DOCKETED	
Docket Number:	25-BSTD-03
Project Title:	2028 Energy Code Pre-Rulemaking.
TN #:	273377
Document Title:	California Pool & Spa Association Comments - CPSA&PHTA Comments on CEC 2028 Energy Code Pre-Rulemaking
Description:	N/A
Filer:	System
Organization:	California Pool & Spa Association
Submitter Role:	Public
Submission Date:	11/5/2026 1:39:42 PM
Docketed Date:	11/5/2026

Comment Received From: California Pool & Spa Association
Submitted On: 11/5/2026
Docket Number: 25-BSTD-03

CPSA&PHTA Comments on CEC 2028 Energy Code Pre-Rulemaking

Additional submitted attachment is included below.

California Pool & Spa Association
915 L Street, Suite 1100
Sacramento, CA 95814-3705
916-447-4113 | www.phta.org/cpsa

Pool & Hot Tub Alliance
1650 King Street, Ste. 602
Alexandria, Virginia 22314
703-838-0083 | www.phta.org

November 5, 2026

David Hochschild, Chair
California Energy Commission
715 P Street
Sacramento, CA 95814

Cc: Vice Chair Siva Gunda, Commissioner Andrew McAllister, Commissioner Noemí Gallardo, and Commissioner Nancy Skinner

CEC Docket Number: 25-BSTD-03

Project Title: 2028 Energy Code Pre-Rulemaking

Subject: Comments on the Pre-Rulemaking Draft Regulatory Text – Solar Heating for an Existing Nonresidential Pool and Spa (2028 Title 24 Building Energy Efficiency Standards)

Dear Chair Hochschild and Commissioners:

On behalf of the California Pool & Spa Association (CPSA) and the Pool & Hot Tub Alliance (PHTA), we appreciate the opportunity to provide comments on the California Energy Commission's (CEC) October 12, 2026, pre-rulemaking draft regulatory text for the 2028 California Energy Code, particularly the proposed requirements for heating systems serving existing nonresidential pools and spas.

CPSA and PHTA appreciate the continued engagement of CEC staff and the Codes and Standards Enhancement (CASE) Team throughout the development of this proposal. As outlined in our previous comment letter on the Final CASE Report, we support practical and cost-effective measures to improve energy efficiency while ensuring that regulatory requirements remain technically feasible and economically realistic for existing aquatic facilities.

The proposal has evolved significantly throughout the stakeholder process, and we appreciate the Commission's willingness to incorporate industry feedback. We are encouraged by the inclusion of a standalone high-efficiency natural gas and propane compliance pathway with a minimum thermal efficiency of 90 percent, reflecting a key recommendation from our previous comments.

Relatedly, CPSA and PHTA recommend that the Commission extend the standalone 90 percent high-efficiency natural gas and propane compliance pathway to newly constructed nonresidential pools and spas under Section 800.3. Providing a comparable option for new construction would promote consistency with the pathway proposed for alterations under Section 801 while maintaining flexibility in heating system design. We encourage the Commission to consider relevant national model energy-code developments such as ASHRAE 90.1 2028 and the 2027 International Energy Conservation Code when evaluating this targeted revision.

Although these revisions represent meaningful progress, several provisions warrant additional clarification and consideration before the Commission advances the proposal through formal rulemaking.

High-Efficiency Gas Heating Compliance Pathway

CPSA and PHTA appreciate the inclusion of a standalone high-efficiency natural gas and propane heating pathway under proposed Section 801, which establishes a minimum thermal efficiency of 90 percent for alterations to existing nonresidential pools and spas.

In our July 17 comments on the Final CASE Report, we requested that the proposed 94 percent efficiency threshold be reduced to 90 percent to better align with developments in the 2027 International Energy Conservation Code (IECC) and proposed amendments to ASHRAE Standard 90.1.

Maintaining an independent high-efficiency gas heating pathway is particularly important for existing aquatic facilities that were not designed to accommodate solar thermal installations or large-scale heat pump systems. These facilities frequently face significant electrical, structural, spatial, and operational limitations that can make other heating technologies difficult or impractical to install.

High-efficiency gas heating systems provide reliable heating capacity, rapid temperature recovery, and compatibility with existing infrastructure while offering improved energy efficiency over conventional equipment.

CPSA and PHTA respectfully request that the Commission retain the proposed 90 percent thermal-efficiency threshold and ensure that this remains a full and independent compliance pathway, without requiring the installation of additional solar or heat pump systems.

We also support retaining the provision allowing multiple heating units to demonstrate compliance through an input capacity-weighted average thermal efficiency of at least 90 percent.

Clarification of Heater Replacement Requirements

As noted in our July 17 comments, CPSA and PHTA continue to seek clarity regarding the application of the heating-source requirements to existing facilities undergoing equipment replacement.

Specifically, we request that the Commission clarify whether replacement of an existing natural gas heater with another natural gas heater would require compliance with the proposed 90 percent thermal-efficiency standard in all circumstances, unless an applicable exception is satisfied.

Additional guidance is also needed for facilities operating multiple heating units, particularly where only one unit is being replaced, and for systems that serve both a swimming pool and an associated spa.

The proposed regulatory text specifies that the altered component and any newly installed equipment serving the alteration must meet the applicable requirements. However, the language permitting multiple heating units to demonstrate compliance through an input capacity-weighted average thermal efficiency of at least 90 percent does not clearly address how this requirement applies when only a portion of an existing heating system is being replaced.

CPSA and PHTA therefore request clarification regarding whether the 90 percent weighted average applies to all heating units serving a pool or spa, including existing equipment that is not being altered, or only to the equipment being installed or replaced as part of the permitted project.

Requiring an entire existing heating system to meet the 90 percent threshold when only one unit is being replaced could necessitate the premature replacement of otherwise functional equipment, resulting in additional costs and potentially discouraging necessary maintenance and energy-efficiency improvements. We encourage the Commission to ensure that the regulation does not inadvertently require the replacement of unaffected equipment during otherwise limited alterations.

We also request clarification regarding the application of the proposed requirements to combined pool-and-spa heating systems, including circumstances in which a single heating system serves multiple aquatic facilities with different temperature and operational requirements.

Finally, CPSA and PHTA recommend that compliance with the gas and propane pathway remain based on the specified thermal-efficiency performance standard, rather than mandating a particular heating technology or equipment design.

Providing clear direction on these issues will help contractors, equipment manufacturers, facility operators, and building officials consistently implement the requirements.

Hardship and Infeasibility Exceptions

CPSA and PHTA appreciate the inclusion of an expanded hardship and infeasibility exception under proposed Section 801. This provision represents meaningful progress in recognizing the financial, technical, and operational challenges facing existing aquatic facilities.

Under Exception 6, an applicant may request relief where circumstances constitute hardship or infeasibility, and no reasonable compliant alternative is available. The proposed language identifies three potential grounds for relief: infrastructure upgrade costs exceeding 20 percent of total project costs, technical infeasibility due to physical space or electrical service constraints, and circumstances in which compliance would create or maintain hazardous conditions presenting a life-safety risk.

While we support the inclusion of these protections, we remain concerned that the exception does not adequately account for the full financial burden associated with replacing heating equipment at existing facilities.

Specifically, Exception 6(1) provides that infrastructure upgrade costs must exceed 20 percent of the total project cost, but expressly excludes equipment costs from the calculation of infrastructure upgrades. This limitation is significant because the purchase and installation of compliant heating equipment may represent one of the largest expenses associated with a retrofit project. Even where sufficient electrical service or physical space is available, the cost of purchasing additional or replacement equipment may present a substantial financial hardship.

As CPSA and PHTA emphasized in our prior comments, many school districts, community pools, nonprofit organizations, and swim schools operate under constrained capital budgets. These facilities generally evaluate heating equipment replacement projects based on available funding and near-term affordability rather than projected energy savings over a 25- or 30-year period.

For publicly operated aquatic facilities, funding decisions are often made by governing bodies, including cities, counties, school districts, and recreation districts, rather than individual facility operators. These entities must balance capital improvements against other budgetary priorities, and substantial heating system retrofit expenses could reduce funding available for lifeguards, swim instructors, certified pool

operators, and other essential services. We encourage the Commission to consider these operational and budgetary constraints when evaluating financial hardship.

The CASE Team's March 17, 2026, stakeholder presentation estimated incremental upfront costs for solar thermal retrofits of approximately $19,640 for a standard 60,000-gallon pool and $113,940 for an Olympic-sized pool, including equipment, pumps, plumbing, and installation. These estimates illustrate the potentially significant upfront expenses associated with certain compliance pathways.

We are also concerned that the proposed calculation may unintentionally make financial hardship more difficult to demonstrate. If equipment costs are included in the total project cost but excluded from the infrastructure-upgrade calculation, the resulting percentage may not accurately reflect the financial burden of compliance.

Accordingly, CPSA and PHTA recommend that the Commission expand Exception 6 to expressly recognize financial hardship based on the total incremental cost of compliance, including the purchase and installation of required heating equipment, architectural and engineering services, planning, permitting, and other administrative expenses associated with retrofitting existing facilities.

At a minimum, the Commission should clarify which expenses are included in the total project cost, how the 20 percent threshold is calculated, and whether local enforcement agencies may consider equipment expenses and broader financial circumstances when evaluating hardship.

We also recommend clarifying the requirement that applicants demonstrate that no reasonable compliant alternative is available. A heating technology may be technically feasible to install while remaining financially infeasible for a particular facility. The availability of a compliant heating system should not, by itself, preclude consideration of the substantial costs associated with purchasing and installing that equipment.

Similarly, while Exception 6(2) recognizes technical infeasibility arising from physical space limitations or electrical service constraints, existing facilities may face other significant barriers, including structural limitations, roof conditions, equipment access, or the need for substantial modifications to existing plumbing and circulation systems.

We encourage the Commission to clarify that these and other site-specific constraints may be considered when evaluating technical infeasibility.

CPSA and PHTA recommend that the Commission establish a streamlined, objective, and consistent process for evaluating hardship requests, including clear documentation requirements and guidance for local enforcement agencies. This process should provide reasonable flexibility to consider existing facility conditions, contractor estimates, and other readily available evidence when determining eligibility for an exception.

We are particularly concerned that applicants may otherwise incur substantial engineering or professional consulting expenses to demonstrate financial hardship or technical infeasibility, without certainty that an exception will ultimately be approved. For school districts, nonprofit aquatic facilities, swim schools, and other community-serving operators with limited resources, the cost of demonstrating eligibility should not itself become an additional financial barrier.

Providing these additional protections would help ensure that the proposed requirements do not unintentionally delay necessary heater replacements, reduce aquatic programming, or threaten access to facilities providing essential swimming instruction, drowning-prevention education, and public health services.

Financial Incentives and Rebates

CPSA and PHTA also encourage the Commission to consider opportunities for financial assistance to help existing aquatic facilities transition to compliant heating equipment. While we appreciate the inclusion of a 90 percent high-efficiency gas heating compliance pathway, school districts and other aquatic facility operators have reported substantial price differences between conventional pool heaters and higher-efficiency alternatives.

We encourage the Commission to coordinate with appropriate state agencies and utility program administrators to explore targeted incentives, rebates, or other financial assistance for qualifying heater replacements. Such assistance could help offset upfront equipment and installation costs for schools, nonprofit aquatic centers, swim schools, and other community-serving facilities while preserving access to essential swimming instruction and drowning-prevention programs.

Heat Pump Sizing Requirements

CPSA and PHTA continue to support heat pump pool heaters as a valid compliance option where site conditions, electrical infrastructure, climate, and operating requirements support their use.

However, we reiterate the technical concerns previously raised regarding the heat pump sizing methodology established in Reference Joint Appendix JA16.3.

The current methodology relies on pool volume, a temperature-rise calculation, and a prescribed heating period to determine equipment output requirements when manufacturer sizing information is unavailable. As discussed in our November 2025 comments to the CASE Team, this methodology may not adequately reflect how pool heating equipment is designed and operated in practice.

Commercial aquatic facilities are generally designed to maintain required water temperatures under specified operating and weather conditions, rather than simply achieve a prescribed temperature rise within a fixed period.

Factors such as water surface area, evaporation, ambient conditions, humidity, wind exposure, and required temperature recovery can materially affect heating demand.

Furthermore, the sizing methodology's limitations may lead to the installation of additional heat pump equipment beyond what would otherwise be recommended by professional engineers using established industry practices. Such outcomes could increase upfront equipment and installation costs without producing corresponding energy savings.

We therefore encourage the Commission to revisit JA16.3 in consultation with industry engineers and equipment manufacturers to ensure that the methodology accurately reflects real-world operating conditions and does not unnecessarily increase equipment sizing or installation costs. If needed, CPSA and PHTA can provide access to these industry professionals.

Federal Appliance Preemption and Regulatory Consistency

CPSA and PHTA also reiterate our prior request that the Commission evaluate potential federal preemption concerns associated with applying a state-specific thermal-efficiency threshold to certain pool heating equipment.

As outlined in our July 17 comments, residential-type pool heaters subject to federal appliance-efficiency standards may also be installed in nonresidential settings.

We encourage the Commission to evaluate how the proposed requirements would apply to federally regulated equipment and whether any additional clarification or exemption is necessary under the federal Energy Policy and Conservation Act (EPCA).

We also recommend that the Commission review the proposed language for consistency between the provisions governing newly constructed pools and those applicable to alterations of existing facilities. The pre-rulemaking draft contains overlapping references to Sections 801.5 and 801.6 within the provisions governing alterations to existing pools and spas, including the heating-source requirements and associated exceptions.

CPSA and PHTA request that the Commission correct these section references and ensure that all applicable cross-references are accurate and consistent before initiating formal rulemaking.

Establishing clear distinctions and consistent terminology will help minimize confusion among contractors, designers, manufacturers, facility operators, and local enforcement agencies.

Preserving Access to Community Aquatic Facilities

Finally, CPSA and PHTA reiterate that the potential impacts on community-serving aquatic facilities must remain a central consideration as this proposal advances.

California's school pools, community recreation facilities, swim schools, nonprofit aquatic centers, and therapeutic pools provide essential public health and safety services, including swim instruction, drowning-prevention education, rehabilitation, competitive swimming, and recreational programming.

Regulatory requirements that impose substantial additional costs or delay necessary heating equipment replacements could ultimately reduce operating hours, limit aquatic programming or essential therapy, or threaten the continued operation of facilities already facing aging infrastructure and constrained budgets.

While CPSA and PHTA support California's energy-efficiency and greenhouse gas reduction objectives, those goals must be balanced with the need to preserve access to safe and properly heated aquatic facilities, particularly those serving schools, public agencies, nonprofit organizations, and underserved communities.

Conclusion

CPSA and PHTA appreciate the meaningful progress reflected in the pre-rulemaking draft and the Commission's continued consideration of concerns raised throughout the CASE process.

In particular, we appreciate the inclusion of the standalone high-efficiency natural gas and propane heating pathway and the reduction of the minimum thermal-efficiency requirement from 94 percent to 90 percent.

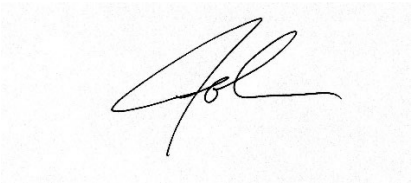
As the Commission proceeds toward formal rulemaking, we respectfully request that it:

1. **Retain the standalone 90 percent high-efficiency gas and propane compliance pathway,** including the capacity-weighted averaging provision for multiple-heater systems;
2. **Clarify the application of the requirements to equipment replacements,** particularly partial heater replacements and combined pool-and-spa heating systems;
3. **Expand the hardship and infeasibility exception** to consider total incremental compliance costs, including equipment expenses, and provide clearer guidance on technical and financial feasibility;
4. **Revisit the heat pump sizing methodology** in Reference Joint Appendix JA16.3 to ensure **consistency with established engineering practices and actual operating conditions;**
5. **Evaluate potential federal appliance preemption concerns** and correct the regulatory cross-references and section numbering;
6. **Consider the financial and operational impacts on community-serving aquatic facilities** to ensure that the regulations do not unintentionally reduce access to essential swim instruction, water safety education, and other aquatic programming; and
7. **Encourage the development of targeted financial incentives, rebates, or other assistance programs** to help school districts, nonprofit organizations, swim schools, and other community-serving aquatic facilities offset the costs of installing compliant heating equipment.

We believe these refinements will help ensure that the 2028 Energy Code advances California's energy-efficiency objectives while remaining practical, achievable, and cost-effective for existing aquatic facilities.

Thank you for your consideration. CPSA and PHTA look forward to continuing to work collaboratively with Commission staff and other stakeholders as the proposal moves forward.

Sincerely,



John Norwood
Norwood Associates, LLC
(for CPSA)
jnorwood@nalobby.net



Gregory Ceton
Senior Director, Standards and Codes
Pool and Hot Tub Alliance (PHTA)
gceton@phta.org