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**Quest (Clif Tomasini, Dan Dettmers, Josh Spalding) Comments -
2022-NR-COV-PROC4-F CEH Final Case Report**

Comments in support of the current proposed regulations regarding dehumidification systems in CEH facilities as they exist in Final CASE Report 2022-NR-COV-PROC4-F are in attached letter.

Additional submitted attachment is included below.

November 5, 2020

To Our Colleagues on the CEH CASE Team and the CEC 2022 Energy Code team:

On behalf of Quest, we are writing to submit comment on the Final CASE Report 2022-NR-COV-PROC4-F, *Controlled Environment Horticulture*.

We wish to start by saying we fully endorse the current proposed regulations regarding dehumidification systems in CEH facilities as they exist in Final CASE Report 2022-NR-COV-PROC4-F and encourage the CEC to adopt as written.

Propose Dehumidification Changes

The following changes were made since Draft CASE report 2022-NR-COV-PROC4D that we wish to provide comment upon:

Section 120.6 (h)2. Indoor Growing, Dehumidification. *Dehumidification equipment shall be one of the following:*

- A. *Stand-alone dehumidifiers that meet the following minimum integrated energy factors as measured by the test conditions in Appendix X1 to Subpart B of Part 430:*
 - i. *Minimum integrated energy factor of 1.77 L/kWh for product case volumes of 8.0 cubic feet or less;*
 - ii. *Minimum integrated energy factor of 2.41 L/kWh for product case volumes greater than 8.0 cubic feet.*
- B. *Integrated HVAC system with on-site heat recovery designed to fulfill at least 75 percent of the annual energy for dehumidification reheat;*
- C. *Chilled water system with on-site heat recovery designed to fulfill at least 75 percent of the annual energy for dehumidification reheat; or*
- D. *Solid or liquid desiccant dehumidification system for system designs that require dewpoint of 50°F or less.*

Our comment:

While we would prefer to see the minimum required efficiency for stand-alone dehumidifiers increased and the on-site heat recovery for “B.” and “C.” increased from 75% to 90%, we are satisfied with the current proposed regulation. We see this as a significant improvement over the previous draft regulation that will provide the Architect/Engineering community the option to design optimal systems for their clients while pushing the CEH industry towards easily achievable high efficiency options. The proposed regulation also sets this efficiency increase without creating unprecedented or atypical regulations that were previously unheard of in the HVAC industry.

We hope by the next revision cycle of the Title 24 CEH energy code, one of the standard writing/regulatory bodies (e.g. ASHRAE, ASABE, DOE) will have developed a method for rating dehumidifiers for CEH and perhaps prescribe minimum efficiencies to this equipment. This would allow a new baseline upon which Title 24 could build. If anyone from CEC or their stakeholders wishes to move forward on such an initiative, Quest would gladly participate.

Section 120.6 (h)6. Conditioned Greenhouses, Space-Conditioning Systems. *Space-conditioning systems used for plant production shall comply with all applicable requirements of Part 6.*

Our comment:

In one of our comments to the CASE CEH team, we suggested that dehumidification equipment requirements similar to those found in “2. Indoor Growing, Dehumidification” be considered for conditioned greenhouses. While we are mildly disappointed that such regulation did not appear, we understand that this would be a radical departure from current practices in the greenhouse industry. Our primary concern is as construction of “greenhouses” becomes closer to that of “indoor growing”, some may try to skirt the regulation by building a CEH structure that is essentially an indoor garden facility but with sufficient garden windows to meet the skylight roof ratio of 50% required to be classified as a “greenhouse”.

Again, we offer our support and assistance to develop basic expectations for dehumidification of conditioned greenhouses, whether that be for the next revision cycle of Title 24 CEH or anything developed by another standard writing or regulatory organization.

Comments on the CASE CEH Draft Team

We would simply like to thank and compliment the entire team that drafted the Final CASE Report 2022-NR-COV-PROC4-F, *Controlled Environment Horticulture*, in particular the Prime Contractor, Energy Solutions, and the team of authors they pulled together. They were very professional in their interactions with us and more than willing to consider all reasonable suggestions. They challenged us at every moment to provide proof in the form of energy modeling and technical data, but that is the way this process should work.

We welcome any conversation you wish to have on this topic either in writing or by phone. We will make ourselves available to your convenience.

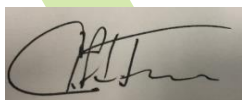
Respectfully submitted,



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