-fueled appliances installed shall be no greater than documented via this form.

Project Address: _____

Permit Application Number(s): _____

Each appliance listed on the following page has been certified as meeting an energy efficiency standard established by the US Department of Energy. Gas piping systems in the proposed project will exclusively serve the appliances installed as part of the proposed project, which are listed on the following page.

Design Professional of Record

Signed: _____ Date: _____

Print Name: _____

Affix professional stamp:

\,

All-Electric Ordinance: Inventory of Proposed Gas-Fueled Appliance Meeting a Federal Efficiency Standard

Indicate each proposed type of gas-fueled EPCA appliance below.

Inventory of Proposed Gas-Fueled EPCA Appliances

Equipment Type	Applicable US DOE Appliance Standard	Gas BTU Input Per Appliance	Quantity of Appliance	Total Gas BTU Input Required	Area(s) Served
Total Gas BTU Input Required					
Length of gas supply piping:				**Gas supply line internal diameter**	
Schedule of Proposed Natural Gas Utility Service Meters:					

Attachment 6: Summary of Investor-Owned Utility Options for Proposed Electric Load Exceeding Capacity of Utility Infrastructure

Investor-owned utilities such as Pacific Gas and Electric Company are regulated by California Public Utilities Commission under the California Public Utilities Code. Per CPUC-approved Electric Rule 2, a utility may not refuse to extend electric service to retail customers in PG&E's service territory provided the customer complies with applicable tariff, easement and safety and reliability requirements. In situations where existing infrastructure may not be capable of serving a new load proposed by a customer, PG&E will apply the appropriate tariffs and associated cost responsibilities in order to serve the new load.

If a project proposes peak load and/or generation that exceeds the capacity of existing utility infrastructure serving the location, or if the utility determines the change would push service voltage levels out of ranges specified in CPUC Electric Rule 2.C, there are three possibilities:

- **Modify Design:** The project may be modified to reduce the proposed peak load and/or generation to match existing infrastructure capacity, such as through efficiency, battery storage, or other modifications.
- **Upgrade Utility Equipment Dedicated to the Project:** The project sponsor can upgrade service infrastructure, subject to Electric Rule 16, and utility will provide the level of service supported by the upgraded service infrastructure.
- **Wait for Utility Facility Upgrade:** If the requested peak load and/or generation can only be met after upgrades to distribution or transmission infrastructure are completed by the utility, it may take some time to construct the facilities necessary to serve the new load. The project sponsor may coordinate a construction and service level schedule to accommodate the time needed to construct the facilities as well as a ramp up schedule of the project's load.

Alternative: When a request for retail service exceeds limitations specified in Electric Rule 2, the Exceptional Case provision of Electric Rule 16.G allows:

> "When the application of this rule appears impractical or unjust to either party, or ratepayers, PG&E or Applicant may refer the matter to the Commission for a special ruling or for approval of special conditions which may be mutually agreed upon."

Attachment 1: Design Guidelines for Public Safety and Electric Ready Construction

Introduction

In order to improve safety, protect public health, and facilitate disaster recovery – and reduce carbon emissions as a consequence – San Francisco Building Code Section 106A.1.17 set electricity as the fuel source for new buildings and major renovations. Limited exceptions allow installation of natural gas piping systems, infrastructure, and fixtures in new construction and major renovations to the minimum extent necessary. Administrative Bulletin 112 *Implementation of Regulations for All Electric New Construction and Major Renovations* details the process to determine when an exception may apply.

This guideline explains how to meet two requirements of San Francisco Building Code Section 106A.1.17:

- Project designs that include gas piping, "shall provide equivalent health, safety, and fire protection to a design with no gas piping systems," and
- All projects "shall be Electric-Ready as specified" in this design guideline.

Public Safety

San Francisco Building Code 106A.1.17 requires projects installing natural gas piping systems, infrastructure and equipment to provide for "equivalent health, safety, and fire protection" to all-electric construction. The risks associated with natural gas are significant.

Natural gas infrastructure may rupture, fail, or explode due to seismic activity. San Francisco's combination of topography, building density, and population density add to these risks. For example, gas line ruptures caused 40% of San Francisco's fires in the aftermath of the 1989 Loma Prieta earthquake,[1] and in February 6, 2019, a gas line explosion on Geary Street burned five buildings.[2] The 2020 Lifelines Performance Project recommended requiring electrification of existing buildings to accelerate disaster recovery because PG&E has estimated that after a 7.9 earthquake, it would take six months to restore gas services citywide while electricity could be restored in less than a week.[3]

The combustion of natural gas also emits a wide range of pollutants that are detrimental to human health, including carbon monoxide (CO), nitrogen oxide (NOx), and particulate matter (PM). These pollutants contribute to acute and chronic health effects including asthma in children, respiratory illness, cardiovascular

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disease, and premature death.[4] Gas combustion in buildings is responsible for 31% of NOx emissions from stationary sources in the Bay Area – a bigger impact than light duty vehicles. [5] In homes with combustion appliances, indoor concentrations of NOx are about twice as high as outdoors.[6]

Safety

In order to minimize hazards associated with natural gas, projects installing natural gas piping systems, infrastructure and equipment shall:

1) Install ventilation, fire protection, and monitoring related to gas uses as required by applicable codes.
   AND
2) In the vicinity of each gas utility meter, install an Earthquake-Activated Gas Shutoff Valve as described by CA Plumbing Code 1211.8, and meeting CCR T24 Part 12 Ch 12-16-1. This valve is to be installed in addition to any valve that may be required upstream of the utility meter.
   AND
3) At each floor where gas is supplied, install one Excess Flow Automatic Gas Shutoff Valve (EFV).
   AND
4) Gas-fueled residential range or cooktop: At the time of construction, complete a combustion safety test of a minimum of 10% of gas-fueled residential ranges or cooktops and associated ventilation per Building Performance Institute protocol – ANSI/BPI-1200. The minimum number of appliances tested shall be rounded up the nearest whole number. Where multiple ranges or cooktops are installed, no less than two installations shall be tested. Construction permits shall only be approved if maximum carbon monoxide (CO) concentration recorded 6 horizontal feet from the stove is less than allowed to enter the living space.

Electric-Ready

SFBC Section 202 defines Electric Ready as:

> ***ELECTRIC-READY.*** *A building, project, or portion thereof that is designed and constructed to be ready in all respects for a future retrofit to electricity as the source of energy for all building systems regulated by San Francisco Building Code 106A.1.17, including heating, water heating, clothes drying, cooking, and onsite generation of electricity (except where primarily fueled by onsite digestion of organic material).*

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A project that is electric-ready in all respects must be prepared in all occupancies and areas for installation of electric equipment in the future, including:

- Physical space for installation and infrastructure for operation of all equipment – including the future installation of electrically-powered equipment,
- Dedicated wiring and associated electrical safety measures, and reserved capacity in electric service gear, switchgear, and protection sufficient for future replacement with electrical equipment.

There are three paths to demonstrate that a project is Electric-Ready:

Path 1: Electricity Only:

A project that complies with applicable building codes, uses a permanent supply of electricity for all space conditioning, water heating, cooking, and clothes drying, and installs no gas piping systems is electric-ready.

Equipment and uses that are not part of the definition of an "All-Electric Project or Building" are not required to be electric-ready if served by gas piping systems, fixtures, or infrastructure.

Path 2: All-Electric Baseline with Exception due to Physical or Technical Infeasibility:

If an exception due to physical or technical infeasibility is approved, the project shall prepare a complete all-electric design to serve as the baseline – including mechanical, electrical, and architectural features of the proposed project. The all-electric baseline design:

- Shall include specifications and plan set for construction, and identify the specific electric equipment proposed for heating, cooling, and clothes drying for all occupancies, and non-commercial cooking.
  AND
- Shall be designed in all aspects for all-electric construction, including electric utility service capacity, electric conductors or raceways, overcurrent protection, bus bar capacity, electric switchgear, space for electric utility infrastructure, space for equipment, ventilation or heat exchange for the operation of heat pumps, and condensate management for the installation of the specified electric systems.[7]
  AND
- Shall include all Title 24 Part 6 calculations and compliance forms applicable to pre-construction project phases as part of *Review of All-Electric Infeasibility.*

[7] A specific commercial food service establishment may designate gas-fueled commercial cooking equipment needed for the function of the establishment. Gas-fueled equipment designated in an "Application for Exception for Food Service" (Attachment 3) shall be considered the baseline design, and commercial cooking is not required to be electric-ready except as required by Title 24 Part 6 Section 120.6(k) for newly constructed quick-service and institutional kitchens.

Mixed-Fuel Design

The new construction or major renovation project shall meet the electric-ready provisions of Title 24 Part 6 (2025) that apply to uses of gas in newly constructed buildings based on the proposed system(s) and occupancy. (See reference Table A-1, below.)

In addition, for each system or detail where Title 24 Part 6 does not require electric-ready construction, the new construction or major renovation project shall retain the same or greater value(s) as the baseline all-electric design, including:

a) The same or greater physical space for future replacement of gas-fueled devices with electric equipment;

b) Space conditioning system water supply temperature of 130 °F or less;

c) Ventilation, physical space, or heat exchange for the function of heat pumps;

d) Drains or equivalent for condensate management; and

e) Electrical panel schedule, conductors, bus capacity, and utility service capacity for all-electric design.

For example:

> **Central Hot Water Heating for Multifamily:** Title 24 Part 6 (2025) Section 160.9(f) and Joint Appendix JA15.2.1 address each of the considerations in (a) to (e) above for central heat pump water heating systems. Compliance with 160.9(f) and JA15.2.1 constitutes an electric-ready central water heating system.
>
> **Space heating for Nonresidential:** Title 24 Part 6 (2025) Section 120.2(l) limits hot water supply temperature to ≤ 130 °F for zones that use hot water for space heating. An electric-ready project must provide the physical space, ventilation or heat exchange, condensate management, and electrical infrastructure as the all-electric baseline design.

If limited electric utility service capacity or delay for electric utility service are approved as the basis for a physical or technical infeasibility, staff shall approve modified compliance to the extent necessary to the viability of the project, provided the modification is not otherwise prohibited by applicable codes.

For example:

> **Limited Utility Electric Service in a Major Renovation:** Due to one of the situations in Administrative Bulletin 112, Table 1, a project is limited to 400A 3-phase utility electric service, and the efficient all-electric design presented in *Review of All-Electric Infeasibility* would require a minimum of 500A service. The electrical system design may be modified to reduce required service capacity until the project can be approved for construction with 400A 3-phase service. However, the project shall maintain design supply water temperature for space conditioning (if applicable) no greater 130F, space

for future replacement of gas-fueled devices with electric equipment, space for ventilation or heat exchange for the function of heat pumps, drains or equivalent condensate management, and space for future installation of electrical conductors.

(If the project in this example was newly constructed, the electric-ready provisions of Title 24 Part 6 would continue to apply.)

Path 3: Prescriptive Exception

Administrative Bulletin 112 Section 1, *Exceptions* items (a) through (g) describes six circumstances where prescriptive exceptions allow gas piping and infrastructure. Where one of the following exceptions applies, the project shall:

- **Newly Constructed Buildings:** Meet all applicable provisions of Title 24 Part 6. (See summary in Table A-1, below.) A local exception does not affect applicability of Title 24 Part 6.

- **Major Renovations to Existing Buildings:**

  Food facilities: Shall install electric service sufficient for future food facilities to comply with Title 24 Part 6 (2025) section 120.6(k).

  Residential occupancy:

  - Single family shall comply with Title 24 Part 6, Sections 150.0 (h), (n), (t), (u), and (v).
  - Multifamily and other R Occupancy shall comply with Title 24 Part 6, Section 160.9 (all applicable subsections) and Table A-2 below.

  Non-residential occupancy shall comply with Table A-1 and A-2 below.

  100% affordable housing:
  - Permit application prior to July 1, 2027: This guideline does not apply.
  - July 1, 2027 – Jan 2031:
    - Comply with Title 24 Part 6, Sections 150.0(h) and (t); 160.9 (c), (d), (e), (f); and Table A-2 below.
    - If an exception due to conflict with housing goals applies, this guideline can be moderated to the extent necessary to meet housing goals.
  - Jan 1, 2031 or after: See “Residential Occupancy” above.

  Office to residential conversion: This guideline does not apply to permit applications received prior to January 1, 2031.

  Existing development agreement: Where the City Attorney’s Office determines San Francisco Building Code 106A.1.17 does not apply, this guideline does not apply.

In each circumstance above, applicable state or regional codes cannot be waived.

Table A-1: Electric-Ready Provisions of California Energy Standards - Title 24 Part 6 (2025)

System[8]	Project Type		
	Single Family (1-2 Units)	**Multifamily (≥3 Units) and other R Occupancy**	**Nonresidential Occupancy**
Space Heating	150.0(h): System sizing, defrost, controls, and supplementary heat. 150.0(t): Dedicated 240v 30A circuit minimum	*In-unit:* 160.9(b): Dedicated 240v 30A circuit minimum. Note: If a unitary heat pump is installed as the permanent source of heating for a unit, the circuit can be sized per manufacturer specifications. *Central:* See Table A-2 for local guidelines	120.2(l): Limits hot water supply temperature to 130 °F or less See Table A-2 for additional local guidelines.
Water Heating	150.0(n): Comprehensive criteria to ensure the building is heat pump ready.	160.9(e) & (f): Comprehensive criteria to insure individual and central water heating must be heat pump ready	110.3(c)7: Mandatory heat pump water heating
Cooking[9]	150.0(u): Dedicated 240v branch circuit with conductors rated at 50A minimum, and double pole circuit breaker reserved.	160.9(c): Dedicated 240v branch circuit with conductors rated at 50A minimum, and double pole circuit breaker reserved.	120.6(k): Newly constructed quick-service and institutional kitchens shall install dedicated branch circuits and outlets accessible to cookline appliances, 50A per circuit minimum, additional 50A breaker, and 800A service minimum. Excludes all-electric kitchens.
Clothes Dryer[10] serving individual dwelling unit	150.0(v): Dedicated 240v branch circuit with conductors rated at 30A minimum, and double pole circuit breaker reserved for electric clothes dryer.	160.9(d): Dedicated 240v branch circuit with conductors rated at 30A minimum, and double pole circuit breaker reserved for electric clothes dryer.	*Not Applicable*
Clothes Dryer[11] serving common use area	See 160.9(d)	160.9(d): Install conductors and raceway serving 24A 208/240V per clothes dryer, 2.6kVa per 10kBtu/hour rated gas input or pipe capacity, or electric power required to provide equivalent functionality to the gas-powered equipment.	*See Table A-2 for local guidelines.*

[8] For each system in Table A-1, if no gas hookup is installed serving the appliance, the installed electric appliance or system is electric ready. Circuits serving electric appliances can be sized per manufacturer specifications and other applicable codes.

[9] If no gas cooking device is proposed, Table A-1 does not apply. Circuits serving electric appliances can be sized per manufacturer specifications and other applicable codes.

[10] If no gas clothes dryer is proposed, Table A-1 does not apply. For example, if a listed appliance combining clothes washer and heat pump dryer is installed, and the manufacturer's specification requires a single 120v 15A circuit, a separate circuit for a dryer would not be required.

[11] If no gas clothes dryer is proposed, Table A-1 does not apply.

Table A-2: Electric-Ready Provisions of Specific to San Francisco if Gas-Fueled Equipment is Installed

System	Project Type	
	Multifamily (≥3 Units) and other R Occupancy	**Nonresidential Occupancy**
Space Heating	Electric capacity - Provide either: Electric power to the location designated for future installation of a heating system with not less than 30A at 240V per dwelling unit served by the system – per CA Energy Code 160.9(b) OR The electrical power required to provide equivalent functionality of the gas-powered equipment as calculated and documented by a licensed design professional associated with the project. In addition: For zones that use hot water for space heating limit heating hot water supply temperature to 130 °F. Designate physical space for future installation of heat pump system, and install condensate drain.	Provide the electrical power required to provide equivalent functionality of the gas-powered equipment as calculated and documented by a licensed design professional associated with the project. Packaged HVAC Units Installed to Exterior: N/A - no further requirement. Custom Central HVAC: Provide space, ventilation or heat management, and condensate management for system specified in *Review of All-Electric Infeasibility.* Other, such as ceiling-mounted garage heaters: Install conductors and raceway to supply the location of the heater with 2.6kVa per 10kBtu/hour rated gas input or pipe capacity, or electric power required to provide equivalent functionality to the gas-powered equipment.
Clothes Dryer	See Table A-1	Comply with T24 (2025) 160.9(d): Install conductors and raceway serving 24A 208/240V per clothes dryer, or minimum 2.6kVa per 10kBtu/hour rated gas input or pipe capacity, or electric power required to provide equivalent functionality to the gas-powered equipment.

Project Review

Based on the applicable path for complying with these guidelines, supplemental review may be required:

- Projects proposing electricity as the sole fuel source for loads regulated by SF Building Code 106A.1.17 (Path 1) may discuss details at a pre-application or pre-addendum review meeting, if desired.
- Projects seeking exception on the basis of physical or technical infeasibility (Path 2 above) may review adherence to these guidelines at a *Review of All-Electric Infeasibility* meeting. Electric readiness requirements relating to California Energy Standards shall be documented via applicable documentation and procedures as adopted by the California Energy Commission.

- Projects applying for exception on the basis of prescriptive exceptions (Path 3) shall document compliance via standard plans, forms and specifications submitted to the Department. No special review meeting is required. Pre-application or pre-addendum review are available if desired.

Prior to final approval of completion, the inspector shall confirm the quantity and type of installed gas appliances is equal to or less than approved in the most recent addendum, or Application for Exception for Commercial Food Service (Attachment 3), Application for Review of Pre-Existing Agreement (Attachment 4), or the form for a Gas-Fueled Appliance Meeting a Federal Efficiency Standard (Attachment 5).

All-Electric Ordinance: Final Compliance Verification

Attachment 2

This form must be completed prior to issuance of a final Certificate of Completion.

Address: _____

Permit Application Numbers: _____

This project has been designed and constructed to comply with San Francisco Building Code Section 106A.1.17.1. Check one:

☐	No gas piping systems have been installed.
☐	Gas piping systems have been installed

If gas piping systems have been installed:

☐	The project is Mixed-Fuel, and gas piping systems, fixtures, and infrastructure have been installed, but are limited to the specific system and area approved under AB-112 and AB-005.	
	Indicate System(s):	Indicate Area(s). Include reference to plan sheets.
	_____ _____	_____ _____
☐	Gas piping systems and infrastructure have been installed serving uses not specifically regulated by San Francisco Building Code Section 106A.1.17.1. List systems below:	
	Indicate System(s):	Indicate Area(s). Include reference to plan sheets and AB-005 approval.
	_____ _____	_____ _____

As the Design Professional of Record, I verify the project has been constructed to comply with San Francisco's Building Code Section 106A.1.17.1.

Every area served by gas piping (as indicated above) has been designed and constructed for future conversion to all-electric, in a manner consistent with AB-112 *Design Guideline for Electric Ready Buildings* to the maximum extent possible. All conditions approved under AB-005 for provision of equivalent health, safety, and fire-protection have been fulfilled.

Signed: _____ Date: _____

Affix professional stamp:

Staff Use Only: Project has been inspected: Sign & Date:

_____

All-Electric Ordinance:

Attachment 3

Commercial Food Service Exception

San Francisco Building Code Section 106A.1.17.1(2) allows installation of gas piping systems, fixtures, and infrastructure in order to fuel cooking equipment for commercial foodservice. This form documents the proposed scope of gas piping systems, in two parts:

- (This page) Application by the project applicant proposing to install gas piping serving commercial food service, and
- (Following page) Detail about each specific food service establishment proposing to utilize gas for cooking.

The date of permit application and project category (new construction vs. renovation) determine the exception that may apply:

Category	New Construction		Major Renovations to Existing Buildings
Date of Initial Application	June 1, 2021 – December 31, 2021	January 1, 2022 or After	July 1, 2026 or After
Gas Piping is Limited to:	Cooking equipment within area designated for commercial foodservice		
Required to Designate a Specific Commercial Foodservice Establishment	No	Yes	No
SFDBI Must Find Gas is Necessary to Specific Cooking Devices and Cooking Processes	No	Yes	No

Project Address: _____ _____

Permit Application Numbers: _____

Number of proposed food service establishments where gas piping systems will be installed:	
The maximum capacity of gas piping systems, infrastructure, and equipment shall be no greater than necessary to serve the specific gas-fueled appliances approved to be installed. *(Initial at left)*	

Proposed gas piping systems will exclusively serve cooking equipment in designated commercial food service area approved by the Department of Building Inspection.

Design Professional of Record

Signed: _____ Date: _____

Print Name: _____

Affix professional stamp:

All-Electric Ordinance: Exception for Commercial Food Service – Detail for New Construction

This form documents the scope of gas piping systems proposed to serve commercial cooking functions in newly constructed buildings. Where multiple food service establishments are proposed in a newly constructed building, attach one copy of this form for each establishment proposing to utilize gas in a cooking process. This application can only be accepted as part of the initial permit package or addenda for a newly constructed building.

Food Service Establishment Seeking Exception to All Electric Requirements for New Construction:

Name of Establishment	
Company Name (if different)	
Address	
Owner Contact Name	
Phone and Email	
Primary type of foodservice proposed (restaurant, bakery, etc)	
Indicate processes that require gas	

Specify each proposed gas-fueled cooking device below and state the specific reason gas is necessary to performing the food preparation process. (Please limit responses to technical reasons and cooking techniques. Cost is not a basis for exception to a building code.)

Inventory of Proposed Gas Cooking Equipment

Equipment Type	Number of Units	Gas BTU Rating per Unit	Reason Gas is Determined Necessary

All-Electric Ordinance: Application for Review of Pre-Existing Agreement

Attachment 4

San Francisco Building Code Section 106A.1.17.1 prohibits the issuance of building permits for mixed-fuel buildings for new construction projects that submit an initial application for building permit on or after June 1, 2021 and major renovations to existing buildings that submit an initial application for building permit on or after June 1, 2025. Some projects may entail separate applications for permit to construct infrastructure serving an area versus buildings constructed after infrastructure is developed. If a project sponsor believes that application of San Francisco Building Code Section 106A.1.17.1 to a building would violate the terms of a development or other agreement with the City, the Department of Building Inspection will refer the matter to the City Attorney's Office to analyze the extent of any prospective conflicts and the extent to which all or part of San Francisco Building Code Section 106A.1.17.1 will apply. This form serves solely to document an alleged conflict in order to facilitate tracking by Department of Building Inspection staff.

Pre-Existing Agreement	
Project Name	
Development Agreement or Contract	
Contract Date	
Amendment, if applicable	
Building Permit Application (The current project)	
Project Name (if different from above)	
Block/Lot	
Street Address	
Primary Occupancy	
Gross Building Area	
Permit Number	
Date of Initial Application for Permit:	
This Form	
Date submitted to SF DBI	
Submitted by (sign and print name)	
Company	
Address	
Phone	
Email	
Describe the end uses in the proposed building requested to utilize natural gas piping, infrastructure, and equipment:	

All-Electric Ordinance: Gas-Fueled Appliance Meeting a Federal Efficiency Standard

Attachment 5

The US Department of Energy (US DOE) sets energy efficiency standards for appliances as authorized by the federal Energy Policy and Conservation Act (EPCA). Each efficiency standard applies to appliances with specific characteristics. San Francisco Building Code Section 106A.1.17 allows a permit to be issued to install any appliance that is certified as meeting a federal energy efficiency standard. Gas piping systems, fixtures, and infrastructure may be installed to the minimum extent necessary to the function of the appliance.

All projects subject to San Francisco Building Code Section 106A.1.17 must comply with *Design Guidelines and Review Procedures for Public Safety and Electric Ready Construction* (DBI Administrative Bulletin 112, Attachment 1).

Instructions`

1. The Design Professional of Record shall provide the information requested below.
2. On the following page, indicate each appliance where natural gas is proposed as a source of energy.
3. For each type of proposed appliance, complete one row of the form. To confirm the appliance has been certified as meeting a specific Appliance Standard, use either the US Dept of Energy eeCompass database: regulations.doe.gov/eecompass or the Modernized Appliance Efficiency Database System (MAEDbS) published by the California Energy Commission: cacertappliances.energy.ca.gov
4. Provide the total Gas BTU input for all proposed appliances combined, and reference to the proposed utility supply pipe capacity (BTU/hour pipe capacity)

At final project conclusion the quantity and type of gas-fueled appliances installed shall be no greater than documented via this form.

Project Address: _____

Permit Application Number(s): _____

Each appliance listed on the following page has been certified as meeting an energy efficiency standard established by the US Department of Energy. Gas piping systems in the proposed project will exclusively serve the appliances installed as part of the proposed project, which are listed on the following page.

Design Professional of Record

Signed: _____ Date: _____

Print Name: _____

Affix professional stamp:

\,

All-Electric Ordinance: Inventory of Proposed Gas-Fueled Appliance Meeting a Federal Efficiency Standard

Indicate each proposed type of gas-fueled EPCA appliance below.

Inventory of Proposed Gas-Fueled EPCA Appliances

Equipment Type	Applicable US DOE Appliance Standard	Gas BTU Input Per Appliance	Quantity of Appliance	Total Gas BTU Input Required	Area(s) Served
Total Gas BTU Input Required					
Length of gas supply piping:				**Gas supply line internal diameter**	
Schedule of Proposed Natural Gas Utility Service Meters:					

Attachment 6: Summary of Investor-Owned Utility Options for Proposed Electric Load Exceeding Capacity of Utility Infrastructure

Investor-owned utilities such as Pacific Gas and Electric Company are regulated by California Public Utilities Commission under the California Public Utilities Code. Per CPUC-approved Electric Rule 2, a utility may not refuse to extend electric service to retail customers in PG&E's service territory provided the customer complies with applicable tariff, easement and safety and reliability requirements. In situations where existing infrastructure may not be capable of serving a new load proposed by a customer, PG&E will apply the appropriate tariffs and associated cost responsibilities in order to serve the new load.

If a project proposes peak load and/or generation that exceeds the capacity of existing utility infrastructure serving the location, or if the utility determines the change would push service voltage levels out of ranges specified in CPUC Electric Rule 2.C, there are three possibilities:

- **Modify Design:** The project may be modified to reduce the proposed peak load and/or generation to match existing infrastructure capacity, such as through efficiency, battery storage, or other modifications.
- **Upgrade Utility Equipment Dedicated to the Project:** The project sponsor can upgrade service infrastructure, subject to Electric Rule 16, and utility will provide the level of service supported by the upgraded service infrastructure.
- **Wait for Utility Facility Upgrade:** If the requested peak load and/or generation can only be met after upgrades to distribution or transmission infrastructure are completed by the utility, it may take some time to construct the facilities necessary to serve the new load. The project sponsor may coordinate a construction and service level schedule to accommodate the time needed to construct the facilities as well as a ramp up schedule of the project's load.

Alternative: When a request for retail service exceeds limitations specified in Electric Rule 2, the Exceptional Case provision of Electric Rule 16.G allows:

> "When the application of this rule appears impractical or unjust to either party, or ratepayers, PG&E or Applicant may refer the matter to the Commission for a special ruling or for approval of special conditions which may be mutually agreed upon."

Proposed Revision to Administrative Bulletin 112: All-Electric Major Renovations

April 15, 2026

Barry Hooper

SAN FRANCISCO ENVIRONMENT DEPARTMENT

Agenda

1. Status of All-Electric Major Renovations Ordinance
2. Proposed Changes to AB112
3. Design Guideline for Public Safety and Electric Ready Construction

SFE

Status of Ordinance

All-Electric Major Renovations Ordinance

Expanded the all-electric new construction requirement to circumstances when a building is renovated or substantially expanded and building systems are replaced.

Eliminates the need to retrofit newly installed gas-powered systems to all-electric in the near future.

Status

- **Ordinance has passed**
- **Affects projects that apply for permit on or after July 1, 2026**

SFE

Administrative Bulletin 112:

Regulations for Implementation of All-Electric Construction

Today: AB-112 regulates the All-Electric New Construction Ordinance (2020).

- To date, 567 new construction projects
- Zero filed for exception on the basis of infeasibility

Proposed AB112 will guide implementation of All-Electric Major Renovations Ordinance and a safety ordinance

SFE

Key Changes to AB112

ADMINISTRATIVE BULLETIN 112: CHANGES

- **Bulletin (narrative)** ← Rewritten
- **Attachments**

Attachment 1: Design Guideline for Public Safety and Electric Ready Construction ← Rewritten

Attachment 2: Final Compliance Verification - Form

Attachment 3: Commercial Food Service Exception - Form ← Rewritten

Attachment 4: Review of Pre-Existing Agreement - Form

Attachment 5: Gas-Fueled Appliance Meeting a Federal Efficiency Standard - Form ← New

Attachment 6: Summary of Investor-Owned Utility Options for Proposed Electric Load Exceeding Capacity of Utility Infrastructure

SFE

ADMINISTRATIVE BULLETIN 112: EXCEPTIONS

A. Uses not required to be electric
B. Appliances meeting federal efficiency standards
C. Commercial Cooking – new construction
D. Commercial Cooking – major renovations
E. Affordable Housing
F. Nonresidential to Residential Conversion
G. Existing Development Agreement
H. Physical/Technical Infeasibility

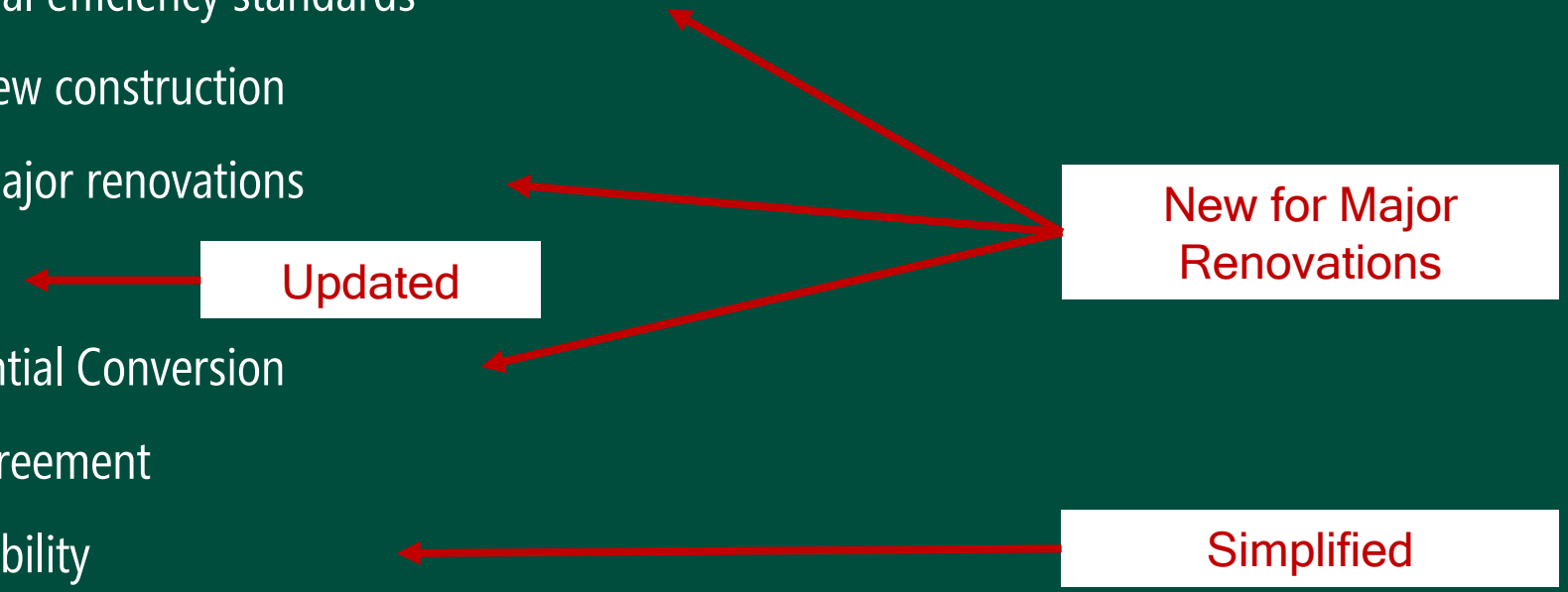
A through G
are prescribed
by SF Building Code
106A.1.17

H is a review process

SFE

ADMINISTRATIVE BULLETIN 112: EXCEPTIONS

A. Uses not required to be electric
B. Appliances meeting federal efficiency standards
C. Commercial Cooking – new construction
D. Commercial Cooking – major renovations
E. Affordable Housing
F. Nonresidential to Residential Conversion
G. Existing Development Agreement
H. Physical/Technical Infeasibility



SFE

UTILITY INFRASTRUCTURE DELAY

What's changed since 2021?

California laws adopted in 2023 (SB410 and AB50) require PG&E to:

- Meet specific timelines for new and modified electric service
- Publish performance metrics

In 2024 PG&E met mandated timelines for 96% of projects

SFE

UTILITY INFRASTRUCTURE DELAY

Determination of Infeasibility:

New Construction

All-electric shall be deemed infeasible if

- Utility will require substantially more time to provide power needed for an all-electric project and
- Utility cannot deliver power by project completion

Major Renovation – *New, two options:*

1) Same as above
   or
2) State-mandated timeline for utility connection is significantly longer for all-electric

SFE

Design Guideline for Public Safety and Electric Ready Construction

SFE

SF BUILDING CODE 106A.1.17.3

"… Any permit qualifying for … exceptions shall be Electric-Ready and shall provide equivalent health, safety, and fire-protection to a design with no gas piping systems."

Significant Risks Associated with Natural Gas

- Caused 40% of fires after Loma Prieta quake
- Feb 2019 explosion on Geary destroyed five buildings
- 2020 Lifelines report recommended electrification to accelerate disaster recovery
- Gas combustion contributes to asthma, respiratory illness, cardiovascular disease and premature death
- In homes with combustion appliances, indoor NOx concentrations are twice as high as outdoors

Standard practice does not “provide equivalent health, safety, and fire protection.”

SFE

DESIGN GUIDELINE: PUBLIC SAFETY

- Install ventilation, fire protection, and monitoring as required by code
- Install Earthquake-Activated Gas Shutoff at meter
- At each floor where gas is supplied, install Excess Flow Automatic Gas Shutoff Valve
- For gas-fueled residential range or cooktops, perform combustion safety test to verify safe carbon monoxide concentration within 6 feet of appliance

Image: Brittany Maldonado

DESIGN GUIDELINE: ELECTRIC READY

Mixed-fuel construction shall meet T24 Part 6 provisions for electric-ready design

- Space for future installation of electric equipment
- Ventilation or heat exchange for heat pumps
- Electric capacity for future installation of electric equipment

Staff shall approve modified compliance as necessary

SFE