

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: Grid Integrated Thermostats CEPI-99-21

Summary: Requires grid-integrated controls on space heating and cooling systems that adjust temperature within 4-degrees.

Add new definition as follows:

GRID-INTEGRATED CONTROL. An automatic control that can receive, automatically respond to demand response requests from and send information back to a utility, electrical system operator, or third-party demand response program provider.

Add new text as follows:

C403.4.1.6 Grid-integrated controls. All thermostatic controls shall be provided with *grid-integrated controls* capable of the following:

1. *Automatically increasing the zone operating cooling set point by a minimum of 4°F (2.2°C)*
2. *Automatically decreasing the zone operating heating set point by a minimum of 4°F (2.2°C)*
3. *Automatically decreasing the zone operating cooling set point by a minimum of 2°F (1.1°C)*
4. *Automatically increasing the zone operation heating set point by a minimum of 2°F (1.1°C)*
5. *Both ramp-up and ramp-down logic to prevent the building peak demand from exceeding that expected without the DR implementation.*

The thermostatic controls shall be capable of performing all other functions provided by the control when the *grid-integrated controls* are not available. Systems with direct digital control of individual zones reporting to a central control panel shall be capable of remotely complying.

Exception: Health care and assisted living facilities.

Grid-integrated controls for thermostats are added based on language from California Title 24 and ASHRAE Standard 189.1. The controls allow for dialing back heating and cooling, as well as to accept additional heating or cooling when renewable energy generation is high or energy prices are low, and both ramp up and down requirements in relationship to the utility/grid operator/third party aggregator signal to prevent rebound issues on the grid after the signal is released. DR programs continue to rely deeply on thermostat control strategies, but the need for such controls is fast growing. As electricity systems transform to include more variable wind and solar energy, demand flexibility becomes increasingly critical to both grid operation and further transformation. Building systems that can use

energy when it is abundant, clean, and low-cost not only help decarbonize the entire energy system, they also insulate their owners from future increases in demand charges and peak hour energy rates – a current and accelerating trend.