



**Summary of Advice on “Gas Not Available” in Title 24
Energy Modeling from Danny Tam,
Water Heating Technical Lead,
California Energy Commission, Building Energy Efficiency Standards**

On the allowability of the “Gas Not Available” Title 24 energy modeling setting in 2019 Code Building Permits when a Local Jurisdiction has adopted a prohibition on new gas main extensions.

March 22, 2022

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Summary of Correspondence with the Senior Mechanical Engineer of the California Energy Commission, Danny Tam, Regarding the “Gas Not Available” Setting in Title 24 Code Software.

On Thursday, February 25, 2021, Danny Tam of the CEC corresponded with Sean Armstrong of Redwood Energy on questions regarding modeling heat pump water heaters, which centered on the topic of how to answer the software prompt of whether natural gas is “available” to the building.

The guidance and citations shared by Danny Tam (see Correspondence on the next page) are summarized in the following two points:

1. On p.73 of the 2019 Building Energy Efficiency Standards “NATURAL GAS AVAILABILITY” is defined: “For newly constructed buildings, natural gas is available if a gas service line can be connected to the site without a gas main extension.” The CEC does not define “gas main extension,” and defers to the Utilities.
2. PG&E defines a gas “Main Line Extension” as an “Extension of electric or gas service from the main energy supply line to the customer’s facility.” A “supply line to the customer’s facility” is called a “Service Lateral” in language of Architects and Engineers.

Discussion

The CEC does not have an independent definition of what constitutes a “gas main extension,” nor does it define whether a “site” is a building or a parcel, but Title 24 code regulates only buildings.

The Senior Mechanical Engineer of the CEC directs interested parties to a definition provided by PG&E. PG&E’s definition describes a Gas Service Lateral to a “customer’s facility,” which is more clearly speaking to a building, not to the parcel. Utilities deliver to meters that are near or attached to buildings, not to the parcel boundary.

Consequently it is reasonable and appropriate for a Certified Energy Analyst to select “Gas Not Available” in the Title 24 software prompt when a Gas Service Lateral is not being extended to the parcel the building sits upon, nor to the building. With more than 50 cities in California banning gas in new construction as of March of 2022, and the California Air Resources Board announcing a new rule to end the sale of all gas appliances by 2030, a CEA will have to get comfortable with the relatively new practice of choosing the “Gas Not Available” setting in Title 24 software.

The result of choosing “Natural Gas Not Available” the first tab of the CEC Title 24 software is the software sets Propane as the only Available fuel. Propane boilers’ fuel costs are consistently higher than various heat pump water heater’s electricity costs, and a Title 24 model shows positive Compliance for heat pump boilers. This is true even without a .25-.35 solar fraction that is in the Prescriptive Code for all multifamily central water heaters.

Copies of the Correspondence with the California Energy Commission’s Senior Mechanical Engineer on February 25, 2021:


Tam, Danny@Energy <Danny.Tam@energy.ca.gov> 10:38 PM (47 minutes ago) ☆ ↩
to me ▾


Natural gas availability is defined in the standards as below. It is up to the building department to determine if the building meet the criteria.

2019 Building Energy Efficiency Standards *Page 73*

MULTIPLE ZONE SYSTEM is an air distribution system that supplies air to more than one Space Conditioning Zone, each of which has one or more devices (such as dampers, cooling coils, and heating coils) that regulate airflow, cooling, or heating capacity to the zone.

NATURAL GAS AVAILABILITY. For newly constructed buildings, natural gas is available if a gas service line can be connected to the site without a gas main extension. For addition and alteration, natural gas is available if a gas service line is connected to the existing building.

 **Sean Armstrong** 10:51 PM (34 minutes ago)
That is clarifying, thank you Danny. Does the CEC define a "gas main extension?"

 **Tam, Danny@Energy** <Danny.Tam@energy.ca.gov> 11:03 PM (23 minutes ago) ☆ ↩
to me ▾

The gas companies define that, I found this from PGE

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|----------------------------------|---------------------------------------------------------------------------------------------------|
| Main Line Extension (MLX) | Extension of electric or gas service from the main energy supply line to the customer's facility. |
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