

Peter Campbell

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To: Peter Campbell
Subject: [EXTERNAL] Rule 1111 and 1121

Public comments on Rules 1111 and 1121 proposed amendments.
Submitted by Kory Griggs

These amendments need to be delayed further to allow more time for the many reasons listed below

Both 1111 and 1121- It's obvious that the stakeholders do not have a grasp on the costs associated with this proposal that they will be required to shoulder, and therefore have not had enough time to make public comments.

Both 1111 and 1121 - The ongoing need to "shore up" the workings of the proposal. Issues range from inaccurate cost analysis, lack of studies in all climate zones in SoCal (particularly zone 16's more extreme cases of operating cost, installation cost and infrastructure upgrade costs), lack of available funding on socioeconomic need basis and funding directed at infrastructure upgrades.

Both 1111 and 1121- A proper study and cost analysis needs to be done using actual data (not internet searches for the "average" cost of XYZ).

Staff at a minimum need to have the data from the manufacturers on the products available - heat pump HVAC systems both standard and low ambient *standard scroll or reciprocating, inverted, ducted, ductless, unitary, and proper knowledge of needs or lack thereof of backup heat requirements. AND heat pump tanked water heaters both 120 volt and 240 volt- and have a better working knowledge of the installation requirements of these products (which include permitting requirements involving both health a safety). Get real world estimates from actual HVAC contractors, electricians and plumbers for the installation and infrastructure upgrade requirements on the various building types and ages in the district to install these products. As in all state and government work there should be at least three different estimates for the cost of installation. Once staff has this data a real-world cost analysis can be made.

Both 1111 and 1121- The various building types should not be averaged together to provide a cost analysis. The operating cost, and installation requirement vary greatly from building type to building type, with data that is not averaged out across all types a better cost analysis can be made.

1111 - In the comparison of Gas furnace operating cost vs new heat pump technology cost, the data points are off.

Both the gas furnace and heat pump equipment that are being compared are unspecified. Based

on the numbers used we can only assume the following.

A. The furnace is of average size 60-80k 3 ton, is of average efficiency 80% AFUE is a 40 NOx unit, and uses a PSC blower motor.

B. The heat pump is an inverted type, is of the highest SEER and of a smaller tonnage (3 tons or less).

In this comparison multiple assumptions are made.

1. That if the furnace were to be replaced it would be replaced with the same type using the same amount of energy BUT no furnace produced today by law is allowed to use PSC motor technology, therefore the wattage data of this data point is off. All furnace replacements in the district must be 14 NOx or less. The option for greater than 80% AFUE also exists, as well as multiple stage, modulating and variable speeds.

2. Unlike the gas furnace assumption, the data point for the heat pump assumes the highest SEER 2 rating (I'm guessing 18 SEER 2 or greater based on assumed size of 3 tons and wattage figures provided) when calculating wattage. This causes the wattage data to be skewed lower. The minimum efficiency and average efficiency installed is 14 SEER 2.

THESE ASSUMPTIONS AND THE EQUIPMENT COMPARISONS LEAD TO FALSE DATA POINTS.

These data points need to be straight across, equipment size and efficiency types to be able to properly assess cost thresholds.

1111- all heat pump refrigerants will be changing next year. Currently we in the industry have little to no data on cost of new equipment and are just now receiving training on installation requirements. Leaving a proper cost analysis further skewed due to unknown costs of equipment and unknown cost of new installation requirements. Currently we are hearing that equipment will be as much as 20% more, and new installation requirements look like they may add 2-4 additional hours of work, which will add as much as a 20% increase in labor costs.

Both 1111 and 1121- At a minimum, a media campaign or public outreach program needs to be funded in advance of the passage of these amendments. The cost that will be incurred directly by the stakeholders are so great in many instances that the lack of effort to inform the public is unjust.

1121- Having a technology check-up in 2027 after the amendments have already taken effect in new construction and once the amendments take affect for "replacement" tanked water heaters is unworkable. Plumbers have nearly zero working knowledge and very little exposure to this new technology.

Unlike HVAC heat pump technology that has been in use and is well known by those that install, maintain, and repair the equipment, for years and years, plumbers have little to no working knowledge of the technology and equipment they will be required to install in all applications in just slightly more than two years from now. A major effort needs to be put forth to get the plumbing industry involved prior to the adoption of amendment 1121 to avoid the foreseeable technological and installation pitfalls after the passage of this amendment.

Both 1111 and 1121- Having a known need prior to the passage of the amendments for more financial assistance to bring cost thresholds in alignment and then propose after passage a

"follow-up" is not a workable solution. Not only does the AQMD not have a proper grasp of cost adoption, but they are going to rely on a hopeful future analysis in 2027 far too deep into the dates of effect of the amendments to allow for proper analysis of the cost thresholds used to justify the passage in the first place.

Both 1111 and 1121 - temporary or rental "emergency" replacement issues. As of now the proposal as written is completely unworkable. The cost to the stakeholders that will need access to this "emergency" temporary or rental is outsized. As an HVAC contractor I can tell you there is no such thing as a "temporarily" installed furnace or water heater, both are permanently installed items in a home's infrastructure, they require permits and inspection. Typically, a manufacturer requires knowledge of the location and installation date to provide a full factory warranty. Once this "temporary" furnace or water heater is installed it will then be required to be removed in as little as 6 months (not sure if we have a right to gain access to a private property and forcibly remove this product.. TBD (?). Therefore, the cost to temporarily install and "rent" a furnace is greater than just a regular install. Additional labor will be required to remove the equipment. Additional cost will be incurred in tracking and reporting needed to the AQMD.

1121 - Health department codes for the recovery time and temp of hot water in all public food establishments, hospitals etc. etc. The data I'm seeing with heat pump tanked water heaters does not appear to support the requirements, this needs to be accounted for due to public health and safety requirements.

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