

Memorandum

To: Commissioners

Date: August 27, 2021

Telephone: (916) 897-3450

From: **RJ Wichert**
Efficiency Division
California Energy Commission
1516 Ninth Street
Sacramento CA 95814-5512

Subject: **2019 Public Domain Residential and Nonresidential Compliance Software (CBECC-Res 2019.2.0 and CBECC-Com 2019.2.0) and Residential and Nonresidential Alternative Calculation Method (ACM) Reference Manual Updates**

Consideration and possible certification of updated 2019 public domain residential and nonresidential compliance software (CBECC-Res and CBECC-Com), version 2019.2.0 and associated residential and nonresidential ACM Reference Manuals. Revisions include changes to the standard design indoor air quality system for both CBECC-Res and CBECC-Com, changes to the HVAC standard design for CBECC-Com, and minor changes including new features and bug fixes.

The proposed updated 2019 public domain residential and nonresidential software (CBECC-Res and -Com), version 2019.2.0 and Residential and Nonresidential ACM Reference Manuals can be downloaded from the [2019 Alternative Calculation Method Reference Manuals and Compliance Software Tools Docket](https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-BSTD-01)
[https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-BSTD-01]

STATE OF CALIFORNIA

Energy Resources Conservation
And Development Commission

2019 Building Energy Efficiency Standards,
California Code of Regulations, Title 24,
Parts 1 and 6

Docket No. 19-BSTD-01
Resolution No.

**[PROPOSED] RESOLUTION OF THE CALIFORNIA ENERGY COMMISSION
CERTIFYING REVISIONS TO THE NONRESIDENTIAL ALTERNATIVE CALCULATION
METHOD REFERENCE MANUAL FOR THE 2019 BUILDING ENERGY EFFICIENCY
STANDARDS**

WHEREAS, the 2019 Building Energy Efficiency Standards, amending California Code of Regulations, Title 24, Parts 1 and 6, were adopted by the California Energy Commission (CEC) on May 9, 2018, with an effective date of January 1, 2020; and

WHEREAS, the Warren-Alquist Act, in Public Resources Code section 25402.1, subdivision (a), requires the CEC to develop a public domain computer program, which will enable contractors, builders, architects, engineers, and government officials to estimate the energy consumed by residential and nonresidential buildings; and

WHEREAS, the Warren-Alquist Act, in Public Resources Code section 25402.1, subdivision (b), requires the CEC to certify calculation methods for complying with the building energy efficiency standards; and

WHEREAS, the *2019 Building Energy Efficiency Standards* that were adopted by the CEC and approved by the California Building Standards Commission included the *2019 Alternative Calculation Method Approval Manual* (Approval Manual), Document Number CEC-400-2018-023-CMF, December 2018, which specifies, among other things, the requirement to create, maintain, and update the Nonresidential ACM Reference Manual.

THEREFORE BE IT RESOLVED, that on September 8, 2021, as provided for by the Alternative Calculation Method Approval Manual and Public Resources Code section 25218, subdivision (e), the CEC certifies the revised Nonresidential Alternative Calculation Method Reference Manual, Document Number CEC-400-2019-006-CMF-REV, September 2021, which provides instructions for meeting the requirements for alternative calculation methods; and

THEREFORE BE IT FURTHER RESOLVED, that the CEC directs the executive director to take, on behalf of the Commission, all actions reasonably necessary to make the above-referenced documents available and in good form, including but not limited to correcting typographical and other non-substantive errors.

CERTIFICATION

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted at a meeting of the California Energy Commission held on September 8, 2021.

AYE:

NAY:

ABSENT:

ABSTAIN:

Secretariat

STATE OF CALIFORNIA

Energy Resources Conservation
And Development Commission

2019 Building Energy Efficiency Standards,
California Code of Regulations, Title 24,
Parts 1 and 6

Docket No. 19-BSTD-01
Resolution No.

**[PROPOSED] RESOLUTION OF THE CALIFORNIA ENERGY COMMISSION
CERTIFYING REVISIONS TO THE RESIDENTIAL ALTERNATIVE CALCULATION
METHOD REFERENCE MANUAL FOR THE 2019 BUILDING ENERGY EFFICIENCY
STANDARDS**

WHEREAS, the 2019 Building Energy Efficiency Standards, amending California Code of Regulations, Title 24, Parts 1, and 6, were adopted by the California Energy Commission (CEC) on May 9, 2018, with an effective date of January 1, 2020; and

WHEREAS, the Warren-Alquist Act, in Public Resources Code section 25402.1, subdivision (a), requires the CEC to develop a public domain computer program, which will enable contractors, builders, architects, engineers, and government officials to estimate the energy consumed by residential and nonresidential buildings; and

WHEREAS, the Warren-Alquist Act, in Public Resources Code section 25402.1, subdivision (b), requires the CEC to certify calculation methods for complying with the building energy efficiency standards; and

WHEREAS, the *2019 Building Energy Efficiency Standards* that were adopted by the CEC and approved by the California Building Standards Commission included the *2019 Alternative Calculation Method Approval Manual* (Approval Manual), Document Number CEC-400-2018-023-CMF, December 2018, which specifies, among other things, the requirement to create, maintain, and update the Residential ACM Reference Manual.

THEREFORE BE IT RESOLVED, that on September 8, 2021, as provided for by the Alternative Calculation Method Approval Manual and Public Resources Code section 25218, subdivision (e), the CEC certifies the revised Residential Alternative Calculation Method Reference Manual, Document Number CEC-400-2019-005-CMF-REV, September 2021, which provides instructions for meeting the requirements for alternative calculation methods; and

THEREFORE BE IT FURTHER RESOLVED, that the CEC directs the executive director to take, on behalf of the Commission, all actions reasonably necessary to make the above-referenced documents available and in good form, including but not limited to correcting typographical and other non-substantive errors.

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Docket No. 19-BSTD-01
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**[PROPOSED] RESOLUTION OF THE CALIFORNIA ENERGY COMMISSION
CERTIFYING THE 2019 PUBLIC DOMAIN
NONRESIDENTIAL COMPLIANCE SOFTWARE
CBECC-COM 2019.2.0**

WHEREAS, the Warren-Alquist State Energy Resources Conservation and Development Act, Public Resources Code sections 25000 et seq., 25402.1, subdivision (b), requires the California Energy Commission (CEC) to, among other things, establish a process for certifying calculation methods for demonstrating compliance with its building energy efficiency standards; and

WHEREAS, the 2019 public domain California Building Energy Code Compliance – Nonresidential (CBECC-Com 2019.2.0) software, estimates energy consumed by nonresidential buildings under Public Resources Code section 25402.1, subdivision (a), for demonstrating compliance with the performance-based nonresidential provisions of the *2019 Building Energy Efficiency Standards* (Energy Code), California Code of Regulations, Title 24, Parts 1, Chapter 10, and 6; and

WHEREAS, staff of the CEC has reviewed and tested CBECC-Com 2019.2.0 to ensure it meets the requirements, specifications, and criteria for building energy models set forth in the *2019 Alternative Calculation Method Approval Manual* (Approval Manual), CEC-400-2018-023-CMF (December 2018).

THEREFORE, the CEC approves CBECC-Com 2019.2.0 for estimating energy consumed by nonresidential buildings as specified in Public Resources Code section 25402.1, subdivision (a), and for demonstrating compliance with the performance-based nonresidential provisions of the 2019 Energy Code, California Code of Regulations, Title 24, Parts 1 and 6; and

THEREFORE, the CEC rescinds its approval of previous versions of CBECC-Com 2019 for estimating energy consumed by nonresidential buildings under Public Resources Code section 25402.1, Subdivision (a), and demonstrating performance compliance with the performance-based nonresidential provisions of the 2019 Energy Code for permit applications made on or after January 1, 2022; and

THEREFORE, pursuant to the 2019 Approval Manual, sections 1.3.1 and 1.5.1, the CEC rescinds its approval of the alternative calculation methods (also known as computer compliance programs) EnergyPro Versions 8.0, 8.1, and 8.2; IES VE Title

24 2019 Version 1.0; and any other alternative calculation method which incorporates the previously approved CBECC-Com 2019.1.0, 2019.1.1, 2019.1.2, or 2019.1.3 compliance manager for estimating energy consumed by nonresidential buildings under Public Resources Code section 25402.1, Subdivision (a), and demonstrating compliance with the performance-based nonresidential provisions of the 2019 Energy Code; and

THEREFORE, the private software vendors of the alternative calculation methods identified above must integrate the CBECC-Com 2019.2.0 compliance manager software and provide the CEC with an updated copy of the software and user manual within 45 days, by Wednesday, November 17, 2021, under the 2019 Approval Manual, section 1.2.1, to have approved software for demonstrating compliance with the performance-based nonresidential provisions of the 2019 Energy Code for permit applications made on or after January 1, 2022; and

THEREFORE, the CEC directs the executive director to review and approve updates to the alternative calculation methods identified above that integrate the CBECC-Com 2019.2.0 compliance manager software; and

THEREFORE, the CEC directs the executive director to take, on behalf of the CEC, all actions reasonably necessary to implement this resolution, including:

- To post information on the CEC's public website as to how to obtain CBECC-Com 2019.2.0.
- To ensure that CBECC-Com 2019.2.0 and the *2019 Nonresidential Alternative Calculation Method (ACM) Reference Manual* are maintained and revised to accurately estimate the energy use of nonresidential buildings, including correcting functional and analytical errors, and incorporating software modules that address compliance options and additional building systems, assemblies and construction materials.
- To review and approve updates to vendor software, consistent with section 1 of the 2019 Approval Manual.

Date: September 8, 2021

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The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly approved at a meeting of the California Energy Commission held on September 8, 2021.

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**[PROPOSED] RESOLUTION OF THE CALIFORNIA ENERGY COMMISSION
CERTIFYING THE 2019 PUBLIC DOMAIN
RESIDENTIAL COMPLIANCE SOFTWARE
CBECC-RES 2019.2.0**

WHEREAS, the Warren-Alquist State Energy Resources Conservation and Development Act, Public Resources Code sections 25000 et seq., 25402.1, subdivision (b), requires the California Energy Commission (CEC) to, among other things, establish a process for certifying calculation methods for demonstrating compliance with its building energy efficiency standards; and

WHEREAS, the 2019 public domain California Building Energy Code Compliance – Residential (CBECC-Res 2019.2.0) software, estimates energy consumed by residential buildings under Public Resources Code section 25402.1, subdivision (a), for demonstrating compliance with the performance-based residential provisions of the *2019 Building Energy Efficiency Standards* (Energy Code), California Code of Regulations, Title 24, Parts 1, Chapter 10, and 6; and

WHEREAS, staff of the CEC has reviewed and tested CBECC-Res 2019.2.0 to ensure it meets the requirements, specifications, and criteria for building energy models set forth in the *2019 Alternative Calculation Method Approval Manual* (Approval Manual), CEC-400-2018-023-CMF (December 2018).

THEREFORE, the CEC approves CBECC-Res 2019.2.0 for estimating energy consumed by residential buildings as specified in Public Resources Code section 25402.1, subdivision (a), and for demonstrating compliance with the performance-based residential provisions of the 2019 Energy Code, California Code of Regulations, Title 24, Parts 1 and 6; and

THEREFORE, the CEC rescinds its approval of previous versions of CBECC-Res 2019 for estimating energy consumed by residential buildings under Public Resources Code section 25402.1, Subdivision (a), and demonstrating performance compliance with the performance-based residential provisions of the 2019 Energy Code for permit applications made on or after January 1, 2022; and

THEREFORE, pursuant to the 2019 Approval Manual, sections 1.3.1 and 1.5.1, the CEC rescinds its approval of the alternative calculation methods (also known as

computer compliance programs) EnergyPro Versions 8.0, 8.1, and 8.2, Right-Energy Title 24, Version 2019.1.1, and any other alternative calculation method which incorporates the previously approved CBECC-Res 2019.1.0, 2019.1.1, 2019.1.2, or 2019.1.3 compliance manager for estimating energy consumed by residential buildings under Public Resources Code section 25402.1, Subdivision (a), and demonstrating compliance with the performance-based residential provisions of the 2019 Energy Code; and

THEREFORE, the private software vendors of the alternative calculation methods identified above must integrate the CBECC-Res 2019.2.0 compliance manager software and provide the CEC with an updated copy of the software and user manual within 45 days, by Wednesday, November 17, 2021, under the 2019 Approval Manual, section 1.2.1, to have approved software for demonstrating compliance with the performance-based residential provisions of the 2019 Energy Code for permit applications made on or after January 1, 2022; and

THEREFORE, the CEC directs the executive director to review and approve updates to the alternative calculation methods identified above that integrate the CBECC-Res 2019.2.0 compliance manager software; and

THEREFORE, the CEC directs the executive director to take, on behalf of the CEC, all actions reasonably necessary to implement this resolution, including:

- To post information on the CEC's public website as to how to obtain CBECC-Res 2019.2.0.
- To ensure that CBECC-Res 2019.2.0 and the *2019 Residential Alternative Calculation Method (ACM) Reference Manual* are maintained and revised to accurately estimate the energy use of residential buildings, including correcting functional and analytical errors, and incorporating software modules that address compliance options and additional building systems, assemblies and construction materials.
- To review and approve updates to vendor software, consistent with section 1 of the 2019 Approval Manual.

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