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To: [SmartHomeSystems](#)
Cc: [Jantz-Sell, Taylor](#); [Daken, Abigail](#)
Subject: Aquanta Comments to ENERGY STAR SHEMA Version 1.0 Draft 2 Specification
Date: Thursday, July 11, 2019 9:37:42 AM
Attachments: [Updated Aquanta Logo.png](#)

Dear Taylor and Abigail - this email provides Aquanta's comments to the latest draft specification. As a general statement, Aquanta is a strong supporter of this effort and the direction that this draft and accompanying documents have taken. Specific points of feedback:

- **Section 2F (Definition of Automated Actions)** - Aquanta doesn't have anything to add about the definitions per se, but is concerned about how they might be applied in the context of the Program Performance reporting requirements. Specifically, it is likely that the database structures of many connected devices enumerate and can report the control state that a device was put into (e.g. "Away"), but are not able, or it would prove to be unnecessarily burdensome, to discriminate the *specific trigger* of the command to go into the control state. Indeed, to a water heater, "off" by way of an Explicit "Away" command can look exactly like "off" provided by an automated energy efficiency algorithm. In that example, the device system (e.g. the cloud database) should be able to discriminate between the two modes, but not all systems may have such reporting granularity. The benefit of having such granularity may be nice from an academic perspective, but it seems unnecessarily precise from the standpoint of understanding the drivers of energy savings. Aquanta suggests deleting sub-sections (k) through (m) in Appendix A, Section 2 of the Method to Determine Field Performance, and using sub-section (j) of Appendix A, Section 2 as the general category for measuring "Away" periods.
- **Section 4 (Eligibility Criteria)** - Aquanta supports the clarified definition provided.
- **Section 4.1(D)** - ENERGY STAR may wish to consider clarifying whether the energy consumption data needs to be provided in a central location (e.g. a user dashboard) or via individual SHEMA component user interfaces. If said clarification is made in the specification, Aquanta strongly suggests that either approach may be used. While a central, comprehensive dashboard may provide for a more user-friendly experience, the current state of the smart home industry is such that "all inclusive" dashboards are uncommon. The integration of different devices and their data streams can be complicated and present a substantial barrier to SHEMA package development.
- **Section 4.2(A) (Water Heaters)** - Aquanta strongly supports the inclusion of this requirement, as having the option to include water heaters in SHEMA packages 100% aligns with all of the objectives for the SHEMA specification as stated in the Introduction. The feedback provided by some that connected water heaters and water heater controllers are not ubiquitous in the market, and thus should not be a required option within SHEMA, seems to misunderstand one of the key goals of the ENERGY STAR program, namely to *encourage and accelerate* the adoption existing energy-saving technologies and systems. Smart water heating technologies are sufficiently mature for easy integration into any SHEMA package and provision of the required data elements for determining field performance and providing grid services, certainly when compared to other required SHEMA elements.
- **Section 4.5 (Field Performance)** - per the requirement of "the number of away hours each week of each trigger type named in section 4.1(c)", see my comments in the first bullet of this email. Aquanta suggests deleting "...of each trigger type named in section 4.1(c)".

Thank you for this opportunity to provide feedback on this draft of the specification and for your continued good work here. Please feel free to contact me with any questions or need for clarification on Aquanta's comments.

Best regards,

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