

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

**Reactive Power Capability
Compensation**

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Docket No. RM22-2-000

**INITIAL COMMENTS OF THE
ELECTRICITY CONSUMERS RESOURCE COUNCIL (ELCON)**

The Electricity Consumers Resource Council (ELCON) respectfully submits these initial comments on the November 18, 2021 Notice of Inquiry (NOI)¹ in the above-captioned docket, in which the Federal Energy Regulatory Commission (FERC or Commission) seeks comments on reactive power capability compensation and market design. As discussed in detail below, ELCON believes that application of the AEP Methodology in calculating reactive power rates may not result in just and reasonable rates. ELCON therefore supports the Commission’s efforts in this proceeding to develop a record upon which it may establish a new methodology for compensating reactive power providers. ELCON also encourages the Commission to adopt a new methodology based on empirical analysis that recognizes both the importance of reactive power for overall system reliability and the costs borne by ultimate ratepayers, which may include increased reliance on competitive forces when setting reactive power rates.

I. INTRODUCTION

ELCON is the national association representing large industrial consumers of electricity. ELCON member companies provide a wide range of products from virtually every segment of the industrial community – we own and operate hundreds of major facilities and are significant consumers of electricity in the footprints of all organized markets and other regions throughout the United States. Reliable electricity supply at just and reasonable rates is essential to our members’ operations.

¹ *Reactive Power Capability Compensation*, Notice of Inquiry, 177 FERC ¶ 61,118 (2021).

Accordingly, any changes to the Commission’s reactive power compensation policy will have a direct financial impact on ELCON members.

ELCON agrees that it is prudent to evaluate Commission policy to ensure it reflects best practices and lessons learned over the nearly 20 years since the Commission last reexamined its reactive power policy.² Given the changes in the electricity sector over that time – namely, advances in organized markets and the development of a growing number of non-synchronous resources – the AEP Methodology³ is ripe for reform. To the Commission’s essential question in the NOI, which is whether the AEP Methodology remains a just and reasonable approach to determining reactive power revenue requirements in all circumstances, we answer no.

However, we ask that the Commission assess any changes to reactive power capability compensation (and market design generally) through the consumer lens. We urge the Commission to commit to an empirically grounded policy of minimizing the wholesale components of the cost of delivered power (subject to reliability standards).⁴ Such an approach is consistent with the Commission’s goal in establishing organized markets to “ensure that electricity consumers pay the lowest price possible for reliable service”⁵ and its interest in the NOI to see that “supply is procured efficiently from the most reliable and lowest-cost resources.”⁶ We also comment on ways for the Commission to effectively engage consumers as it ensures an adequate level of reactive

² “In an order issued in 2002, the Commission recommended that all resources that have actual cost data and support documentation use the method employed in *American Electric Power Service Corporation* to establish a rate for the provision of reactive power.” NOI at P 2 (citing *WPS Westwood Generation, LLC*, 101 FERC ¶ 61,290, at P 14 (2002)).

³ NOI at P 9. In Opinion No. 440 (88 FERC ¶ 61,141), the Commission approved a method presented by American Electric Power Service Corp. (AEP) for allocating the costs of generator equipment between real power capability and reactive power capability, as well as the related operations and maintenance costs. AEP developed an allocation factor to sort the annual revenue requirements of these components between real and reactive power production.

⁴ See *ELCON, et al.*, Letter to the U.S. Senate Committee on Energy and Natural Resources and the House Committee on Energy and Commerce (July 8, 2021), available at: <https://elcon.org/independent-study-of-the-cost-of-electricity/>.

⁵ *Regional Transmission Organizations*, Order No. 2000, FERC Stats. & Regs. ¶ 31,089, at 31,089 (1999) (cross-referenced at 89 FERC ¶ 61,285 at 3), *order on reh’g*, Order No. 2000-A, FERC Stats. & Regs. ¶ 31,092 (2000) (cross-referenced at 90 FERC ¶ 61,201), *aff’d sub nom. Pub. Util. Dist. No. 1 of Snohomish Cnty v. FERC*, 272 F.3d 607 (D.C. Cir. 2001).

⁶ NOI at P 7.

power at least cost.

II. COMMENTS

A. COMPENSATION FOR REACTIVE POWER SERVICES SHOULD BE BASED ON MARKET VALUE RATHER THAN COST

ELCON has long supported compensating reactive power services based on market value rather than cost. In fact, ELCON sponsored a 1999 report titled *Bulk-Power Ancillary Services for Industrial Customers*,⁷ which highlighted the importance of establishing sound policy regarding ancillary services in the post-Order No. 888 era of unbundled services. The ELCON Report opens with a Foreword from past President John Anderson, who said: “As competitive forces reduce the margins on generation sales, the additional costs associated with ancillary services – however small – can make or break a deal. If efficient markets for ancillary services are not allowed to be formed, the efficient operation of the industry is at risk.” We echo those sentiments today.

One of the threshold difficulties with reactive power, as laid out in the ELCON Report, is the disparate treatment of reactive power supplied from generation resources versus reactive power provided by transmission assets. Even if the generation segment were made fully competitive, some reactive power services (referred to in the ELCON Report as “voltage control”) would be provided by transmission providers through cost-based transmission rates. In recognition of this disconnect, the ELCON Report proposed the establishment of a technology-neutral reactive power service:

FERC separated voltage control provided by generators from that provided by transmission. FERC decided that the former “service” is a separate function that should be unbundled and priced separately, while the latter service should be included within the transmission function . . . [T]he rationale for treating voltage support provided by transmission equipment differently from voltage support provided by generation is not clear; perhaps FERC should define a voltage control service that is technology independent.⁸

⁷ *Bulk-Power Ancillary Services for Industrial Customers*, Dr. Eric Hirst (June 1999) (ELCON Report), available at: <https://elcon.org/wp-content/uploads/BULK20POWER20ANCILLARY20SERVICES1.pdf>

⁸ ELCON Report at 8.

Along the same lines, the Commission's white paper on reactive power capability compensation appears to endorse a technology-neutral and competitively-procured reactive power service: "A competitive solicitation for reactive power production could incorporate mechanisms to acquire all reactive power services at least cost and to elicit desired performance from all reactive power resources."⁹

ELCON continues to endorse many of the themes of the ELCON Report, which resonate with today's members just as much as they did when the Report was published 23 years ago. Specifically, we agree with the following:

The amounts of ancillary services system operators acquire should reflect an appropriate balancing of reliability with economics. Although all customers want a reliable electric system, there are limits to how much money they will pay for reliability . . .

Historically, NERC decisions have been dominated by technical (engineering) considerations with little explicit consideration of costs (economics).¹⁰

ELCON continues to believe that "[r]eliability rules should be based firmly on engineering and economic analysis so that market participants can be assured that reliability and costs are appropriately balanced."¹¹

ELCON members have seen firsthand the benefits of competition—including efficiencies in the dispatch of generation, the orderly entry and exit of resources based on price signals, as well as enhanced transparency of planning processes and the wider availability of buying and selling arrangements. In the interest of building on those benefits, we believe the Commission should move away from a cost-based approach to reactive power compensation toward a market approach. As noted above, we urge the Commission to ground its rulemakings in an explicit and empirically driven policy of minimizing the wholesale components of the cost of delivered power. At minimum, we ask FERC to analyze the benefits and costs to consumers of shifting to competitive procurement of reactive power. We believe that increased reliance on competitive

⁹ Commission Staff Report on Payment for Reactive Power, Docket No. AD14-7-000 at 22 (Apr. 22, 2014), available at: <https://www.ferc.gov/sites/default/files/2020-05/04-11-14-reactive-power.pdf>.

¹⁰ ELCON Report at 12.

¹¹ *Id.* at 33.

markets for the procurement of essential grid services such as reactive power – rather than reliance on traditional cost-of-service rates – could help the Commission ensure that electricity consumers pay the lowest price possible for reliable service.

B. THE AEP METHODOLOGY IS RIPE FOR REFORM

The AEP Methodology was established as a workable heuristic during a period in which organized markets were in their infancy and nearly all new resources were synchronous. ELCON agrees with PJM Interconnection, LLC’s (PJM) Market Monitor that “cost-of-service compensation for reactive power capability is an anachronistic approach that predates the introduction of wholesale power markets and is unnecessary in light of potential compensation through the [organized] markets.”¹²

i. Retaining the AEP Methodology Would Lead to Overcompensation

Continued application of the AEP Methodology will lead to overcompensation of reactive power service providers. As the PJM Market Monitor recognizes, “when the market design allows for the recovery of specific costs for reactive power capability, it is inappropriate to also include those costs in a separate cost-of-service rate.”¹³ Such an approach – recouping costs through organized markets while separately recouping the same costs through a cost-of-service rate – would result in double recovery, imposing additional and unnecessary costs on consumers. In the case of capacity markets under the Commission’s jurisdiction, members of the FERC majority have expressed concerns with unjustified double-payments being imposed on consumers by “a Byzantine system of administrative pricing.”¹⁴ We ask that the same concern be given and consistently applied here.

It also seems clear in the NOI that the Commission understands the challenges posed by applying the AEP Methodology to non-synchronous resources, particularly

¹² NOI at P 26.

¹³ *Id.* at P 27.

¹⁴ Joint Statement of Chairman Glick and Commissioner Clements Regarding the Fair Rates Act on PJM MOPR, Docket No. ER21-2582-000 (Oct. 19, 2021), available at: <https://www.ferc.gov/news-events/news/joint-statement-chairman-glick-and-commissioner-clements-regarding-fair-rates-act>.

given the physical distinctions between synchronous and non-synchronous resources and the differences in the investment levels required for each kind of resource.¹⁵ In light of this fact, it would be unjust, unreasonable, and unduly discriminatory to compensate non-synchronous resources at a “significantly higher” rate than synchronous resources for the same service, as would be the case under the AEP Methodology.¹⁶

In light of the proliferation of a new set of generation technologies that are non-synchronous, ELCON is concerned that the AEP Methodology no longer provides reliability at least cost. Further, given the projections of an ever-increasing share of non-synchronous resources on the electricity system nation-wide, it is all the more important to replace the AEP Methodology now, before the cost of providing reactive power begins to appreciably increase the cost of delivered power.¹⁷ In other words, adhering to the AEP Methodology would not only violate the Federal Power Act by promoting an unjust, unreasonable, and unduly discriminatory rate, but would unnecessarily increase the cost of providing reliable electricity to consumers.

ii. The AEP Methodology as Recently Applied Lacks Transparency and Accountability

Nearly twenty years ago, the Commission encouraged, but did not mandate, providers of reactive power capability to use the AEP Methodology. In recent years, the Commission has experienced significant increases in generators filing individual compensation methodologies while seeking waiver of the AEP Methodology for

¹⁵ NOI at P 23.

¹⁶ See *id.* (noting, “the collection system of a non-synchronous resource generally represents a *significantly higher* proportion of the resource’s total investment cost than the isolated phase bus represents for synchronous resources. Thus, non-synchronous resources’ interpretation of the AEP Methodology under this approach increases the annual revenue requirement for those resources on a relative basis as compared to the annual revenue requirements for synchronous resources.”) (emphasis added).

¹⁷ According to the Energy Information Administration’s 2021 Annual Energy Outlook, “Renewable electric generating technologies account for almost 60% of the approximately 1,000 gigawatts of cumulative capacity additions projected in the AEO2021 Reference case from 2020 to 2050. The large share is a result of declining capital costs but is also a result of increasing renewable portfolio standard (RPS) targets and tax credits. Although wind contributes to renewable electric generating capacity additions, it is on a much smaller scale compared with solar capacity, which builds steadily throughout the projection period.” See Energy Information Administration, 2021 Annual Energy Outlook (Feb. 3, 2021), available at: <https://www.eia.gov/outlooks/aeo/electricity/sub-topic-02.php>.

reactive power. As with many rate cases, these filings were frequently set for hearing, not only placing a significant workload on the Office of Administrative Litigation but also making broad oversight extremely difficult. Because these discussions are now happening in one-off, non-public settlement negotiations with a “black-box” outcome, there is little transparency in how these rates are calculated or what the cumulative impact of these rate cases on consumers may be.

Moreover, the NOI says: “when resources that have been granted [waivers of the Commission’s accounting and reporting requirements] propose revenue requirements using the AEP Methodology, it is difficult for the Commission and affected customers to easily verify that the proposed rates accurately reflect the AEP Methodology.”¹⁸ In essence, consumers may already be overpaying for reactive power service – in many cases, we have no way to find out.

Now is the time to revisit the outdated AEP Methodology and institute rules for compensation of reactive power that (1) recognize the unique characteristics of synchronous and non-synchronous resources, (2) allow for transparency, oversight, and accountability, and (3) minimize the cost of providing reactive power (or at the very least prevent double-recovery). Otherwise, customers will overpay for reactive power through a system of black box settlements between sellers and the Commission.

III. RESPONSES TO QUESTIONS REGARDING THE AEP METHODOLOGY

Provided below are ELCON’s responses to a many, but not all, of the questions raised by the Commission in the NOI.

a. Does compensating resources based on their costs of investment in reactive power capability continue to be the appropriate basis for reactive power capability compensation?

No, because (as we discuss above) the cost of the relevant equipment is much higher for non-synchronous resources, leading to an unjust outcome in which resources are compensated significantly differently for providing the same service.

b. Should payments be limited based on the useful lives of the plant at issue?

¹⁸ NOI at P 25.

ELCON encourages the Commission to move away from cost-based ratemaking for reactive power services. However, if the Commission allows utilities to charge a cost-of-service rate for reactive power, then it must also ensure an accurate accounting of a resource's real-world capability of supplying reactive power. This may be done by requiring periodic updates to the cost-based rate to account for changes in a facility's reactive capability over a set period of time.

c.i. Is there any reason for the Commission to believe that the nameplate capability aspect of calculating reactive power revenue requirements should be revised in order to produce a more accurate result?

If the Commission retains the use of nameplate ratings for the calculation of reactive power revenue requirements, then it should only do so when a service provider can demonstrate that the full capacity of a facility is actually being used. In some cases there may be self-imposed, Commission-imposed, or market-imposed limitations on a facility's output. Other times the nameplate capacity may not reflect actual operations, for example where the capacity ratings vary across seasons. In such cases it is inappropriate to use the nameplate capability to calculate the reactive power revenue requirement.

e. Reactive power filings set for hearing and settlement judge procedures often do not have active intervening parties other than the market monitor and RTO/ISO. Why do other parties not participate more in these proceedings?

Most ratepayers do not have the bandwidth, either from a personnel or economic standpoint, to intervene in every docket. Moreover, particular ratepayers may not have standing to intervene in a Section 205 proceeding if they have no relevant connection to the filing party or are not a participant in a particular market. In such cases, ratepayers must trust that the Commission is fulfilling its statutory duty to ensure just and reasonable rates on behalf of consumers. At the same time, these facts highlight the problem with a piecemeal approach to setting reactive power rates.

j. Is the existing AEP Methodology appropriate to allocate the costs associated with reactive power revenue requirements of non-synchronous resources? If not, why and can changes be made to the existing AEP Methodology to establish just and reasonable reactive power revenue requirements for non-synchronous resources?

The Commission recognizes in the NOI that “the collection system of a non-synchronous resource generally represents a significantly higher proportion of the resource’s total investment cost than the isolated phase bus represents for synchronous resources. Thus, non-synchronous resources’ interpretation of the AEP Methodology under this approach increases the annual revenue requirement for those resources on a relative basis as compared to the annual revenue requirements for synchronous resources.”¹⁹ Given this recognition, it would be unfair to compensate non-synchronous resources more than synchronous resources for the same service. As discussed above, adhering to the AEP Methodology would unnecessarily increase the cost of providing reliable electricity to consumers.²⁰

p. What options are available to collect independently verifiable cost information from MBR [market-based rate] sellers that have received waiver of the accounting and FERC Form No. 1 requirements to support their reactive power capability revenue requirements?

If the Commission maintains a cost-of-service rate for reactive power, ELCON supports measures that improve transparency and accountability. One such measure may be a standard form that MBR sellers would need to fill out to be eligible to receive payments for reactive power supply. The form could be a “fill-in-the-blank” format, filed with FERC, and have a requirement that it must be updated or verified every five years.

q. In order to simplify and provide transparency to proposed reactive power capability compensation filings, should the Commission require, in PJM, MISO, and non-RTO/ISO regions that compensate for reactive power capability based on the costs of individual resources or on a fleet-wide basis, reactive power filers to include with their filing a standardized form with recognized schedules and officer and independent accountant certification requirements?

We continue to advocate for a more fully transparent and uniform method based on market value. However, to increase accountability in cost-based reactive power compensation, we ask the Commission to include an attestation requirement from the

¹⁹ NOI at P 23.

²⁰ See *supra* at 6 and note 16.

individual responsible for developing the reactive power rate.

IV. DISTRIBUTION-CONNECTED RESOURCES

ELCON understands the challenges inherent in creating uniform rules for distribution-level resources and does not think that the application of the AEP Methodology is appropriate. However, the Commission could help incentivize industrial consumers in developing renewable energy, small power production facilities, or cogeneration resources as part of their portfolio of energy management tools by enabling such resources to provide reactive power and be compensated at a market-derived rate.

V. CONCLUSION

ELCON appreciates the Commission's efforts to gather information to more precisely compensate resources for the reactive power they supply without burdening ratepayers. As discussed above, ELCON supports a market-value approach to the provision and compensation of reactive power. We also urge the Commission to engage in empirical analysis to ensure its rulemakings – particularly those regarding market design – are consistent with the goal of providing reliable electricity at least cost.

Respectfully submitted,



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