UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Frequency Regulation Compensation in the Organized Wholesale Power Markets	Docket Nos. RM11-7-000 AD10-11-000

COMMENTS OF THE
TRANSMISSION ACCESS POLICY STUDY GROUP

The Commission is proposing "to require Regional RTOs and ISOs to adopt tariff revisions that will ensure that resources providing frequency regulation service are appropriately compensated."[1] The Transmission Access Policy Study Group ("TAPS") hereby comments on this NOPR.

BACKGROUND AND SUMMARY

The NOPR states that "current compensation methods for regulation service in ISO and RTO markets may not acknowledge the inherently greater amount of Area Control Error (ACE) correction being provided by faster-ramping resources."[2] Based on the records of Dockets Nos. AD10-11 and AD10-13, the NOPR "preliminarily finds that slower, larger resources are being given a compensatory advantage for their size while faster, smaller resources do not similarly receive compensation for their ramping speed."[3] In particular, it finds that "the greater amount of service that is being provided by faster-ramping resources, through more frequent provision of

[1] *Frequency Regulation Compensation in the Organized Wholesale Power Markets*, 134 FERC ¶ 61,124 P 1 (Feb. 17, 2011), 76 Fed. Reg. 11177 (Mar. 1, 2011) ("NOPR").

[2] NOPR P 2.

[3] NOPR P 30.

both up and down regulation … is lost when positive and negative contributions to ACE correction are netted and no additional payment is made to reflect performance."[4]

The NOPR applies directly to the California ISO, ISO New England, Midwest ISO, New York ISO, and PJM Interconnection,[5] and effectively applies to the Southwest Power Pool as well.[6] It proposes "to require ISOs and RTOs to change their tariffs" such that regulation resources would receive

1. A "capacity, or option, payment to have a certain amount of capacity held in reserve and not participate in the energy market in order to provide frequency regulation service."[7] This capacity payment would be at a single market-wide, market-clearing level reflecting the marginal resource's marginal cost, including its opportunity cost.

2. A "performance payment based on the amount of up and down movement, in megawatts, the resource provides in response to a control signal," *i.e.*, a "price-per-MW of ACE correction."[8]

3. Payments or debits for "net energy" provided by or absorbed by the regulating resource.

TAPS' response to this proposal is readily summarized: First, do no harm. In the respects at issue, the various regions' market rules are working reasonably well. To be sure, there is always room for improvement. However, tinkering with complex market rules can have unintended consequences. In this case, generically directing increased compensation to certain frequency response providers, without allowing each region latitude to show that its rules adequately address the Commission's concerns, and without sufficient fact-specific attention to

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[4] *Id*.

[5] *Id*. PP 47-52.

[6] SPP is not technically a NOPR "respondent," because it does not yet operate an organized wholesale market that includes Schedule 3 ancillary service. However, it is developing one, and that development apparently will have to be conformed to any final rule that results from the NOPR. *See* NOPR n.56.

[7] *Id*. P 34.

[8] *Id*. PP 34, 38.

each region's particular situation, would not be in the public interest or otherwise meet statutory requirements. The Commission therefore should not prescribe specific changes to the regions' existing frequency response compensation regimes. Instead, the Commission should direct each of the affected regions to evaluate its own frequency response market rules, and change them only if they make a regionally-specific showing that the changes will increase consumer welfare.

INTEREST OF TAPS

TAPS is an association of transmission-dependent utilities in more than 30 states, promoting open and non-discriminatory transmission access.[9] Many TAPS members serve load in and otherwise participate in the "Organized Markets" to which the proposed rule directly applies. The remaining TAPS members are also affected by the proposed rule, because the areas in which they serve load may come to be covered by the proposed rule, and because they currently or may in the future participate in the existing organized markets.

Communications regarding these proceedings should be directed to:

Michael G. Stuart, Esq.
WPPI ENERGY
1425 Corporate Center Drive
Sun Prairie, WI 53590-9109
Phone: (608) 834-4556
Fax: (608) 837-0274
Email: mstuart@wppienergy.org

Cynthia S. Bogorad
David E. Pomper
SPIEGEL & MCDIARMID LLP
1333 New Hampshire Ave., NW
Washington, DC 20036
Tel: (202) 879-4000
Fax: (202) 393-2866
E-mail: cynthia.bogorad@spiegelmcd.com
david.pomper @spiegelmcd.com

[9] Tom Heller, Missouri River Energy Services chairs the TAPS Board. Cindy Holman, Oklahoma Municipal Power Authority is Vice Chair.

COMMENTS

Any change to frequency response compensation should be tailored for each regional market context so as to ensure that the rule change benefits consumers. This position unpacks into three main points.

One, the NOPR is insufficiently deferential to the particular market designs of each affected region. The affected regions' market designs vary significantly. Consider the NOPR's discussion of per-MW price determination.[10] The specific means for appropriately measuring price per MW of ACE correction will necessarily vary across organized markets. For example, an organized market in which "regulation up" and "regulation down" are distinct products cannot apply the same bidding mechanism as might apply in a second market where those products are conjoined. Similarly, an organized market in which ancillary service costs and energy costs are co-optimized will have to tailor its frequency regulation pricing mechanisms to its co-optimization unit commitment and dispatch algorithms.

Each of the organized markets should have the opportunity to demonstrate that its existing frequency regulation compensation mechanism already provides sufficient and appropriately measured compensation to frequency regulation providers, or that changing such compensation along the lines identified in the NOPR would have such negative unintended consequences that the change should not be made. Although from 10,000 feet up the organized markets all share numerous features, the pricing change proposed in the NOPR would not operate at 10,000 feet up. It would operate within the dispatch signal, where the rubber meets the road. At that detailed level, each of the organized markets has an intricate, complex, and

[10] NOPR P 30.

idiosyncratic set of market rules. Accordingly, the need for, and reasonableness of, any change to frequency response compensation must be evaluated on a case-by-case basis.

Moreover, there is no reason to assume that a cookie-cutter approach to market rules will better cure alleged undue discrimination than regionally-specific approaches. In every organized market, generators have ample opportunities to make their views known within regional stakeholder processes.

The Commission bears Federal Power Act Section 206 burdens to show that each of the existing frequency response compensation regimes at issue is unjust, unreasonable, or unduly discriminatory and to demonstrate that any changes to be made at the Commission's insistence are reasonable. To this point, the summary, generic analyses recited in the NOPR have not carried those burdens.

Any mandate adopted in the final rule, therefore, should go no further than directing CAISO, ISO-NE, Midwest ISO, NYISO, and PJM to each make a compliance filing stating how it is addressing the issues that the NOPR has identified. To go further would be to insist on a solution and then search for a problem.

Two, any increased payments to more faster-ramping resources must be balanced by savings, such that net costs to consumers decrease. The total compensation being paid and received for frequency regulation has not been shown to be inadequate. Ample frequency regulation resources are being offered into and called upon by the various organized markets. Indeed, the NOPR recites that although frequency regulation has traditionally been provided by "water, steam, and combustion turbine" generators that are specially equipped to do so, "[p]rovision by other resources is emerging."[11] Given the absence of any demonstrated a

[11] NOPR P 6.

deficiency in the quantity or quality of regulation resources being offered into the organized markets, the total compensation being paid to regulating resources cannot be found to be inadequate, and no such finding has been made. Accordingly, 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,"[12] 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.

The NOPR contemplates changing compensation rules such that faster-ramping resources are paid for each minute-by-minute or similarly short-term output change. In theory, it is possible that such additional payment could be funded out of resulting savings, without increasing total charges to consumers. Increased clearing of and payment to such more "nimble" resources could potentially result in decreased clearing of and payment to slower-ramping, more "lumbering" resources. Ideally, such an increase in payments to the more nimble resources might be funded without any decrease in the individual revenues of those more lumbering resources that do continue to clear; the savings might come entirely from simply clearing fewer of such less-valuable resources.

Alternatively, the increased payments to the more nimble resources might be funded by decreasing the individual revenues of the more lumbering resources, so as to recognize their lesser value. Such a decrease would accord with a longstanding revenue neutrality principle: An increase in compensation determinants, just like an increase in billing determinants, should not

[12] NOPR P 30.

increase the total amount billed and paid; rather, it should result in a changed allocation of a constant quantity of total compensable costs.[13]

One way or the other, however, the Commission should ensure that increased payments to more-nimble resources will be offset by savings, such that consumers are left better off. The Commission's "primary function … is to protect consumers against exploitation by excessive rates and charges."[14] Here, in particular, the Commission should direct that each region's compliance filing include a careful study of the expected consumer impacts of any proposed change in frequency response compensation. The consumer benefits of any worthwhile change should be readily demonstrable, especially given that existing compensation rules are not broken. If the change is shown to be beneficial to consumers, it should of course be approved. But if not, the Commission should leave well-enough alone.

While this point is specifically applicable to the frequency response compensation rules at issue here, it also has broader applicability. The Commission's consumer-protection mission is ill-served by hunting for respects in which generators may deserve increased payments unless there is equal diligence in searching for respects in which they are overpaid. While resource holders can be counted upon to identify any valuable but uncompensated features of their assets, those whose resources are receiving excessive compensation will not be as prompt in alerting the Commission to the need for pricing change. Identifying such situations falls to the Commission.

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[13] *Cf. Southern Co. Servs., Inc.*, 61 FERC ¶61,339, at pp.62,337-38 (1992) (explaining that changes in billing and compensation determinants should not increase total charges and revenues, and citing Court of Appeals and other precedent).

[14] *Atlantic Refining Co. v. Public Service Commission of New York*, 360 U.S. 378, 388 (1954). *See also, e.g., Penn. Power Co. v. FPC*, 343 U.S. 414, 418 (Federal Power Act was enacted to "protect power consumers against excessive prices").

Yet the Commission has been expending its limited resources on launching initiatives whose consequence will be to increase charges.[15] We urge more focus on consumer impacts.

In short, and using the word “regulation” in its legal rather than technical sense,[16] the Commission should provide no less “regulation down” (decreased prices) than it provides “regulation up” (increased compensation).

Three, prices for frequency response capability and performance should be based on bids, not administratively determined. The NOPR asks whether to direct organized markets to adopt “the alternative of an administratively-determined price” per MW of ACE correction.[17] Such administrative price determination would be especially disruptive to region-specific market designs and unwarranted. Participants in organized markets have invested enormous amounts (in regional operator administrative, software, and hardware costs, in their own stakeholder-process involvement, and in reconfiguring their own internal operations) to create market structures in which energy and operating reserve prices can be identified through bid-based outcomes. Requiring consumers to pay market outcomes in most cases, but administratively-determined prices where a group of suppliers is dissatisfied with what the market pays them, would saddle consumers with the worst of both worlds: market-based payments where resource holders like the market outcome, and administratively-determined payments where they don’t. That would not be in the public interest.

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[15] *See, e.g., Credit Reforms in Organized Wholesale Electric Markets*, Final Rule, Order No. 741, 75 FR 65942 (Oct. 21, 2010), FERC Stats. & Regs. ¶ 31,317 (2010), *aff’d on reh’g*, Order No. 741-A, 134 FERC ¶ 61,126 (2011); *Integration of Variable Energy Resources*, Notice of Proposed Rulemaking, 133 FERC ¶ 61,149 (2010).

[16] The word “regulation” as used in the proposed rule refers, of course, to the regulation of electrical frequency, *i.e.*, to keeping the frequency of each phase of alternating current at the desired 60 Hz. In that technical sense, “regulation up” refers to increasing generation output so as to raise the frequency back up to 60 Hz, and “regulation down” refers to the opposite.

[17] NOPR P 38.

No showing has been made, and there is no reason to expect, that the maximum necessary price to elicit frequency response offers cannot be revealed through a properly structured bid-based market. Consider the compensation determinant for the "performance payment,"[18] which the NOPR proposes to change to a payment "per-MW of ACE correction."[19] The unit value applied to those payments should match the compensation determinant, *i.e.*, should reflect no more than the price per ACE-correction MW of the marginal resource. A bid's offering price per MW of ACE correction should be expected to typically reflect only variable operating costs for oscillating a resource's output instead of holding it steady. As an illustrative example, consider two identical generating units, which coming into the relevant period are generating at the same level and at the same price. Each is informed that the regional operator will direct one of the units to continue generating at a constant level over four future measurement intervals, such as four successive minutes[20] within a single dispatch interval). They are also informed that the regional operator will direct the other unit to raise its output by one MW for the first minute, reduce output by one MW (to the starting level) for the second minute, reduce it by another one MW for the third minute, and then raise it by one MW (back to the starting level) for the fourth minute. The expected bid in this example should reflect the payment that would make the generator indifferent as between those two sets of dispatch instructions. Expressed on a per-MW basis, the expected bid would equal one-quarter of that indifference payment (because the overall indifference payment is spread over four one-MW

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[18] NOPR P 38.

[19] *Id*.

[20] We use one minute as the applicable interval for consistency with the example given in the NOPR at n.38.

output changes). In a properly-structured market, it should be possible to determine that per-MW indifference level through bidding.[21]

Of course, bids for frequency response, as for any other centralized market product, may require bid mitigation in certain circumstances, as where bidding conduct or impacts indicate market power. In such instances, regional market designs should provide for mitigation, and it may well be appropriate to mitigate down to an administratively-determined indifference level. However, mitigation is another subject on which deference to regional particularities is important.

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[21] Although this measure involves MW, it should not be confused with a generating unit's cost per MW of installed capacity. Costs of the latter nature are effectively covered (through the receipt of the market-clearing price even when the resource is infra-marginal) by the other part of the proposed rule's two-part rate, namely a "capacity payment that includes the opportunity cost of the marginal regulating resource." *Id*. P 36.

CONCLUSION

The NOPR finds that the relative compensation of fast-ramping and slow-ramping generators does not properly align with their relative value. However, under Federal Power Act Section 206, that finding is not a sufficient basis on which to direct a broad-brush revision of each of the various organized-market regions' frequency response compensation rules to add additional compensation for certain generators. There is no basis to conclude that painting so broadly will do more good than harm. Nor is it clear that the resulting amended rules, taken as a whole, would be just, reasonable, and not unduly discriminatory. The Commission therefore should go no further than directing CAISO, ISO-NE, Midwest ISO, NYISO, and PJM to each make a compliance filing stating how it is addressing the issues that the NOPR has identified. In reviewing such filings, the Commission should ensure that any changed rules will benefit consumers.

Respectfully submitted,

/s/ David E. Pomper

Cynthia S. Bogorad
David E. Pomper

Attorneys for TAPS

Law Offices of:
Spiegel & McDiarmid LLP
1333 New Hampshire Avenue, NW
Washington, DC 20036
(202) 879-4000

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