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Comments of Voltus in Response to RFI

Additional submitted attachment is included below.

Voltus Comments in Response to
Request for Information (RFI) and Feedback:
Expanding Flexible Demand in California through Statewide MIDAS Data Delivery:
A Comparison of Signaling Options
in Docket No. 24-FDAS-02

I. General comment

Thank you for the opportunity to provide comments. As a fundamental issue, Voltus is concerned that this report's assumptions and conclusions apply in a standardized way to *all* types of appliances, regardless of size or use case. Page 46 of the report suggests defining "appliance" as "[a]ny device that uses electricity from the grid", but this broad definition could include everything from residential water heaters – the main device-type discussed in the report – to large industrial equipment. However, "devices" of various sizes and functions have very different demand flexibility profiles. MIDAS communication standards, and particularly, *the assumptions about how devices should respond to such signals*, must account for these differences.

The concern is compounded by the discussion on pages 24-25 of opt-in versus opt-out participation rates "for default settings". Without customer consent and operational planning, large devices should not be expected to automatically adjust load according to default settings.

To avoid overbroad and overgeneralized applications of the report's conclusions, and to clarify that automatic response to a signal should not be the default demand management strategy for large devices, Voltus recommends the following redline to the definition of "appliance" in Appendix A (p. 46):

Appliances (1). Any device that uses less than 2 kW peak electricity from the grid.

Critically, this definition excludes most smart thermostat-equipped loads, electric vehicles, most battery storage, most commercial equipment, and other large loads where frequent interruption may be disruptive or operationally unacceptable without proper compensation.

Under the revised definition, FM signaling and direct control of "appliances", even without direct compensation and/or third-party mediation, could be reasonable and effective.

If this definition is not adopted, the docket should clearly indicate that the report's application is limited in scope to appropriate appliance types as discussed above. The rest of these comments assume this narrower scope while answering a few of the specific questions posed in the Request for Information.

II. Responses to assorted framing questions

Question 2: Do you see any opportunities for CEC to mitigate the challenges associated with a 24/7/365 signal that have historically limited broadband/Wi-Fi as a preferred communication pathway?

Valuable load flexibility can be unlocked in response to day-ahead rather than real-time conditions. Use of a day-ahead signal from a dynamic rate engine would not necessitate real-time connectivity with high uptime. Rather, the day-ahead event "schedule" could be uploaded at any time over a multi-hour period to facilitate operational changes.

Question 6. Voluntary utility and third-party programs for load flexibility (shifting) have typically had very low participation from end users. What alternate Load Flexibility program(s) would you recommend that maximize participation while being ubiquitous, cost-effective, equitable, and technically feasible without requiring or precluding participation from third parties?

For "appliances" as defined according to the 2 kW limit suggested earlier in these comments—a category including water heaters, pool pumps, etc.—the proposed "plug-and-play" solution with the option of third-party enablement via port could be feasible and effective.

However, regarding conventional larger devices such as smart thermostats, the past is not a good prediction of future results. Smart thermostat demand response programs are very much alive and well across North America and will likely continue to grow exponentially as the technology proliferates (several sources indicate annual growth rates of 10-25% in device adoption). Wi-Fi enablement of these devices is the default and preferred customer feature. The cost of enablement is almost entirely software- and user-transaction-based, not tied to signaling or hardware.

Question 7. Assuming a statewide broadcast signal were to be deployed, would a default appliance setting that automatically initiates response to MIDAS signals at installation allow for ease in initiating flexibility of the appliance? What issues or concerns would you anticipate with such a plug-and-play functionality?

To ensure high participation rates and avoid customer fatigue, the end-user experience must be carefully considered and clearly prioritized. These are device-by-device considerations, but for example, a water heater's response algorithm could "learn" how to relax or entirely opt-out of program participation if the user's operations do not align with program signals (e.g., if a member of the household tends to take showers in the late afternoon). This "learning" behavior could help solve issues that arise when usage patterns or device ownership change.

Question 8. The report proposes a hybrid communication architecture that incorporates both plug-and-play MIDAS response and third-party program enabling technology, represented by the Plug-and-Play Port scenario, as the most cost-effective solution to enable demand flexibility for an appliance. What do you think are some pros/cons of this approach?

Third-party providers may be able to deliver more value than default MIDAS rate response through more aggressive scheduling, bidding the resource into the wholesale market, and/or enrolling in DR program(s). Third-party providers are also better positioned to tailor the

level of participation to users' needs and preferences; doing so is core to their operations and a key component of the value they provide to customers. Therefore, in order to fully unlock latent demand flexibility, it is vital to maintain a pathway for robust participation by third-party providers.