February 26, 2020

Mr. Jeremy Williams
Building Energy Codes Program
U.S. Department of Energy
100 Independence Avenue, SW
Washington, DC 20585

Dear Mr. Williams:

This letter represents the California Energy Commission's (CEC's) certification to the U.S. Department of Energy (DOE) that California's commercial building code exceeds the current federal reference energy code *ANSI/ASHRAE/IES Standard 90.1-2016, Energy Efficiency Standard for Buildings Except Low-Rise Residential Buildings.* A description of programmatic context and staff findings follows.

I. Summary

On February 27, 2018, DOE adopted *ANSI/ASHRAE/IES Standard 90.1-2016, Energy Efficiency Standard for Buildings Except Low-Rise Residential Buildings* (Standard 90.1-2016) as the federal reference energy code for commercial buildings.[1] Per federal law, states are required to certify that they have reviewed the provisions of their commercial building code regarding energy efficiency, and, as necessary, updated their codes to meet or exceed the updated edition of Standard 90.1. State certifications to DOE are due by February 27, 2020.

This letter documents California Energy Commission (CEC) staff's review of the federal provisions and current state building codes and their conclusion that the commercial provisions of California's Energy Code (Title 24, Part 6 of the California Public Resources Code) exceed the energy savings expected from Standard 90.1-2016.

II. Background

DOE periodically updates the federal reference energy code for residential and commercial buildings. The Energy Policy Act of 1992 requires each state with an adopted building energy code to compare its energy code against any newly adopted federal reference energy code to determine if its energy code meets or

[1] https://www.energycodes.gov/development/determinations

exceeds the new federal regulations. Each state has two years to update its energy code to meet or exceed the newly adopted federal reference energy code and provide written certification to DOE.

On September 14, 2016, the CEC certified to DOE that the 2016 edition of the Energy Code exceeded the energy savings of the (then effective) 2013 edition of Standard 90.1 (Standard 90.1-2013)[2]. The CEC provided a staff report titled *Energy Efficiency Comparison-California's 2016 Building Energy Efficiency Standards and ASHRAE/IESNA Standard 90.1-2013*[3] which included a thorough comparison analysis and concluded that the Energy Code was 13 percent energy savings improvement over Standard 90.1-2013. DOE accepted the report and approved the certification.

On February 27, 2018, DOE updated its federal reference energy code and adopted *Standard 90.1-2016* as the new regulations for commercial buildings. States were given until February 27, 2020 to certify to DOE that its energy code meet or exceeds *Standard 90.1-2016.* DOE estimates that Standard 90.1-2016 has a 7.9 percent energy savings improvement over the preceding Standard 90.1-2013[4].

On May 9, 2018, the CEC adopted the 2019 update to the Energy Code, which becomes effective January 1, 2020. The CEC estimates that the 2019 Energy Code represents a 10.7 percent energy savings improvement over the currently effective 2016 Energy Code provisions applicable to commercial buildings. These savings are documented in the *2019 Impact Analysis-Update to the California Energy Efficiency Standards for Residential and Non-Residential Buildings.*[5]

III. Staff Analysis and Conclusion

California's 2016 Energy Code applies to construction projects permitted prior to January 1, 2020 and requires an estimated 13 percent greater savings than the federal Standard 90.1-2013; this margin is greater than the 7.9 percent improvement in efficiency from Standard 90.1-2013 obtained in the updated Standard 90.1-2016. Staff is therefore able to certify that the 2016 Energy Code

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[2] https://www.energycodes.gov/adoption/states/california

[3] https://www.energycodes.gov/sites/default/files/documents/California_Energy_Efficiency_Comparison_Commercial.pdf

[4] https://www.regulations.gov/document?D=EERE-2017-BT-DET-0046-0008

[5] https://ww2.energy.ca.gov/title24/2019standards/post_adoption/documents/2019_Impact_Analysis_Final_Report_2018-06-29.pdf

continues to exceed the updated edition of Standard 90.1, based on the analysis in the previously submitted comparison.

California also adopted its 2019 Energy Code in May of 2018 with an effective date of January 1, 2020, meaning that it will apply to building permits issued on or after that date. The update achieves an estimated 10.7 percent improvement over the 2016 Energy Code, as shown in the referenced impact analysis. Staff is therefore able to certify that the updated 2019 Energy Code also exceeds the updated edition of ASHRAE 90.1.

Staff contacted DOE to confirm if referencing previous work, which resulted in already existing reports, would be an acceptable approach towards certification. DOE's response indicated that this letter would satisfy the need for California to certify that its commercial building code meets or exceeds the updated edition of Standard 90.1, and that the analysis provided by the referenced documents would provide the required demonstration that the provisions of such state's commercial building code regarding energy efficiency meet or exceed such revised standard.

IV. Submission

In signing this letter, I am certifying that staff's analysis is true and accurate and, based on staff's analysis, finding that California's 2016 and 2019 Energy Code both exceed the nonresidential building requirements within the current federal reference energy code. I am therefore directing staff to submit this letter and certification to DOE consistent with federal law.

Sincerely,

Drew Bohan
Executive Director