DOCKETED	
Docket Number:	24-BSTD-01
Project Title:	2025 Energy Code Rulemaking
TN #:	257421
Document Title:	Cooling Technology Institute Comments - CTI comments on 15 day language
Description:	N/A
Filer:	System
Organization:	Cooling Technology Institute
Submitter Role:	Public
Submission Date:	6/26/2024 12:35:08 PM
Docketed Date:	6/26/2024

Comment Received From: Cooling Technology Institute
Submitted On: 6/26/2024
Docket Number: 24-BSTD-01

CTI comments on 15 day language

see attachment

Additional submitted attachment is included below.

COOLING TECHNOLOGY INSTITUTE

PO Box 681807, Houston, TX 77268 / 3845 Cypress Creek Parkway, #420, / Houston, TX 77068
Phone: 281.583.4087 / Fax: 281.537.1721 / email: vmanser@cti.org / http://www.cti.org

June 25, 2024

To: CEC Docket 24-BSTD-01 (https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-BSTD-01)

Dear CEC Staff:

Thank you for the opportunity to provide comments on the 15-Day Title 24 language related to cooling towers. The Cooling Technology Institute (CTI) continues to understand and support the California Energy Commission's goals to improve building energy efficiency and reduce overall water use, while also decreasing carbon emissions. As per our Mission statement, the CTI supports all environmentally friendly, sustainable heat rejection technologies including evaporative heat rejection which continues to be one of the most energy efficient cooling methods available.

The Cooling Technology Institute (www.CTI.org), based in Houston, Texas, is an independent, not-for-profit organization dedicated to advocating and promoting, for the benefit of the public, the use of all environmentally responsible and energy efficient cooling technologies, such as wet cooling towers, air-cooled condensers, dry coolers, adiabatic coolers and condensers, indirect cooling, and hybrid wet/dry systems by encouraging education, research and development, independent performance verification and certification programs, the exchange of technical information and technology and dialog with government agencies and organizations. The CTI has a broad based, global membership of individuals and organizations interested in environmentally responsible heat transfer systems, including owner/operators, manufacturers and suppliers to the Industry.

We again thank the CEC Staff for responding to Industry feedback on the Final Case Report and the 45-Day on Cooling Towers. We recognize and appreciate the revisions that were made to accommodate our input. Based on the 15-Day Language, we would like to provide the following additional comments:

Cooling Tower Minimum Efficiency

In our comments on the 45-Day language, we noted that there were increases in minimum efficiencies in certain climate zones as compared to original values in the Draft Case Team Report on Cooling Towers. These increases have not been explained nor justified in subsequent analyses. We therefore request that the minimum efficiency for these Climate Zones (Climate Zones 2, 4, 5, and 13) be checked for proportionality and if not justified, rolled back to the minimum efficiency values contained in the Draft Case Team Report.

Additionally, as we are sure you are aware, the vast majority of cooling towers utilize variable speed fan control which significantly reduces the annual fan energy usage, and we believe this is not properly reflected in the energy models. Additionally, the modelling programs appear not to be able to model staging of multiple cell cooling tower installations per ASHRAE Standard 90.1. This also has a significant impact on energy use on an annual basis. Since there are relatively few single cooling tower cell installations over 300 tons, the lack of staging of cells by the use of single cell modelling is significantly in error as compared to actual installations. Thus before undertaking any future cooling tower evaluations, these energy modeling issues need to be corrected.

Cooling Tower Blowdown Controls

As stated in our previous comments, the CTI believes in the "wise use of the world's water resources." As part of this, the minimization of blowdown is a key goal of our water treatment members, while keeping scale, fouling, corrosion and microbial growth under control. Increasing cycles of concentration and reducing blowdown, while saving water, must be accomplished carefully to avoid negative, unintended consequences which can detrimentally impact the performance and energy efficiency of not just the evaporative heat rejection unit, but the entire cooling system. The changes for Title 24 2025 in the 15-Day Language will facilitate compliance with the requirements of the proper water treatment program for each site while minimizing the potential for scaling, fouling, and corrosion of the evaporative heat rejection equipment.

Adiabatic Fluid Cooler Minimum Efficiency

We have noticed in the 15-Day Language that a minimum efficiency for adiabatic fluid coolers has not been added in the Heat Rejection Table. This minimum efficiency is supported by the CTI ATC-105 Adiabatic test code. Complete details for adding this equipment type can be found in Addendum "q" to ASHRAE Standard 90.1. This will help to keep Title 24 and Standard 90.1 in alignment as well as cover a growing class of heat rejection which is more energy efficient than dry coolers while saving water compared to cooling towers. Note also that the CTI currently has a Task Group charged with developing a Rating Standard for adiabatic fluid coolers in support of a future certification program. We expect to have this program implemented during the next Code cycle, joining our current certification programs for open circuit cooling towers, closed circuit cooling towers, and dry coolers.

Reference to CTI Standards and Codes

Thank you for updating the publication dates of the listed CTI Codes and Standards as well as the address of the CTI in the 15-Day Language.

Summary

The CTI again appreciates the opportunity to provide input to the CEC and will continue to monitor the 2025 Development Process closely through publication. Our members would be happy to assist with additional input to the CEC Staff, as well as answer any specific questions that may arise relative to our comments or evaporative heat rejection in general.

Please feel free to contact us at any time.

Sincerely,

Paul A. Lindahl, Jr, Chair
CTI Regulatory Response Committee

For James Baker, President
Cooling Technology Institute

cc: James Baker, President, Cooling Technology Institute
Ken Mortensen, CTI Past President
CTI Board of Directors
Vicky Manser, CTI Administrator

Haile Bucaneg (Haile.Bucaneg@energy.ca.gov)