

135 FERC ¶ 61,240
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

18 CFR Chapter I

[Docket Nos. RM11-24-000 and AD10-13-000]

Third-Party Provision of Ancillary Services; Accounting and Financial Reporting for
New Electric Storage Technologies

(June 16, 2011)

AGENCY: Federal Energy Regulatory Commission.

ACTION: Notice of Inquiry.

SUMMARY: In this Notice of Inquiry (NOI), the Commission seeks comment on two sets of separate, but related issues. First, we seek comment on ways in which we can facilitate the development of robust competitive markets for the provision of ancillary services from all resource types. Second, the Commission is interested in issues unique to storage devices in light of the role they can play in providing multiple services, including ancillary services. As demonstrated by recent cases that have come before the Commission, there is growing interest in rate flexibility by both purchasers and sellers of ancillary services. A variety of resources are poised to provide ancillary services but may be frustrated from doing so by certain aspects of the Commission's market-based rate policies coupled with a lack of access to the information that could help satisfy the requirements of those policies. Those with an obligation to purchase ancillary services have raised concerns with the availability of those services. In reviewing ways to foster a

more robust ancillary services market, the Commission identified certain issues regarding the use of electric storage as an ancillary service resource that warranted consideration. Over time, those issues expanded into more global questions as to the role that electric storage may play in a competitive market, including how electric storage should be compensated for the full range of services it provides under the Federal Power Act, and transparency issues regarding the Commission's current accounting and reporting requirements as applied to electric storage.. . As such, the Commission seeks comment on: (1) existing restrictions on third-party provision of ancillary services, irrespective of the technologies used for such provision; and (2) the adequacy of current accounting and reporting requirements as they pertain to the oversight of jurisdictional entities using electric storage devices.

DATES: Comments are due 60 days after publication in the **FEDERAL REGISTER**.

ADDRESSES: You may submit comments, identified by docket number and in accordance with the requirements posted on the Commission's web site,

<http://www.ferc.gov>. Comments may be submitted by any of the following methods:

- **Agency Web Site:** Documents created electronically using word processing software should be filed in native applications or print-to-PDF format and not in a scanned format, at <http://www.ferc.gov/docs-filing/efiling.asp>.
- **Mail/Hand Delivery:** Commenters unable to file comments electronically must mail or hand deliver an original and copy of their comments to: Federal Energy Regulatory Commission, Secretary of the Commission, 888 First Street, NE, Washington, DC 20426. These requirements can be found on the Commission's

web site, see, e.g., the “Quick Reference Guide for Paper Submissions,” available at <http://www.ferc.gov/docs-filing/efiling.asp>, or via phone from Online Support at (202) 502-6652 or toll-free at 1-866-208-3676.

Instructions: For detailed instructions on submitting comments and additional information on the rulemaking process, see the Comment Procedures Section of this document

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SUPPLEMENTARY INFORMATION:

135 FERC ¶ 61,240
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Third-Party Provision of Ancillary Services; Accounting and Financial Reporting for New Electric Storage Technologies Docket Nos. RM11-24-000
AD10-13-000

NOTICE OF INQUIRY

(June 16, 2011)

1. In this Notice of Inquiry (NOI), the Commission seeks comment on two sets of separate, but related issues. First, we seek comment on ways in which we can facilitate the development of robust competitive markets for the provision of ancillary services from all resource types. Second, the Commission is interested in issues unique to storage devices in light of the role they can play in providing multiple services, including ancillary services. As demonstrated by recent cases that have come before the Commission, there is growing interest in rate flexibility by both purchasers and sellers of ancillary services. A variety of resources are poised to provide ancillary services but may be frustrated from doing so by certain aspects of the Commission's market-based rate policies coupled with a lack of access to the information that could help satisfy the requirements of those policies. Those with an obligation to purchase ancillary services have raised concerns with the availability of those services. In reviewing ways to foster a more robust ancillary services market, the Commission identified certain issues regarding the use of electric storage as an ancillary service resource that warranted consideration.

Over time, those issues expanded into more global questions as to the role that electric storage may play in a competitive market, including how electric storage should be compensated for the full range of services it provides under the Federal Power Act, and transparency issues regarding the Commission's current accounting and reporting requirements as applied to electric storage. As such, the Commission seeks comment on: (1) existing restrictions on third-party provision of ancillary services, irrespective of the technologies used for such provision; and (2) the adequacy of current accounting and reporting requirements as they pertain to the oversight of jurisdictional entities using electric storage devices.

2. More specifically, the Commission is interested in obtaining comments on: (1) whether revising or replacing the restriction set forth in *Avista Corp.* (referred to as the *Avista* restriction),¹ which prohibits third-party market-based sales of ancillary services to transmission providers seeking to meet their ancillary service obligations under the Open Access Transmission Tariff (OATT), absent a market study showing lack of market power, would help to facilitate the provision of ancillary services, and if so, how to balance that goal with the need to ensure just and reasonable rates; and

¹ *Avista Corp.*, 87 FERC ¶ 61,223 (*Avista*), *order on reh'g*, 89 FERC ¶ 61,136 (*Avista* Rehearing Order) (1999).

(2) whether revising the current accounting and reporting requirements as they pertain to regulatory oversight of jurisdictional entities using storage technologies is necessary.²

Related to the first inquiry, the Commission also seeks comment on whether the various cost-based compensation methods for frequency regulation that exist in regions outside of the current organized markets could be adjusted to address the same speed and accuracy issues identified in the recently-issued Frequency Regulation Notice of Proposed Rulemaking for organized wholesale energy markets.³

I. Background

3. The Commission has initiated numerous actions over the last several decades to foster the development of competitive wholesale energy markets by ensuring non-discriminatory access and comparable treatment of resources in jurisdictional wholesale markets.⁴ The Commission most recently proposed to require all independent system

² These as well as several other issues were the subject of a Commission staff Notice of Request for Comment (Storage RFC) issued June 11, 2010. This proceeding focuses primarily on issues associated with the pricing of ancillary services and accounting and reporting requirements.

³ *Frequency Regulation Compensation in the Organized Wholesale Power Markets*, 76 FR 11177 (Mar. 1, 2011), Notice of Proposed Rulemaking, FERC Stats. & Regs. ¶ 32,672 (2011) (Frequency Regulation NOPR).

⁴ See, e.g., *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, FERC Stats. & Regs. ¶ 31,036, at 31,781 (1996), *order on reh'g*, Order No. 888-A, FERC Stats. & Regs. ¶ 31,048, *order on reh'g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *order on reh'g*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff'd in relevant part sub nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff'd sub nom. New York v. FERC*, 535 U.S. 1 (2002); *Market-Based Rates for Wholesale Sales of Electric Energy, Capacity* (continued...)

operators (ISO) and regional transmission organizations (RTO) to compensate resources that provide frequency regulation in a manner that reflects the resource's performance in order to remedy undue discrimination.⁵

4. As a result of many of these actions, there has been entry not only of competitive generation but also new technologies like electric storage that can provide many of the same services as generation and even transmission. The Commission remains interested in the continued development of competitive markets for all services and in this inquiry considers the development of a more robust ancillary services market and issues unique to storage devices in light of the role they can play in providing multiple services, including ancillary services. We also note that the role electric storage and other new market entrants play in competitive markets is still evolving. With that evolution, the Commission must continue to assess the full value those resources provide to competitive markets and to ensure just and reasonable rates.

and Ancillary Services by Public Utilities, Order No. 697, FERC Stats. & Regs. ¶ 31,252, *clarified*, 121 FERC ¶ 61,260 (2007), *order on reh'g*, Order No. 697-A, FERC Stats. & Regs. ¶ 31,268, *clarified*, 124 FERC ¶ 61,055, *order on reh'g*, Order No. 697-B, FERC Stats. & Regs. ¶ 31,285 (2008), *order on reh'g*, Order No. 697-C, FERC Stats. & Regs. ¶ 31,291 (2009), *order on reh'g*, Order No. 697-D, FERC Stats. & Regs. ¶ 31,305 (2010); *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, FERC Stats. & Regs. ¶ 31,241, *order on reh'g*, Order No. 890-A, FERC Stats. & Regs. ¶ 31,261 (2007), *order on reh'g*, Order No. 890-B, 123 FERC ¶ 61,299 (2008), *order on reh'g*, Order No. 890-C, 126 FERC ¶ 61,228 (2009), *order on reh'g*, Order No. 890-D, 129 FERC ¶ 61,126 (2009); *Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719, FERC Stats. & Regs. ¶ 31,281 (2008); *order on reh'g*, Order No. 719-A, FERC Stats. & Regs. ¶ 31,292 (2009); *order on reh'g*, Order No. 719-B, 129 FERC ¶ 61,252 (2009).

⁵ See *supra* note 3.

5. In addition to the Commission's generic initiatives to further the development of competitive wholesale markets, the Commission has taken action on a case-by-case basis to remove barriers to the entry of new technologies. In certain areas of the country where FERC jurisdictional tariffs included provisions largely designed for thermal resources, and as such presented barriers to the participation of other technologies like electric storage, the Commission has accepted a variety of proposed reforms. For example, Midwest Independent Transmission System Operator (Midwest ISO) and New York Independent System Operator, Inc. (NYISO) both have tariff provisions for managing the energy level of limited energy storage resources (LESRs) providing regulation service.⁶ Also under its tariff, NYISO has begun dispatching LESRs first and all other resources on a pro-rata basis.⁷ PJM Interconnection, L.L.C. (PJM) has tariff provisions excluding most of the energy used for charging several types of energy storage devices from its definition of station power load.⁸ In 2010, the California Independent System Operator Corporation (CAISO) revised the technical requirements for participation in its ancillary

⁶ See *Midwest Indep. Trans. Sys. Operator, Inc.*, 129 FERC ¶ 61,303 (2009); *New York Indep. Sys. Operator, Inc.*, 127 FERC ¶ 61,135 (2009).

⁷ See, e.g., *New York Indep. Sys. Operator, Inc.*, 127 FERC ¶ 61,135, at P 7 (2009).

⁸ See *PJM Interconnection, L.L.C.*, 132 FERC ¶ 61,203 (2010).

services market to allow non-generator resources to be treated on a comparable basis to generation resources.⁹

6. The Commission has also addressed specific proposals for flexibility of the Commission's policies and/or regulations. With regard to the Commission's *Avista* policy, WSPP recently requested waiver of the *Avista* restriction in order to allow market-based rate sales of ancillary services under proposed WSPP master sales agreement Schedules D and E for those sellers that have market-based rate authorization for energy but have not performed market studies for ancillary services or proposed any alternative mitigation measure to ensure just and reasonable ancillary service rates.¹⁰

7. The Commission has also entertained energy storage proposals by individual developers, some of which seek treatment only as competitive wholesale suppliers, and some of which seek treatment as transmission facilities. When faced with various proposals to use energy storage technologies for jurisdictional purposes, the Commission has analyzed the intended use and capability of storage proposals on a case-by-case basis.¹¹ Where applicants have sought transmission rate recovery for storage assets, the Commission has also reviewed whether the proposal would result in:

⁹ See *California Independent System Operator Corporation*, 132 FERC ¶ 61,211, at P 26 (2010).

¹⁰ *WSPP Inc.*, 134 FERC ¶ 61,169 (2011) (*WSPP*).

¹¹ See, e.g., *Western Grid Development, LLC*, 130 FERC ¶ 61,056, *reh'g denied*, 133 FERC ¶ 61,029 (2010) (*Western Grid*) and *Nevada Hydro Co.*, 122 FERC ¶ 61,272 (2008) (*Nevada Hydro*).

(1) cross-subsidization of any competitive market sales by transmission customers;

(2) inappropriate competitive impacts if one type of market participant were permitted to receive jurisdictional transmission ratebase treatment while other market participants are completely at risk in the market; and (3) a level of control in the operation of a storage facility by the RTO or ISO that could jeopardize its independence from market participants. These issues arise when a storage project seeks cost-based transmission rate authorization and proposes to participate in competitive wholesale energy and ancillary service markets. In contrast, where a storage project proposes only to participate in one or more competitive wholesale energy and ancillary service markets, these issues do not arise because there will be no associated cost-based transmission rate for the same storage asset.

8. In light of the growing interest in electric storage, Commission staff in June 2010 issued the Storage RFC to seek comment on a variety of issues including: alternatives for categorizing and compensating storage services, including how best to develop rate policies that accommodate the flexibility of storage; whether the *Avista* restriction, which prohibits third-party provision of ancillary services at market-based rates to transmission providers seeking to meet their own ancillary services requirements, can pose an undue barrier to the development of storage facilities and other resources capable of providing ancillary services; and accounting and financial reporting matters as they relate to recovery of costs for electric storage technologies, noting that the Commission's accounting and financial reporting requirements currently do not contain specific

accounting¹² and related reporting requirements¹³ for new storage technologies. The Storage RFC noted that storage facilities are physically capable of providing a variety of services, including transmission service to unbundled transmission customers, enhancing the value of generation output sold at wholesale, and providing ancillary services.¹⁴

9. As a result of the information developed thus far through these various efforts, the Commission's inquiry in this proceeding considers, among other things, the application of the *Avista* policy. We believe that markets for ancillary services may not be developing in all regions of the country. This may be due in part to the nature of ancillary services and the lack of transparent information on the capability of individual resources to provide the various services, thus hindering sellers' ability in some regions of the country to perform market power studies to demonstrate the lack of market power. This coupled with a growing need for ancillary services to support grid functions in the face of potential changes in the portfolio of generation resources, entry of new technologies seeking to provide the services, and the growing interest of sellers and

¹² *Uniform System of Accounts Prescribed for Public Utilities and Licensees Subject to the Provisions of the Federal Power Act (USofA)*, 18 CFR Part 101.

¹³ *Statements and Reports (Schedules)*, 18 CFR Part 141.

¹⁴ The Storage RFC also sought comment regarding rate treatment alternatives for electric storage technologies depending on the intended use or capability of the facility; possible business models for storage, including stand-alone storage; and new ancillary services products. The Commission will continue to review various proposals relevant to these issues on a case-by-case basis and does not seek further comment on these matters here.

transmission providers to have flexibility in meeting ancillary services needs prompts this inquiry.

10. We note that there are numerous issues embedded within these broad categories of inquiry and we encourage comment from all interested stakeholders. We further note, however, that we will continue to address additional matters regarding rate treatment and products for electric storage on a case-by-case basis.

II. Discussion

A. Third-Party Provision of Ancillary Services and the Avista Restriction

11. The Commission, in Order No. 888,¹⁵ contemplated the idea of third parties (i.e., parties other than a transmission provider supplying ancillary services pursuant to its OATT obligation) providing ancillary services on other than a cost-of-service basis if such pricing was supported, on a case-by-case basis, by analyses that demonstrated that the seller lacks market power. The Commission in Order No. 888 and later in *Ocean Vista*¹⁶ offered guidance as to what should be included in a market power study for ancillary services, stating that the guidance was offered for two purposes: (1) to ensure

¹⁵ *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, FERC Stats. & Regs. ¶ 31,036, at 31,781 (1996), *order on reh'g*, Order No. 888-A, FERC Stats. & Regs. ¶ 31,048, *order on reh'g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *order on reh'g*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff'd in relevant part sub nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff'd sub nom. New York v. FERC*, 535 U.S. 1 (2002).

¹⁶ *Ocean Vista Power Generation, L.L.C.*, 82 FERC ¶ 61,114 (1998) (*Ocean Vista*).

that sellers of ancillary services do not exercise market power; and (2) to further the goal of promoting competition in ancillary service markets.

12. In *Avista*, the Commission discussed in detail the data problems associated with performing a market power study and adopted a policy allowing third-party ancillary service providers that could not perform a market power study to sell certain ancillary services at market-based rates with certain restrictions.¹⁷ Specifically, the Commission allowed a market participant with market-based rate authorization to sell ancillary services at market-based rates to transmission customers that would otherwise purchase ancillary services from a public utility transmission provider. However, the Commission prohibited sales of ancillary services at market-based rates by a third-party supplier in the following situations: (1) sales to an RTO or an ISO, which has no ability to self-supply ancillary services but instead depends on third parties;¹⁸ (2) to address affiliate abuse concerns, sales to a traditional, franchised public utility affiliated with the third-party supplier, or sales where the underlying transmission service is on the system of the public utility affiliated with the third-party supplier;¹⁹ and (3) sales to a public utility that is

¹⁷ The authorization in *Avista* extended to the following four ancillary services: Regulation Service, Energy Imbalance Service, Spinning Reserves, and Supplemental Reserves.

¹⁸ Subsequently, as the Commission recognized in Order No. 697, most RTOs and ISOs developed formal ancillary service markets and performed associated market power studies, thus rendering this component of the *Avista* policy largely superfluous. See Order No. 697, FERC Stats. & Regs. ¶ 31,252 at n.1194 and P 1069.

¹⁹ We are not aware of any need to revise this second component of the *Avista* policy.

purchasing ancillary services to satisfy its own OATT requirements to offer ancillary services to its own customers.²⁰ The Commission further stated that it was open to considering requests to make ancillary services sales at market-based rates in such circumstances on a case-by-case basis.²¹

13. In the *Avista* Rehearing Order, the Commission clarified that although *Avista* prohibits third-party ancillary services suppliers from selling to transmission providers in order for transmission providers to meet their own ancillary service requirements, a transmission provider could purchase from a third-party supplier to permit it to offer third-party ancillary services off of its system.²² The Commission explained:

²⁰ *Avista*, 87 FERC ¶ 61,223 at n.12.

²¹ *Id.* The Commission has granted waiver of the *Avista* restrictions on a case-by-case basis. See, e.g., *NorthWestern Corp. and Powerex Corp.*, 121 FERC ¶ 61,204 (2007) (granting Powerex limited waiver of the prohibition against making sales of ancillary services at market-based rates to public utilities that are purchasing such services to satisfy their own OATT requirements to offer ancillary services to their customers and accepting an agreement between NorthWestern and Powerex following a competitive solicitation under which Powerex will sell regulating reserve services to NorthWestern at market-based rates for a one-year period); *Powerex Corp.*, 125 FERC ¶ 61,179 (2008) (granting Powerex limited waiver of the prohibition from making sales of ancillary services at market-based rates to public utilities that are purchasing such services to satisfy their own OATT requirements to offer ancillary services to their customers and conditionally accepting an agreement between NorthWestern and Powerex following a competitive solicitation under which Powerex will sell regulating reserve services to NorthWestern at market-based rates over a two-year period, subject to extension for an additional year); *NorthWestern Corp.*, 125 FERC ¶ 61,178 (2008) (accepting an agreement between NorthWestern and Public Utility District No. 2 of Grant County, Washington, following a competitive solicitation under which Grant County will sell regulating reserve services to NorthWestern at market-based rates over a two-year period, subject to extension).

²² *Avista* Rehearing Order, 89 FERC at 61,391.

We are able to grant blanket authority for flexible pricing only because the price charged by the third-party supplier is disciplined by the obligation of the transmission provider to offer these services under cost-based rates. This discipline could be thwarted if the transmission provider could substitute purchases under non-cost-based rates for its mandatory service obligation.²³

The Commission concluded that the protection of the “backstop of cost-based ancillary services from the transmission provider will provide an appropriate and effective safeguard against potential anti-competitive behavior.”²⁴

14. Accordingly, absent market studies showing a lack of market power, *Avista* placed a restriction on third-party market-based sales of ancillary services to utilities seeking to meet their OATT obligations. Under the Commission’s *Avista* policy, third-party sellers that want to sell at market-based rates to a transmission provider seeking to meet its OATT ancillary service obligations must perform a market power study; third party sellers that desire to sell ancillary services at market-based rates to entities other than transmission providers may do so without restriction.²⁵

15. Recently, WSPP requested waiver of the *Avista* restriction in order to allow market-based rate sales of ancillary services under proposed WSPP master sales agreement Schedules D and E for those sellers that have market-based rate authorization

²³ *Id.*

²⁴ *Avista*, 87 FERC ¶ 61,136 at 61,883.

²⁵ Although there is no restriction on these sales, the transmission provider’s OATT rate theoretically serves as a check on prices because potential buyers can always resort to OATT service.

for energy but did not perform market studies for ancillary services or proposed any alternative mitigation measure to ensure just and reasonable ancillary service rates.²⁶ In support, WSPP stated that the *Avista* restrictions have foreclosed the development of third-party ancillary services markets and relegated transmission providers to provide their own reserves through self-supply.²⁷ WSPP also argued that there are two reasons why market power studies are feasible in RTO/ISO regions but not elsewhere: (1) centralized RTO/ISO markets and related access to data ease the way for performance of studies; and (2) RTO/ISOs have ready staffs and funds through which studies are feasible.²⁸ The Commission rejected WSPP's request as it related to sales by a third-party supplier to satisfy the purchasing transmission provider's own OATT requirements to offer ancillary services to its customers. The Commission explained that:

(w)hile the Commission wishes to foster entry into ancillary service markets, we also must guard against potential anticompetitive behavior by third-party suppliers who may have market power. We cannot simply assume that no anticompetitive behavior would occur were we to grant WSPP's request.²⁹

The Commission noted, however, that it remains open to new approaches to selling reserve services at market-based rates and encouraged WSPP to submit a revised proposal that addresses the Commission's concerns.

²⁶ *WSPP*, 134 FERC ¶ 61,169 at P 5.

²⁷ *WSPP*, Answer, Docket No. ER10-2295-000, at 4 (Filed December 10, 2010).

²⁸ *Id.* at 5.

²⁹ *WSPP*, 134 FERC ¶ 61,169 at P 24.

16. As indicated both in comments to the Storage RFC and the recent *WSPP* filing that sought waiver of the *Avista* restrictions,³⁰ market participants are looking for additional flexibility regarding the *Avista* restrictions, partly because the most significant market for ancillary services is likely to be transmission providers seeking to meet their OATT ancillary service obligations. Furthermore, NorthWestern indicated in a filing before the Commission that it was unable to find sellers of ancillary services when it issued a request for proposals, noting that only two offers were able to satisfy the technical requirements and time commitments set forth in the request for proposals from the 70 entities that received the request for proposals.³¹ Several commenters in response to the Storage RFC also argue that experience has proven this restriction to be unnecessary, potentially harmful to both load-serving entities and would-be third-party suppliers of ancillary services, and a barrier to the use of storage technologies to provide ancillary services.³²

17. As the Commission explained in *WSPP*,³³ the prohibition on third-party ancillary service sales to transmission providers seeking to meet their own ancillary service requirements was designed to address the Commission's concern that the backstop of cost-based ancillary services from the transmission provider would not remain an

³⁰ *WSPP*'s request for waiver was rejected by the Commission. *Id.* P 27.

³¹ *See NorthWestern*, 121 FERC ¶ 61,204 at P 6 (2007).

³² *See, e.g.*, AEP August 9, 2010 Comments at 15 and EEI August 9, 2010 Comments at 9.

³³ *WSPP*, 134 FERC ¶ 61,169 at P 26.

effective safeguard against anti-competitive behavior by third-party sellers, if the transmission provider's OATT rates were allowed to include a pass through of purchases under non-cost-based rates from third parties who had not performed a market power study.

18. However, we acknowledge the interest in creating a market for certain ancillary services and recognize concerns sellers have about being unable to conduct formal market power studies. We therefore request comment on possible ways of modifying the *Avista* restriction while ensuring just and reasonable rates, including comments on possible reforms to the Commission's market power study requirements and ideas for alternative mitigation to permit rate flexibility. Specifically, we request comment on the following.

1. Market Power Study

19. Concerns regarding the ability of a seller to perform a market power study for ancillary services that were present at the time of *Avista* appear to remain today for sellers in some regions of the country. As such:

- a. Is information on individual generating unit frequency regulation, spinning and non-spinning reserve capability publicly available?
- b. If the Commission retains the requirement of a formal market power study as described in Order No. 888 and *Ocean Vista* for third party provision of ancillary services to transmission providers, what specific information and tools would be useful to the development of these studies?

- c. What are some of the ways/vehicles that the information above can be made publicly available, e.g., Commission reporting requirement or voluntary posting?
- d. If commercial sensitivity is an issue, is there an appropriate time lag for making information available?
- e. While market power analyses have been performed within the organized wholesale energy markets, are there alternative market power studies, for example that use less granular data, or take other steps like appropriate simplifying assumptions, that could be used in other regions to establish whether a seller of ancillary services has market power?

2. De Minimis Threshold Below Which Market-Based Rates
Authorized

20. In lieu of requiring sellers to submit formal market power studies, should the Commission establish a measure of *de minimis* market presence that would justify a grant of market based-rate authority? Specifically:
- a. Should the Commission establish a capacity threshold to determine whether an entity has market power, so that an entity that owns or controls less than a threshold amount of capacity would be presumed to lack market power in the market for provision of ancillary services? If so, what would be an appropriate level for this threshold?
 - b. Alternatively, should the Commission establish a presumption that an entity that provides less than a threshold amount of ancillary services over a defined period

lacks market power in the relevant market for such services? If yes, what would be an appropriate level for this threshold? Over what time period(s) should the threshold be established (e.g., annual, hourly, daily)? Would it be appropriate to make new generating units or other resources eligible for this exemption based on their maximum potential sales of ancillary services?

- c. Should the threshold be set for individual ancillary services or should it be set for multiple ancillary services that often are good substitutes (e.g., spinning and supplemental reserves)?
- d. Would it be appropriate to vary the threshold across different balancing authority areas and/or different regions?
- e. Should entities that receive authorization to provide ancillary services at market-based rates based on a *de minimis* presence be subject to a periodic filing requirement and/or a “change in status” filing requirement to ensure that they continue to meet the threshold?

3. *Alternative Mitigation to Permit Rate Flexibility*

21. In lieu of requiring that sellers desiring to make sales to transmission providers submit formal market power studies, are there other measures that could be taken to allow such sales and yet ensure just and reasonable rates for third-party market-based ancillary services? That is, could the Commission replace the *Avista* restriction with some other means of ensuring that the backstop of cost-based ancillary services from the

transmission provider will continue to provide an appropriate and effective safeguard against potential anti-competitive behavior?

- a. Would ensuring that transmission providers do not automatically pass through the price of any non-cost-based third-party purchases that exceed their OATT rate permit the backstop of cost-based ancillary services from the transmission provider to continue mitigating third-party market power?
- b. Alternatively, would it be appropriate to waive the current third-party sales restriction in cases where the purchasing transmission provider voluntarily commits not to pass-through the price of non-cost-based third-party purchases that exceed its OATT rates to its wholesale and native load retail customers? Would such a commitment by the purchasing transmission provider adequately ensure the continued value for third-party market power mitigation of the OATT cost-based rate backstop, while still permitting third-party sales to transmission providers?
- c. As another alternative, in recognition that new entrants' costs may be higher than those reflected in current OATT rates, we seek comment on an explicit price-cap for third-party sales to utilities to serve their OATT ancillary service obligations based on the purchasing utility's Commission-approved OATT rate plus an adder. For example, would an OATT-based cost cap set at 105 percent of the purchasing utility's existing OATT rate be appropriate given the potentially higher costs of

new entrants?³⁴ Would a cap equal to 105 percent of the purchasing transmission provider's OATT rate generally be high enough to cover the costs of new entrants and facilitate a market for ancillary services? If not, how much of an adder would be needed to cover the costs of new entrants? If such a new resource margin is used, should the Commission limit its use to sales among non-affiliated companies? In addition, should a new resource margin be disallowed for sales between transmission providers?³⁵ If such a new resource margin is used, should the Commission limit its use to times when the purchasing transmission provider has to rely on the third party provider?

³⁴ A five percent margin might be justified on the basis of our delivered price test in market-based rate proceedings, which defines who is in the relevant market by looking at generators whose delivered costs of power are within five percent of the market price.

³⁵ For purposes of this question, our use of the term transmission provider includes sales by its wholesale merchant function.

d. We also seek comment on whether the WSPP Agreement³⁶ is an adequate vehicle for implementing a cost-based rate cap for ancillary service rates. If such a cap were established, should provision of all ancillary services made under the WSPP Agreement that remain at or below such cost-justified rate caps be considered just and reasonable, with no further mitigation measures needed? We seek comment on the following issues with respect to setting a cost-cap in the WSPP Agreement: How would such a cost cap be determined? Should such a cap for ancillary services be subject to the same requirements as the “up to” cap for power and energy in the current WSPP Agreement? Alternatively, could an experimental cap be based on the average ancillary service cost of all OATT sellers participating in the WSPP Agreement? Would it be sufficient to base an experimental cap on the

³⁶ The WSPP Agreement was initially accepted by the Commission on a non-experimental basis in 1991, and provided for flexible pricing for coordination sales and transmission services. *See Western Sys. Power Pool*, 55 FERC ¶ 61,099, *order on reh'g*, 55 FERC ¶ 61,495 (1991), *aff'd in relevant part and remanded in part sub nom. Environmental Action and Consumer Federation of America v. FERC*, 996 F.2d 401, 302 U.S. App. D.C. 135 (D.C. Cir. 1992), *order on remand*, 66 FERC ¶ 61,201 (1994). The WSPP Agreement as it exists today permits sellers of electric energy to charge either an uncapped market-based rate (for public utility sellers, they must have obtained separate market-based rate authorization from the Commission to do this), or an "up to" cost-based ceiling rate. For sellers without market-based rate authority, the cost-based rate under the WSPP Agreement consists of an individual seller's forecasted incremental cost plus an “up to” demand charge based on the average fixed costs of a subset of the original parties to the WSPP Agreement, so long as the seller can justify the use of this charge based on its own fixed costs. Otherwise, the seller must file a separate stand-alone rate schedule that is cost-justified based on the individual seller's own costs. Currently, there are over 300 parties to the WSPP Agreement located throughout the United States and Canada, including private, public and governmental entities, financial institutions and aggregators, and wholesale and retail customers.

costs of a “representative sample” of OATT sellers participating in the WSPP Agreement? How would a “representative sample” be determined? Should the cap include a new resource margin as described above? If yes, how would an appropriate adder be determined? Should a market monitor be established to oversee provision of ancillary service under the WSPP Agreement? Should this proposal be structured as a temporary pilot program, as were the original WSPP service schedules for market-based sales of energy and capacity?

- e. Competitive solicitations can be one way of assuring just and reasonable rates. If transmission providers undertook open and transparent competitive solicitations would this help to facilitate the provision of ancillary services and ensure just and reasonable rates? Could a standardized competitive solicitation process be developed for particular regions or markets?
- f. Finally, we seek comments on any other potential methods of mitigation, which would ensure that third-party provision of ancillary services at market-based rates remain just and reasonable, while facilitating the development of a competitive market.

4. *Advancing the Goals of the Frequency Regulation NOPR in all Regions*

22. In the Frequency Regulation NOPR, we proposed to require all ISOs and RTOs to compensate resources that provide frequency regulation in a manner that reflects the

resource's performance in order to remedy undue discrimination.³⁷ In comments in that proceeding, NaturEner questioned whether the NOPR proposal can be extended to the areas outside of RTOs and ISOs.³⁸ As the Frequency Regulation NOPR notes, outside of RTOs and ISOs, transmission providers typically procure frequency regulation resources as part of their overall mix of resources, and seek cost recovery for those resources through a cost-based rate.³⁹ Assuming a third-party purchase is allowed and pass-through has been permitted as discussed earlier, we seek comment on whether transmission providers could compensate the frequency regulation resources they procure based on the principles proposed in the Frequency Regulation NOPR, and seek to include such costs in their Schedule 3 rates. Accordingly, we seek comment on whether the goals of the Frequency Regulation NOPR can be extended to regions outside the organized wholesale energy markets. Because these regions largely lack competitive markets for ancillary services, the Commission seeks comments on different potential frameworks under which the speed and accuracy of frequency regulation resources might be appropriately valued.

³⁷ *Frequency Regulation Compensation in the Organized Wholesale Power Markets*, FERC Stats. & Regs. ¶ 36,672 (2011) (Frequency Regulation NOPR).

³⁸ See NaturEner, Comments, Docket No. RM11-7-000, at 3-4 (filed May 2, 2011).

³⁹ See Frequency Regulation NOPR, 134 FERC ¶ 61,124 at n.8.

- a. Were we to allow a cost-based cap for frequency regulation service in the WSPP Agreement as described above, how could that cap reflect an individual resource's performance?
- b. Should we allow transmission customers that self-supply frequency regulation service to determine the amount of capacity they procure based on the third-party resource's performance capability? For instance, if a transmission customer is required to purchase 2 MW of frequency regulation service under *pro forma* OATT Schedule 3, should we allow that customer to purchase less capacity if it purchases from a resource that responds more quickly and accurately than the resources the transmission provider uses to provide service under Schedule 3? If so, how should we determine the amount of capacity the transmission customer is required to purchase?
- c. Is there any other way to extend the goals of the Frequency Regulation NOPR outside of the ISOs and RTOs?

B. Accounting and Reporting Requirements for Energy Storage

Resources

23. The Commission's accounting⁴⁰ and financial reporting requirements⁴¹ for public utilities⁴² are designed to provide information about a reporting entity's financial

⁴⁰ 18 CFR Part 101.

⁴¹ 18 CFR Part 141.

⁴² The term "Public Utility" means any person who owns or operates facilities
(continued...)

condition and results of operation. This information is important in developing and monitoring rates, making policy decisions, and informing the Commission and the public about the activities of entities that are subject to these accounting and reporting requirements.⁴³

24. Under the Commission's accounting and reporting requirements, public utilities must record and classify electric plant assets in the prescribed primary plant accounts based on the purpose served or use of the asset to produce, transmit, or distribute electric energy. In addition, public utilities must also record and classify operation and maintenance (O&M) expenses related to such plant assets based on the specific activity the efforts support. The electric plant assets and related O&M expenses must be reported in annual and quarterly FERC Form Nos. 1, 1-F, and 3-Q reports⁴⁴ that are maintained in accordance with the Uniform System of Accounts (USofA).⁴⁵

25. The roles of conventional production, transmission, and distribution resources are well understood and each has established method(s) of accounting, reporting, and cost-

subject to the jurisdiction of the Commission under the Federal Power Act. 18 CFR Part 101 (Definition No. 29).

⁴³ Applicants for market-based rate authority that do not sell under cost-based rates frequently seek and typically are granted waiver of many or all of these requirements.

⁴⁴ FERC Form No. 1, Annual Report for Major Electric Utilities, Licensees and Others (Form No. 1), 18 CFR § 141.1; FERC Form No. 1-F, Annual Report for Nonmajor Public Utilities and Licensees (Form No. 1-F), § 18 CFR 141.2; and FERC Form No. 3-Q, Quarterly Financial Report of Electric Utilities, Licensees, and Natural Gas Companies (Form No. 3-Q), 18 CFR § 141.400.

⁴⁵ 18 CFR Part 101.

based rate recovery. However, the same is not necessarily true of new energy storage resources,⁴⁶ which can operate in ways that resemble production, transmission and/or distribution.⁴⁷ Energy storage resources are generally capable of providing multiple services with various benefits to the grid. Moreover, while committing not to provide other services is one method of addressing the Commission's concerns with cross-subsidization and inappropriate competitive impacts when a storage device seeks transmission rate recovery, the Commission remains open to alternative proposals to address those concerns. Accordingly, public utilities using energy storage resources might seek multiple methods of cost recovery for their investments in, and use of, the assets to provide various utility services. Consequently, due to the potential to use certain storage technologies to provide multiple services and the possibility that a public utility could simultaneously recover costs under both cost-based and market-based rates, the Commission seeks comment on whether current accounting and reporting requirements

⁴⁶ Pumped storage hydroelectric facilities are also energy storage resources. However, like other conventional production assets, the Commission has established methods of accounting, reporting and rate recovery associated with operation of pumped storage resources. Thus, we do not seek comment on whether the current accounting and reporting requirements for pumped storage hydroelectric assets or operations should be revised.

⁴⁷ For example, like a generator, an energy storage resource may be able to act as a power marketer, arbitraging differences in peak and off-peak energy prices or selling ancillary services; and similar to a transmission asset (e.g., a capacitor) an energy storage resource could provide voltage support on the grid, or serve other purposes that support transmission service.

for activities and costs relating to the operations of new electric energy storage resources provide sufficient transparency.

26. In addition, there are questions concerning the concept of using a storage device to provide a transmission service and using a storage device to “substitute” for, or defer, a certain amount of transmission service. Transmission service is the movement of electric energy over distance. To the extent that storage devices like capacitor banks and batteries are used, for example, to provide reactive support to help move electric energy over distance, the Commission has found that the cost can be considered part of the cost of providing transmission service in those circumstances. The storage device in this scenario is “used and useful” to the provision of transmission service, and thus its costs may be included in the rates that transmission customers pay. By contrast, the use of storage for transmission deferral or substitution is arguably different from the provision of transmission service subject to our rate jurisdiction. This is because, rather than supporting the movement of electric energy over distance, this concept posits the use of storage or other assets to provide electric energy at a given point on the system as a replacement for a certain amount of transmission service from elsewhere to that point on the system. The Commission seeks comment on this distinction.

27. In the Storage RFC, Staff invited comments on, among other things, accounting and reporting modifications to the Commission’s accounting and financial reporting requirements, which might facilitate the development and monitoring of rates related to new electric energy storage resources for cost-of-service rate purposes.

28. Numerous comments were received regarding the need for updating the USofA and FERC annual reports. Some commenters were supportive of revising the Commission's current accounting and reporting requirements to accommodate new electric energy storage resources;⁴⁸ other commenters indicated that revisions are unnecessary as the current requirements sufficiently accommodate energy storage.⁴⁹ However, most comments received were general in nature. Therefore, the Commission seeks specific details regarding whether and, if so how, to amend the current accounting and reporting requirements to specifically account for and report energy storage operations and activities.

Proposed Accounting and Reporting for Comment

29. The Commission's existing accounting requirements stipulate that utility plant costs be classified and accounted for in the following functional classifications: Steam Production, Nuclear Production, Hydraulic Production, Other Production, Transmission, Distribution, Regional Transmission and Market Operation, and General.⁵⁰ These plant classifications have associated primary plant accounts as well as O&M expense accounts.

⁴⁸ See, e.g., AEP August 9, 2010 Comments at 7; ITC Companies August 9, 2010 Comments at 14; and M-S-R Public Power Agency and the City of Santa Clara, California August 9, 2010 Comments at 13.

⁴⁹ See, e.g., NRECA August 6, 2010 Comments at 13; AES Energy Storage, LLC August 9, 2010 Comments at 8; and FirstEnergy August 9, 2010 Comments at 6.

⁵⁰ In the Form Nos. 1 and 1-F, the Steam, Nuclear, Hydraulic, and Other plant functions are grouped as "Production Plant" functions.

However, none of the primary plant or O&M expense accounts specifically provides for the accounting of costs related to new energy storage resources and operations.

30. As such, it may be difficult for owners of these technologies to complete their reporting requirements. This in turn would make it difficult for regulators to determine costs and establish appropriate rates for new energy storage technologies. Therefore, the Commission is seeking comments on accounting for the costs of energy storage resources and associated O&M expenses.

31. In addition, as detailed below, some public utilities will need to purchase or internally generate power for use in storage operations. However, the USofA does not have specific accounts for recording the cost of power purchased or generating expenses incurred in storage operations. Therefore, we seek comments on the appropriate accounting for these items.

32. Public utilities that receive rate approval to recover cost under more than one cost recovery method can potentially earn multiple revenue streams from the provision of multiple services using a single storage unit or system. This can lead to revenues earned pursuant to services provided under a cost-based rate subsidizing the cost of a different service that is provided under a market-based rate or vice-versa. If this occurs, the Commission's rule against cross-subsidization would be violated and its ability to appropriately develop and monitor cost-based rates of energy storage operations would be impacted. Therefore the Commission seeks comments on accounting for revenues of energy storage operations.

33. Lastly, to address our transparency concerns for Form Nos. 1 and 1-F as they relate to reporting requirements associated with energy storage assets and operations, we seek comments on changes to the forms that may be needed to enhance their usefulness regarding the development and monitoring of cost-based rates.

1. New and Modified Plant Accounts

34. As we have indicated, the costs of new energy storage technologies are not explicitly provided for in the existing primary plant accounts. The Commission seeks comment on how to provide for financial transparency of these costs, as well as how to address issues that may develop in accounting and reporting for storage assets due to the potential to use the assets to provide multiple services.

35. We believe there may be a number of options to address these issues. For example, new plant accounts could be added to the production and transmission functions and an existing plant account could be revised in the distribution function. The account that could be revised in the distribution function is Account 363, Storage Battery Equipment.

36. The current instructions of Account 363 provide for the inclusion of the cost of storage battery equipment used for the purpose of supplying electricity to meet emergency or peak demands. The instructions to Account 363 could be revised to expand the items includible in the account to recognize the unique operating

characteristics of new energy storage technologies which may provide services other than supplying electricity to meet emergency or peak demands.⁵¹

37. We seek comment on these ideas and any alternatives that commenters may propose. Specifically:

- a. Should new accounts for energy storage plant and equipment be created and an existing account be revised as discussed in the above example, should new accounts be created and no existing accounts used, or do the existing primary plant accounts sufficiently provide for energy storage plant and equipment? Please elaborate. Also, if applicable, provide examples of new accounts and existing accounts, including account instructions that could be created or revised to account for energy storage resources.
- b. If the Commission were to continue use of existing primary plant accounts for energy storage resources, which accounts will provide the transparency needed to develop and monitor cost-based rates? Would revisions to the instructions of the accounts be required to account for energy storage resources? If so, please provide insight into what may be required.
- c. Should the cost of new energy storage plant and equipment be recorded within existing utility plant functional classifications (i.e., transmission, distribution, and

⁵¹ For example, as a distribution resource recorded in the account the asset could assist with frequency or voltage regulation which, at times, may require it to withdraw electricity from the grid rather than supply it and for purposes other than to meet emergency or peak demands.

production) or should a new functional classification be created for energy storage? What are the benefits of one approach over the other? If the Commission were to create a new classification(s), please comment on the specific plant accounts and account instructions that would be created or modified for inclusion in the new asset class.

- d. Are there any other accounting issues that relate to accounting for energy storage plant and equipment that should be considered? If so, provide options to address the issues.

2. Cost of Power Used in Storage Operations

38. Some public utilities operating storage resources may purchase electricity and store it to arbitrage the difference between the sales price of on-peak and off-peak electricity. In these instances, public utilities will typically purchase and store low cost off-peak electricity that they will sell at higher prices during on-peak periods. The USofA requires that purchases of power for resale be recorded at cost in Account 555, Purchased Power. Thus, this account may sufficiently provide for the recording of the cost of electricity stored in storage operations that is sold in wholesale electricity markets.

39. Additionally, Account 555 also provides for the recording of net settlements for the exchange of electricity or power. Exchange transactions may involve exchanges such as off-peak energy for on-peak energy or transactions under pooling or interconnection agreements wherein there is a balancing of debits and credits for energy or capacity. The net settlement amount is generally the difference between the cost of power received and

the cost of power returned at the respective transaction periods over an agreed upon timeframe.

40. Public utilities engaging in such exchange transactions could be required to record the net settlement amount in Account 555 consistent with the instructions of the account. Also, consistent with these instructions, distinct purchases and sales that are not exchange transactions would be recorded as separate purchases and sales. In this case, purchases made for resale purposes could be recorded in this account; however, if the purchase is not made for resale purposes then the transaction may need to be reported in a different account.

41. Electricity used in storage operations will not be purchased for resale or through exchange transactions in all instances. For example, electricity may be purchased and stored for later use in the provision of transmission services or for other jurisdictional or non-jurisdictional purposes. Moreover, some RTO tariffs may permit the energy that storage facilities absorb and return as part of their provision of frequency regulation services to be netted such that no purchase of energy for resale occurs; only the energy lost in conversion is purchased as part of station power load, and that purchased power is not resold. Since Account 555 does not specifically provide for recording the cost of power purchased and consumed while providing this and similar types of energy consuming services the account may not be the appropriate account to record the power purchases.

42. In some cases, depending on the operating characteristics of a storage resource or the utility services it provides, a public utility may be required to sustain a particular state of charge on its storage device to provide utility service. For example, if a storage device is primarily intended to provide reserves, then it needs to maintain an appropriate state of charge to allow it to discharge the reserved power when needed. In contrast, if a storage device is primarily intended to provide frequency regulation, which it will do through nearly continuous and off-setting charge/discharge operations, then it may not need to achieve any one particular beginning state of charge in order to provide the targeted utility service.

43. With respect to energy storage devices that must sustain a particular state of charge to provide a particular service, the conversion and storage process charges the device so that it reaches the state of charge or capacity necessary for doing work. To initially attain and to sustain a particular state of charge where needed, public utilities may internally generate electricity, purchase it in retail or wholesale markets, or engage in exchange transactions with merchant generators or centrally dispatched power pools.

44. The cost of power purchased to initially attain a specific state of charge at the first installation of the storage assets, prior to the commencement of utility service, could be considered a base charge and accounted for as such by being included in the total cost of the asset. Further, public utilities that must purchase or internally generate power to sustain a working state of charge could possibly account for the cost of purchased power or generation by recording it in existing accounts such as Account 555, Purchased Power,

Account 501, Fuel, or other existing O&M expense accounts, as appropriate. The Commission seeks comment on these ideas, as well as alternatives. Specifically:

- a. Should power purchased and stored for resale be recorded in Account 555?
Would revisions to the instructions of the account be required to account for the power purchases; if so, please provide insight into what may be required. Are there any alternative methods to account for these costs?
- b. Should power purchased that will not be sold for resale but will instead be consumed during the provision of services such as frequency regulation be accounted for in Account 555, or a different existing O&M expense account?
Please elaborate. Also, should new accounts be created or, alternatively, should existing accounts be revised? We welcome examples of new or existing accounts and instructions that could be created or revised, respectively, to account for power purchased for use in storage operations.
- c. We also seek comment on whether power purchased to initially attain a state of charge should be accounted for as a base charge and included as a component cost of energy storage plant and equipment. Are there any alternative methods to account for power purchased to initially attain a state of charge?
- d. Should power purchased to sustain a particular state of charge be recorded as an expense in Account 555, a different existing O&M expense account, or should a new expense account be created? Please explain in detail and, if applicable,

provide examples of existing and new accounts that could be used and related account instructions.

- e. How should the cost of fuel, or other direct costs, incurred to internally generate power for use in energy storage operations be accounted? What expense accounts should be used to account for the costs?
- f. Are there any other accounting issues that should be considered that relate to accounting for power purchased or exchanged, and fuel and other direct generating costs incurred for energy storage operations? If so, provide options to address the issues.

3. Revenues From Providing Energy Storage Services

45. The USofA currently requires public utilities to record revenues derived from electric operations in specific revenue accounts based on the relevant revenue generating activity. Revenues derived from energy storage operations may involve the same revenue generating activities embodied in the existing revenue accounts. For example, Account 447, Sales for Resale, provides for the recording of revenues from electricity supplied to other electric utilities or public authorities for resale purposes. Electricity from storage operations can be sold for resale in wholesale markets, which would require the resulting revenues to be recorded in Account 447, Sales for Resale. Thus, in this and similar instances, it is possible that the existing revenue accounts could be used to account for revenues derived from the operations of storage assets.

46. However, because a public utility storage operator can potentially recover costs of operating a storage unit under both cost- and market-based rate constructs, recording revenues from storage operations in existing revenue accounts may not provide sufficient transparency of revenues derived from storage operations. As we explained above, where a storage device seeks transmission cost-of-service rates, any revenues from other services it provides may raise cross-subsidization issues. Thus, adequate transparency is needed to allow the Commission and others to monitor for cross-subsidization in this regard.

47. The Commission seeks comment on how to address this issue as it relates to the development and monitoring of cost-based rates. Specifically:

- a. Are existing revenue accounts sufficient to capture potential revenues associated with storage operations or should new accounts be created? If the existing accounts are used, would the instructions to the accounts need to be revised? We welcome examples of revisions to the account instructions, if any, that may be needed to account for revenues from storage operations. Also, if applicable, provide examples of new revenue accounts and instructions that could be created.
- b. Would recording revenues from storage operations in one account, for example Account 456, Other Electric Revenues, sufficiently address revenue transparency issues? How would this accounting impact transparency as it relates to the development and monitoring of cost-based rates? If the Commission were to require revenues derived from storage operations to be accounted for in one

account, what account should be used, why should it be used, and would the instructions of the account need to be revised?

- c. Should new revenue accounts be created to record revenues from storage operations? Are there examples of accounts and account instructions that could be created to record the revenues?
- d. Are there any other accounting issues that should be considered that relate to accounting for revenues derived from storage operations? If so, provide options to address the issues.

4. Operation and Maintenance Expenses

48. Different energy storage technologies have different operating cost structures. For example, flywheels generally have relatively low O&M expenses but higher upfront capital costs compared to batteries, which tend to have lower upfront capital costs, but higher O&M expenses. These assets also have differing service lives as compared to each other and as compared individually to conventional utility assets. Furthermore, the service life of a storage asset may be impacted by the demands of the particular function or functions that the asset serves. For example, a battery storage device used exclusively for frequency regulation may have a different service life from one used to shift off-peak generation to on-peak periods.

49. The service life of an asset will typically correlate to the rate(s) at which it is depreciated for accounting and rate making purposes. It is important to properly capture expenses from the use of the assets for cost-of-service rate purposes. The USofA does

not provide specific accounts to record O&M expenses of energy storage operations.

Therefore, we seek comments on the accounting requirements for O&M expenses.

- a. Are existing O&M expense accounts sufficient to capture costs associated with storage operations? Are there any revisions to existing accounts or account instructions that would be required to account for O&M expenses of storage operations?
- b. Should new O&M expense accounts be created? If so, provide examples of new accounts and account instructions that could be created to account for O&M expenses of storage operations.
- c. What accounting issues may arise due to the use of a single storage resource to provide services simultaneously under cost- and market-based rate recovery constructs? Are there options on how these issues may be addressed?
- d. What accounting issues may arise due to the joint ownership of a storage facility by separate independent companies that propose to use their respective ownership shares of the facility to each provide a different jurisdictional service (e.g., wholesale sales of electricity and transmission voltage support) under cost- and market-based rate recovery mechanisms? Are there options on how these issues may be addressed?
- e. Are there other accounting issues that should be considered that relate to accounting for O&M expenses associated with storage operations? If so, provide options to address the issues.

5. Form Nos. 1 and 1-F

50. To develop and monitor cost-based rates, the Commission needs access to financial data, such as capital and operating costs of relevant land, equipment, and labor, as well as nonfinancial data, such as volumes sold. For energy storage resources, cost data relating to their unique equipment and processes, which are separate from those for traditional production plants and transmission and distribution assets, are also required. The Form Nos. 1 and 1-F may need to be amended to accurately capture these financial and non-financial data. Therefore, the Commission seeks comment on whether the Form Nos. 1 and 1-F should be revised and, if they should, how to revise them to include information on energy storage plant and operations.

- a. Should the Form Nos. 1 and 1-F be amended to provide the detailed information required to monitor energy storage operations and develop cost-of-service rates?
- b. We welcome examples of new schedules that could be created or existing schedules that could be revised to report the costs of energy storage plant and equipment and O&M expenses. To provide for transparent reporting of costs included in the accounts, it may be helpful if such schedules included the following, among other possible items: (1) primary plant accounts and amounts included and reported in the general utility plant accounts 101, 103, 106 and 107 for energy storage plant by function; and (2) expense accounts and amounts included and reported in the general O&M expense accounts 401 and 402 for storage operations by function.

- c. We also welcome examples of new schedules that could be created or existing schedules that could be revised to report the financial and non-financial data of storage operations. To provide for transparent reporting of this data, it may be helpful if such schedules included the following types of financial and non-financial operational data, among other possible items: (1) name and location of energy storage plant; (2) Megawatt hours (MWhs) of power purchased, generated, or received in exchange transactions for storage, MWhs of power delivered to the grid to support production, transmission, or distribution operations, MWhs of power lost during conversion, storage and discharge of energy by function, and MWhs of power sold for resale; (3) cost of power purchased for storage operations, fuel costs for storage operations associated with self-generated power, and other costs associated with self-generated power; and (4) revenues from energy storage operations by service provided and revenues from stored energy sold for resale.
- d. Should the same financial and nonfinancial data of energy storage assets and operations required to be reported in Form Nos. 1 and 1-F also be reported to the Commission in the Form No. 3-Q? If not, what information on storage assets and operations should be included in the Form No. 3-Q?

III. Comment Procedures

51. The Commission invites interested persons to submit comments on the matters, issues and specific questions identified in this notice. Comments are due 60 days from publication in the **FEDERAL REGISTER**. Comments must refer to Docket No. RM11-

24-000, and must include the commenter's name, the organization they represent, if applicable, and their address in their comments.

52. The Commission encourages comments to be filed electronically via the eFiling link on the Commission's web site at <http://www.ferc.gov>. The Commission accepts most standard word processing formats. Documents created electronically using word processing software should be filed in native applications or print-to-PDF format and not in a scanned format. Commenters filing electronically do not need to make a paper filing.

53. Commenters unable to file comments electronically must mail or hand deliver an original and copy of their comments to: Federal Energy Regulatory Commission, Secretary of the Commission, 888 First Street NE, Washington, DC, 20426.

54. All comments will be placed in the Commission's public files and may be viewed, printed, or downloaded remotely as described in the Document Availability section below. Commenters on this proposal are not required to serve copies of their comments on other commenters.

IV. Document Availability

55. In addition to publishing the full text of this document in the Federal Register, the Commission provides all interested persons an opportunity to view and/or print the contents of this document via the Internet through FERC's Home Page (<http://www.ferc.gov>) and in FERC's Public Reference Room during normal business hours (8:30 a.m. to 5:00 p.m. Eastern time) at 888 First Street, NE, Room 2A, Washington DC 20426.

56. From FERC's Home Page on the Internet, this information is available on eLibrary. The full text of this document is available on eLibrary in PDF and Microsoft Word format for viewing, printing, and/or downloading. To access this document in eLibrary, type the docket number excluding the last three digits of this document in the docket number field.

57. User assistance is available for eLibrary and the FERC's website during normal business hours from FERC Online Support at 202-502-6652 (toll free at 1-866-208-3676) or email at ferconlinesupport@ferc.gov, or the Public Reference Room at (202) 502-8371, TTY (202) 502-8659. E-mail the Public Reference Room at public.referenceroom@ferc.gov.

List of subjects in 18 CFR Part 40

By direction of the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.

Appendix

List of Commenters in Docket No. AD10-13-000

A123 Systems, Inc.
AES Energy Storage, LLC (AES Energy Storage)
American Electric Power Service Corporation (AEP)
American Public Power Association
Applied Intellectual Capital
Arizona Public Service Company
Beacon Power Corporation
Brookfield Renewable Power Inc. (Brookfield)
California Department of Water Resources State Water Project
California Energy Storage Alliance
California Independent System Operator Corporation
California Public Utilities Commission
Christensen Associates Energy Consulting
City of Santa Clara, California and the M-S-R Public Power Agency
The Coalition to Advance Renewable Energy through Bulk Storage (CAREBS)
Demand Energy
Duke Energy Corporation
Edison Electric Institute (EEI)
Electric Power Supply Association
Electricity Consumers Resource Council
Electricity Storage Association
Energy Cache
Exelon Corporation (Exelon)
FirstEnergy Service Company (FirstEnergy)
General Compression
Grasslands Renewable Energy LLC
ITC Companies
MegaWatt Storage Farms, Inc.
MidAmerican Energy Holdings Company
Modesto Irrigation District
National Alliance for Advanced Technology Batteries (NAATBatt)
National Electrical Manufacturers Association
National Grid USA
National Hydropower Association
National Rural Electric Cooperative Association (NRECA)
New York Transmission Owners
NGK Insulators, Ltd (NGK/TI)
NSTAR Electric Company
Ohio Consumers' Counsel

Pacific Gas and Electric Company
PJM Interconnection, L.L.C.
Powerex Corp.
Premium Power Corporation
Primus Power Corporation
PSEG Companies
Public Interest Organizations
Puget Sound Energy, Inc.
Riverbank Power Corp.
San Diego Gas & Electric Company (SDG&E)
Six Cities CA
Rodney G. Smith
Southern California Edison Company (SCE)
Southern Company Services, Inc.
Southwest Power Pool, Inc.
Starwood Energy Group Global, LLC.
SunEdison
Symbiotics, LLC
Transmission Agency of Northern California
Viridity Energy, Inc.
Western Grid Development LLC
Xtreme Power Inc. (Xtreme Power)