DOCKETED

Docket Number:	17-BSTD-02
Project Title:	2019 Title 24, Part 6, Building Energy Efficiency Standards Rulemaking
TN #:	222271
Document Title:	Staff Supplement Economizer Fault Detection and Diagnostics
Description:	Staff Supplement to CASE Report #2019-NR-MECH2-F by Mark Alatorre.
Filer:	Adrian Ownby
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	1/19/2018 2:21:00 PM
Docketed Date:	1/19/2018

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov

Staff Supplement to CASE Report #2019-NR-MECH2-F

Date: October 12, 2017

Pages: 2

Author: Mark Alatorre

Subject: Economizer Fault Detection and Diagnostics (FDD) for Built-Up Air Handlers, 2019-NR-MECH2-F

DESCRIPTION OF PROPOSED REGULATORY CHANGES

CASE report #2019-NR-MECH2-F, Economizer Fault Detection and Diagnostics (FDD) for Built-Up Air Handlers, proposes to make the following changes to the Standards:

- Expand the existing mandatory code language in Section 120.2(i), which requires economizer fault detection and diagnostics (FDD) for nonresidential packaged air handling systems greater than 54,000 Btu/hr (4.5 tons) in size with an air-side economizer, to also cover built-up air handlers with these characteristics. As a result, the proposal will expand the requirement to cover all nonresidential air handlers, both packaged and built-up, that are greater than 54,000 Btu/hr in size and with an air-side economizer.
- Change Section 120.2(i) use of "compressor cooling" to the more general "mechanical cooling."
- Add to Section 120.2(i)8 an exception that DDC-based FDD systems not be required to certify to the Energy Commission, due to the challenges in developing and implementing DDC systems with preconfigured FDD modules.
- Separate acceptance test NRCA-MCH-13-A into a required test for the air handler unit (AHU) economizer FDD (NRCA-MCH-13a-A) and a new test that remains a compliance credit for the AHU valve actuator and zone terminal units tests (NRCA-MCH-13b-A). Reference Appendix NA7.5.12, Automatic Fault Detection and Diagnostics (AFDD) for Air Handling Units and Zone Terminal Units, will be modified in the same manner as the acceptance test documents.
- Improve the AHU functional test in acceptance test NRCA-MCH-13a-A for comprehensiveness and clarity, and to ensure that potential alarm delays are bypassed to accelerate the testing and commissioning process.
- Add a prescriptive requirement in Section 140.9(a)1A that computer room air handlers are subject to the economizer FDD requirements.

Staff agrees with the proposed changes to Section(s) 120.2(i), 140.9(a) and NRCA-MCH-13 and has incorporated substantively similar changes into the proposed Express Terms.

STAFF ANALYSIS AND CONCLUSION

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

- Based on the evidence presented in the CASE Report, the measures, as proposed, appear 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.