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# IECC®: C503.3.2 (New)

**Proponents:**

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**2021 International Energy Conservation Code**

# Add new text as follows:

C503.3.2 Controls.

New heating and cooling equipment that are part of the *alteration* shall be provided with controls that comply with Section C403.4.

**Exception:** Systems with direct digital control of individual zones reporting to a central control panel

# Reason Statement:

The IECC only requires that new portions of HVAC systems comply with the requirements for new construction. This leaves unaltered portions of the HVAC system unaffected, including controls. Controls are a vital component of effective and efficient operation of heating and cooling systems and older controls that do not meet current code requirements significantly hamper efficiency in buildings. Obsolete controls also increase the operational costs for building owners and tenants. The IECC has relied on HVAC controls as a cost-effective means of delivering energy efficiency in buildings, so this is a significant missed opportunity. Equipment replacement is an ideal time to also upgrade controls. Contractors are onsite, operation of the HVAC system is already disrupted, and the cost of controls would generally be a small line-item cost in the project.

This missed opportunity is particularly significant given the advent of Building Performance Standards (BPS). These policies set performance requirements that subject existing buildings need to meet. States and local jurisdiction around the country including the states of WA and CO and cities like New York, Boston, Washington DC, and St Louis have already adopted Building Performance Standards (BPS). Many more cities are considering this policy tool as they come to realize that meeting their climate goals will require achieving significant energy and/or carbon improvements in existing buildings. This creates a need for the IECC to be much more pro- active in tailoring requirements specifically for existing buildings. Building energy retrofits that are implemented as part of alterations, additions and changes in occupancy are far more cost-effective than stand-alone retrofit projects implemented only to meet a BPS. By incorporating reasonable and cost-effective retrofits into typical existing building projects, the IECC will both provide additional energy, carbon and cost savings to building owners and tenants and help ensure that more building retrofits are undertaken at opportune and cost-effective times.

This proposal requires that thermostatic controls be brought into compliance with current control requirements when equipment is replaced. It includes an exception for systems with complex central control systems where control upgrades would be far more involved. The proposal does not require the installation of new controls, so if the existing controls already meet current code requirements, they would already be in compliance with this new section.

# Cost Impact:

The code change proposal will increase the cost of construction.

Cost will vary depending on the type of control and how obsolete existing controls are. In most systems subject to this requirement, compliance would require replacing one thermostat with another. Modern, wireless thermostats can be used to control costs when existing control wiring is insufficient to support modern controls.

The modern, single-zone thermostatic controls subject to this requirement can be purchased for less than $30.[1] Thermostat swaps should easily represent only a fraction of an hour of additional labor.

[1] https://[www.supplyhouse.com/Lux-P711-010-7-Day-5-2-day-Programming-or-Non-Programmable-Thermostat-Horizontal-Mount-1-](http://www.supplyhouse.com/Lux-P711-010-7-Day-5-2-day-Programming-or-Non-Programmable-Thermostat-Horizontal-Mount-1-) Heat-1-Cool

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