

154 FERC ¶ 61,246  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Norman C. Bay, Chairman;  
Cheryl A. LaFleur, and Colette D. Honorable.

Wabash Valley Power Association, Inc.

Docket No. ER16-444-001

ORDER ACCEPTING AND SUSPENDING PROPOSED RATE SCHEDULE AND  
ESTABLISHING HEARING AND SETTLEMENT JUDGE PROCEDURES

(Issued March 28, 2016)

1. On December 1, 2015, Wabash Valley Power Association, Inc. (WVPA) filed a Reactive Power Tariff,<sup>1</sup> as a rate change under section 35.13 of the Commission's regulations establishing the procedures for filing rate changes under section 205(d) of the Federal Power Act (FPA).<sup>2</sup> The filing sets forth the revenue requirement for the provision of Reactive Supply and Voltage Control from Generation or Other Sources Service (Reactive Service) by its facilities, Earthmovers and Jay County (Facilities). In this order, we accept for filing WVPA's proposed Reactive Power Tariff, and suspend it

---

<sup>1</sup> Wabash Valley Power Association, Inc., Reactive Supply and Voltage Control Tariff - PJM, [Reactive Tariff - PJM, Reactive Tariff - PJM, 3.0.0](#).

<sup>2</sup> 18 C.F.R. § 35.13 (2015); 16 U.S.C. § 824d(d) (2012). WVPA filed this tariff in the Commission's electronic filing system as an initial baseline tariff in the Commission's eTariff system (Type of Filing Code 390) in order to establish a new tariff database for its Reactive Power Tariff. While this filing code may be used for either an initial rate or a rate change, the Commission considers the filing to be a proposed rate change under section 35.13 of the Commission's regulations, pursuant to WVPA's transmittal letter, as WVPA has been providing reactive power service to PJM Interconnection, L.L.C. (PJM) prior to the instant filing. *See Calpine Oneta Power, L.P.*, 103 FERC ¶ 61,338, at P 11 (2003) (stating that, as the Oneta Project has been providing reactive power service under section 3.5 of its Interconnection Agreement, albeit without charge, "the proposed rates for Reactive Power Service in the instant proceeding are not initial rates, but are changed rates").

for a nominal period, to become effective February 1, 2016, subject to refund. We also establish hearing and settlement judge procedures.

### **I. WVPA's Filing**

2. Schedule 2 of the PJM Open Access Transmission Tariff, which covers Reactive Service, provides that PJM will compensate owners of generation and non-generation resources for maintaining the capability to provide reactive power to PJM. Specifically, Schedule 2 states that, for each month of Reactive Service provided by generation and non-generation resources in the PJM region, PJM shall pay each resource owner an amount equal to the resource owner's monthly revenue requirement, as accepted or approved by the Commission.<sup>3</sup>

3. WVPA states that it is a generation and transmission cooperative. WVPA explains that Earthmovers is a landfill gas to energy plant with 4.8 MW of nameplate capacity, located in Elkart, Indiana, and Jay County is a landfill gas to energy plant with 3.2 MW of nameplate capacity, located in Portland, Indiana. WVPA states that the Facilities are located in the American Electric Power Co., Inc. PJM pricing zone.<sup>4</sup> According to WVPA, Jay County went on-line in April 2005 and Earthmovers went on-line in October 2010; both have been providing reactive power to PJM at a zero rate since going on-line.

4. WVPA states that it calculated the Facilities' revenue requirement in accordance with the *Am. Elec. Power Serv. Corp.* methodology,<sup>5</sup> and the revenue requirement consists of a Fixed Capacity Component, which represents the fixed cost attributable to the production of reactive power, and a Heating Losses Component.<sup>6</sup> WVPA proposes an annual revenue requirement of \$41,646 and requests an effective date of February 1, 2016.<sup>7</sup>

---

<sup>3</sup> PJM, Intra-PJM Tariffs, OATT, Schedule 2 (3.1.0).

<sup>4</sup> WVPA December 1, 2015 Transmittal Letter at 2-3 (Transmittal Letter).

<sup>5</sup> *Am. Elec. Power Serv. Corp.*, Opinion No. 440, 88 FERC ¶ 61,141, at 61,456-57 (1999) (*AEP* methodology).

<sup>6</sup> Transmittal Letter at 3.

<sup>7</sup> *Id.* at 5.

5. WVPA explains that it calculated the Fixed Capacity Component by: (1) identifying equipment associated with reactive power production and determining the installed cost of each asset; (2) calculating the reactive allocation factor for each category of reactive power production equipment and multiplying the installed cost of the reactive power production equipment by the reactive allocation factor; and (3) determining a fixed charge rate to apply to the allocated reactive power production equipment and multiplying that fixed charge rate by the reactive power production equipment investment. WVPA states that it analyzed the reactive portion of investment in the following: (1) the generator and associated exciter equipment; (2) the generator step-up transformers; (3) the accessory electrical equipment; and (4) the balance of the plant. WVPA states that because each of these groups of assets is involved in both real power and reactive power production, the *AEP* methodology includes an allocation factor to separate each of the components between real power and reactive power. According to WVPA, the application of this allocation factor to each of the four groups of investments results in the Fixed Capacity Component of the Reactive Service revenue requirement.<sup>8</sup>

6. WVPA also states that, in determining the cost of capital, it used a rate of return on equity of 9.08 percent, the authorized rate of return of Indiana Michigan Power Company (Indiana), the utility to which the Facilities are interconnected.<sup>9</sup>

7. With regard to the Heating Losses Component, WVPA states that it included this component in the revenue requirement in order to recover the costs associated with losses that occur from resistive heating associated with the armature winding and field winding of the generator.<sup>10</sup>

## **II. Notice of Filing and Responsive Pleadings**

8. Notice of WVPA's December 1, 2015 filing was published in the *Federal Register*, 80 Fed. Reg. 76,005 (2015), with interventions and protests due on or before December 22, 2015. PJM submitted a timely motion to intervene and comments.

9. PJM states that based on WVPA's proposed annual revenue requirement of \$41,646, PJM will provide WVPA a monthly revenue requirement of \$3,471.<sup>11</sup>

---

<sup>8</sup> *Id.* at 3-5.

<sup>9</sup> Transmittal Letter, Ex. WVPA-1 at 9 (Exhibit 1).

<sup>10</sup> *Id.*

<sup>11</sup> PJM December 8, 2015 Comments at 8.

### III. Deficiency Letter

10. On January 21, 2016, Commission staff issued a deficiency letter to WVPA requesting additional information. On February 1, 2016, WVPA submitted its response to the deficiency letter.

#### A. Notice of Deficiency Letter Response

11. Notice of WVPA's deficiency letter response in Docket No. ER16-444-001 was published in the *Federal Register*, 81 Fed. Reg. 6844 (2016), with interventions and protests due on or before February 22, 2016. None was filed.

#### B. WVPA Deficiency Letter Response

12. Commission staff sought additional information in the deficiency letter on: (1) the D-curves (Reactive Capability Curve) for each generator unit and the latest copies of the PJM test reports, which depict the mega-volte ampere reactive (MVAR) levels for both leading and lagging for each generator unit; (2) clarification on reductions in the accessory electric equipment balance on line 12 on Schedule 9; (3) how to identify "stray load losses" that are attributable to the production of reactive power versus "stray load losses" that are attributable to real power production; (4) how calculating heating loss by using average nodal price is consistent with Opinion No. 498;<sup>12</sup> (5) how a calculation utilizing average values for heating loss would satisfy the Commission's requirement to use actual fuel burned to calculate heating losses for compensation; and (6) clarification on Exhibit WVPA-3, Workpaper 1a, line 1 referencing "Total Exciter MW."

13. WVPA attaches to the deficiency letter response as Exhibit A the Caterpillar 3516 generating unit D-curve. WVPA further explains that, due to the size of the units, PJM does not require the facilities to perform reactive capability testing. WVPA summarizes in Exhibit B the actual leading and lagging reactive output by month for each facility in lieu of formal testing.<sup>13</sup>

14. Regarding the second question, WVPA states that, to more clearly illustrate the costs removed, it has modified Schedule 9 of Exhibit No. WVPA-3 to clearly show that

---

<sup>12</sup> *Dynegy Midwest Generation, Inc.*, Opinion No. 498, 121 FERC ¶ 61,025 (2007), *order on reh'g*, 125 FERC ¶ 61,280 (2008).

<sup>13</sup> WVPA February 1, 2016 Deficiency Letter Response at 3 (Response).

the generator step-up transformers had been removed from the Accessory Electric Equipment balance included for both the Earthmovers and Jay County facilities.<sup>14</sup>

15. Regarding the third question, WVPA states that “stray load losses,” as Mr. Heintz uses the term, refers to the following concept: the creation of reactive power results in an increase of current in the form of incremental current in addition to the current that flows due to the production of real power. WVPA states that this incremental current flows inside the generator armature (stator) windings, inside the generator field winding, and inside the generator step-up transformer windings. WVPA explains that, due to the electrical resistance in each of the generator and generator step-up transformer windings, this incremental current causes real power to be consumed or “lost” in the form of heat. WVPA states that the aforementioned concept explains why stray load losses are related only to reactive power production. WVPA further clarifies that, when a generator operates at a power factor other than unity (i.e., 1.0), higher currents are produced in the generator and generator step-up transformer. These higher currents cause significant losses to occur from resistive heating losses associated with the armature winding and field winding of the generator, as well as increased eddy currents or stray losses. WVPA states that these losses can be calculated as the real power that is consumed to produce reactive power and, therefore, is a cost that is directly attributable to reactive power production.<sup>15</sup>

16. Regarding the fourth question, WVPA explains that the Commission’s Opinion No. 498 allowed for recovery of variable costs of heating losses, but found that recovery of the fixed cost of heating losses would result in over-recovery of the fixed costs. Therefore, WVPA states that Mr. Heintz has included only the variable costs of heating losses, consistent with Opinion No. 498. WVPA states that Mr. Heintz has used the actual average nodal price and the actual heating losses in the generators and transformers based on actual average output at the actual average power factor for the hours the generator actually ran. WVPA further adds that Mr. Heintz’s calculations use actual costs and actual average unit performance (actual MVAR production, actual MW loadings, and actual hours per year), as opposed to a hypothetical calculation assuming maximum reactive power production for all hours. The average nodal price is the price WVPA would have received for its power had it not been lost due to generating reactive power.<sup>16</sup>

---

<sup>14</sup> *Id.*

<sup>15</sup> *Id.* at 3-4.

<sup>16</sup> *Id.* at 4-5.

17. Regarding the fifth question, WVPA states that that it calculated the heating losses in MW as the losses associated with the production of zero reactive power and the losses associated with the production of the actual average power factor. As a result, the heating losses reflect the actual losses of running the generator at the actual average power factor, not at a hypothetical power factor.<sup>17</sup>

18. Regarding the sixth question, WVPA states that Exhibit No. WVPA-3, Workpaper 1a, line 1, should have included the source of the “Total Exciter MW” line 6 and not line 23 of Exhibit No. WVPA-3, Schedule 4. WVPA states that correcting that error increases the annual reactive power cost to \$42,303 from \$41,646, as demonstrated in updated Exhibit No. WVPA-3. However, in an effort to facilitate the timely approval of the proposed Reactive Power Tariff, WVPA states that it is not requesting this additional compensation. Accordingly, WVPA states that its proposed annual revenue requirement remains unchanged from its initial filing, except as revised in light of PJM’s comments concerning its rounding practices.<sup>18</sup>

#### **IV. Discussion**

##### **A. Procedural Matters**

19. Pursuant to Rule 214 of the Commission’s Rules of Practice and Procedure,<sup>19</sup> PJM’s timely, unopposed motion to intervene serves to make it a party to this proceeding.

##### **B. Substantive Matters**

20. Our preliminary analysis indicates that WVPA’s filing has not been shown to be just and reasonable and may be unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful. Accordingly, we accept WVPA’s proposed Reactive Power Tariff for filing, suspend it for a nominal period, to be effective February 1, 2016, subject to refund, and establish hearing and settlement judge procedures. We find that WVPA’s proposed revenue requirement for Reactive Service provided by the Facilities raises disputed issues of material fact that cannot be resolved based on the record before us, and that are more appropriately addressed in the hearing and settlement judge procedures ordered below.

---

<sup>17</sup> *Id.* at 5.

<sup>18</sup> *Id.* at 6.

<sup>19</sup> 18 C.F.R. § 385.214 (2015).

21. In *West Texas Utilities Co.*,<sup>20</sup> the Commission explained that when its preliminary analysis indicates that the proposed rates may be unjust and unreasonable, and may be substantially excessive, as defined in *West Texas*, the Commission will generally impose a five-month suspension. In the instant proceeding, our preliminary analysis indicates that the rates may not be substantially excessive, as defined in *West Texas*, and therefore we will accept WVPA's filing, suspend it for a nominal period, to be effective February 1, 2016, as requested, subject to refund, and set the filing for hearing and settlement judge procedures.

22. One of the concerns identified in our preliminary analysis of WVPA's proposed Reactive Power Tariff is WPVA's use of locational marginal price (LMP) to calculate the Heating Losses Component of its reactive power revenue requirement.<sup>21</sup> As explained below, this is contrary to Commission precedent.

23. We take this opportunity to provide general guidance to filers of cost-based reactive power tariffs.<sup>22</sup> In reviewing proposed reactive power rates, the Commission applies the *AEP* methodology.<sup>23</sup> The Commission has received a number of cost-based reactive power tariff filings that have included apparent errors in the application of the *AEP* methodology and that have not been supported by the required cost information.<sup>24</sup> We provide the guidance herein to ensure that the Commission has sufficient information to evaluate whether the reactive power rate is just and reasonable.

---

<sup>20</sup> 18 FERC ¶ 61,189, at 61,374-75 (1982) (*West Texas*).

<sup>21</sup> We note that WVPA's filings include inconsistent information related to proper nameplate ratings and number of generators for the Jay County and Earthmovers facilities. Hearing and settlement procedures should verify the proper nameplate ratings and number of generators for the Jay County and Earthmovers facilities.

<sup>22</sup> We note that Commission staff will convene a workshop to discuss compensation for Reactive Service in the markets operated by Independent System Operators and Regional Transmission Organizations. *See* Notice of Workshop, Docket No. AD16-17-000 (March 17, 2016).

<sup>23</sup> *See* Opinion No. 440, 88 FERC at 61,456-57.

<sup>24</sup> *See, e.g., PSEG Energy Resources & Trade, LLC*, 152 FERC ¶ 61,113 (2015); *Newark Energy Center, LLC*, 152 FERC ¶ 61,188 (2015); *Garrison Energy Center, LLC*, 153 FERC ¶ 61,241 (2015); *Scrubgrass Generating Company, L.P.*, 152 FERC ¶ 61,220 (2015).

24. Under the *AEP* methodology, generators receive compensation for a portion of their remaining production plant investment, which includes fixed costs associated with heating losses.<sup>25</sup> However, the Commission also has explained: “While the *AEP* methodology is limited to fixed cost recovery, if an applicant could demonstrate that it incurs variable costs associated with heating losses, we would consider such recovery.”<sup>26</sup> Some generators have sought to recover fixed costs associated with reactive power heating losses as part of their variable cost component associated with heating losses. We reiterate here that this approach is not appropriate and that the fixed and variable costs associated with heating losses are two distinct costs that must be accounted for separately. Allowing recovery of fixed costs related to heating losses as part of the variable heating loss component would amount to double recovery of fixed costs for heating losses because those fixed costs are already included in the reactive power portion of the production plant investment.<sup>27</sup>

25. Commission precedent requires that recovery of variable costs related to heating losses be based on “the actual amount of heating loss costs incurred based on the [megawatt (MW)]-hours of actual reactive power production.”<sup>28</sup> In past filings, however, some generators have assumed maximum reactive power output when calculating heating losses. Because generators are very unlikely to run at their maximum level of reactive power capability for the entire operating year, this may be an unrealistic representation of “actual” reactive power production. The Commission will consider proxy data when actual operating data is not available, including, for example, proxy data from a similar facility.<sup>29</sup>

26. In recent filings, companies have sought to use LMP as an estimate of heating losses costs. The Commission has found, however, that LMP is not appropriate for the calculation of costs due to heating losses.<sup>30</sup> While generators must produce reactive

---

<sup>25</sup> Opinion No. 498, 121 FERC ¶ 61,025 at P 69.

<sup>26</sup> *Id.* P 71.

<sup>27</sup> *Id.* PP 70-71.

<sup>28</sup> *Id.*

<sup>29</sup> See *Dynegy Midwest Generation, Inc.*, 125 FERC ¶ 61,280 at P 34; *WPS Westwood Generation, L.L.C.*, 101 FERC ¶ 61,290, at P 15 (2002).

<sup>30</sup> *Dynegy Midwest Generation, Inc.*, 125 FERC ¶ 61,280 at PP 35-37.

power within the required power factor range without changing their real power output,<sup>31</sup> and the Commission has found that there are no lost opportunity costs associated with heating losses,<sup>32</sup> the production of reactive power may increase the variable costs of producing energy by increasing fuel consumption, even within the required power factor range. Therefore, the generator is permitted to recover the added incremental fuel and variable costs, if any, of producing reactive power in the form of heating losses. However, to avoid over-recovery of heating losses, we reiterate that costs for heating losses must be calculated based on actual fuel costs and any other variable expenses incurred due to reactive power production, unless only proxy data is available, and not based on LMP.<sup>33</sup> As mentioned above, the Commission will consider proxy data when actual operating data is not available.

27. We also reiterate that revenue requirements established pursuant to Schedule 2 of the *pro forma* Open Access Transmission Tariff are for Reactive Supply and Voltage Control, and are based on a particular level of reactive power capability for a particular generating unit or group of units.<sup>34</sup> Where the Commission is aware of a generator owner receiving payments for a generating unit that is no longer capable of providing reactive power, or for a generating unit with degraded reactive power capability, the Commission will take appropriate action, including establishing a proceeding under section 206 of the FPA<sup>35</sup> and/or making a referral to the Commission's Office of Enforcement.<sup>36</sup> In

---

<sup>31</sup> Section 9.6.1 of the *pro forma* LGIA and section 1.8.1 of the *pro forma* SGIA (requiring that generators be designed to maintain a composite power delivery at continuous rated power output within the standard power factor range).

<sup>32</sup> Opinion No. 498, 125 FERC ¶ 61,025 at P 71 (“[W]e affirm the Presiding Judge that [Dynergy Midwest Generation, Inc.] incurs no opportunity costs due to heating losses for the reasons stated in the Initial Decision.”).

<sup>33</sup> *Dynergy Midwest Generation, Inc.*, 125 FERC ¶ 61,280 at PP 36-37.

<sup>34</sup> Opinion No. 498, 121 FERC ¶ 61,025 at PP 3-5. This is true even if the Commission-approved reactive power revenue requirement was established through a settlement because the settled rate would have been for a particular set of generating units and a particular level of reactive power capability.

<sup>35</sup> 16 U.S.C. § 824e (2012).

<sup>36</sup> See, e.g., *RC Cape May Holdings, LLC*, 152 FERC ¶ 61,224, at P 20 (2015); *PSEG Energy Resources & Trade, LLC*, 152 FERC ¶ 61,113, at P 12 (2015); *FirstEnergy Sols. Corp.*, 152 FERC ¶ 61,164, at P 15 (2015).

particular, if generating unit is deactivated or if the reactive power capability of a generating unit has degraded since the Commission approved the relevant reactive power revenue requirement (and the generating unit has not been refurbished or had generating equipment replaced), the payment for Reactive Supply and Voltage Control from that generating unit should reflect such circumstance.

28. Lastly, the Commission's regulations require a "summary statement of all cost . . . computations involved in arriving at the derivation of the level of the rate, in sufficient detail to justify the rate . . ." <sup>37</sup> To satisfy this requirement, reactive power revenue requirement filings must include cost information for all equipment used to produce reactive power, including for turbogenerators, generators, exciters, and step-up transformers. Moreover, to support the reactive power allocator used in the *AEP* methodology, reactive power revenue requirement filings must include reactive power test reports. In other words, the cost figures provided with reactive power revenue requirement filings must be sufficiently detailed for the Commission to be able to evaluate and analyze the proposed revenue requirement.

29. While we are setting this matter for a trial-type evidentiary hearing, we encourage the parties to make every effort to settle their dispute before hearing procedures commence. To aid the parties in their settlement efforts, we will hold the hearing in abeyance and direct that a settlement judge be appointed, pursuant to Rule 603 of the Commission's Rules of Practice and Procedure. <sup>38</sup> If the parties desire, they may, by mutual agreement, request a specific judge as the settlement judge in the proceeding; otherwise the Chief Judge will select a judge for this purpose. <sup>39</sup> The settlement judge shall report to the Chief Judge and the Commission within thirty (30) days of the date of the appointment of the settlement judge, concerning the status of settlement discussions. Based on this report, the Chief Judge shall provide the parties with additional time to continue their settlement discussions or provide for commencement of a hearing by assigning the case to a presiding judge.

---

<sup>37</sup> 18 C.F.R. § 35.12(b)(2)(ii) (2015).

<sup>38</sup> 18 C.F.R. § 385.603 (2015).

<sup>39</sup> If the parties decide to request a specific judge, they must make their joint request to the Chief Judge by telephone at (202) 502-8500 within five (5) days of this order. The Commission's website contains a list of Commission judges available for settlement proceedings and a summary of their background and experience (<http://www.ferc.gov/legal/adr/avail-judge.asp>).

The Commission orders:

(A) WVPA's proposed Reactive Power Tariff is hereby accepted for filing and suspended for a nominal period, to become effective February 1, 2016, subject to refund, as discussed in the body of this order.

(B) Pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Energy Regulatory Commission by section 402(a) of the Department of Energy Organization Act and the FPA, particularly sections 205 and 206 thereof, and pursuant to the Commission's Rules of Practice and Procedure and the regulations under the FPA (18 C.F.R. Chapter I), a public hearing shall be held concerning the justness and reasonableness of WVPA's Reactive Power Tariff, as discussed in the body of this order. However, the hearing shall be held in abeyance to provide time for settlement judge procedures, as discussed in Ordering Paragraphs (C) and (D) below.

(C) Pursuant to Rule 603 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.603 (2015), the Chief Judge is hereby directed to appoint a settlement judge in this proceeding within fifteen (15) days of the date of this order. Such settlement judge shall have all powers and duties enumerated in Rule 603 and shall convene a settlement conference as soon as practicable after the Chief Judge designates the settlement judge. If the parties decide to request a specific judge, they must make their request to the Chief Judge within five (5) days of the date of this order.

(D) Within thirty (30) days of the appointment of the settlement judge, the settlement judge shall file a report with the Commission and the Chief Judge on the status of the settlement discussions. Based on this report, the Chief Judge shall provide the parties with additional time to continue their settlement discussions, if appropriate, or assign this case to a presiding judge for a trial-type evidentiary hearing, if appropriate. If settlement discussions continue, the settlement judge shall file a report at least every sixty (60) days thereafter, informing the Commission and the Chief Judge of the parties' progress toward settlement.

(E) If settlement judge procedures fail and a trial-type evidentiary hearing is to be held, a presiding judge, to be designated by the Chief Judge, shall, within fifteen (15) days of the date of the presiding judge's designation, convene a prehearing conference in these proceedings in a hearing room of the Commission, 888 First Street, NE, Washington, DC 20426. Such a conference shall be held for the purpose of

establishing a procedural schedule. The presiding judge is authorized to establish procedural dates, and to rule on all motions (except motions to dismiss) as provided in the Commission's Rules of Practice and Procedure.

By the Commission. Commissioner Clark is not participating.

( S E A L )

Nathaniel J. Davis, Sr.,  
Deputy Secretary.