UNITED STATES OF AMERICA
BEFORE THE
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

COMMENTS OF THE
TRANSMISSION ACCESS POLICY STUDY GROUP

The Transmission Access Policy Study Group ("TAPS") appreciates the opportunity to comment on the subjects of the Commission's June 16, 2011 Notice of Inquiry herein,[1] namely "facilitat[ing] the development of robust competitive markets for the provision of ancillary services from all resource types" and "issues unique to storage devices in light of the role they can play in providing multiple services, including ancillary services."[2]

- TAPS has serious concerns about the possible exercise of market power in sales of ancillary services in non-RTO regions. However, TAPS believes that it would be appropriate to waive the *Avista* restriction on market-rate sales to an OATT transmission provider to serve their OATT ancillary service obligations provided that such purchases are priced (per unit of ancillary service provided) below the existing ancillary services rates, such that they do not increase the ancillary services charges under the OATT.

- TAPS opposes waiving the *Avista* restriction to permit third-party market-rate ancillary services sales to OATT providers at a price based on the purchasing utility's Commission approved OATT plus an adder. Such a rate is neither cost based, just and reasonable, or a proper MBR. It is not prudent for an OATT transmission provider to procure a higher cost ancillary services resource when it is capable of supplying the service from it own lower cost resources.

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[1] *Third -Party Provision of Ancillary Services; Accounting and Financial Reporting for New Electric Storage Technologies*, 135 FERC ¶ 61,240 (June 16, 2011), 76 Fed. Reg. 36,400 (June 22, 2011) ("NOI").

[2] *Id*. P 1.

- Consistent with TAPS comments in the Frequency Regulation NOPR proceeding (Docket Nos. RM11-7-000 and AD10-11-000), the Commission should employ a consumer benefits test for third-party regulation service provided outside organized market regions. Third-party frequency regulation service that sources in quick-responding resources should be added to the system and flowed through OATT rates only if it decreases the total cost of frequency regulation service compared to the status quo.

- TAPS supports a revision of the Uniform System of Accounts, and the related FERC Form 1 to provide accounting transparency by establishing separate information categories for electricity storage plant, expenses, and revenue, and by breaking out information on the technical specifications and functional use and functionalized revenues associated with each storage resource.

INTEREST OF TAPS

TAPS is an association of transmission-dependent utilities in more than 30 states, promoting open and non-discriminatory transmission access.[3] TAPS members both purchase ancillary services provided by transmission owners and others, and hold generation and demand response resources capable of providing ancillary services. TAPS has participated actively in numerous Commission proceedings concerning ancillary services and storage resources. For example, on May 2, 2011, TAPS filed comments in Docket Nos. RM11-7-000 et al., *Frequency Regulation Compensation in the Organized Wholesale Power Markets*, addressing as to the organized market regions a subject that the present NOI raises as to non-RTO regions.

[3] Tom Heller, Missouri River Energy Services, chairs the TAPS Board. Cindy Holman, Oklahoma Municipal Power Authority, is TAPS' Vice Chair. John Twitty is TAPS' Executive Director.

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COMMENTS

I. THIRD-PARTY PROVISION OF ANCILLARY SERVICES AT MARKET-BASED RATES

The Commission seeks comment on whether it should revise its present restriction (*i.e.,* the *Avista* restriction[4]) against third-party market-based sales of ancillary service obligations to transmission providers seeking to meet their ancillary services obligations under the OATT, absent a market study showing the lack of market power. In the NOI (P 18), the Commission "acknowledge[s] the interest in creating a market for certain ancillary services and recognize[s] concerns sellers have about being unable to conduct formal market power studies." This laudable interest in encouraging new supply options (including new storage technologies capable of providing ancillary services) is tempered by the fundamental strictures of the FPA that the Commission "ensure just and

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

reasonable rates." NOI P 4. To the extent that the Commission relieves prospective third-party sellers of ancillary services at MBR of the obligation to submit formal market power studies, there is a need to ensure alternative means of mitigation in order to protect against the abuse of market power. Quoting its *WSPP* order,[5] the Commission acknowledges in the NOI, that it "cannot simply assume that no anticompetitive behavior [will] occur." NOI P 15. "[T]he Commission approves applications to sell electric energy at market-based rates only if the seller and its affiliates do not have, or adequately have mitigated, market power." *La. Energy & Power Auth. v. FERC*, 141 F.3d 364, 365 (D.C. Cir. 1998).

TAPS shares the Commission's interest in promoting the supply of ancillary services, including new resources capable of efficiently providing such services. TAPS also does not discount claims that "the lack of transparent information . . . [is] hindering [the] ability [of prospective sellers of ancillary services] in some regions of the country to perform market power studies to demonstrate the lack of market power." NOI P 9. However, TAPS has serious concerns about the possible exercise of market power in ancillary service markets. Accordingly, TAPS focuses its comments on the Commission's inquiries concerning alternative mitigation measures to permit third-party market-based ancillary sales to OATT transmission providers, while protecting consumers from the harms caused by the exercise of market power.

The Commission seeks specific comment on whether it would "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

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[5] *WSPP Inc.*, 134 FERC ¶ 61,169, P 24 (2011).

purchases that exceed its OATT rates to its wholesale and native load retail customers?" NOI P 21b. TAPS believes that this mitigation measure, properly structured and implemented, can achieve the twin objective of facilitating additional third-party supply of ancillary services at MBR while protecting OATT transmission customers from rate increases due to the exercise of market power. This is consistent with the Commission's position in Order No. 697[6] that third-party entry into ancillary services markets should be at prices that are lower, but in any case not higher, than transmission providers' cost-based rates, which stand act as a backstop protecting OATT transmission customers from excessive prices:

> based its *Avista* policy on the expectation that, as entry into ancillary service markets occurs, prices will decrease from the level established by the transmission provider's cost-based rate. Under these circumstances, customers will pay prices for ancillary services that are no higher than and will very likely be lower than the transmission provider's cost-based rate. The Commission explained that the ancillary services customer is protected in part by the availability of the same ancillary services at cost-based rates from the transmission provider. The backstop of cost-based ancillary services from the transmission provider provides, in effect, a limit on the price at which customers are willing to buy ancillary services.

Order No. 697, 72 Fed. Reg. 39,904, P 1048.

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[6] *Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities*, Order No. 697, 72 Fed. Reg. 39,904 (July 20, 2007), FERC Stats. & Regs. ¶ 31,252 (2007), *clarified*, 72 Fed. Reg. 72,239 (Dec. 20, 2007), 121 FERC ¶ 61,260 (2007) ("Order No. 697"), *on reh'g*, Order No. 697-A, 73 Fed. Reg. 25,832 (May 7, 2008), FERC Stats. & Regs. ¶ 31,268 (2008), *clarified*, 124 FERC ¶ 61,055 (2008), *on reh'g*, Order No. 697-B, 73 Fed. Reg. 79,610 (Dec. 30, 2008), FERC Stats. & Regs. ¶ 31,285 (2008), *on reh'g and clarification*, Order No. 697-C, 74 Fed. Reg. 30,924 (June 29, 2009), FERC Stats. & Regs. ¶ 31,291 (2009), *corrected*, 128 FERC ¶ 61,014 (2009), *clarified*, Order No. 697-D, 75 Fed. Reg. 14,342 (Mar. 25, 2010), FERC Stats. & Regs. ¶ 31,305, *clarified*, 131 FERC ¶ 61,021 (2010), *reh'g denied*, 134 FERC ¶ 61,046 (2011), *petition for review filed sub nom. Mont. Consumer Counsel v. FERC*, No. 08-71827 (9th Cir. argued June 8, 2011).

Specifically, TAPS supports the ability of third-party sellers to provide ancillary services to an OATT transmission provider in lieu of self-supply by the transmission provider *provided* that such purchases do not flow through OATT rates unless they are priced (per unit of ancillary service provided) below the existing OATT rate, such that they do not increase the total ancillary services charge. If an OATT provider can turn to the market for the supply of ancillary services at lower cost than the OATT provider's own cost of self-supply, and free up the provider's own capacity for other uses, then it should be able to do so (assuming proper ratemaking and implementation as discussed below). Market efficiency is served and consumers are protected where a market priced substitute is lower than the OATT's provider's cost of self-supply. In the *Avista* Rehearing Order, as quoted in the NOI, the Commission recognized that transmission provider customers are protected against harm arising from third-party sales of ancillary services at MBR where "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." NOI P 13 (quoting *Avista* Rehearing Order).

In addition, ancillary services purchased from third-party vendors at market-based rates should flow through OATT rates only if the share of the cost recovered from paying OATT customers represents a fully allocated share, i.e., retail native load is included in the rate divisor. OATT transmission customers should not be treated as the marginal ancillary services customers as compared to retail native load, and retail native load must ratably share responsibility for any purchases of ancillary services from third-party sellers at MBR. Indeed, in many cases, new ancillary resources like quick-response storage are likely to be added to facilitate integration of wind resources procured to serve native load.

Ancillary services purchased from third-party vendors at market-based rates should not flow through OATT rates as an adder to existing stated rates, but should instead be incorporated by means of a Section 205 filing. Where the existing OATT rates are stated rates, the Section 205 filing necessary to incorporate the new charge input must open the existing ancillary services charge to scrutiny to ensure that the overall result is just and reasonable. This is simply an application of the longstanding "integral part" doctrine, under which the Commission is obliged to "review[] a revised rate completely to assure that all its parts—old and new—operate in tandem to insure a 'just and reasonable' result."[7] It applies with added force to ancillary services purchased from third-party vendors (especially, but not only, ancillary services purchased from owners of electricity storage facilities), because the very existence of such new entrants suggests that usage and provision of ancillary services on the transmission owner's system is changing, and that the existing OATT rate therefore no longer predicts the forward-looking unit costs. The need to refresh the existing rate is especially strong where the existing rate is a stated unit rate set years ago, as is often the case.

Because "new entrants' costs may be higher than those reflected in current OATT rates [the Commission] seek[s] comment on any 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." NOI P 21c. The Commission proposes a possible five (5) percent adder or some other cap "high enough to cover the costs of new entrants and facilitate a market for ancillary services." *Id.* TAPS disagrees

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[7] *Cities of Batavia v. FERC*, 672 F.2d 64, 75-77 (D.C. Cir. 1982); *see also Colo. Interstate Gas Co. v. FERC*, 791 F.2d 803, 809 (10th Cir. 1986).

with this proposal. The Commission has a statutory mandate to ensure just and reasonable rates. Allowing the purchase of ancillary services from third parties at a higher rate based on the OATT provider's stated rate plus an adder is neither just and reasonable nor cost-based. Nor can it be supported under the FPA as a MBR rate, because the seller has not shown that it lacks the ability to exercise market power.[8] This proposal runs directly counter to the consumer protection principles articulated in Order 697 that "as entry into ancillary service markets occurs" (72 Fed. Reg. 39,904, P 1048) customers should "pay prices for ancillary services that are no higher than . . . the transmission provider's cost-based rate" (*id.*).

Further, authorizing third-party sales of ancillary services to OATT transmission Providers raises questions of prudence that are an essential underpinning of cost-based rates. Why would it be prudent for an OATT transmission provider to procure, and force OATT transmission customers to be bear the higher cost of, a third-party resource when the OATT transmission provider is capable of supplying the service from its own lower cost resources?

Nor is there a sound basis for claiming that this proposal is an adequate market power mitigation measure. The Commission notes that "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." .NOI P 21c. n.34. This is apples and

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[8] "[T]he Commission lacks the authority to place exclusive reliance on market prices," *FPC v. Texaco*, 417 U.S. 380, 400(1974). Consistent with the Supreme Court's holding in *Texaco*, the fundamental predicate of the Commission's MBR analysis is "whether a market-based rate seller or any of its affiliates has market power in generation or transmission and, if so, whether such market power has been mitigated." Order No. 697, 72 Fed. Reg. 39,904, P 3.

oranges reasoning. The delivered price test uses a 5% margin to define a market of potential competitors capable of disciplining a particular seller's market power. It does not demonstrate that prices capped at 5% above an OATT transmission provider's stated ancillary services rate mitigates prices to competitive levels, thereby demonstrating that the rate is just and reasonable. Allowing an administratively determined adder is particularly inappropriate in the context of ancillary services rates in non-RTO areas, where the OATT transmission provider gets paid for its regulation capability and no bid-based market filters out higher cost resources not needed to provide the service, as described further in Part II below.

There is a significant danger that the higher additive price third-party resources will come to supplant the OATT provider's own capacity resources as the source of ancillary service supply to the detriment of OATT transmission customers. Because transmission providers will be able to recover the costs of higher priced third-party purchases from their OATT transmission customers, they will be incented to free up their own capacity for other uses, and turn to purchases from third-party suppliers to meet their ancillary service obligations at 105% or more of their cost of self-supply. This purchased supply would likely become the new "cost" basis for the OATT provider's ancillary services rates (assuming they were changed under Section 205) and serve as a new higher cost floor supporting ancillary service sales at escalating prices by third-party sellers that have never been subject to MBR scrutiny and have no cost basis. Rather than adopt an approach at odds with the FPA's mandate to ensure just and reasonable rates, the Commission could take steps to facilitate the provision of necessary data to third-party sellers to perform market power studies.

II. FREQUENCY REGULATION IN NON-RTO REGIONS

The NOI (P 22) asks whether frequency regulation provided by third parties in areas not covered by RTOs or ISOs should be compensated "based on the principles proposed" in the Frequency Regulation NOPR, *i.e.*, in *Frequency Regulation Compensation in Organized Wholesale Power Markets*, 134 FERC ¶ 61,214 (2011) ("NOPR"). The NOI is not entirely clear as to which principles the Commission contemplates extending from organized market regions to other regions, and the translation is not obvious, because the NOPR (*e.g.*, in its Summary) refers to "requiring a uniform price for regulation capacity paid to all cleared resources," and the other regions do not clear resources through an organized bidding system. They determine what resources have their frequency regulation capability and operating costs recovered by ancillary service rates through the delineation of the Schedule 3 cost-of-service rate basis, not through a bid-based market. Nothing in the NOI proposes to change that existing aspect of Schedule 3 pricing in non-RTO regions, and in any event TAPS supports retaining such cost-based pricing where it currently exists.

With the understanding that "cleared resources" as used in the NOI refers to resources included in the Schedule 3 cost-of-service rate basis, we understand the inquiry as asking two questions about how Schedule 3 rates should be set in non-RTO regions. One, whether the intervals over which frequency regulation is netted should be shortened (as the NOPR, P 37, proposed to do in RTO regions), such that faster-ramping resources, including energy storage flywheels, will be compensated for their greater responsiveness. Two, whether the capacity payments made to frequency regulation providers and included in Schedule 3 rates should include "a uniform clearing price with accurately-determined opportunity costs" (as the NOPR, P 35, proposed to do in RTO regions).

TAPS responded to the first inquiry in the organized market context, through comments submitted in the rulemaking on May 2, 2011.[9] There, TAPS explained its view that any change to frequency response compensation should be tailored for each regional market context to ensure that the rule change benefits consumers. Among other things, TAPS argued that "if the Commission is correct in positing that current market designs under-compensate for the frequency regulation provided by 'faster-ramping resources when compared to . . . slower-ramping resources,' then the converse is also true: current market designs are paying too much for frequency regulation provided by slower-ramping resources. For the resulting rates to be just and reasonable, both the upward and downward adjustments must be made."[10]

The same principle applies to third-party frequency regulation service provided outside organized market regions. Accordingly, third-party frequency regulation service that sources in quick-responding resources should be added to the system and flowed through OATT rates only if it decreases the total cost of frequency regulation service compared to the status quo. This consumer benefits test means that third-party quick-response resources should be added to the system and flowed through rates if and only if they displace more costly ways of providing frequency response, such as the traditional application of Automatic Generator Control to resources owned by the transmission provider. Likewise, quick-response resources owned by transmission providers should be added to the system only where doing so is prudent, i.e., where adding them decreases costs as compared to continue reliance on existing regulating resources.

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[9] *See* eLibrary No. 20110502-5167 ("TAPS May 2 Comment").

[10] TAPS May 2 Comment at 6 (citation omitted).

The second inquiry requires an additional response specific to non-RTO regions. In such regions, owners of regulation-capable resources whose costs are included in Schedule 3 are paid for that capability, period. That is, in the non-RTO regions there is no bid-based market to filter out the resources whose costs of regulation capability are too high to be worth paying those resources for providing regulation service. Consequently, in such regions there is an especially strong need to apply a consumer benefits test before allowing any resource (whether owned by a transmission provider or owned by a third party) to have its costs included in a changed Schedule 3 rate. The non-RTO regions' lack of a market filter also makes it especially important to consider, in the rate proceeding where such cost inclusion is considered, whether such resource additions make it appropriate to release higher-cost resources from the Schedule 3 fleet and exclude their costs from the Schedule 3 rate base.

III. ELECTRICITY STORAGE ACCOUNTING

The NOI asks whether the Uniform System of Accounts, and the related FERC Form 1, should be revised so as to establish separate information categories for electricity storage investments and expenses, and if so, what information should be broken out. NOI PP 23-50. TAPS agrees that it is important to improve the detail and standardization of storage-related accounting and reporting, given the prospect of substantial new electricity storage resources owned by jurisdictional public utilities. The design objective of such accounting and reporting should be to gather and make public all information that would be needed to support either (a) effective cost-based regulation of jurisdictional services provided using storage resources, wherever it is determined that prices for such services should be based on costs, or (b) effective market power monitoring and mitigation, wherever it is determined that prices for such services should be based on

market outcomes. More accounting information than is currently being collected and reported is necessary if these objectives are to be well served. The accounting disclosures (i.e., the records maintained pursuant to Uniform System of Accounts obligations and the accounting reports filed in FERC Form 1 and the related small-utility and quarterly reports) should reflect the following principles:

- New accounts or subaccounts should be established for storage plant, expenses, and revenue.
- Function(s) which each facility is currently being operated to serve (generation, transmission, or distribution) should be identified as a reporting item within the new accounts.
- If a given resource is serving multiple functions simultaneously, the energy discharged and revenues should be broken out by same categories.
- A similar reporting break-out should be provided to distinguish revenues from cost-based storage sales from market-based storage sales, broken out by resource, in order to avoid double recovery.
- Form 1 reports should include information on technical specifications so that regulators and customers can objectively evaluate the functions served by a given storage resource.

A. Storage Plant Accounts.

NOI PP 34-37 ask where storage plant should be booked — within existing plant accounts or as new plant accounts, and under what existing or new functional classification. Because the functional use of a given storage facility may change over time and may not fit neatly into any one existing functional category, and because storage facility costs may come to be recovered through storage-specific rate schedules, the only transparent and administratively efficient way to account for storage plant costs is by adding new accounts to the Uniform System. At the same time, it is useful in ratemaking and otherwise to identify the storage plant balances associated with each of the three

traditional functions (Power, Transmission, and Distribution). To achieve both objectives, we suggest the following insert to the Electric Plant Chart of Accounts:[11]

4A. STORAGE PLANT

378.1 Land and land rights

378.2 Structures and improvements

378.3 Charging[12] equipment

Cost installed of equipment used in converting electricity to a form of energy that is held for subsequent conversion to electricity

378.4 Holding equipment

Cost installed of equipment used in holding energy, previously converted from electricity, for subsequent conversion to electricity

378.5 Discharging equipment

Cost installed of equipment used in converting to electricity energy previously held after conversion from electricity

378.6 Accessory electric equipment

Cost installed of auxiliary storage apparatus, and equipment used primarily in connection with the control and switching of energy in electricity storage plant and the protection of electric circuits and equipment

378.7 Miscellaneous power plant equipment

Cost installed of miscellaneous equipment in and about the storage plant which is devoted to general station use and is not properly includible in other storage accounts.

378.8 Asset retirement costs for storage plant

378.9 Storage plant for generation support

378.10 Storage plant for transmission support

378.11 Storage plant for distribution support

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[11] The use of tenths places in these suggested Account numbers is less than ideal, but is suggested because insufficient reserved and consecutive numbers remain within the appropriate 300 series to give each of these accounts its own cardinal number. Existing Accounts 359.1 and 399.1 have taken the same approach, for the same reason.

[12] By "charging" we refer to the conversion of electricity to the form of energy in which the storage facility holds it, whether the storage facility is a battery or other type of storage facility. Thus, it refers to the same activity that the NOI (*passim*) refers to as "conversion." We use "charging" instead to avoid ambiguity, because discharging is also a conversion from one form of energy to another.

The instructions would provide that the totals of Accounts 378.1 through 378.8 should equal the total of Accounts 378.9 through 378.11. That is, Accounts 378.9 through 378.11 break storage plant down based on which of the three traditional functional classifications they predominantly serve, while Accounts 378.1 through 378.8 break the same plant balances down along other dimensions. Changes in the predominant functional classification of a given storage asset would be tracked through accounting entries debiting the former function account and crediting the new function account.

Finally, as noted earlier, Form 1 reports should include information on technical specifications (energy storage quantity, per-minute and per-hour discharge capacity, charging speed, discharging speed, etc.) so that regulators and customers can objectively evaluate the functions served by a given storage resource. As the NOI points out (P 48), different energy storage technologies have different operating cost structures; for example, some have high capital costs per kWh stored but low capital costs per kWh dischargeable within a given duration. Because different ratemaking and market mitigation treatments may be appropriate depending on these characteristics, accounting reports should disclose it.

B. Cost of Energy Held in Storage

NOI PP 38-44 inquire about accounting for the cost of energy held in storage. In order to evaluate whether cost-based storage service rates are over-recovering, and in order to properly account for market-based revenues within cost-based rates as discussed below, it is necessary to account for the explicit or implicit costs of storage plants' "fuel," i.e., the energy used to charge them. FERC Form 1 Pages 408-409, which collect certain statistics for large pumped storage plants, provide the beginnings of a template for the necessary information, but more should be collected and reported:

- The obligation to collect and report this information should not be limited to the pumped-hydroelectric form of storage.

- Page 408, line 1 "Type of Plant Construction (Conventional or Outdoor)" should provide for many more categories, not limited to those two types of pumped-hydroelectric storage. Categories should be added for compressed air storage in manufactured vessels, compressed air storage in geological structures, flywheels, closed-cell batteries, flow batteries, and other such technological categories.

- Page 408, line 10 "Energy Used for Pumping," in addition to being generalized as "Energy Input for Storage," should be broken out to specify both the energy input into the storage facility and the energy losses and station power usage at the storage facility, such that the energy input less those deduction matches Page 408 line 11 "Net Output for Load."

- Existing Page 409, instruction 7 provides for reporting of the cost of energy used in pumping, but with large loopholes as set forth in the margin.[13] An accounting value for the energy cost should be generally required, even where it is an inferred rather than explicit cost or price. In addition, where the energy used is purchased from an organized regional market at its applicable locational price, that fact should be reported.

C. Energy Accounting for Energy Held in Storage

FERC Form 1 Pages 397-401a call for information on monthly peak-hour system output, loads, and losses. The Form's instructions should clarify that energy generated during monthly peaks includes energy generated to be stored, and that loads during monthly peaks includes loads served from stored energy. Information on monthly peak-hour inputs to and withdrawals from storage resources should be broken out. A clear

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[13] The instruction states:

> Include on Line 36 the cost of energy used in pumping into the storage reservoir. When this item cannot be accurately computed leave Lines 36, 37 and 38 blank and describe at the bottom of the schedule the company's principal sources of pumping power, the estimated amounts of energy from each station or other source that individually provides more than 10 percent of the total energy used for pumping, and production expenses per net MWH as reported herein for each source described. Group together stations and other resources which individually provide less than 10 percent of total pumping energy. If contracts are made with others to purchase power for pumping, give the

convention and information breakdown along these lines is needed in order to enable consistent comparisons across public utilities and otherwise monitor costs.

D. Storage Service Revenues

NOI PP 25, 45-47 ask what revenue transparency is needed to prevent cross-subsidization, given that "a public utility storage operator can potentially recover costs of operating a storage unit under both cost- and market-based rate constructs." TAPS agrees that cross-subsidization and over-recovery must be prevented. To that end, all market-based storage services should be given appropriate recognition in the development of cost-based storage service rates, either through inclusion in the rate divisor or through crediting the resulting revenues against the revenue requirement associated with cost-based services. The determination in rate cases as to which of these two approaches is appropriate will be fact-specific. To facilitate that determination, and to enable informed implementation of either approach, revenue disclosures must be sufficiently specific and fine-grained to identify the revenues per facility per service. Lumping storage service revenues in with other Account 456 revenues (about which the NOI inquires, P 47.b) would not suffice, because it would not identify which resource(s) underlay which revenues. That identification is necessary because any given storage facility is, from an engineering standpoint, capable of providing service under either cost-based or market-based pricing, or both, and because a given storage resource may provide multiple ancillary services or other services. To work, the accounting transparency must enable identification of each revenue dollar to the appropriate resource and service, and must enable identification of whether the revenues being accounted for were received under

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supplier contract number, and date of contract.

market-based or cost-based rates. Thus, provision should be made within the 400 series of accounts and associated reporting for transparency as to the revenues from each type of service provided by each storage facility, the rate schedule under which each such revenue item is received, and whether that rate schedule represents a cost-based or a market-based rate.

Note also that electricity storage facilities may transact in a manner analogous to natural gas storage facilities that are subject to the Commission's "shipper must have title" policy. That is, they may store energy owned by others rather than storing energy they own themselves. Accordingly, the accounting for storage services should provide separate categories or notations for (a) revenues from sales of energy owned by the storage facility public utility, and (b) revenues from the storage of energy owned by others.

E. Storage Depreciation

NOI P 48 raises questions about storage plant depreciation. Economic service lives and depreciation rates for storage facilities will have to be provided for on a case-by-case basis and adjusted as experience is gained. However, one general rule could usefully be applied to new storage technologies, simply because it is new. Public utilities commonly do not track depreciation on an asset-specific basis, because such tracking was not practical on legacy accounting systems. Instead, depreciation of particular facilities has had to be inferred through studies as the need has arisen, e.g., when an asset is sold for net book value or directly assigned in rates. However, the lack of explicit asset-specific information has made such studies difficult, and often required guesswork and engendered controversy. The need for asset-specific depreciation reserve balances is likely to be especially strong for storage facilities, as the functional classifications and

ratemaking principles for storage facilities are still being resolved. To reduce the costs and improve the accuracy of such asset-specific depreciation reserve determinations, the Commission should require (absent a waiver) that public utilities establish a depreciation expense account and accrued depreciation reserve specific to each new storage resource, and develop the total depreciation expenses and reserve for storage facilities from that bottom-up information.

F. Operation and Maintenance Expenses

NOI P 49 asks whether existing Operation and Maintenance accounts adequately provide for storage O&M expenses. For reasons that parallel those discussed in Part III.A above, storage expenses should be broken out and collected through their own insert to the existing Operation and Maintenance Expense Chart of Accounts. By analogy to the existing charts of accounts for generation, transmission, and distribution expenses, we suggest the following. Note that "Consumable storage media" refers to expenses, to the extent not capitalized as plant, for such items as batteries whose storage functionality declines with use.

3A. STORAGE EXPENSES

Operation

578.1 Operation supervision and engineering

578.2 Energy for storage

578.3 Consumable storage media

578.4 Miscellaneous storage expenses

578.5 Rents

Maintenance

578.6 Maintenance supervision and engineering

578.7 Maintenance of structures

578.8 Maintenance of storage for generation

578.9 Maintenance of storage for transmission

578.10 Maintenance of storage for distribution

578.11 Maintenance of storage plant

CONCLUSION

The Commission should take account of TAPS' comments in acting on this Notice of Inquiry.

Respectfully submitted,

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