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25 July 2018

Mr. DAVIDE POLVERINI
Policy Officer
European Commission
DG Internal Market, Industry, Entrepreneurship and SMEs
Unit C.1 - Clean Technologies and Products
BREY 10/252
B-1049 Brussels/Belgium

Dear Mr. Polverini:

Thank you for providing ASHRAE Technical Committee 9.9 (TC9.9) the opportunity to comment on the recent EU draft to implement Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for servers and data storage products and amending Commission Regulation (EU) No 617/2013.

As a basis for comments to follow, it is important to first emphasize why ASHRAE TC9.9, guided by the IT industry, created the recommended and allowable environmental envelopes.

- The Recommended Range gives guidance to data center operators on maintaining high reliability of the IT equipment while also operating their data centers in the most energy efficient manner. Data center systems can be designed to operate reliably with full free cooling in the recommended range.
- The Allowable Range bounds the limits which the IT manufacturers test their equipment in order to verify that the equipment will function within those environmental boundaries. The Allowable Ranges of ASHRAE Al to A4 Classifications enable data centers to manage temperature excursions due to:
    i. Mechanical cooling system failures
    ii. Short term temperature excursion in free-cooling systems
- Servers are just one component in operating an energy efficient data center. There are implications to operating at the boundaries of the Allowable Ranges of the ASHRAE Environmental Classifications:
    I. Reduced server reliability and increased probability of failure.
    II. Increased server fan speeds and energy consumption (operating near or at the allowable environmental limits will result in more energy being used by the data center than operating in the recommended envelope).

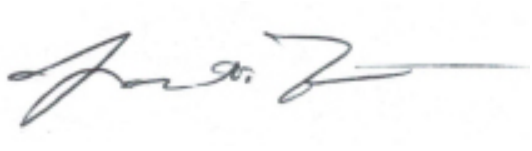
The Thermal Guidelines were first published in 2004 with the most recent iteration published in 2015. We encourage the EU Commission to remain conscious of the velocity of evolution in the technology and data center industry and how any proposed legislation could quickly become outdated, obsolete or worse, stifle innovation. We believe that the referenced EU document should reference the environmental classes in the latest edition of the ASHRAE Datacom Series Book 1, Thermal Guidelines for Data Processing Environments (4th edition, 2015 as of this writing) rather than reproduce any of this material for these reasons:

- The ASHRAE environmental classes and the associated footnotes are being updated on a regular basis as a result of research funded by ASHRAE (the last update was to improve on the limits of the lower moisture levels). ASHRAE and TC9.9 expect another update to the table as a result of ASHRAE funded research that will be reported in January, 2019.
- Because of the detail in this table it is easy to miss or misinterpret the table without having the important footnotes plus a couple appendixes that supplement the table. Without all these components one could arrive at the wrong environmental conditions to apply to a data center.

Section 2.1 (l) of the Annex states that idle state power for a server should be measured at the higher boundary temperature of the appropriate ASHRAE environmental class. This should be reconsidered as any measurements of server power should be made in the recommended range where server operation most frequently occurs. This would be consistent with a number of benchmark standards that are summarized in the ASHRAE Datacom Series Book 12, Server Efficiency - Metrics for Computer Server and Storage (2015) which consolidates all current server and storage subsystem energy benchmarks.

ASHRAE is pleased to be offered the opportunity to contribute to the Commission's important work.

Sincerely,



Jason A. Matteson
Chair, ASHRAE Technical Committee 9.9

cc: Emma Fryer, TechUK
Sylvie Feindt, Digital Europe
Sheila J. Hayter, ASHRAE President
Roger Schmidt, ASHRAE TC9.9 IT Subcommittee Chair
Paul Finch, ASHRAE TC9.9 Marketing Subcommittee Chair
W. Stephen Comstock, ASHRAE Brussels Office