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SOAH DOCKET NO. 473-19-6862
PUC DOCKET NO. 49737

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PUC, STATE OF TEXAS

APPLICATION OF SOUTHWESTERN § BEFORE THE STATE OFFICE
ELECTRIC POWER COMPANY FOR §
CERTIFICATE OF CONVENIENCE §
AND NECESSITY AUTHORIZATION § OF
AND RELATED RELIEF FOR THE §
ACQUISITION OF WIND §
GENERATION FACILITIES § ADMINISTRATIVE HEARINGS

**SOUTHWESTERN ELECTRIC POWER COMPANY'S RESPONSE TO TEXAS
INDUSTRIAL ENERGY CONSUMERS' FIFTH REQUEST FOR INFORMATION**

OCTOBER 8, 2019

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Files provided electronically on the PUC Interchange

TIEC_5_05_Attachment_1.xlsx
TIEC_5_07_Attachment_1.xlsx

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Question No. TIEC 5-1:

Please provide the name of every third-party source of natural gas price forecasts to which AEP or SWEPCO subscribes or has subscribed in the last two years.

Response No. TIEC 5-1:

AEPSC subscribes to IHS Markit and Platts Analytics for long-term gas and power price forecasts.

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Title: Economic Forecast Analyst Staff

Sponsored By: Karl R. Bletzacker

Title: Dir Fundamental Analysis

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Question No. TIEC 5-2:

For each third-party source of natural gas price forecasts identified in response to TIEC 5-1, please provide:

- a. A narrative description of the manner in which AEP or SWEPCO accesses or receives natural gas forecasts.
- b. All documents from the past two years in which the third-party source transmitted a forecast to AEP or SWEPCO, or notified AEP or SWEPCO that a new forecast was available.
- c. A list of each long-term natural gas forecast (including all cases/sensitivities) by date published by the source within the last two years that AEP or SWEPCO accessed, has access to, or is otherwise within AEP's or SWEPCO's possession, custody, or control.
- d. A copy of every long-term natural gas forecast (including all cases/sensitivities) identified in the response to subpart (c) of this question.
- e. A list of each long-term natural gas forecast (including all cases/sensitivities) by date published by the source within the last two years that AEP or SWEPCO did not access or otherwise obtain. Please explain why AEP or SWEPCO did not access or obtain these forecasts and why AEP or SWEPCO do not have access to these forecasts presently.
- f. Please identify the long-term natural gas forecasts (including all cases/sensitivities) published by the source that were reviewed, assessed, or relied upon in connection with the creation of the Fundamentals Forecast presented by SWEPCO witness Mr. Bletzacker in this case.

Response No. TIEC 5-2:

The information responsive to this request is HIGHLY SENSITIVE under the terms of the Protective Order. The Highly Sensitive information is available for review at the Austin offices of American Electric Power Company (AEP), 400 West 15th Street, Suite 1520, Austin, Texas, 78701, (512) 481-4562, during normal business hours.

- a. AEPSC accesses third-party natural gas and power price forecasts by logging into the third-party vendor's client webpage using login credentials provided by the vendor pursuant to the terms and conditions of the vendor's license agreement.
- b. AEPSC's third-party vendors do not transmit long-term gas and power price forecasts. Access is obtained pursuant to "a" above. AEPSC logs into each third-party vendor's client website periodically for updated long-term natural gas and power price forecasts. AEPSC does not receive routine notices of new forecasts availability, however, if a third-party vendor's communication is received, the communication itself is not retained.
- c. Attached please find TIEC_5_02_Highly_Sensitive_Attachment_1.

- d. Please see the attached Microsoft Excel documents (TIEC_5_02_Highly_Sensitive_Attachment_2 and TIEC_5_02_Highly_Sensitive_Attachment_3) for the requested forecasts.
- e. AEPSC accessed all long-term forecasts available on each vendor's website in the last two years, up to the publication date of AEPSC's Fundamentals Forecast.
- f. Each of the files contained in "d" were reviewed and assessed prior to release of AEPSC's Y2019H1 Fundamentals Forecast. None of the forecasts were directly relied upon in preparation of the Fundamentals Forecast.

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Question No. TIEC 5-3:

Please provide the name of every third-party source of Southwest Power Pool (SPP) locational marginal price (LMP) forecasts and/or SPP LMP forward curves to which AEP or SWEPCO subscribes or has subscribed in the past two years.

Response No. TIEC 5-3:

Please refer to TIEC 5-1 for the list of third-party vendors to which AEP or SWEPCO subscribe or have subscribed in the past two years that provide SPP energy price forecasts.

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Title: Resource Planning Analyst Sr

Prepared By: Jon R. Maclean

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Question No. TIEC 5-4:

For each third-party source of SPP LMP forecasts and/or SPP LMP forward curves identified in response to TIEC 5-3, please provide:

- a. A narrative description of the manner in which AEP or SWEPCO accesses or receives SPP LMP forecasts and/or forward curves.
- b. All documents from the past two years in which the third-party source transmitted a SPP LMP forecast and/or forward curve to AEP or SWEPCO, or notified AEP or SWEPCO that a new forecast and/or forward curve was available.
- c. A list of each SPP LMP forecast and/or forward curve (including all cases/sensitivities) by date published by the source within the last two years that AEP or SWEPCO accessed, has access to, or is otherwise within AEP's or SWEPCO's possession, custody, or control.
- d. A copy of every SPP LMP forecast and/or forward curve (including all cases/sensitivities) identified in the response to subpart (c) of this question.
- e. A list of each SPP LMP forecast and/or forward curve (including all cases/sensitivities) by date published by the source within the last two years that AEP or SWEPCO did not access or otherwise obtain. Please explain why AEP or SWEPCO did not access or obtain these forecasts and/or forward curves and why AEP or SWEPCO do not have access to these forecasts and/or forward curves presently.
- f. Please identify the SPP LMP forecasts and/or forward curves (including all cases/sensitivities) published by the source that were reviewed, assessed, or relied upon in connection with the creation of the Fundamentals Forecast presented by SWEPCO witness Mr. Bletzacker in this case.

Response No. TIEC 5-4:

TIEC 5-2 contains data request responses for both natural gas and power.

- a. Please see response to TIEC 5-2 (a)
- b. Please see response to TIEC 5-2 (b)
- c. Please see response to TIEC 5-2 (c)
- d. Please see response to TIEC 5-2 (d)
- e. Please see response to TIEC 5-2 (e)
- f. Please see response to TIEC 5-2 (f)

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Question No. TIEC 5-5:

Please provide values for each of the following assumptions used in the development of the AEP Fundamentals Forecast used by SWEPCO to evaluate the proposed wind facilities:

- a. Total U.S. and/or North America natural gas demand for each year in the study period.
- b. U.S. and/or North America natural gas demand for each year in the study period, by sector, including but not limited to:
 - i. Residential
 - ii. Industrial
 - iii. Electric generation
 - iv. LNG exports
 - v. Pipeline exports
 - vi. Transportation fuel
 - vii. Other
- c. Natural gas fuel burn for each year in the study period for the U.S. and/or North America electric generation sector (both initial run and final run in AuroraXMP).
- d. Price elasticity of demand values used to calculate natural gas prices, including workpapers in native format used to determine the values.

Response No. TIEC 5-5:

The Company's 2019 Fundamentals Forecast relied primarily upon the Energy Information Administration's (EIA) natural gas projections for residential, industrial, net LNG exports, net pipeline exports, transportation fuel and others. U.S. natural gas consumption for the electric generation sector is a discrete output of the Aurora energy market model and is the sum of each individual U.S. gas-fired generating unit's hourly consumption. As such, the Company's 2019 Fundamentals Forecast relied upon Aurora model-generated U.S. natural gas consumption values. Please find TIEC_5_05_Attachment_1 for EIA Table A1 (supply) and EIA Table A2 (consumption) data by sector and source on the attached flash drive. The worksheet, "Lower 48 Dry Gas" was created to aggregate the EIA information and provide Aurora model-generated U.S. natural gas consumption values.

- a. Please see TIEC_5_05_Attachment_1, specifically Worksheet "Lower 48 Dry Gas."
- b. (i - vii) Please refer to TIEC_5_05_Attachment_1.
- c. Please see TIEC_5_05_Attachment_1, specifically Worksheet "Lower 48 Dry Gas."
- d. Price elasticity, as discerned by the Company, is defined as the % change in consumption divided by the % change in price over the same time period, typically yearly. Price elasticity provides guidance that a change in natural gas consumption is accompanied by an appropriate change in natural gas price and is utilized to confirm that both price and consumption growth rates are in balance. Workpapers are not created to determine values, which have been observed to range from approximately 0.4 - 1.4.

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Question No. TIEC 5-6:

Please explain how all of the values for the assumptions responsive to TIEC 5-5 were developed. Please provide any sources that were reviewed or relied upon in developing the assumptions.

Response No. TIEC 5-6:

Please refer to TIEC 5-5.

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Question No. TIEC 5-7:

Referring to SWEPCO's Response to TIEC 1-6, please provide the workpapers used to calculate the standard deviation that AEP used in creating the Low and High Cases presented in this case.

Response No. TIEC 5-7:

Please find TIEC_5_07_Attachment_1 on the attached flash drive.

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Question No. TIEC 5-8:

Referring to SWEPCO's Response to TIEC 2-5 and TIEC 2-6, please state whether SWEPCO conducted any quantitative analyses evaluating the additional financing costs of using a tax equity investor or joint venture structure as compared to the costs of a deferred tax asset. If so, please provide any such analyses.

Response No. TIEC 5-8:

As stated in SWEPCO's responses to TIEC 2-5 and 2-6, the use of a tax equity structure would add legal, ownership, financial and tax complexity to the project. Because of these risks, and SWEPCO's ability to access capital and fund this project at its weighted cost of capital, which is lower than a tax equity structure, SWEPCO did not conduct any quantitative analysis evaluating the additional financing costs of using a tax equity investor or joint venture structure.

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Question No. TIEC 5-9:

Referring to SWEPCO's Response to TIEC 2-17, please provide the bases for SWEPCO's assumption that the additional wind facilities will be built in the SPP regardless of SWEPCO ownership.

Response No. TIEC 5-9:

The Company believes that because the selected facilities and others in the SPP footprint are in advanced stages of the SPP interconnection process, it is reasonable to assume that the selected or similar other facilities would likely be built regardless of whether or not SWEPCO purchases them. As a result, the Company believes that whether SWEPCO purchases the selected wind facilities will not have a significant impact on the total amount of wind generation in the SPP footprint.

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Sponsored by: Johannes P. Pfeifenberger

Title: Principal, The Brattle Group