

# Memorandum

To: Commissioners

Date: April 30, 2021

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From: **RJ Wichert**  
**Efficiency Division**  
**California Energy Commission**  
1516 Ninth Street  
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Subject: **INTEGRATED ENVIRONMENTAL SOLUTIONS VIRTUAL ENVIRONMENT TITLE 24  
VERSION 1.0 SUMMARY OF NONRESIDENTIAL ACM TESTS**

Integrated Environmental Solutions (IES) Virtual Environment (VE) Title 24 Version 1.0 software has been submitted for approval as a nonresidential alternative calculation method (ACM) for complying with the 2019 Building Energy Efficiency Standards.

The 2019 ACM Approval Manual CEC-400-2018-023-CMF (December 2018), specifies the requirements for approving vendor software in Section 1. IES provided all required items and staff reviewed them to make sure they meet all applicable requirements.

Appendix B of the ACM Approval Manual includes the details of the certification tests required for nonresidential applicant software. The purpose of ACM testing is to demonstrate that software successfully implements an alternative energy simulation engine consistent with Section 1.1.5 of the ACM Approval Manual. A test data set with specific description and details of the tests, inputs, and a spreadsheet of compliance results is provided as back-up materials and can be found on the [19-BSTD-01 Docket](https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-BSTD-01) which can be found at (<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-BSTD-01>).

Staff evaluated IES VE Title 24 Version 1.0 to ensure it meets the requirements, specifications, and criteria for compliance software set forth in the 2019 ACM Approval Manual.

**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. 21-0512-4**

**[PROPOSED] RESOLUTION OF THE CALIFORNIA ENERGY COMMISSION  
APPROVING 2019 NONRESIDENTIAL COMPLIANCE SOFTWARE  
INTEGRATED ENVIRONMENTAL SOLUTIONS (IES) VIRTUAL ENVIRONMENT (VE)  
TITLE 24 2019 VERSION 1.0**

**WHEREAS**, the Warren-Alquist State Energy Resources Conservation and Development Act, Public Resources Code sections 25000 et seq., 25402.1(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**, as allowed by the *2019 Building Energy Efficiency Standards* (Energy Code), California Code of Regulations, Title 24, Part 1, Chapter 10, sections 10-109(c) and 10-110, an application was submitted to approve IES VE Title 24 2019 Version 1.0 as an alternative calculation method (ACM); and

**WHEREAS**, staff of the CEC reviewed and tested IES VE Title 24 2019 Version 1.0 to ensure it meets the requirements, specifications, and criteria for building energy models set forth in the *2019 ACM Approval Manual*, CEC-400-2018-023-CMF (December 2018); and

**THEREFORE**, the CEC approves IES VE Title 24 2019 Version 1.0, pursuant to Energy Code section 10-109, for estimating energy consumed by nonresidential buildings as specified in Public Resources Code section 25402.1(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 directs the executive director to take, on behalf of the CEC, all actions reasonably necessary to implement this resolution, as follows:

- To post information on the CEC's public website as to how to obtain IES VE Title 24 2019 Version 1.0;
- To ensure that IES VE Title 24 2019 Version 1.0, a Nonresidential ACM, is maintained and revised to accurately estimate the energy use of nonresidential buildings,

- To review and approve updates to vender software, consistent with Section 1 of the 2019 ACM Approval Manual.

Date: May 12, 2021

**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 approved at a meeting of the CEC held on May 12, 2021.

AYE:

NAY:

ABSENT:

ABSTAIN:

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Secretariat