

DOCKETED	
Docket Number:	19-BSTD-03
Project Title:	2022 Energy Code Pre-Rulemaking
TN #:	235380
Document Title:	Lisa Rosenow Comments - Statement of Support & Recommended Enhancements
Description:	N/A
Filer:	System
Organization:	Lisa Rosenow
Submitter Role:	Public
Submission Date:	10/21/2020 3:31:33 PM
Docketed Date:	10/21/2020

*Comment Received From: Lisa Rosenow
Submitted On: 10/21/2020
Docket Number: 19-BSTD-03*

Statement of Support & Recommended Enhancements

Evergreen Technology Consulting provides technical support and training for the commercial provisions of the WA State Energy Code (WSEC). Based on our experience providing technical support and education for the DOAS provisions in the 2015 and 2018 WA State Energy Code (WSEC), we have two language recommendations for this code change proposal.

Item #1 - Energy recovery requirements

Add the word "enthalpy" to the following language in Section 140.4(q):

"Ventilation sensible energy recovery ratio of at least 60 percent or enthalpy energy recovery ratio of at least 50 percent at full flow cooling design conditions and heating design condition."

We recommend explicitly stating that the second efficiency value applies to enthalpy-based energy recovery equipment.

Item #2 - Economizer exception requirements

We recommend adding the following language from the 2018 WSEC to Section 140.4(e) for the economizer exception for cooling systems serving spaces that are also served by a DOAS:

"Economizer exception applies to cooling systems not installed outdoors nor in a mechanical room adjacent to the outdoors."

Prior to this change in the 2018 WSEC, we heard from mechanical contractors and engineers who viewed this exception as a loophole that allowed packaged rooftop cooling equipment installed without economizer, which was not the intent. The impact to industry was that conscientious mechanical contractors who included an economizer in their bids were being outbid by contractors who used this exception to get out of installing an economizer on an outdoor unit to save cost. This proposed change closes this loophole.

Additional submitted attachment is included below.



October 21, 2020

California Energy Commission
2022 Energy Code Pre-Rulemaking
info@title24stakeholders.com

Subject: CASE Report 2022-NR-HVAC4-D - Nonresidential HVAC Controls

We would like to submit our statement of support for the non-residential HVAC controls enhancement proposal for the 2022 Title 24 CA Building Energy Efficiency Standard submitted by Red Car Analytics. Our company Evergreen Technology Consulting provides design and construction industry technical support, training and code development for the WA State Commercial Energy Code (WSEC).

A similar proposal requiring dedicated outside air systems with energy recovery in certain building types as the prescriptive compliance path was adopted in the 2015 WA State Energy Code (WSEC) effective July of 2016. Through our day-to-day technical support services helping industry professionals navigate these new requirements, we are able to offer insight about which details in this code provision required industry education and interpretation support.

Based on our experience, offering dedicated outside air systems as a prescriptive compliance path reduces the amount of effort required by design professionals to demonstrate, and for jurisdictions to verify energy code compliance compared to the design simulation approach. This leads to better compliance.

An important element as it relates to current events are the benefits that a dedicated outside air system can provide with regards to indoor air quality and pandemic resiliency. A well-designed DOAS paired with a separate heating and cooling system offers an effective method of delivering adequate ventilation air into the breathing zone. Early research findings by industry experts suggest this system approach paired with enhanced air filtration may be an effective air quality and infection mitigation strategy.

We appreciate the opportunity to share our recommendations. Let us know if there is additional information about our industry support experience of this provision in the WSEC that may be useful to the California Statewide Utility Codes and Standards Team.

Respectfully,

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Evergreen Technology Consulting
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PUBLIC COMMENTS

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