BSR/ASHRAE Addendum e
to ANSI/ASHRAE Standard 90.4-2019

Public Review Draft

Proposed Addendum e to
Standard 90.4-2019, *Energy Standard for Data Centers*

First Public Review (August 2020)
(Draft Shows Proposed Changes to Previous Standard)

This draft has been recommended for public review by the responsible project committee. To submit a comment on this proposed standard, go to the ASHRAE website at [www.ashrae.org/standards-research–technology/public-review-drafts](http://www.ashrae.org/standards-research–technology/public-review-drafts) and access the online comment database. The draft is subject to modification until it is approved for publication by the Board of Directors and ANSI. Until this time, the current edition of the standard (as modified by any published addenda on the ASHRAE website) remains in effect. The current edition of any standard may be purchased from the ASHRAE Online Store at [www.ashrae.org/bookstore](http://www.ashrae.org/bookstore) or by calling 404-636-8400 or 1-800-727-4723 (for orders in the U.S. or Canada).

This standard is under continuous maintenance. To propose a change to the current standard, use the change submittal form available on the ASHRAE website, [www.ashrae.org](http://www.ashrae.org).

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Addendum e to 90.4-2019

Modify Section 11.3 as follows:

11.3 Use of Shared Systems. Where existing or proposed mechanical and/or electrical systems are intended to routinely support the data center and other spaces (i.e., spaces that do or do not meet the definition of a data center), the data center or data center addition may document its compliance using the Annualized Energy Performance Method (as described in Sections 6.5 and 8.3). The shared systems’ future total hourly loads must be determined for a typical year (using TMY3 weather data) to determine what fraction of the total shared systems’ capacity (for each hour of the typical year) will be used by the data center or data center addition. The total shared system input energy is multiplied by the data center or data center addition’s fraction of total system capacity for each hour to determine the data center or data center addition’s input energy used to show compliance. When spaces covered by ANSI/ASHRAE/IES Standard 90.1 jointly share systems with data centers, compliance can be demonstrated through the use of the modeling rules in ANSI/ASHRAE/IES Standard 90.1, Section 11, “Energy Cost Budget Method.”

Informative Notes:

1. Shared mechanical systems serving data centers and other spaces (within the scope of ANSI/ASHRAE/IES Standard 90.1) may or may not be required to provide economizer savings to the non-data center spaces. ANSI/ASHRAE Standard 90.4 will not affect that requirement or require that economizer capacity be provided for the portion of a shared system serving a data center or data center addition that otherwise meets ANSI/ASHRAE Standard 90.4 annual energy performance targets when calculated as described above.

2. Recovered heat from a data center that routinely shares a mechanical system with non-data center spaces can reduce the energy use of non-data center spaces that are designed to accept the recovered heat. If the heat required by the non-data center spaces is significant, such a relationship can provide energy savings far beyond the savings that would be brought by applying an economizer to the data center addition.
3. Where-spaces covered by ANSI/ASHRAE/IES Standard 90.1 jointly share systems with a data center or data center addition, compliance can be demonstrated through the use of the modeling rules in ANSI/ASHRAE/IES Standard 90.1, Section 11, “Energy Cost Budget Method.”