

July 3, 2018

The Honorable Kimberly D. Bose  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

Re: *Southwest Power Pool, Inc.*, Docket No. ER12-1179-\_\_\_\_  
Compliance Filing

Dear Secretary Bose:

Pursuant to Section 206 of the Federal Power Act (“FPA”), 16 U.S.C. § 824e, and the order issued by the Federal Energy Regulatory Commission (“Commission”) on June 5, 2018,<sup>1</sup> Southwest Power Pool, Inc. (“SPP”) submits this compliance filing revising its Open Access Transmission Tariff<sup>2</sup> to incorporate two design changes to SPP’s net benefits test methodology as directed in the June 2018 Order.<sup>3</sup>

## I. BACKGROUND

Order No. 745<sup>4</sup> required Regional Transmission Organizations (“RTOs”) to pay demand response resources the locational marginal price (“LMP”) for energy when (1) the demand response resource has the capability to balance supply and demand as an alternative to a generation resource and (2) dispatch of the demand response resource

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<sup>1</sup> *Sw. Power Pool*, 163 FERC ¶ 61,183 (2018) (“June 2018 Order”).

<sup>2</sup> Southwest Power Pool, Inc., Open Access Transmission Tariff, Sixth Revised Volume No. 1 (“Tariff”). References in this filing to “Tariff” refer to the version of SPP’s Tariff currently in effect. “Proposed Tariff” refers to a version reflecting the revisions proposed in this filing. All capitalized terms not otherwise defined in this filing shall have the definitions assigned by the Tariff.

<sup>3</sup> See June 2018 Order at P 18.

<sup>4</sup> *Demand Response Compensation in Organized Wholesale Energy Markets*, Order No. 745, 2008–2013 FERC Stats. & Regs., Regs. Preambles ¶ 31,322, *order on reh’g & clarification*, Order No. 745-A, 137 FERC ¶ 61,215 (2011), *reh’g denied*, Order No. 745-B, 138 FERC ¶ 61,148 (2012), *vacated*, *Elec. Power Supply Ass’n v. FERC*, 753 F.3d 216 (D.C. Cir. 2014), *rev’d & remanded*, 136 S. Ct. 760 (2016).

is cost-effective as determined by a net benefits test described in Order No. 745.<sup>5</sup> SPP's compliance with Order No. 745's net benefits test and cost allocation requirements for SPP's Energy Imbalance Service ("EIS") Market was accepted by the Commission in a letter order issued on December 20, 2013.<sup>6</sup>

While its Order No. 745 compliance was pending, SPP submitted to the Commission proposed revisions to its Tariff to transition from its Real-Time EIS Market to the SPP Integrated Marketplace, which includes Day-Ahead and Real-Time Energy and Operating Reserve Markets, a Transmission Congestion Rights market, a consolidated SPP Balancing Authority Area, and a market power monitoring and mitigation plan based on conduct and impact thresholds. In an October 2012 order addressing SPP's Integrated Marketplace proposal, the Commission directed SPP to incorporate into its Integrated Marketplace Tariff any provisions that would be appropriate in light of the requirements of Order No. 745.<sup>7</sup> In a compliance filing dated January 22, 2014, SPP proposed cost allocation and net benefits test methodologies similar to those accepted by the Commission for use in its EIS Market.<sup>8</sup> For the net benefits test, SPP proposed to use the same net benefits test SPP had adopted for the EIS Market. SPP anticipated however, that the methodology would have to be adjusted once SPP had access to a full year of Integrated Marketplace data and proposed the use of the EIS Market methodology as a transitional measure. SPP commenced operation of the Integrated Marketplace on March 1, 2014.

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<sup>5</sup> Order No. 745 at PP 2, 47-48. Order No. 745 identified characteristics for the net benefits test, which determines the point at which compensating a demand response resource at the market price is cost-effective. The order defined this point as the market price level at which dispatch of the demand response resource lowers LMP sufficiently to offset the additional cost to load of compensating the resource at full market price. *Id.* at PP 3-4, 79-80.

<sup>6</sup> *Sw. Power Pool, Inc.*, Letter Order, Docket No. ER11-4105-001 (Dec. 20, 2013).

<sup>7</sup> *Sw. Power Pool, Inc.*, 141 FERC ¶ 61,048, at P 2 (2012), *order on reh'g and clarification*, 142 FERC ¶ 61,205 (2013), *appeal dismissed sub nom. Neb. Pub. Power Dist. v. FERC*, No. 13-1181, 2014 U.S. App. LEXIS 10064 (D.C. Cir. Apr. 15, 2014).

<sup>8</sup> Submission of Tariff Revisions to Implement Order No. 745 in the SPP Integrated Marketplace of Southwest Power Pool, Inc., Docket No. ER12-1179-016 (January 22, 2014) ("January 2014 Filing"). For the Integrated Marketplace, SPP proposed a cost allocation methodology that would continue to allocate costs associated with load-reduction demand response on a regional basis. However, the new methodology, based on hourly charge types specific to load-reduction demand response, allocates cost based on the degree of benefit entities receive from the resulting LMP.

In an order dated April 1, 2014,<sup>9</sup> the Commission conditionally accepted SPP's proposed Order No. 745 methodologies for the Integrated Marketplace, subject to a compliance filing in which SPP would recommend any adjustments it found necessary after obtaining experience with these methodologies in the Integrated Marketplace.<sup>10</sup> Two years later, SPP submitted a compliance filing on May 24, 2016, advising the Commission that, because of a lack of data regarding load-reduction demand response activity in the Integrated Marketplace,<sup>11</sup> SPP had not had the opportunity to evaluate the need for any specific adjustments to its cost allocation methodology<sup>12</sup> or its net benefits test design. On February 2, 2018, the Commission issued a letter requesting additional information regarding the May 2016 Filing.<sup>13</sup> On March 5, 2018, SPP submitted its response to the February 2018 Letter,<sup>14</sup> stating it believed it was appropriate to adjust the net benefits test methodology to use all available offer data and include non-peak hour data in the construction of supply curves.<sup>15</sup> SPP also stated it believed it would be appropriate to first average the supply curves and then smooth the average curve.<sup>16</sup> Subsequently, the Commission issued the June 2018 Order directing SPP to submit a compliance filing to include revisions to the Tariff to

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<sup>9</sup> *Sw. Power Pool, Inc.*, 147 FERC ¶ 61,001 (2014) (“April 2014 Order”).

<sup>10</sup> April 2014 Order at PP 18-19.

<sup>11</sup> Compliance Filing of Southwest Power Pool, Inc., Docket No. ER12-1179-024 (May 24, 2016) (“May 2016 Filing”). As stated in the May 2016 Filing, SPP had previously proposed terminology changes to Tariff provisions regarding its net benefits test to reflect transition from EIS Market data to Integrated Marketplace data. The Commission accepted the revisions in an order dated October 8, 2015. *See Sw. Power Pool, Inc.*, Letter Order, Docket No. ER15-2452-000 (October 8, 2015).

<sup>12</sup> As discussed in SPP's January 2014 Filing, this methodology was designed to allocate costs associated with dispatch of demand response resources on a region-wide basis, and the costs are to be allocated proportionally based on the benefit entities receive from a lower LMP. For SPP's cost allocation methodology in the Integrated Marketplace, the Commission approved, *inter alia*, four demand reduction charge types. They include Day-Ahead Demand Reduction Amount (Attachment AE, section 8.5.24), Day-Ahead Demand Reduction Distribution Amount (Attachment AE, section 8.5.25), Real-Time Demand Reduction Amount (Attachment AE, section 8.6.21), and Real-Time Demand Reduction Distribution Amount (Attachment AE, 8.6.22).

<sup>13</sup> *Sw. Power Pool, Inc.*, Deficiency Letter, Docket No. ER12-1179-024 (February 2, 2018) (“February 2018 Letter”).

<sup>14</sup> Submission of Response to Request for Additional Information of Southwest Power Pool, Inc., Docket No. ER12-1179-025 (March 5, 2018) (“Deficiency Response”).

<sup>15</sup> *See* Deficiency Response at 5.

<sup>16</sup> *Id.*

implement these two net benefits test methodology changes to be effective as of the date of the June 2018 Order.<sup>17</sup>

## II. DISCUSSION OF TARIFF REVISIONS AND COMPLIANCE

SPP proposes revisions to Section 3.9 of Attachment AE of the Tariff to incorporate two design changes required by the June 2018 Order. The first requirement in the June 2018 Order directed SPP to "... (1) adjust its net benefits test methodology to use all available offer date and include non-peak hour data in the construction of supply curves...".<sup>18</sup> The relevant modifications proposed for Steps 1 and 3 of the Net Benefits Test calculation are as follows:

Step 1: Retrieve historical Integrated Marketplace offers for ~~the peak~~ all hours of each day from the same calendar month (of the prior calendar year) for which the calculation is being performed.

Step 3: Combine the offers to create an hourly supply curve for each ~~daily peak~~ hour in the period.<sup>19</sup>

The second requirement directed SPP to "... (2) first average supply curves and then smooth the resulting average curve when performing the net benefits test."<sup>20</sup> Accordingly, SPP proposes to modify Step 4 of the Net Benefits Test as follows:

Step 4: Determine the average of each supply curve and then sSmooth each average supply curve by fitting the following function to the raw data using a non-linear, least-squares regression:

$$P(MW) = A + B * MW + C * MW^2 + D * MW^3 + e^{(E * MW + F)},$$

where  $P(MW)$  is the historical Integrated Marketplace offer price in \$/MWh, and  $MW$  is cumulative capacity.  $A$  through  $F$  are the parameters to be estimated.<sup>21</sup>

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<sup>17</sup> See June 2018 Order at P 18.

<sup>18</sup> June 2018 Order at P 18.

<sup>19</sup> Proposed Tariff at Attachment AE, Section 3.9.

<sup>20</sup> June 2018 Order at P 18.

<sup>21</sup> Proposed Tariff at Attachment AE, Section 3.9.

### **III. ADDITIONAL INFORMATION REQUIRED BY COMMISSION REGULATIONS**

#### **A. Documents submitted with this filing:**

In addition to this transmittal letter, the following documents are included with this filing:

Clean and Redlined Tariff revisions under the Sixth Revised Volume No. 1.

#### **B. Effective date:**

Consistent with the June 2018 Order, SPP requests that the Commission accept the Tariff revisions proposed herein effective June 5, 2018.

#### **C. Service:**

SPP has served a copy of this filing on all its Members, Transmission Customers, Market Participants, and all affected state commissions in the SPP Region. SPP also has served a copy on all individuals listed on the Commission's official service list for this proceeding. A complete copy of this filing will be posted on the SPP website, [www.spp.org](http://www.spp.org).

### **IV. CONCLUSION**

SPP respectfully requests that the Commission accept the Tariff provisions proposed herein as compliant with the directives of the June 2018 Order, effective June 5, 2018.

Respectfully submitted,

/s/ Joseph W. Ghormley  
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**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 in this proceeding.

Dated at Little Rock, Arkansas, this 3rd day of July 2018.

/s/ Michelle Harris  
Michelle Harris

### 3.9 Calculation of Net Benefits Test for Compensation of Demand Response Load

The Transmission Provider shall identify each month the price on a supply curve, representative of economic conditions expected for that month, at which the benefits of dispatching Demand Response Load exceed the costs of the load reductions to other loads (“Net Benefits Threshold”). In formulaic terms, the Net Benefits Threshold is deemed to be realized at the price point on the supply curve where the market price (“P”) change attributable to dispatching Demand Response Load times the MWh consumed is greater than the new market price (after dispatching Demand Response Load) times the Demand Response Load, as set forth in the following formula:

$$(\Delta P \times \text{MWh consumed}) > (P_{\text{NEW}} \times \text{Demand Response Load}),$$

where  $\Delta P = P$  before Demand Response Load is dispatched minus  $P_{\text{NEW}}$ .

The Transmission Provider shall update and post the Net Benefits Test results and analysis for a calendar month no later than the 15<sup>th</sup> day of the preceding calendar month. The Net Benefits Threshold shall be calculated using the following steps:

Step 1: Retrieve historical Integrated Marketplace offers for all hours of each day from the same calendar month (of the prior calendar year) for which the calculation is being performed.

Step 2: Adjust a portion of each prior-year offer representing the typical share of fuel costs in energy offers in the SPP Region for changes in fuel prices based on the ratio of the reference month spot price to the study month forward price. For such purpose, natural gas shall be priced at the Henry Hub price, number 2 oil shall be priced at the Gulf Coast price, and coal shall be priced at the Powder River Basin price.

Step 3: Combine the offers to create an hourly supply curve for each hour in the period.

Step 4: Determine the average of each supply curve and then smooth each average supply curve by fitting the following function to the raw data using a non-linear, least-squares regression:

$$P(MW) = A + B * MW + C * MW^2 + D * MW^3 + e^{(E * MW + F)},$$

where  $P(MW)$  is the historical Integrated Marketplace offer price in \$/MWh, and  $MW$  is cumulative capacity.  $A$  through  $F$  are the parameters to be estimated.

Step 5: Compute the price elasticity of the smoothed supply curves at each  $MW$  point, finding the threshold price for each supply curve at which elasticity falls below one for the duration of the curve.

Step 6: Compute the average of the threshold prices identified in Step 5. This is the Net Benefits Threshold for the month.

### 3.9 Calculation of Net Benefits Test for Compensation of Demand Response Load

The Transmission Provider shall identify each month the price on a supply curve, representative of economic conditions expected for that month, at which the benefits of dispatching Demand Response Load exceed the costs of the load reductions to other loads (“Net Benefits Threshold”). In formulaic terms, the Net Benefits Threshold is deemed to be realized at the price point on the supply curve where the market price (“P”) change attributable to dispatching Demand Response Load times the MWh consumed is greater than the new market price (after dispatching Demand Response Load) times the Demand Response Load, as set forth in the following formula:

$$(\text{Delta P} \times \text{MWh consumed}) > (P_{\text{NEW}} \times \text{Demand Response Load}),$$

where  $\text{Delta P} = P$  before Demand Response Load is dispatched minus  $P_{\text{NEW}}$ .

The Transmission Provider shall update and post the Net Benefits Test results and analysis for a calendar month no later than the 15<sup>th</sup> day of the preceding calendar month. The Net Benefits Threshold shall be calculated using the following steps:

Step 1: Retrieve historical Integrated Marketplace offers for ~~the peak~~ all hours of each day from the same calendar month (of the prior calendar year) for which the calculation is being performed.

Step 2: Adjust a portion of each prior-year offer representing the typical share of fuel costs in energy offers in the SPP Region for changes in fuel prices based on the ratio of the reference month spot price to the study month forward price. For such purpose, natural gas shall be priced at the Henry Hub price, number 2 oil shall be priced at the Gulf Coast price, and coal shall be priced at the Powder River Basin price.

Step 3: Combine the offers to create an hourly supply curve for each ~~daily peak~~ hour in the period.

Step 4: Determine the average of each supply curve and then sSmooth each average supply curve by fitting the following function to the raw data using a non-linear, least-squares regression:

$$P(MW) = A + B * MW + C * MW^2 + D * MW^3 + e^{(E * MW + F)},$$

where  $P(MW)$  is the historical Integrated Marketplace offer price in \$/MWh, and  $MW$  is cumulative capacity.  $A$  through  $F$  are the parameters to be estimated.

Step 5: Compute the price elasticity of the smoothed supply curves at each  $MW$  point, finding the threshold price for each supply curve at which elasticity falls below one for the duration of the curve.

Step 6: Compute the average of the threshold prices identified in Step 5. This is the Net Benefits Threshold for the month.