DOCKETED	
Docket Number:	25-BSTD-03
Project Title:	2028 Energy Code Pre-Rulemaking.
TN #:	270003
Document Title:	Ron Shebik Comments - Title 24 adiabatic cooling requirements for CO2 CDUs
Description:	N/A
Filer:	System
Organization:	Ron Shebik
Submitter Role:	Public
Submission Date:	5/15/2026 12:48:34 PM
Docketed Date:	5/15/2026

Comment Received From: Ron Shebik
Submitted On: 5/15/2026
Docket Number: 25-BSTD-03

Title 24 adiabatic cooling requirements for CO2 CDUs

Additional submitted attachment is included below.

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

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May 15, 2026

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

Dear Commissioners:

On behalf of Hussmann Corporation this letter respectfully requests that the California Energy Commission revise Title 24, Part 6, so that CO2 remote condensing units are not categorically required to include adiabatic gas coolers in order to comply in applicable climate zones. Hussmann Corporation is the North American leader in commercial refrigeration, providing refrigerated display cases, evaporative unit coolers, walk-in cooler/freezer doors, and various refrigeration systems as well as providing both service and installation throughout North America.

While the intent of requiring adiabatic gas coolers for transcritical CO_2 systems in high-ambient climates is to ensure acceptable energy efficiency, a strictly prescriptive approach does not accurately reflect current technology advancements or the diversity of system configurations in today's market.

The requirement was largely developed around centralized rack systems. However, the market has expanded to include factory-built remote condensing units and distributed architectures. These smaller, packaged systems often have different operating characteristics and optimized designs, making a blanket requirement for adiabatic gas coolers technically inappropriate and potentially inefficient for certain applications.

Modern CO_2 systems can achieve strong performance in hot climates through multiple alternative strategies, including:

- Parallel compression
- Ejector technology
- Mechanical subcooling
- Improved gas cooler design and control optimization

These approaches can reduce gas cooler outlet temperatures and improve system efficiency without relying on water-assisted cooling. A prescriptive mandate effectively discourages innovation by favoring a single solution rather than performance-based outcomes.

Adiabatic gas coolers introduce:

- Higher first cost (equipment, controls, water treatment systems)
- Increased maintenance requirements (pads, scaling, water quality management)
- Reliability concerns in areas with poor water quality or seasonal operation

For smaller systems in particular, these incremental costs can disproportionately impact project viability without delivering commensurate benefits.

Mandating adiabatic operation conflicts with broader sustainability goals in regions where water conservation is critical. Water consumption, treatment, and disposal introduce environmental and regulatory considerations that may outweigh the energy benefits in certain jurisdictions.

Updating the code is also important because refrigerant regulations are rapidly transforming the market. CO2 remote condensing units are becoming an important low-GWP solution for both large and small businesses, and California policy should preserve a clear path for these systems rather than unintentionally narrowing the market to a smaller set of compliance options.

While this issue may otherwise wait until the 2028 code cycle, earlier action is needed. The Commission is respectfully encouraged to work with stakeholders to identify an alternative pathway that could clarify compliance treatment or allow this change to move forward sooner, so that code requirements do not unnecessarily slow adoption of climate-beneficial CO2 technology.

Thank you for your consideration of this request.

Sincerely

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