



**BSR/ASHRAE/IES Addendum ba
to ANSI/ASHRAE/IES Standard 90.1-2016**

Public Review Draft
**Proposed Addendum ba to
Standard 90.1-2016, Energy Standard
for Buildings Except Low-Rise
Residential Buildings**

**Second Public Review (February 2019)
(Draft Shows Proposed Independent Substantive
Changes to Previous Public Review Draft)**

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FOREWORD

The proposed addendum clarifies how baseline must be established when Appendix G does not explicitly prescribe the baseline parameters but allows it to be different from the proposed design. Example of this include Table G3.1 #11 g Exception 1, which allows performance credit for low flow fixtures. A common misperception is that the baseline flow rates may be based on the standard practice or applicable code requirements in 2004. However, systems and components that are not regulated in 90.1 are not captured in the BPFs thus, unless the flow rates are prescribed in 90.1, modeling savings for the plumbing fixtures that minimally meet applicable codes will result in an undeserved credit.

This addendum impacts an optional performance path in the standard designed to provide increased flexibility and therefore was not subjected to cost effectiveness analysis.

[Note to Reviewers: This public review draft makes proposed independent substantive changes to the previous public review draft. 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 previous draft 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 substantive changes.]

Addendum BA to 90.1-2016

Revise the Standard as follows (IP Units)

Table G3.1 Modeling Requirements for Calculating Proposed and Baseline Building Performance

Proposed <i>Building Performance</i>	Baseline <i>Building Performance</i>
1. Design Model	<p>The <i>baseline building design</i> shall be modeled with the same number of <i>floors</i> and identical <i>conditioned floor area</i> as the <i>proposed design</i>.</p> <p>The <i>baseline building design</i> shall be developed by modifying the <i>proposed design</i> as described in Section G3. Except as specifically instructed, all <i>building systems</i> and <i>equipment</i> shall be modeled identically in the <i>proposed design</i> and <i>baseline building design</i>.</p> <p><u>Where the <i>baseline building systems</i> and <i>equipment</i> are permitted to be different from the <i>proposed design</i> but are not prescribed in this appendix, the baseline must be determined based on the following, in the order of priority:</u></p> <ol style="list-style-type: none"> a. <u>Requirements in Sections 5-10</u>

	<p>b. <u>Requirements of other efficiency or equipment codes or standards applicable to the design of the building systems and equipment</u></p>
<p>11. <i>Service Water-Heating Systems</i></p>	<p>The <i>service water-heating system</i> in the <i>baseline building design</i> shall be as specified in Table G3.1.1-2 and conform with the following conditions:</p> <p>.....</p> <p>g. Service water loads and use shall be the same for both the <i>proposed design</i> and <i>baseline building design</i> and shall be documented by the calculation procedures described in Section 7.4.1.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1. <i>Service water-heating</i> use can be demonstrated to be reduced by documented water conservation measures that reduce the physical volume of service water required. Examples include but are not limited to low-flow shower heads and dishwashers. Such reduction shall be demonstrated by calculations. The baseline flow rates shall be equal to the maximum allowed by the applicable code <u>determined as described in Table G3.1 #1</u>, and the calculation methodology shall be approved by the <i>authority having jurisdiction</i>.
<p>12. <i>Receptacle and Other Loads</i></p>	<p>Motors shall be modeled as having the <i>efficiency ratings</i> found in Table G3.9.1. Other <i>systems</i> covered by Section 10 and miscellaneous loads shall be modeled as identical to those in the <i>proposed design</i>, including schedules of operation and <i>control</i> of the <i>equipment</i>. <i>Energy</i> used for cooking <i>equipment</i>, receptacle loads, computers, medical or laboratory <i>equipment</i>, and manufacturing and industrial process <i>equipment</i> not specifically identified in the standard power and <i>energy</i> rating or capacity of the <i>equipment</i> shall be identical between the <i>proposed building performance</i> and the <i>baseline building performance</i>. Receptacle schedules shall be the same as the <i>proposed design</i> before the receptacle power credit is applied.</p> <p>Exceptions: When quantifying performance that exceeds the requirements of Standard 90.1 (but not when using the <i>Performance Rating Method</i> as an alternative path for minimum standard compliance per Section 4.2.1.1) variations of the power requirements, schedules, or <i>control</i> sequences of the <i>equipment</i> modeled in the <i>baseline building design</i> from those in the <i>proposed design</i> shall be approved by the <i>rating authority</i> based on documentation <u>described in G3.1 #1 Design Model</u> or- that the <i>equipment</i> installed in the <i>proposed design</i> represents a significant verifiable departure from documented current conventional practice. The burden of this documentation is to demonstrate that accepted conventional practice would result in <i>baseline building equipment</i> different from that installed in the <i>proposed design</i>. Occupancy and occupancy schedules shall not be changed.</p>