

Peter Campbell

From: [REDACTED]
Sent: Monday, October 14, 2024 9:53 AM
To: Peter Campbell
Subject: [EXTERNAL] Comments on 1111 & 1112

I want to comment about the proposal the AQMD is working on to amend rule 1111 and 1121.

I understand your intent to limit emissions from natural gas fueled appliance. However, I feel the industry is not ready for that change.

First, I have directly contacted multiple manufacturers of both HVAC Heat Pumps and manufacturers of Domestic Water Heat Pumps. The response so far is that even the new high efficiency heat pumps are not really very efficient in areas above 4500 ft. elevation because of the cold temperatures in the wintertime combined with the freezing rain and snow. I even looked into geothermal units and got the same response. Although different refrigerants are available and different percentages of antifreeze could be used for a closed loop geothermal system, the installation instructions and comments to questions asked resulted in a low ambient temperature of 20 degrees to prevent the heat pumps from ceasing.

Some recommended dual fuel systems, but of course the second fuel would be natural gas which you are intending to eliminate. A few (like Trane) provide efficiency charts of their most efficient cold climate units based on ambient temperature. Below 20 degrees, the efficiency really drops off. Some use a cycle to provide heat to the heat pump and heat exchanger to provide the unit from ceasing up. Unfortunately, it is taking heat back from the conditioned space and cooling the inside of the house or using heat elements that draw a lot of power. When it is below 20 degrees outside, the inside is provided with colder air at a time when the occupants need warmth. Additionally, the heat pumps are designed to run continuously. Therefore, the cold air can't even be turned off.

I was also informed, and I verified that the typical house electrical would have to be upgraded to 200 Amp services for the heating and water heating heat pump systems. Additionally, your likely next step will be to require other gas fueled appliance follow suit and be converted to heat pumps. The additional demand for the additional appliance (stoves, dryers, etc.,) would require the services be upgraded to 400-amp services. Something SCE does not approve for residences in

the mountain areas. Because of the temperature limits on lithium batteries, battery backups for solar is also considered a fire hazard.

I doubt SCE has grid upgrade plans in place to cover the capacity needed for your proposed rule changes.

In fact, SCE currently recommends gas fueled generators be in place for the mountain areas because of the many power outages caused by maintenance or periods of fire hazards. In the area I live, over the past 4 years we have averaged at least two such outages a month, mostly during cold weather.

I truly believe that you are proposing rule changes that will likely cause illness, or death to many residents in the mountains above 4500 ft elevation. Having worked in both the north and south deserts for many years, I believe it will have similar health impacts in those areas as well. Contrary to common belief, the deserts get very cold during winter. And the electrical power grid is not at the same level in the deserts or mountains.

That doesn't even take into consideration the financial impact to residents or business owners.

A final note: Your reason for the rule changes is to improve air quality for health of the residents in your region. As you propose these changes, are you also amending your budget for the potential of a class action lawsuit because of the more immediate negative health impacts to the residents in the mountain and desert areas and the of higher fire risk from battery backup to solar? The efficiency of solar during winter months really drops because of shading from the tall trees, cloud cover, fog, or snow on the panels. Thus, some type of backup is necessary, which generally seems to require natural gas.

Gregory Rice

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