

January 8, 2003



VIA ELECTRONIC FILING
Honorable Magalie Salas
Secretary
Federal Energy Regulatory Commission
888 First Street
Washington DC 20246

Re: *Remedying Undue Discrimination Through Open
Access Transmission Service and Standard Market
Design*; Docket No. RM01-12-000

Dear Secretary Salas:

Enclosed herewith for filing are comments of the Electricity Storage Association (“ESA”). The ESA is the international trade organization representing the electricity storage industry. Over 40 companies and institutions are members of the ESA. Member organizations include manufacturers of electricity storage systems, electric power utilities, and companies involved in analysis of electric power systems. ESA members market electricity storage systems; provide services to the electric power industry, to the US Department of Energy, and to the Electric Power Research Institute; and generate and sell electricity. Most ESA members are based in the United States.

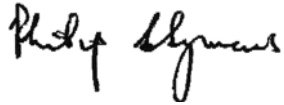
ESA commends the Commission and Staff for the extensiveness and quality the work associated with developing the Standard Market Design (SMD). In the attached comments, we address the following points:

- ESA supports the overall intent of the policy of the SMD.
- ESA is concerned, however, that the SMD does not recognize the magnitude of electricity storage in electric power systems today and, as a result, does not address the potential value of electricity storage systems.
- ESA is concerned that the SMD does not take advantage of the improvements to system reliability and efficiency provided by state-of-the-art electricity-storage technologies. There is no method in the SMD for attributing value to improved overall system efficiency or to reduced environmental impact.
- ESA generally supports the analysis that previous rulings do not adequately address the markets for ancillary services.
- ESA finds little in the proposed regulation, however, to encourage investment in technologies and systems that provide ancillary services.

- ESA recommends that the final FERC order specifically address this issue in a way that encourages the open market supply of ancillary services
- SMD will require considerable effort for deployment; ESA recommends a measured implementation process to ensure flexibility and effectiveness in the revamped electricity market.

ESA appreciates the opportunity to be heard on these matters and urges careful consideration of our comments.

Respectfully submitted,



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UNITED STATES OF AMERICA
BEFORE
THE FEDERAL REGULATORY COMMISSION

Remedying Undue Discrimination Through)
Open Access Transmission Service and) Docket No. RM01-12-000
Standard Market Design)

COMMENTS OF
THE ELECTRICITY STORAGE ASSOCIATION

General Evaluation

The Electricity Storage Association (ESA) recognizes the extensive effort on the part of the Commission and its staff in the development of the proposed Standard Market Design (SMD) Notice of Proposed Rulemaking (NOPR). The effort on the part of the states and the electric power companies to implement this significant change in the market will be truly monumental. There will be many challenges along the way to a complete restructuring. Because of the extent of the changes, and the uncertainty of the outcomes, it would seem prudent to move in a slow and perhaps phased approach to implementation. This caution is partly driven by the limited success of FERC order 888 and the unintended consequences of electricity reregulation in California.

Electricity storage can be relevant to significant components of the SMD such as transmission congestion, infrastructure security ancillary services, distributed generation and renewable energy sources. The ESA recommends that the SMD include specific value for the above types of energy storage applications and for ancillary services.

Recognition of Electricity Storage

Although the Docket No. RM01-12-000, comments on the possibility of electricity storage, the reference is in passing, and does not recognize that the combined power capacity of electricity storage installations in the United States is about 2 % of the total electricity generating capacity.

Nor does it reflect that in some other parts of the world, notable Japan and Western Europe, electricity storage provides over 10 % of the on-peak power.

Because electricity can be stored, and because storage plants are an effective component of electric power systems, electricity storage can provide significant technical advantages to power system operation and improve the economics of electric power delivery. Several studies have suggested that electricity storage could be a cost effective component of the electric power grid even at 15 % of capacity. This level will not be approached in the United States without market recognition of its inherent value.

Electricity Storage Plants Will Help the Market Work Properly

Electricity storage is capable of providing a variety of system benefits including:

- Load following services
- Spinning and operating reserves
- Regulation and frequency response
- Increased transfer capabilities in congested areas
- Improved power quality and reliability
- Enhanced value of renewable (and intermittent) generation sources such as wind and solar
- Generation and transmission asset optimization
- Improved overall system efficiency, both operational and in use of capital resources

Electricity, in the standard, alternating sinusoidal form, must be delivered to the grid instantly in response to customer demand. Thus, the supply of alternating current (AC) electric energy is a fundamental medium guiding the production and supply of electric power – and one that sets electric generators, transmission-distribution owners, grid operators, and grid planners apart from their counterparts in other industries. The market is different from others. Unlike most other commodities, AC electrons aren't bottled or boxed, placed in a warehouse in their 'raw' form when demand is low and then dispensed instantaneously upon customer demand. With no "inventory" to draw on, utilities have very little leeway in managing AC electricity production and supply. As such, existing methods to store alternating current electric energy is based on

converting and storing it another energy form - mechanical, chemical, or direct current energy storage. Examples are pumped hydro, flywheel, battery, capacitor and superconducting magnetic energy storage plants.

The ability to store electricity on a large scale has a profound strategic liberating effect on the utility industry. Supply does not have to balance demand instantaneously. Thus, traditionally, utilities with electricity storage capabilities have much greater flexibility in operating their equipment and in conducting power transactions without undue transmission bottlenecks, particularly during peak load time periods. Further, stockpiling the excess electricity produced at night by base-load plants and using the stored energy during the daytime enabled vertically integrated utilities to use more fully their base-load generation plants and lower overall costs to consumers. Presumably, this latter goal is the point of the SMD.

Load shifting and stockpiling can also be applied to transmission and distribution assets. Thus, storage technologies have provided a unique opportunity to increase asset utilization of many types of transmission equipment. Electricity storage plants act as a rapid response shock absorber to grid instabilities, thus, effective deployment of storage plants enhances the reliability and capability of the network to respond to a myriad of disruptions (e.g., transmission congestion, line overloads, transmission/generation outages, lightning strikes, and terrorist induced outages). As the electricity market changes, the stockpiling of electric energy could be instrumental in reducing the impacts of power brokers' market manipulations. Such plants should also enhance the use of renewable generation plants (e.g., wind farms and solar). For example, many wind plants produce much of their energy at night when the wind is higher, whereas solar plants produce an intermittent supply of electricity based on daylight variations. Thus, storing renewable energy would allow it to be dispatched during the day when the load (and price) is the highest and allow customers to get more value from such environmentally attractive power resources.

Ancillary Service Markets

Besides its obvious ability to deliver dispatched power during periods of peak power demand, electricity storage systems can provide a variety of ancillary services, such as spinning reserve and, by appropriate siting, will allow ISO's to defer installation of new transmission and distribution lines. Electricity storage can reduce the need for continuous energy use to maintain spinning reserve capacity.

Thus, we agree strongly with the title of Appendix C Section 2, **Overly Restrictive Ancillary Service Market Designs**, as it applies to the implementation of FERC Order 888. The ancillary service market has been overly restrictive, which has caused a very thin, or perhaps better stated—nonexistent, market for certain ancillary services. However, there is little to suggest that the Standard Market Design, as proposed, will improve this situation. Without inclusion of specific ancillary services and the technologies that will contribute to their availability, there is little incentive for increased investment in this area. The long-range result of this deficiency will be increased volatility of both the price and the availability of electric power.

CONCLUSION

The ESA wishes to encourage the Commission to assure that the functional capabilities of electricity storage, e.g., for peak shaving and load leveling, and ancillary services receive adequate recognition in the final rulemaking. The ESA would further encourage the Commission to build flexibility into the SMD so that it can accommodate forces on the electricity market due to the evolution of the electric power system and the development of new and advanced technologies, including electricity storage.