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NRDC et al Comments on 15-Day Language

Additional submitted attachment is included below.

June 28, 2024

California Energy Commission
Re: Docket No. 24-BSTD-01
715 P Street
Sacramento, CA 95814
docket@energy.ca.gov

Re: Comments on 2025 Building Energy Efficiency Standards, Express Terms, 15-Day Language

Dear Commissioners and CEC Staff,

The Natural Resources Defense Council (NRDC), Earthjustice, Rewiring America, Peninsula Clean Energy Authority, and Sierra Club submit the following comments on the California Energy Commission's (CEC) 15-Day Language Express Terms for the 2025 Title 24 Building Energy Efficiency Standards ("2025 Building Code") published June 13, 2024.¹ We appreciate the CEC's work in developing the 15-Day Language for the 2025 Building Code. The Building Code is instrumental in decarbonizing buildings throughout the state and helping achieve California's climate and air quality objectives.

As submitted in our comments on the 45-Day Language,² we continue to strongly support critical advances to the Building Code in the 15-Day Language that further building electrification, including expanded heat pump baselines for residential and non-residential new construction and provisions that strongly encourage replacement of single-zone packaged rooftop units ("RTUs") used in commercial buildings with heat pumps. These and other energy efficiency and electric-ready updates will save Californians money, increase comfort, and reduce the state's dependency on fossil fuels.

However as noted in our comments on the 45-Day Language, there are also major missed opportunities in the 15-Day Language, including the absence of previously considered provisions for replacement of existing central air conditioning ("A/C") units in residential buildings with heat pumps and use of solar and heat pumps for pool heating in existing non-residential and multi-family buildings, which have now been proposed in Part 11 instead. While we continue to

¹ CEC, 2025 Building Energy Efficiency Standards, Title 24 Parts 1 and 6, 15-day Language ("15-Day Language") (June 13, 2024), <https://efiling.energy.ca.gov/GetDocument.aspx?tn=256847&DocumentContentId=92661>.

² NRDC et al Comments on 45-Day Language (May 9, 2024), <https://efiling.energy.ca.gov/GetDocument.aspx?tn=256269&DocumentContentId=92054>.

be disappointed about these omissions, the following comments focus on areas that have changed since the 45-Day Language. To the extent that provisions have not changed since the 45-Day Language, our previously submitted comments remain.

Non-Residential New Construction Baselines: Support for expanded compliance options and development of additional pathways prior to implementation of the 2025 Building Code.

The CEC has proposed to expand on the existing heat pump space heating prescriptive baselines established in the 2022 Building Code for single zone systems in non-residential buildings by setting heat pump space heating baselines for large, multi-zone systems in schools and offices in Section 140.4(a)(3). In general, we strongly support this expansion, which will encourage building electrification while continuing to allow designers options under the performance path. In our comments on the 45-Day Language we recommended that the CEC expand the prescriptive options available to better match the system types typically used in all-electric schools and offices. We appreciate the edits the CEC has made in the 15-Day Language and in particular support the additional option provided under Section 140.4(a)(3)(G), which allows for any space-conditioning system determined by the Executive Director that uses no more energy than the systems specified prescriptively. We strongly recommend that the CEC develop additional options under this pathway in collaboration with the design community in advance of the implementation of the 2025 code to create additional prescriptive pathways for commonly used all-electric systems, such as water-source systems (with and without radiant heat), which will be critical to ensure that these systems can continue to be easily installed. We also recommend that the CEC create a clear process for identifying additional options under this pathway going forward.

Nonresidential HVAC Retrofits: The 15-day language makes helpful modifications to Rooftop Unit replacement requirements.

We strongly support the proposed requirements in Section 141.0(b)(2)(C) that encourage new or replacement single-zone packaged rooftop units (RTUs) under 65,000 Btu/hr to be heat pumps at the time of equipment replacement or failure. As submitted in previous comments on the docket, these equipment changeouts represent a critical opportunity to encourage the adoption of heat pumps, which are essentially drop-in replacements for the existing equipment. As written, the proposed requirements offer flexibility by requiring a heat pump RTU or gas RTU with additional efficiency options under the prescriptive path, depending on the climate zone. We support the edits to this section in the 15-Day Language which help clarify the requirements and expand the options to include dual-fuel heat pumps.

Residential HVAC Design and Control: Remove exemption for Climate Zones 7 and 15 and for buildings with floor area less than 500 square feet.

As submitted in our comment on the 45-Day Language overall we strongly support the edits to Section 150.0(h) relative to residential space conditioning equipment design and control, which will help ensure proper sizing and field performance of heat pumps. In our comments on the 45-Day Language, we commented on Section 150.0(h)(7) specifically which contains language limiting the use of electric resistance or gas supplementary heat, but exempted climate zones 7 and 15, as well as buildings with conditioned floor space less than 500 square feet.³ We stated that this exception was unnecessary given the low cost of these controls and the high potential energy use if supplementary heat is not controlled effectively. The CEC has proposed a new exception⁴ for these climate zones and building sizes that will require controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone and where the cut on and off temperatures of the heat pump are higher than those of the supplementary heater or that only allow supplementary heat operation during defrost and transient periods. We appreciate the edits to this exception, which are an improvement to the 45-Day Language. However, there is still no need for this exception and as written would be difficult to enforce. We continue to recommend that the CEC strike this exception entirely.

Heat pump water heater ventilation requirements: Additional modifications are necessary to strike the correct balance between feasibility and water heater performance.

The CEC has proposed requirements to ensure that integrated heat pump water heaters are installed with adequate ventilation to achieve optimum performance (Section 110.3(c)(7)). While helpful modifications were made in the 15-Day Language, we remain concerned that this section does not strike the right balance between feasibility and water heater performance. We support the edit in the 15-Day Language to Section 110.3(c)(7)(B)(i) which allows for the manufacturer to issue installation guidance that provides ventilation performance that meets or exceeds that provided by the provisions of Section 110.3(c)(7)(B). However, our comments from the 45-Day language on Sections 110.3(c)(7)(B)(4)(iv) related to net free area on the inlet duct and 110.3(c)(7)(B) related to compressor capacity test point remain.

With regard to Section 110.3(7)(b)(4)(iv), the ducted inlet configuration should only require a net free area (NFA) of 20 square inches (same as ducted exhaust). Requiring the NFA to be the same size as the duct is not supported by the research and is significantly more than what is needed for adequate ventilation. In addition, references to AHRI 540 Table 4 reference

³ Exceptions 2 and 3 to Section 150.0(h)7 in 45-Day Language

⁴ Exception 1 to Section 150.0(h)7 in 15-Day Language

conditions in Section 110.3(7)(B) should be removed as there is no way for a contractor to document the compressor capacity to calculate the installation space required.

We appreciate the opportunity to comment and the hard work of the CEC in preparing the 15-Day Language. We would welcome further discussion on any of our comments.

Sincerely,

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