

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
ELECTRICITY CONSUMERS RESOURCE COUNCIL
(ELCON)

The Electricity Consumers Resource Council (ELCON) appreciates the opportunity to comment on the February 17, 2011 *Notice of Proposed Rulemaking* (NOPR) that revises the Commission's regulations "to remedy undue discrimination in the procurement of frequency regulation service in the organized wholesale electricity markets." In justifying its proposal, the Commission cited the emergence of technologies capable of responding more quickly than the generators that have historically provided such service.¹ The non-traditional technologies often cited with the capability to ramp up and down faster than some traditional resources include controllable demand response, energy storage devices, flywheels and electric vehicle-to-grid (V2G) systems.

ELCON is the national association representing large industrial consumers of electricity. ELCON member companies produce a wide range of products from

¹ Frequency regulation service is the injection or withdrawal of real power by facilities capable of responding appropriately to a transmission system's frequency deviations or interchange power imbalance, both measured by the Area Correction Error (ACE). When generation dispatch does not equal actual load and losses on a moment-by-moment basis, the imbalance will result in the grid's frequency deviating from the standard (60 Hertz).

virtually every segment of the manufacturing community. ELCON members operate hundreds of major facilities and are consumers of electricity in the footprints of all organized markets and other regions throughout the United States. Many ELCON members are demand response capable and have provided curtailable loads to utility system operators for decades.

ELCON Comments

ELCON strongly supports the NOPR. The following comments and recommendations address the specific provisions of the NOPR.

1. ELCON Supports the NOPR's Requirement for a Uniform Capacity Payment That Includes the Supplier's Opportunity Costs in the Supplier's Bid.

The NOPR comes at an especially fortuitous time because of the Commission's March 15, 2011 approval of a market-based demand response compensation rule.² That rule demonstrates the Commission's resolve to eliminate compensation as a barrier to the cost-effective use of non-traditional resources, and thus opens the door to development of a portfolio of competitive, price-responsive demand response products and services that will greatly improve the efficiency and reliability of wholesale electricity markets. The NOPR acknowledges that further changes to compensation are necessary to ensure that pricing and compensation of frequency regulation service is just and reasonable and not unduly discriminatory or preferential.

The Commission preliminarily finds that the use of faster-ramping resources for frequency regulation has the potential to improve operational and economic efficiencies and, in turn, lower costs to consumers in the organized markets. The Commission proposes to require regional RTOs and ISOs to adopt tariff revisions that will ensure that resources providing frequency regulation service are appropriately compensated. Current compensation methods for frequency regulation service in ISO and RTO markets do not generally acknowledge the greater amount of ACE correction provided

² 134 FERC ¶ 61,187

by faster-ramping resources. In addition, some RTOs currently provide unit-specific opportunity cost payments to regulating resources rather than incorporate the marginal resource's opportunity cost into the uniform market clearing price, resulting in an economically inefficient economic dispatch.

Specifically, the NOPR proposes to require ISOs and RTOs to change their tariffs so that each resource that provides frequency regulation service receives a clearing price consisting of a two-part payment.³ This two-part payment structure is based on what the Commission preliminarily finds are "best practices" used by the RTOs and ISOs. The need for a uniform capacity payment establishes some much needed consistency across the market designs of the ISOs and RTOs. ELCON supports such a payment regime.

The first part of the payment is a uniform capacity payment (i.e., 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. While all RTOs and ISOs with a centrally-procured frequency regulation market currently provide for a capacity payment to frequency regulation resources, the payment varies by RTO or ISO. To produce the efficient market outcome, this payment must include the marginal regulating resource's opportunity costs.

Two types of opportunity costs would be allowed in the capacity bid. The first is cross-product opportunity costs, which is the revenue a regulation provider loses because it is on stand-by to provide regulation and is not providing energy. The second

³ The proposed rule on compensation is:

Frequency regulation compensation in ancillary services markets. Each Commission-approved independent system operator or regional transmission organization that has a tariff that provides for the compensation of frequency regulation must provide such compensation based on the actual service provided, including a capacity payment that includes the marginal unit's opportunity costs and a payment for performance that reflects a frequency regulating resource's contribution to correcting the relevant balancing area's Area Control Error (when the resource is accurately following the dispatch signal) when providing regulation service.

is inter-temporal opportunity costs, which is the foregone value when a resource must operate at one time, and therefore must either forego a profit from selling energy at a later time or incur costs due to consuming at a later time.

The NOPR considers some form of administrative determination of “cross-product opportunity costs.” ELCON recommends that all opportunity costs be estimated by the supplier – who in fact is best situated to know its opportunity costs – and included in his or her bids. As both potential suppliers of frequency regulation service and end-use consumers who bear the cost burden of such service, ELCON members have the greatest faith in market-based solutions, not the administrative determinations of ISOs or RTOs.

2. ELCON Supports “Payment for Performance” and Compensation for the Absolute Energy the Resource Injects Into or Withdraws From the System.

The Commission preliminarily finds that requiring a component in the frequency regulation compensation mechanism that recognizes the resource’s contribution to ACE correction is necessary to remedy undue discrimination and ensure just and reasonable rates in the organized wholesale electricity markets. Resources that provide more value to the grid by doing more of the work to correct ACE deviations should be paid more than resources doing less work.

To implement this concept, the NOPR requires that all regulating resources be paid for their performance, with this payment taking the form of a payment for each MW, up or down, provided by the resource in response to the system operator’s dispatch signal. Specifically, an RTO or ISO would determine the total movement up and the total movement down and then multiply that sum by a price-per-MW of ACE correction.⁴ Thus the absolute amount of energy (rather than the net energy) injected into or withdrawn from the system is compensated proportionally to how much it is deployed. ELCON also recommends that the price-per-MW of ACE correction be a market-based price and not administratively determined.

⁴ This is often called a “mileage” payment.

3. Net Energy Payments Do Not Need to Be Retained If the Two-Part Tariff Structure and “Mileage” Payment are Adopted.

Regulating resources have generally received compensation for the net energy injected or withdrawn in the course of providing regulation service in ISO/RTO markets. Such payments will be unnecessary to the extent that resources receive a “mileage” payment and will also have the ability to include those costs in their bids as part of any opportunity costs that are otherwise incurred.

4. ISO-RTO Market Designs May Need to Be Reformed to Eliminate the Large Thermal Generator Bias in the Organized Markets. ISO/RTO Compliance Filings And/Or a Technical Conference Should Be Used to Identify and Correct for Any Such Bias in SCADA System Operation, Market Rules, Business Practices or NERC Reliability Standards.

Existing ISO/RTO market designs do not adequately capture the unique operational characteristics of non-traditional resources that are the target of this NOPR. For example, existing frequency regulation service may be procured using 5-minute ramp rates to accommodate the typical responsiveness of large thermal generators. This discriminates against faster resources that can be fully responsive in 1 minute or less. Another example is the presumption that a resource providing frequency regulation service can be regulated up or down on a symmetrical basis. But some non-traditional resources can more efficiently do one relative to the other. Thus regulation-up and regulation-down should be separately defined products.

In the NOPR, the Commission correctly notes that accommodating faster, smaller and more accurate resources can lower the overall cost of providing frequency regulation service by reducing the presence of slower ramping resources in the markets for such service, which has the beneficial effect of improving the heat rates of the slower resources. NOPR at ¶33. Simply changing the compensation scheme as the NOPR proposes, however, may not be adequate and may only partially mitigate such inherent biases in the organized markets. Thus the most efficient resources will remain underutilized despite the ability of non-traditional resources to be economic providers of frequency regulation service.

ELCON recommends that the Commission require its jurisdictional ISOs and RTOs to use their stakeholder processes to identify examples of large thermal generator bias that unduly discriminate against non-traditional resources. These examples should be submitted to the Commission, along with a mitigation plan. Alternatively, or in conjunction with the compliance filings, the Commission might consider hosting a technical conference for the sole purpose of identifying large thermal generator biases in SCADA system operation, ISO/RTO market rules or business practices, and NERC Reliability Standards.

Conclusion

ELCON appreciates the timeliness of this NOPR and commends the Commission for advancing a just and reasonable compensation scheme for non-traditional suppliers of frequency regulation service. ELCON recommends that the compensation mechanism maximize the use of market-based prices and avoid administrative determination by ISOs or RTOs. ELCON also recommends that the Commission go one step further and begin a process for identifying and rectifying large thermal generator bias in the operational and market practices of ISOs and RTOs, and NERC Reliability Standards. Such bias needs to be eliminated if the laudable benefits of the NOPR are to be achieved in practice.

Notices and Communications

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Dated: May 2, 2011

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary of this proceeding.

Dated at Washington, D.C.: May 2, 2011

/s/ W. RICHARD BIDSTRUP
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