



**BSR/ASHRAE Addendum b
to ANSI/ASHRAE Standard 90.4-2019**

Public Review Draft

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

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

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Foreword

This addendum clarifies exactly how credit can be taken for renewables. The renewables credit is limited to 5% of the IT load in order to encourage renewable energy while still requiring energy efficient mechanical and electrical systems.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~strikethrough~~ (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 b to 189.1-2017

Revise Section 11 as follows:

11. ALTERNATIVE COMPLIANCE METHOD

...

11.2 Compliance. Compliance with Section 11 shall be demonstrated by complying with all of the following conditions: ...

d. The sum of the calculated values of the *annualized MLC* value and the *design ELC* minus the OR-Credit shall be equal to or less than the maximum overall *systems* design value. (The sum of the *annualized MLC* value and the *design ELC* value create an overall *systems* design value.)

OR-Credit = lesser of 0.05 or

$$\frac{\sum_{N=25,50,75,100} \text{OnsiteRenewables}_N}{\sum_{N=25,50,75,100} \text{DataCenterITE}_N}$$

OnsiteRenewables_N (kWh) = total annual energy that is produced onsite by renewable energy systems and that is consumed onsite, at a constant ITE load of N% of the design ITE load. Onsite renewables can only be included in the Annualized MLC calculation if the data center owner owns the onsite renewable energy system or has signed a contractual agreement to purchase energy generated by the onsite renewable energy system for at least 10 years. Onsite renewable credit shall be limited to incremental addition of renewable capacity concurrent with data center approval/construction. It shall not be permissible to assign existing renewable capacity to this credit.

Data CenterITE_N (kWh) = total annual energy consumed by the ITE at a constant ITE load of N% of the design ITE load. For example, DataCenterITE₅₀ for a design ITE load of 1,000 kW = 1,000 kW * 8760 hrs * 0.5 = 4,380,000 kWh. ITE energy does not include UPS energy, but does include server fan energy.