Demand Response and Advanced Metering: 2019 Federal Energy Regulatory Commission Staff Report

Walter Wright, Jr.
wwright@mwlaw.com
(501) 688.8839

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The Federal Energy Regulatory Commission ("FERC") issued on December 11th a staff report titled:

2019 Assessment of Demand Response and Advanced Metering ("Report")

The 2019 *Report* is the fourteenth annual report on demand response and advanced metering.

The term "demand response" typically describes changes in electric usage by demand-side sources from their normal consumption patterns. These changes are typically in response to changes in the price of electricity over time, or to incentive payments designed to induce lower electricity use at times of high wholesale market prices or system reliability is jeopardized.

"Advanced metering" refers to a system that records customer consumption (and in some cases other parameters) hourly or more frequently. This provides for daily or more frequent transmittal of measurements over a communication network to a central collection point.

Section 1252(e)(3) of the Energy Policy Act of 2005 requires that the FERC provide an annual report on demand response and advanced metering. The staff *Report* is stated to be based on publicly-available data and discussions with industry experts. The data is stated to be used to estimate demand response potential in both the retail and wholesale markets. However, the *Report* states that it "generally" does not discuss the actual deployment or dispatch of demand response.

No policy recommendations or conclusions are contained in the *Report*.

In the section of the *Report* addressing state legislative and regulatory activity related to advanced metering it states in regard to Arkansas:

- On December 7, 2018, the Arkansas Public Service Commission (Arkansas PSC) approved a customer education plan for the largest utility in the state, Entergy Arkansas, to support the deployment of advanced meters throughout its service territory. Entergy Arkansas will keep customers informed throughout all phases of the deployment period to expand customer engagement and reinforce understanding of the benefits offered by advanced meters. After most meters are installed, Entergy Arkansas intends to activate a web portal to allow customers to use energy management tools that leverage advanced meter data. Entergy Arkansas is scheduled to complete meter deployment by the end of 2021.

Highlights of the *Report* are stated to include:

- Advanced meters are the most prevalent type of metering deployed throughout the country, accounting for more than half of all meters installed and operational in the United States. According to the Energy Information Administration (EIA), 78.9 million advanced meters were operational nationwide in 2017 out of a total of 152.1 million meters, indicating a 51.9 percent penetration rate.
- Since the last report was published, electric utilities in a wide variety of states – such as Arkansas, Hawaii, Indiana, Minnesota, and New Jersey – have received approval for, or proposed, advanced meter deployment programs. Among other things, these programs aim to improve customer engagement, limit the frequency and duration of outages, and establish a foundation for other grid modernization activities.
- State regulators across the country largely appear to support advanced meter investments, with regulators in some states – including Hawaii and Virginia – requiring that electric utility program proposals include detailed program design, implementation, and customer engagement components in order to capture the full benefits of advanced meters. State regulators in New York and North Carolina have directed electric utilities to expand timebased rate offerings in an effort to reduce peak demand, leverage advanced meter investments, and account for an increasing proliferation of distributed energy resources, including electric vehicles and behind-the-meter battery storage systems. Regulators in states and jurisdictions such as Maryland, Michigan, Minnesota, and the District of Columbia have shown a particular interest in establishing time-based rates for electric vehicles in order to incentivize charging during off-peak periods. Of note, electric utilities in Missouri have been approved to implement new demand response programs for residential customers. Oregon electric utilities proposed similar programs.
- Overall demand response participation in the wholesale markets increased by approximately eight percent from 2017 to 2018, to a total of 29,674 megawatts (MW). On a regional basis, participation increased most in California ISO (CAISO) and Midcontinent Independent System Operator (MISO), while participation decreased most in ISO New England (ISONE). The participation (i.e., registration) of demand response in the wholesale capacity, energy, and ancillary services markets increased to six percent of peak demand in 2018.

Besides the introduction, the topics addressed in the Report include:

- Saturation and penetration rate of advanced meters
- Annual resource contribution of demand resources
- Potential for demand response as a quantifiable, reliable resource for regional planning purposes
- Existing retail demand response and time-based rate programs
- Regulatory barriers to improved customer participation in demand response, peak reduction, and critical period pricing programs

An Appendix which provides a map of the NERC regional entities is also included.

A link to the report can be found here.