



**BSR/ASHRAE/IES Addendum r
to ANSI/ASHRAE/IES Standard 90.1-2019**

Public Review Draft

Proposed Addendum r to Standard 90.1-2019, Energy Standard for Buildings Except Low-Rise Residential Buildings

**First Public Review (November 2020)
(Draft Shows Proposed Changes to Current Standard)**

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FOREWORD

This addendum adds an exception to the requirement in Section 6.4.3.3.3. that requires optimum start controls for systems that employ DDC controls. A public commenter to a different draft addendum suggested that this is inappropriate for residential spaces because they do not have scheduled occupancy times. The commenter noted that the requirement does not apply to residential spaces is sometimes misunderstood by authorities having jurisdiction. The committee agrees with this and proposes an exception to that section.

The definition of optimum start controls and residential from Section 3.2:

optimum start controls: *controls* that are designed to *automatically* adjust the start time of an *HVAC system* each day with the intention of bringing the *space* to desired occupied temperature levels immediately before scheduled occupancy.

residential: *spaces* in buildings used primarily for living and sleeping. *Residential spaces* include, but are not limited to, *dwelling units*, hotel/motel guest rooms, dormitories, nursing homes, patient rooms in hospitals, lodging houses, fraternity/sorority houses, hostels, prisons, and fire stations.

COST EFFECTIVENESS – This addendum has no effect on cost, as it only clarifies the intention that residential spaces are not required to have optimal start controls.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~striketrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]

Addendum r to 90.1-2019

Modify the standard as follows (I-P and SI Units)

6.4.3.3.3 Optimum Start Controls

Individual heating and cooling *systems* with *setback controls* and *DDC* shall have *optimum start controls*. The *control* algorithm shall, as a minimum, be a function of the difference between *space* temperature and occupied *set point*, the outdoor temperature, and the amount of time prior to scheduled occupancy. Mass radiant *floor slab systems* shall incorporate *floor* temperature into the optimum start algorithm.

Exception to 6.4.3.3.3: *Residential spaces* are not required to have *optimum start controls*.