2024 IECC

NBI has submitted proposals into the ICC process to advance the 2024 IECC. The proposed amendments cover a wide range of measures and improve the code by adding additional efficiency, clarifying requirements, and creating greater flexibility for code users and local jurisdictions. Learn more at newbuildings.org/code_policy/2024-iecc-national-model-energy-code-base-codes.

Code Change Title: Horticultural Dehumidification **CEPI-84-21**

Summary: Requires commercial buildings to install a DOAS system, separating ventilation from space conditioning.

Add new definitions as follows:

DESSICANT DEHUMIDIFICATION SYSTEM. A mechanical dehumidification technology that uses a solid or liquid material to remove moisture from the air.

INTEGRATED HVAC SYSTEM. An HVAC system designed to handle both sensible and latent heat removal. Integrated HVAC systems may include, but are not limited to HVAC systems with a sensible heat ratio of 0.65 or less and the capability of providing cooling, dedicated outdoor air systems, single package air conditioners with at least one refrigerant circuit providing hot gas reheat, and *dehumidifiers* modified to allow external heat rejection.

DEHUMIDIFIER. A self-contained, electrically operated, and mechanically encased product with the sole purpose of dehumidifying the space consisting of 1) a refrigerated surface (evaporator) that condenses moisture from the atmosphere, 2) a refrigerating system, including an electric motor, 3) an air-circulating fan, and 4) a means for collecting or disposing of the condensate. A dehumidifier does not include a portable air conditioner, room air conditioner, or packaged terminal air conditioner.

Add new text as follows:

C403.15 Dehumidification in spaces for plant growth and maintenance. Equipment that dehumidifies building spaces used for plant growth and maintenance shall comply with one of the following:

1. *Dehumidifiers* regulated under federal law in accordance with DOE 10 CFR 430 and tested in accordance with the test procedure listed in DOE 10 CFR 430 and DOE 10 CFR 430, Subpart B, Appendix X or X1 as applicable.
2. *Integrated HVAC system* with on-site heat recovery designed to fulfill at least 75 percent of the annual energy for dehumidification reheat;
3. Chilled water system with on-site heat recovery designed to fulfill at least 75 percent of the annual energy for dehumidification reheat; or
4. Solid or liquid *desiccant dehumidification system* for system designs that require dewpoint of 50°F or less.

Revise standard as follows:

DOE	*US Department of Energy* *c/o Superintendent of Documents* *1000 Independence Avenue SW* *Washington, DC 20585*

Standard reference number	*Title*	*Referenced in code section number*
10 CFR, Part 430—2015	*Energy Conservation Program for Consumer Products: Test Procedures and Certification and Enforcement Requirement for Plumbing Products; and Certification and Enforcement Requirements for Residential Appliances; Final Rule.*	*Table C403.3.2(1), Table C403.3.2(2), Table C403.3.2(5), Table C403.3.2(6), Table C403.3.2(14), Table C404.2, C403.15*

Indoor agriculture energy usage is projected to grow significantly nationwide in this decade, driven in large part by state legalization of medical and recreational marijuana across the country. In 2017, a total of 20 million square feet of building space was dedicated to growing crops indoors. Energy use by HVAC systems in indoor horticulture facilities can account for 30 to 65% of energy use - primarily because these systems must maintain specific humidity and temperature levels to promote plant growth. Section 403 already requires HVAC systems meet a certain efficiency threshold but does not address the efficiency of dehumidification systems. The proposed language provides projects with a range of efficient dehumidification strategies. Indoor grow facilities can install dehumidifiers that meet federal minimum efficiency requirements. The proposal also provides options for solid or liquid desiccant dehumidification systems, for utilizing recovered energy in integrated HVAC systems, and for chilled water systems that can meet dehumidification reheat needs.