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Request to revise Title 24 requirements for CO2 remote condensing units

Additional submitted attachment is included below.



California Energy Commission
Dockets Office
715 P Street
Sacramento, CA 95814

May 4, 2026

Re: Request to revise Title 24 requirements for CO2 remote condensing units

Dear Commissioners:

The North American Sustainable Refrigeration Council (NASRC) respectfully submits this comment letter to request a change to California Title 24, Part 6, so that CO2 remote condensing units (RCUs) are not categorically required to include adiabatic gas coolers in order to comply in applicable climate zones. NASRC further requests that the California Energy Commission consider an alternative pathway that would allow this issue to be addressed before the 2028 code cycle takes effect, because the current requirement is constraining near-term deployment of low-GWP CO2 equipment in California applications where adiabatic gas cooling may be inappropriate, impractical, or counterproductive.

NASRC is a 501(c)(3) environmental nonprofit working to advance climate-friendly natural refrigerants and reduce greenhouse gas emissions associated with traditional hydrofluorocarbon refrigerants. NASRC collaborates with more than 200 stakeholder companies across the refrigeration industry to reduce barriers to natural refrigerants in industrial and commercial applications, and its network includes equipment manufacturers, service contractors, engineering and design firms, consultants, utilities, and food retailers representing more than 55,000 refrigerated facility locations nationally.

The existing Title 24 provisions requiring adiabatic gas coolers for CO2 systems in warm and hot climate zones were developed when the relevant prototype systems were central CO2 rack systems with remote gas coolers, and smaller distributed systems and CO2 condensing units were not then available or contemplated. Today's market includes factory-built CO2 condensing units for which the same prescriptive adiabatic requirement can impose disproportionate cost and design burdens without necessarily being the most effective route to equivalent annual energy performance.

There are several practical drawbacks associated with mandatory adiabatic gas cooling, including higher maintenance costs, shortened gas-cooler life, and concerns regarding water availability. For smaller CO2 condensing units, adiabatic additions can be difficult to integrate, may create pressure-loss and maintenance issues, and in some cases may damage condenser surfaces over time. Alternative strategies may offer a more appropriate path to efficiency.

Updating the code is also important because, if CO2 condensing units remain burdened by an ill-suited adiabatic requirement, food retailers and other end users may be left with a shrinking set of compliant options centered on A2L equipment. This would constrain market choice just as state refrigerant regulations and the federal HFC phasedown are rapidly reshaping equipment decisions. NASRC believes California policy should preserve a clear pathway for non-flammable, low-GWP CO2 solutions rather

than inadvertently steering businesses toward refrigerants that introduce flammability concerns, rely on safety approaches many end users are still evaluating, and may face future scrutiny related to PFAS.

For these reasons, NASRC urges the Commission to revise Title 24 so that CO2 RCUs may demonstrate compliance through an equivalent-performance pathway rather than a fixed prescriptive requirement for adiabatic gas coolers. A revised framework could preserve California's energy goals while avoiding a technology-specific requirement that is increasingly misaligned with the design realities of modern CO2 condensing units.

NASRC recognizes that, under the normal rulemaking schedule, this issue may not be resolved until the 2028 Title 24 code cycle. However, the need for relief is immediate. The current requirement is slowing sales, limiting manufacturer participation, complicating program design, and reducing the near-term viability of CO2 condensing units in important California market segments, including food retail and other commercial applications. For that reason, NASRC respectfully asks the Commission to work with stakeholders to identify any available interim or alternative administrative pathway that could clarify compliance treatment or otherwise enable this change to take effect sooner than the 2028 cycle.

The need for earlier action is especially important because state refrigerant regulations and the federal HFC phasedown are rapidly transforming the refrigeration market, accelerating the transition away from high-GWP refrigerants and driving demand for viable long-term alternatives such as CO2 condensing units. In this context, CO2 condensing units represent a critical compliance and decarbonization solution for both large chains and small businesses, yet current code treatment creates uncertainty regarding where and how such equipment can be used. There is a shared interest to avoid a situation where climate-beneficial technology is delayed not because it cannot meet policy goals, but because the code structure has not kept pace with product evolution.

NASRC appreciates the Commission's longstanding leadership on emissions reduction and energy efficiency. This request is intended to support both objectives by enabling low-GWP CO2 condensing units to compete on a fair basis while still requiring appropriate energy performance. NASRC would welcome the opportunity to provide additional technical information, stakeholder input, or supporting analysis as the Commission evaluates options for revising the current requirement.

Respectfully submitted,



Danielle Wright
Executive Director

North American Sustainable Refrigeration Council (NASRC)
35 Miller Ave. #1019
Mill Valley, CA 94941
info@nasrc.org | 503.869.4191 | www.nasrc.org