

**UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION**

Notice of Proposed Rulemaking: Third-Party Provision of Ancillary Services; Accounting and Financial Reporting for New Electric Storage Technologies)	
)	Docket Nos. RM11-24-000 and AD10-13-000
)	
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**COMMENTS OF THE
NATIONAL ALLIANCE FOR ADVANCED TECHNOLOGY BATTERIES**

Pursuant to the Federal Energy Regulatory Commission (FERC or Commission) Staff's June 22, 2012, Notice of Proposed Rulemaking: Third-Party Provision of Ancillary Services; Accounting and Financial Reporting for New Electric Storage Technologies (Request for Comments),¹ the National Alliance for Advanced Technology Batteries submits the following comments.

I. Interest of NAATBatt

The National Alliance for Advanced Technology Batteries (NAATBatt) is a not-for-profit trade association of more than 30 advanced battery producers and related supply chain companies dedicated to supporting the growth of advanced battery technology and manufacturing in North America. A list of NAATBatt member firms may be found at www.naatbatt.org/members/. Advanced energy storage is essential to reducing American dependence on petroleum and to increasing deployment of clean, renewable energy on the electricity grid. NAATBatt focuses on advanced battery technologies that have potential dual application in the automotive and stationary storage markets.

¹ Office of Energy Policy and Innovation; Notice of Proposed Rulemaking: Third Party Provision of Ancillary Services; Accounting and Financial Report for New Electric Storage Technologies, 77 Fed. Reg. 40413 (July 9, 2012).

In order for advanced batteries to be deployed in large numbers as traction batteries in automobiles and as electricity storage devices on the grid, the unit cost of manufacturing and deployment must be sharply reduced. High cost remains the principal barrier to acceptance of electric vehicles by consumers and to acceptance of distributed electricity storage systems by grid operators.

Industry is working hard to reduce the cost of advanced batteries and is making steady progress. Improvements in cathode and anode materials technology and greater experience in deploying and operating grid-based electricity storage systems can play, and are playing, an important role in driving down the costs of advanced battery systems. But a critical contributor to advanced battery cost reduction—accounting for as much as one-third of all potential price reductions—will be manufacturing advanced batteries at scale and achieving the economies that mass-manufacturing can provide.² Deployment of the same type of electricity storage technology in multiple applications and multiple markets will drive that scale and is an important objective if significant battery cost reductions—and all of the social benefits that will flow from those cost reductions—are to be achieved.

NAATBatt is dedicated to ensuring the success of weight and volume constrained battery technologies that can be used in both automotive and grid-connected applications. Building a combined market for such technologies is the quickest and most certain way to achieve the manufacturing volumes that will permit significant price reductions in advanced battery costs and realization of the social benefits that electricity storage technology promises to our nation.

Battery systems employing technologies that are optimal for weight and volume constrained environments are most likely to be deployed on distribution systems by regulated, load-serving electric utilities. Deployment of storage on the distribution network has the

² McKinsey & Company, *Battery Technology Charges Ahead* (2012)

potential to reduce reserve and other ancillary service requirements, thereby effectively competing in the provision (or avoidance of demand for) ancillary services with other electricity storage and generation technologies that do not offer the same social benefits.

NAATBatt's interest in providing these comments is to urge the commission to avoid application of its *Avista*³ policy in any manner that could unfairly discriminate against load-serving utilities in the provision of ancillary services produced by distributed energy storage systems relative to sales by merchants using bulk electricity storage systems. Any such disadvantage would delay the development of the type of electricity storage technology that our country needs to power its vehicles, and secure, stabilize and make more efficient its electricity grid.

II. Deploying Electricity Storage on Distribution Systems Is The Best Way to Maximize the Value of Electricity Storage Technology on the Grid and Provides Additional Benefits to the Nation

Although often talked about in generic terms, electricity storage describes a wide range of technologies, which provide different functions on different parts of the grid. Electricity storage systems can provide a variety of application solutions along the entire value chain of the electrical system, from generation support to transmission and distribution support to end-customer uses. A recent white paper published by the Electric Power Research Institute identifies 24 beneficial uses of electricity storage on the grid.⁴

Location of deployment is the key driver of storage value. For example, storage units located on a distribution system can provide back-up power, VAR support, and upgrade deferral benefits, but may be of little use in addressing transmission congestion in specific locations. Likewise, a bulk storage system located on the site of a generator or on a transmission system

³ See *Avista Corp.*, 87 FERC ¶ 61,223 (Avista), order on reh'g, 89 FERC ¶ 61,136 (1999).

⁴ Electric Power Research Institute, *Electricity Energy Storage Technology Options*, p. A-3 (December 2010).

may be helpful in addressing specific instances of transmission congestion and in arbitraging power, but cannot provide a UPS function to end users, defer upgrades to distribution systems, or help integrate distributed renewable generation sources.

On balance, distribution system-based electricity storage using distributed energy storage (DES) systems has, relative to other storage technologies, the potential to provide the greatest benefits to the grid. A recent study by Southern California Edison concluded that the highest value application of electricity storage will likely come from its ability to reduce peak capacity by decoupling supply and demand over a period of hours. The study notes that “the closer a device to the end user, the more peak capacity infrastructure cost is potentially deferred across the electric system.”⁵

An additional feature of DES systems, which may prove critical to the economic case for their deployment, is the ability of system operators to network DES systems together and wheel their aggregated power to other parts of the grid. This aggregated, distributed power resource can provide many of the same ancillary services on many of the same parts of the grid as larger bulk electricity storage systems. The ability networked DES systems to provide ancillary services upstream of the distribution system on which they are deployed is currently being demonstrated in several pilot projects being funded by the U.S. Department of Energy.

The Commission should also consider that DES systems have other benefits unrelated to the grid. Because many DES systems will be deployed in locations where weight and volume are constrained, it is likely that the type of advanced battery technology many DES systems will use will be similar to the types of advanced battery technology used in the automotive industry (where weight and volume are also constrained). This technological synergy will provide

⁵ Southern California Edison, *Moving Energy Storage from Concept to Reality: Southern California Edison's Approach to Evaluating Energy Storage*, p. 9 (2011).

opportunities for the mass manufacturing of certain types of common advanced battery systems. The efficiencies that can be achieved by manufacturing such systems at scale could do much to drive down the cost of automotive as well as stationary, grid-connected battery systems. Cost reductions in automotive batteries should make fuel-efficient hybrid and electric vehicles more attractive to consumers and result in the reduction of demand for imported petroleum. NAATBatt's white paper on the national benefits of distributed energy storage technology elaborates on this and several other national benefits of DES technology.⁶

III. Using Power from DES Systems to Provide Ancillary Services to Jurisdictional Customers Will be a Key Value Stream Necessary for Utilities to Justify Investments in DES Technology

DES systems are, by their nature, deployed on local distribution systems, where they lie outside the Commission's jurisdiction.⁷ Although some DES systems will be owned by electricity end users, and the possibility of merchant owners and aggregators of DES systems exists, NAATBatt believes that the large majority of DES systems eventually deployed on the grid will be owned and operated by state regulated, load-serving electric utilities.

Regulated, load-serving utilities must ensure that the rates they charge their customers are just and reasonable. Investments in expensive DES systems will face scrutiny by state regulators and must deliver quantifiable value in established planning horizons. To justify recovery of those investments, utilities will have to capture every possible value stream from DES systems and return that value to the utilities' retail ratepayers. In some configurations, a DES system, or a network of DES systems, have the potential to be deployed as a wholesale ancillary service resource to transmission providers with obligations to provide ancillary services to transmission customers under open access transmission tariffs. The ability to engage in sales of ancillary

⁶ National Alliance for Advanced Technology Batteries, *Distributed Energy Storage: Serving National Interests* (April 10, 2012).

⁷ Federal Power Act §201(b)(1), 16 USC 824(b)(1).

services to transmission providers is a value stream that will likely be critical to the utility's investment decision. Load serving entities that can capture that value and credit it against their rates will stand a much better chance of having their investments in DES systems approved by state regulators.

Because regulated, load-serving utilities are the natural owners of DES systems, barriers to making sales of ancillary services to jurisdictional transmission providers will inhibit the deployment of this important new technology and deprive the nation of the direct and indirect benefits of DES technology.

IV. Current Exceptions to the *Avista* Policy Unfairly Discriminate Against Utility Owners of DES Systems and Will Discourage Investment in Important New DES Technology

In *Avista Corp.*, 87 FERC ¶ 61,223, order on reh'g, 89 FERC ¶ 61,136 (1999), the Commission loosened its requirement that sellers of certain ancillary services in the jurisdictional wholesale market provide, as a condition of making such sales on other than a cost-of-service basis, a study demonstrating that the seller lacks market power in the relevant product market. Acknowledging that data limitations could impair the ability of sellers to perform such market power studies, the Commission in *Avista* dispensed with the requirement, subject to three exceptions. The third exception (the "Third Exception") is for sales to a public utility that is purchasing ancillary services to satisfy its own OATT requirements to offer ancillary services to its customers. It is as to the propriety of the Third Exception that the Commission seeks comment.

Although driven by a theoretical concern for the customers of the purchasing public utilities (who might be subject to the exercise of market power), the Third Exception will prove discriminatory to electric utilities that own DES systems and wish to sell ancillary services

produced by those systems. The practical effect of the Third Exception will be to require load serving entities that are considering investment in DES systems to exclude the potential value from sales to transmission providers when evaluating and seeking to justify investment. By contrast, smaller owners of merchant bulk electricity storage or generation facilities will have an easier time proving lack of market power and may be able to sell ancillary services produced by their systems to the same utility customers at market-based rates.

This inequity in the market is of concern to NAATBatt because load serving entities and independent, merchant storage providers are likely to use different types of storage technology to provide ancillary services. Load-serving entities are likely to deploy DES systems on their own distribution networks, using the storage capacity primarily for the benefit of those networks with the sale of ancillary services to transmission providers providing a secondary, though potentially important, value stream for the purpose of reducing the cost of the DES systems to the owning utility's ratepayers. By contrast, merchant owners of electricity storage assets are unlikely to locate those assets on distribution systems. Merchant sellers of storage-based ancillary services will more likely invest in large, low cost, bulk electricity storage systems whose sole or primary function is to provide ancillary services to third parties. Having load serving entity deployed DES systems compete with merchant-owned bulk storage systems in the wholesale ancillary services market would promote competition and foster lower prices. But by giving merchant-owned bulk storage systems a greater opportunity to receive market-based rates for their ancillary services, the Commission's *Avista* policy is implicitly making a choice as to what kind of electricity storage technology is more likely to be deployed on the grid.

The Commission's concern for customers of public utilities purchasing ancillary services from a load serving entity with market power should be diminished if the load serving entity is

using assets to provide those services that are already subject to regulation by other authorities charged with protecting the interests of consumers. This will certainly be the case with DES systems. DES systems are located on local distribution systems and are, by their nature, subject to state regulatory authority and oversight. In fact, unless DES systems are used to wheel power into the wholesale market, they lie completely outside the Commission's jurisdiction⁸. State regulatory authorities are fully capable of regulating any abuse of market power by entities subject to their jurisdiction. NAATBatt suggests, therefore, that to the extent ancillary services in the wholesale market are provided by bona fide distribution assets subject to state regulation, the Commission should dispense with the Third Exception to its *Avista* policy.

Favoring bulk electricity storage over utility-owned DES systems will discourage utility investment in and the deployment of important DES technology. If restricted to cost-of-service pricing, the value stream produced by DES systems from the ancillary sales of ancillary services may prove too small to influence meaningfully a load-serving utility's decision to invest in DES systems. If merchant producers using bulk storage systems are able initially to capture the market for ancillary services by virtue of their ability to price those services more flexibly, load-serving utilities will not have the opportunity to leverage the ancillary services market in order to build the large fleets of DES systems that would be optimal for the grid and provide the many other non-grid-related benefits that DES technology offers to our nation.

V. Conclusion

DES technology offers great benefits to our nation, both on and off the grid. Load serving utilities are the most likely owners and operators of DES systems, but face a difficult investment decision. Encouraging utility investment in DES technology requires giving load serving utilities fair access to all value streams that DES systems are able to produce, including

⁸ Id.

value that can be received by selling ancillary services from DES systems into the wholesale market. Today the Third Exception of the *Avista* policy effectively favors merchant operators of electricity storage and generation assets over load serving utilities in a potentially important part of the ancillary services market. This inequity may discourage investment in and the deployment of DES technology, as merchant operators are likely to favor bulk electricity storage and generation technologies over DES technology.

NAATBatt respectfully urges the Commission to review its *Avista* policy with a view to “leveling the playing field” between load serving utilities and merchant providers of ancillary services. This might best be done by eliminating the Third Exception under the *Avista* policy where assets providing ancillary services are already subject to state regulation. The Commission’s regulatory scheme should not inadvertently favor one set of producers and technology choices over another, particularly if the choice not favored—DES technology—is the choice that offers the greatest benefits to the grid and to the nation.

Respectfully submitted,

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