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SPX Cooling Technologies Feedback

Please See Attachment.

Additional submitted attachment is included below.

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CEC Docket 22-BSTD-01

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CEC Title 24 Team,

We appreciate the opportunity to provide feedback on CEC Docket 22-BSTD-01, the 2025 Energy Code Pre-Rulemaking Final CASE Report for Cooling Towers.

SPX Cooling Technologies is supportive of the CEC's goals of reducing energy consumption, water consumption and overall environmental impacts. We believe the revisions so far have significantly improved the proposal. We appreciate the effort to strike the right balance between aggressiveness and ensuring the rulemaking can be practically implemented without causing unintended negative consequences. We would like to specifically state our agreement with the minimum efficiency levels for Zones 1-5, 11-12, 14 and 16. We feel these are achievable and will deliver the desired efficiency improvements. We would also like to commend the team for allowing consideration of cycles of concentration based on local water conditions. This is critical to ensure water parameters remain within acceptable levels for all applications—optimising long term operational efficiency. We hope the final rulemaking output will arrive at an end result that reduces both energy and water consumption in California and does so in a realistic manner that is practical and fair to all stakeholders. In an effort to contribute to this important work, we respectfully ask that the CEC team consider a few concerns regarding the minimum mandatory efficiency requirements for a few select climate zones.

SPX Cooling Technologies believes that care should be taken to ensure changes to regulations are appropriately phased so that there are no large or unrealistic increases leading to unintended consequences. Our primary concern in this regard is the dramatic increase in cooling tower efficiency requirements to a minimum efficiency level of 80gpm/hp (zones 6-7, 9, 13) or 90 gpm/hp (zones 8, 10, 15) within one iteration. We feel an increase this large is excessive, potentially cost prohibitive and likely to push the industry toward alternative equipment types which have a higher net harmful impact on the environment--including increased energy and water consumption. The 90 gpm/hp requirement for zones 8, 10 and 15 is particularly problematic and risks significant increases in net energy consumption due to end users moving to air-cooled equipment which has a much lower upfront cost but consumes substantially more electricity and therefore more net water usage.

There are also several process related concerns that exacerbate the impact of the dramatic increase in efficiency levels within zones 6-10, 13 and 15:

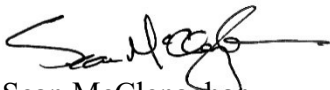
1. The cost analysis in this document does not include the cost of building enclosures around cooling towers—whether at grade or on top of buildings. It is our understanding that California requires enclosures around essentially all cooling towers. The primary mechanism for increasing efficiency is increasing the physical size of cooling towers—thus requiring substantially larger enclosures. This could mean substantial costs above and beyond those considered in the report.
2. The increased size of both cooling towers and enclosures could have significant unexpected impact in areas with high wind or seismic considerations. Several localities within the impacted zones are exposed to high wind speeds and/or high seismic activity. Significant investigation is required to ascertain the wind load or seismic considerations required within these impacted areas—and the associated costs.
3. High efficiencies are closely tied to lower air exit velocities at full fan speed (facilitated by larger surface areas within heat transfer media). As cooling towers get larger with higher efficiencies, the risk of recirculation of air increases (due to physical size of the cooling towers and required additional enclosure size and height). This recirculation of warmer, moist air discharge reduces tower capacity since performance is directly related to incoming air wet bulb temperature. This may further impact cooling tower sizing to offset capacity reduction—driving sizing beyond what is contemplated within the draft proposal. No consideration of these additional costs were included in the prior draft phase.

4. As cooling towers increase in size, they consume valuable space that could be allocated to energy saving technologies such as solar panels. In this way, driving excessive increases in equipment size could leave less space available for green energy technologies—thus increasing demands on the electrical grid.

A more reasonable increase in minimum values would allow businesses time to adjust and invest appropriately to meet the long term goals of the CEC and all stakeholders. As such, we encourage the CEC to set the minimum threshold no higher than 70 gpm/hp.. This would minimize the risk of customers switching to lower cost (and much higher energy consumption) air-cooled equipment.

We respectfully request that the concerns outlined above be taken into consideration to ensure the final rulemaking accomplishes all of the goals the CEC has outlined while doing so in a reasonable, achievable manner. Please feel free to contact me or any of the other key contacts within SPX Cooling Technologies listed below for additional information.

Regards,



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