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PROJECT NO. 48023

USE OF NON-TRADITIONAL TECHNOLOGIES IN ELECTRIC DELIVERY SERVICE	§ § §	**PUBLIC UTILITY COMMISSION OF TEXAS**

COMMENTS OF AUSTIN ENERGY

Austin Energy appreciates the opportunity to respond to Question No.1 of the Commission staff's request for comments issued in this project on October 2, 2018. Austin Energy is currently piloting a battery storage project, known as SHINES, at both the distribution and customer levels.[1] It is our hope that we can provide useful information to the Commission and stakeholders concerning Austin Energy's experience integrating innovative technology, such as storage, into the grid.

RESPONSE

Question 1: Apart from energy storage, what non-traditional technologies could provide a potential cost-effective solution to reliability issues on a utility's transmission or distribution system?

Grid-edge voltage support devices, smart inverters, and coordinated distributed generation configured into microgrids can also provide cost-effective reliability solutions. Ultimately, any consumption or output resource (or combination of resources) that can be managed for either real or reactive power has the potential to help transmission and distribution system reliability.

Grid-edge voltage support devices could also provide a potential cost-effective solution if voltage drop or voltage volatility is a concern on a distribution feeder. These devices usually sit on the secondary of the service transformers that drop voltage from distribution level to residential or commercial levels. Collectively, they can work to manage voltage near the point of interconnection for customers.

Smart inverters (for solar or storage) provide another alternative solution. Depending on the manufacturer and size, these devices have the ability to provide power factor correction, volt-

[1] More information can be found at https://austinenergy.com/ae/green-power/austin-shines/austin-shines-innovations-energy-storage. *See also* Department of Energy, Office of Energy Efficiency and Renewable Energy, "Sustainable and Holistic Integration of Energy Storage and Solar PV (SHINES)", https://www.energy.gov/eere/solar/sustainable-and-holistic-integration-energy-storage-and-solar-pv-shines

VAR support, or respond to reactive power commands. They also provide a variety of real power benefits including volt-watt support, power smoothing, and generation or load following. Inverters for customer level support are installed behind the electric meter while utility-scale inverters are connected directly to the distribution grid.

Another option that may provide a cost-effective solution to reliability issues on a utility's transmission or distribution system is to combine distributed generation resources in a holistic way in order to create intentional islands or microgrids that support reliability when the main grid is unavailable. These systems require careful planning in terms of coordination, control, and system protection.

Specific distribution technologies that can be used to enhance reliability include solar panels and electric vehicles. These can either be equipped with smart inverters or aggregated. Likewise, demand response programs on the consumption side of the customer load can also be utilized to increase reliability.

Respectfully submitted,

CITY OF AUSTIN d/b/a AUSTIN ENERGY

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