

EL-4/ERE-1 Resolution on Modeling Energy Storage and Other Flexible Resources

Whereas declining costs of new technologies have helped drive market transformation within the electric industry, accelerating development and adoption of new resource options, including variable generation and distributed resources;

Whereas as customer demands and resource options change, electric utilities also need to operate in a manner that is more flexible, granular, and locational, while still safely, reliably and effectively delivering electric service;

Whereas flexible resources, including energy storage, with their ability to enhance a utility's flexibility and improve its ability to respond to changing customer needs, can allow utilities to adapt to the changing industry;

Whereas many types of energy storage, such as pumped hydro and thermal, have been operational in the U.S. for decades;

Whereas while utility resource planning historically has been conducted within the independent silos of generation, transmission, and distribution, energy storage can operate in any of those functions;

Whereas energy storage, as a scalable resource that can act in multiple ways, supporting utilities in generation, transmission, distribution, and end-use operations, is fundamentally a different class of resource;

Whereas many of the benefits of energy storage and other flexible resources are related to providing fast, sub-hourly responses to changing grid conditions;

Whereas modelling is used to determine the most cost-effective options to meet the needs of the energy grid on a technology neutral basis for providing safe, affordable, and reliable service;

Whereas some models used by utilities and other industry participants to determine which resources to deploy do not adequately capture the services that storage and other flexible resources can provide on an intra-hourly basis; *now therefore be it*

Resolved that the National Association of Regulatory Utility Commissioners ("NARUC"), convened at its 130th Annual Meeting and Education Conference in Orlando, Florida, recommends the following principles to guide NARUC member States in modeling energy storage and other flexible resources:

[1] Utilities and Utility Commissions should be well educated about the different types of quantitative models that exist today, their capabilities, intended purposes, strengths, and limitations;

[2] Utilities should develop, if appropriate, new modelling tools and new planning frameworks that allow for a more complete evaluation of flexible resources, such as energy storage;

[3] Planning frameworks and modeling tools that are publicly and commercially available should model the full spectrum of services that energy storage and flexible resources are capable of providing, including sub-hourly services;

[4] Utilities should analyze a range of flexible resource options, such as energy storage, and current cost assumptions in their modelling, due to the diverse characteristics and resource lives of different technologies, with the goal of identifying and pursuing the most cost-effective opportunities that best meet the needs of the utilities' systems; and

[5] Regulatory commissions should consider the same basic prudence principles to energy storage investments as to other utility capital plant.

*Sponsored by the Committees on Electricity and on Energy Resources and the Environment
Recommended by the NARUC Board of Directors on November 13, 2018
Adopted by the NARUC Committee of the Whole on November 14, 2018*