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MEMORANDUM

TO: Austin Energy Utility Oversight Committee

FROM: Stuart Reilly, Interim General Manager *SR*

DATE: June 22, 2023

SUBJECT: Resolution 20221201-045 - Battery Storage Technology and Programs

The purpose of this memo is to report on the status of Austin Energy's progress regarding [Resolution No. 20221201-045](#) related to battery storage and microgrid technologies and the development of related customer programs. Austin Energy convened multiple stakeholder engagements to inform our responses. In general, Austin Energy continues to analyze and assess how to enable the coming transition to the grid of the future, which will utilize more distributed generation and storage, and how existing distribution infrastructure and technologies will need to evolve. It is important to do so in a way that not only supports all customers' needs but also works holistically to improve reliability, resiliency, and affordability. Below are the areas that Austin Energy has been directed by the Austin City Council to explore and our progress to-date.

- **Rebate for customers that install battery storage systems, including a low-income rebate.**
 - Before Austin Energy develops an upfront incentive/rebate for battery adoption, we must identify the best approach to provide customers with ongoing benefits for deploying the stored energy at peak times. For example, with respect to battery benefits, a one-time incentive may not be as effective as an ongoing pay-for-performance benefit. This work is ongoing.
 - Austin Energy has met on multiple occasions with the under-resourced communities regarding Distributed Energy Resources and the types of programs and offerings in which they are interested. Low-income customers have consistently reinforced that they have significant barriers to making capital investments even if there are substantial incentives and low-interest loans. Austin Energy continues to explore ways to equitably provide access to the benefits of solar and batteries in a manner that does not merely provide a subsidy for customers who can afford the substantial up-front investment for these technologies.
- **Rate structure that rewards customers for contributing to the grid during times when Austin Energy could benefit from increased power on the grid due to current wholesale prices or other factors.**
 - Austin Energy has identified two potential approaches to manage the deployment of stored power from customer-owned batteries. The first is cost-signaling customers through a rate plan that influences customers to setup battery programming in

coordination with the manufacturer to consistently reduce demand at strategic times. Such a rate plan must be careful not to shift costs to customers not participating in such a plan. We are currently evaluating the timeline for adopting such a plan. The second approach is to utilize a third party who will work with the battery manufacturers to allow them to control the battery and thus bring the demand response capabilities we experience with similar approaches such as thermostat control. The set-up, coordination, communication, and operation for this approach come at substantial cost and must be further explored to ensure the costs do not outweigh the benefits.

- **Standardized process to approve or deny customer-owned meter collar disconnect switches within a specified timeframe.**
 - Austin Energy has developed a standardized process to approve or deny customer-owned meter collar devices based on testing for functionality and safety. Austin Energy manages a list of approved devices consistent with the Design Criteria Manual. The list can be modified outside of the Design Criteria Manual amendment process.
- **Explore battery end-of-life recycling and disposal options and report back.**
 - Austin Energy will continue to develop specific program component recommendations. While this equipment is not owned by Austin Energy, the utility will seek to create programs with end-of-life recycling in mind. Program components under assessment include Austin Energy personnel adhering a sticker containing a QR code onto each participating battery during final inspection. The QR code links to up-to-date information on battery reuse and recycling options available, as well as information on safety hazards associated with improper disposal. Additionally, program eligibility requirements could include a component requiring the manufacturer to have a battery takeback or recycling program to qualify.
- **Cost analysis related to the rebate, tariff, and disposal program when the plan is brought back to Council.**
 - Once the approaches are identified, Austin Energy will develop a cost analysis of the program.
- **Tariff structure that would allow microgrids or multifamily developments to share payments for excess solar and storage across customer invoices so that solar and storage that are provided for residents by the building owner or other parties can impact their invoices and revenues can be netted with energy costs across multiple customers.**
 - Austin Energy is not aware of any real-world examples of this configuration in Austin Energy's territory or elsewhere. However, we continue to monitor the market for such examples and actively work with interested stakeholders. Battery systems that serve multiple customers would necessitate a utility-side interconnection as well as isolation functionality that would sectionalize the battery backed-up area from the rest of the grid. Austin Energy is committed to working with stakeholders to review technical plans to ensure both proper operation and the safety of our customers, contractors, lineworkers and first responders. Additionally, Austin Energy would need to explore rates to credit customers for battery benefits pertaining to in front of the meter battery storage systems and identify solutions that would allow for allocations to customer accounts as a result of strategically discharging the battery into the system for market benefit. We anticipate this to be a multi-year effort.

- **Process to allow microgrids for sites to be able to remain independent from the Austin Energy grid in case of an emergency to maintain a reliable power supply from local solar and storage or other renewable resources.**
 - This is currently allowed in its simplest of applications such as behind-the-meter interconnections. Multi-account, in-front-of-the-meter battery interconnections still need to be explored.
- **Pilot load-shaping technology that leverages the existing smart meter infrastructure and uses standardized signals to communicate with multiple devices in homes and businesses to time-shift usage to reduce electricity production and delivery costs, reduce carbon emissions, mitigate transmission and distribution constraints, and create the potential for passing along cost savings to the consumer**
 - Austin Energy's existing customer-facing demand response programs use internet/WiFi, radio frequency and cellular signals to communicate with residential, commercial and multifamily customers to encourage shifting of electricity use. These signals can communicate with multiple customer devices and equipment. Austin Energy is also currently expanding and increasing its customer-facing incentives that encourage shifting of energy use. We continue working with stakeholders on defining the scope and ways to address the issue while ensuring the integrity of the metering network.
- **Convene a public stakeholder process that reflects the equity goals of the Climate Equity Plan. The stakeholder group should include but not be limited to Solar Austin, the Environmental Officer, Community Resilience Officer, Chief Sustainability Officer and other community groups to vet proposals in response to this resolution.**
 - Austin Energy convened a stakeholder meeting on June 5, 2023, which included a broad cross-section of stakeholders. The meeting was positively received by the stakeholders. We reviewed the resolution and addressed questions. A significant portion of the meeting involved listening to stakeholders' feedback on the different provisions of the resolution. Austin Energy will develop and vet proposals in response to the resolution and stakeholders' views and perspectives. We plan to convene the next meeting with stakeholders in the next few weeks to share these proposals and continue to gather valuable stakeholder input.

Austin Energy views these technologies and other emerging technologies as parts of a holistic vision that can be integral in our efforts to equitably provide and enable clean power and resiliency to the community. Austin Energy is also focused on opportunities to advance these efforts through leveraging federal grants and funding where possible. We will continue to research the feasibility and potential advantages and disadvantages of each approach as we develop specific recommendations.

Please contact Richard G  nec  , Austin Energy's Vice President of Customer Energy Solutions, if you have any questions.

xc: Jes  s Garza, Interim City Manager
Resource Management Commission
Electric Utility Commission