

Memorandum

Subject: CBECC-Com V2 Agenda Back-Up Materials, April 22, 2014, Business Meeting, Item 9

CBECC-Com is the nonresidential public domain software for complying with the 2013 Building Energy Efficiency Standards. Although not explicitly subject to the requirements of privately developed software, for which approval as an alternative calculation method (ACM) must be obtained, staff subjected the public domain software to the same review to ensure it accurately models building energy consumption.

The 2013 Nonresidential Alternative Calculation Method Approval Manual (CEC 400-2012-006-CMF-REV APRIL 2014) specifies the requirements for approving amendments to software. It states that compliance software approval shall be amended when optional modeling capabilities are added.

Appendix 3A of the 2013 Nonresidential Alternative Calculation Method Reference Manual (CEC 400-2013-004-SD) contains the details of the certification tests. The purpose of the tests is to demonstrate that software successfully integrates the CBECC-Com API, which is the Application (simulation and compliance rule implementation) interface established by the Energy Commission. A spreadsheet document (Appendix 3C - Ruleset Implementation Tests 140422.xlsx) with specific descriptions and details of the tests, inputs, and compliance results, is provided as additional back-up material for this business meeting item. This document groups the tests by prototype, for example, the sheet 02006-OffSml-Run01 describes the "small office prototype" for Run 01 that was used for testing "WoodFramingAndOtherRoofSteep" or envelope parameters for steep slope roof in User model, Proposed Model and the associated Baseline model as given in columns E, F, and G.

Staff evaluated the input files and compared the test results as documented in Appendix 3C to ensure compliance with all applicable requirements from the ACM Approval Manual and Reference Manual. Additionally, each time the software is changed a complete and full set of tests results is produced and evaluated to ensure results are still correct. All required items (see ACM Reference Manual, Appendix 3A, 3B, and 3C) were provided and are publicly available as backup support materials for this approval process.

As part of the approval process previous versions of software approval are rescinded, and the approval allows time for users of the software to incorporate the new version into their workflow. Staff took into account market needs in determining appropriate timeframes so as not to cause a hardship.