



Washington State Building Code Council

Improving the built environment by promoting health, safety and welfare

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STATE BUILDING CODE OPINION NO. 20-09

CODE: 2018 Washington State Energy Code

SECTION: C403.1.3, Data Centers

Background: 2018 WSEC Section C403.1.3 states that data center systems, as defined in Chapter 2, shall comply with the provisions of ASHRAE Standard 90.4-2016 Sections 6 and Section 8. Section 6 applies to heating, ventilation and air conditioning system efficiency and Section 8 applies to the design electrical loss component of data center systems.

Section C403.1.3 provision language applies changes to the required efficiency values published in Standard 90.4-2016 Table 6.2.1.1. Based on feedback from jurisdictions, data center engineers, and equipment suppliers, compliance with this section is anticipated to be problematic, and in some cases unenforceable, for the following reasons:

1. Systems serving small data centers may not be able to comply with the Maximum Annualized MLC values. These values in the 2018 WSEC are reported to be too low for data center systems with ITE design power capacity equal to or less than 300 kW.
2. The ASHRAE standards committee issued Addendum g to 90.4-2016 in June 2019 that eliminated the Design MLC option and updated the Annualized MLC calculation, which provides a more accurate representation of data center system performance. In this update, Table 6.2.1.1 was deleted and replaced with Table 6.6. This new table defines separate Maximum Annualized MLC values for data centers with ITE design power capacity less than or equal to 300 kW, and capacity greater than 300 kW.
3. It is anticipated that the 2018 Seattle Energy Code will adopt ASHRAE Standard 90.4-2019 as the reference standard, which includes the updated information from Standard 90.4-2016 Addendum g.

QUESTION 1: For 2018 WSEC Section C403.1.3 Data centers and Chapter 6 Reference Standards, do the requirements in ASHRAE Standard 90.4-2016 Addendum g apply?

ANSWER 1: **No. Updates to codes and standards do not become part of the state building code until reviewed and approved by the Council. However, jurisdictions may accept such updates and addenda as an alternate compliance path.**

QUESTION 2: If ASHRAE Standard 90.4-2016 Addendum g applies to the 2018 WSEC, do the updated Maximum Annualized MLC values in this addendum supersede the MLC values in Section C403.1.3?

ANSWER 2: No, Addendum g is not included as part of the adoption of ASHRAE 90.4 in the 2018 WSEC. If a jurisdiction approves this as an alternate, it would be appropriate to use the values from the addendum.

SUPERSEDES: None

REQUESTED BY: City of Bellevue