

DOCKETED

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Description:	Staff Supplement to CASE Report #2019-RES-HVAC1-F by Jeff Miller.
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Staff Supplement to CASE Report #2019-RES-HVAC1-F

Date: October 12, 2017

Pages: 2

Author: Jeff miller

Subject: Residential Quality HVAC Measures
Measure Number: 2019-RES-HVAC1-F

DESCRIPTION OF PROPOSED REGULATORY CHANGES

CASE report 2019-RES-HVAC1-F, titled Residential Quality HVAC Measures, proposes to make the following changes to the Standards:

- **Mandatory fan efficacy requirement:**
Reduce the maximum air handling unit fan efficacy currently required under Title 24 Part 6, 150.0(m)13 from 0.58 watts per cubic feet per minute (W/cfm) to 0.45 W/cfm.
- **Compliance option for fault detection and diagnosis (FDD) devices:**
Allow compliance credit for FDD devices that will support both the long-term, as well as initial, performance of cooling systems.
- **Alternative verification method (temperature split):**
Provide an alternate method to refrigerant charge verification that measures system performance and that can identify multiple system faults while reducing verification time.

Mandatory fan efficacy requirement:

Staff agrees with the proposed changes to Section(s) 150.0(m)13 if applicable to new gas furnace air-handling unit types only, and have incorporated substantively similar changes for these air-handling unit types into the proposed Express Terms.

Staff does not agree with the proposed changes to Section(s) 150.0(m)13 if applicable to air-handling unit types that are not gas furnace air-handling unit types, and have instead proposed to make the following changes to Section(s) 150.0(m)13B and 150.0(m)13C in the Express Terms:

- **Modify Section(s) 150.0(m)13B and 150.0(m)13C requirements for fan efficacy to specify 0.45 W/cfm for gas furnace air-handling units, and retain the existing 0.58 W/cfm requirement for air-handling units that are not gas furnaces.**

Staff is proposing to make no change to the fan efficacy requirement of 0.58 W/cfm for air-handling units that are not gas furnaces because there is no research presented in the CASE report, or otherwise made available to staff that provides evidence the air-handling units that are

not gas furnace air-handling units will be capable of compliance with the more stringent 0.45 W/cfm requirement.

Compliance option for fault detection and diagnosis (FDD) devices:

Staff does not agree with the proposed compliance option for FDD devices and rejects the proposed compliance option. There is no research presented in the CASE report, or otherwise made available to staff that provides evidence that the proposed credits are justified.

Alternative verification method (temperature split):

Staff does not agree with the proposed alternative verification method and rejects it. The validity of this field test protocol is not yet confirmed by substantial field studies and laboratory studies beyond the introductory investigations presented in this CASE report.

STAFF ANALYSIS AND CONCLUSION

Staff has analyzed the submitted CASE report and reached the following conclusions for the measures included in the Express Terms:

Mandatory fan efficacy requirement:

- Based on the evidence presented in the CASE Report, the 0.45 W/cfm fan efficacy requirement for gas furnace air-handling units, as proposed, appears to be cost effective and the author appears to have appropriately followed the Energy Commission's Life Cycle Cost methodology.
- Measure costs premiums presented in the CASE Report appear reasonable and appropriate for the measure proposed.
- Measure energy savings presented in the CASE Report appear to have been appropriately modeled and appear credible.