VERIFICATION

The undersigned, Scott Fisher being duly sworn, deposes and says he is the Manager for Resource Planning for American Electric Power, that he has personal knowledge of the matters set forth in the forgoing responses for which he is the identified witness and that the information contained therein is true and correct to the best of his information, knowledge and belief

G. Scott Fisher

STATE OF OHIO)
) Case No. 2016-00413
COUNTY OF FRANKLIN)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by G. Scott Fisher this the 3rd day of April 2017.

Ann Dawn Clark
Notary Public

Notary ID: 15RE553375

My Commission Expires: 12/3/20

ANN DAWN CLARK
Notary Public, State of Ohio
My Commission Expires 12-03-2020

VERIFICATION

The undersigned, Brad N Hall being duly sworn, deposes and says he is the External Affairs Manager, for Kentucky Power, that he has personal knowledge of the matters set forth in the forgoing responses for which he is the identified witness and that the information contained therein is true and correct to the best of his information, knowledge and belief

Brad N Hall

COMMONWEALTH OF KENTUCKY)
) Case No. 2016-00413
COUNTY OF BOYD)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Brad N Hall, this the 3rd day of April, 2017.

Notary Public

Notary ID: 571144

My Commission Expires: January 23, 2021

VERIFICATION

The undersigned, John A. Rogness III being duly sworn, deposes and says he is the Director Regulatory Services for Kentucky Power Company, that he has personal knowledge of the matters set forth in the forgoing responses for which he is the identified witness and that the information contained therein is true and correct to the best of his information, knowledge and belief

John A Rogness III

COMMONWEALTH OF KENTUCKY)
) Case No. 2016-000413
COUNTY OF FRANKLIN)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by John A Rogness III, this the 5rd day of April, 2017.

Notary Public Judy K Rosquist

Notary ID: 571144

My Commission Expires: January 23, 2021

VERIFICATION

The undersigned, John F. Torpey, being duly sworn, deposes and says he is the Director Integrated Resource Planning for American Electric Power, that he has personal knowledge of the matters set forth in the forgoing responses for which he is the identified witness and that the information contained therein is true and correct to the best of his information, knowledge and belief

John F. Torpey

STATE OF OHIO)
) Case No. 2016-00413
COUNTY OF FRANKLIN)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by John F. Torpey, this the 3rd day of April 2017.

Notary Public

Notary ID: 15RE553375

My Commission Expires: 12/3/20

ANN DAWN CLARK
Notary Public, State of Ohio
My Commission Expires 12-03-2020

VERIFICATION

The undersigned, Ranie K. Wohnhas, being duly sworn, deposes and says he is the Managing Director Regulatory and Finance for Kentucky Power, that he has personal knowledge of the matters set forth in the forgoing responses for which he is the identified witness and that the information contained therein is true and correct to the best of his information, knowledge, and belief

Ranie K. Wohnhas

COMMONWEALTH OF KENTUCKY)
) Case No. 2016-00413
COUNTY OF BOYD)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Ranie K. Wohnhas, this the 3rd day of April 2017.

Notary Public

Notary ID: 571144

My Commission Expires: January 23, 2021

Q - 1 Refer to the 2016 Integrated Resource Plan ("IRP"), page 13 of 1497. Also refer to Kentucky Power's 2013 IRP, page 5. The 2016 IRP states that Kentucky Power's all-time highest recorded peak demand was 1,685 MW, which occurred in January 2005, and the highest recorded summer peak was 1,358 MW, which occurred in July 2005. The 2013 IRP states that the all-time peak internal demand of 1,678 MW occurred on January 25, 2008, and the highest all-time summer peak demand was 1,358 MW which occurred on August 24, 2007. a. Explain the discrepancies between the winter and summer peak demands between the 2013 and 2016 IRPs. b. Identify and provide the definitions of any distinctions between the calculation of the winter and summer peak demands for 2013 and 2016 IRPs.

A - 1 a. b. The highest peak demand and highest recorded summer peak identified in the 2016 IRP are the Company's actual highest peak demand and highest recorded summer peak. The 2013 IRP contained two errors relating to the all-team peak demands. First, the all-time peak demand in the 2013 IRP was incorrectly identified as 1,678 MW on January 25, 2008. The Company's actual all-time peak demand was 1,685 MW experienced in January 2005 as described in the 2016 IRP. Second, a transcription error with regard to the summer peak demand was included in the 2013 IRP. The peak demand on August 24, 2007 was 1,348 MW not 1,358 MW. The actual all-time highest recorded summer peak was 1,358 MW experienced in July 2005 as described in the 2016 IRP.

Q - 2 Refer to the IRP, page 21 of 1497, Table ES-1; page 60 of 1497, the discussion of reserve margin; and page 239 of 1497, Exhibit G-11 . a. Explain why the reserve margin increases dramatically in 2020 and decreases dramatically in 2031 in Table ES-1. b. Describe in greater detail the basis and significance of the reserve margin in each of these three scenarios. c. Provide any information or documents that Kentucky Power used in developing its reserve margin(s).

A - 2 a. The reserve margin increase in 2020 is due to a reduction in Kentucky Power's forecasted peak demand. The IRP uses PJM's forecast for Kentucky Power's peak demand through 2019, the last year where PJM has prepared a formal forecast. In 2020, the IRP then transitions to AEP's internal forecast of peak demand for Kentucky Power. This forecast is lower than PJM's and results in an increase in reserve margin from 2019 to 2020. The reduction in reserve margin in 2031 is due to the assumed retirement of Big Sandy Unit 1.

b. The mandatory reserve margin for Kentucky Power is PJM's Forecast Pool Requirement (FPR). The FPR, which is discussed on page 60 of the IRP, begins at 9.52% at the beginning of the planning period and changes to 8.81% beginning in 2017. After 2017 an 8.81% FPR is assumed to remain in effect throughout the remainder of the planning period. The reserve margins shown on pages 21 and 239 are the percentage of resources above Kentucky Power's requirement, where this requirement is determined based on Kentucky Power's forecasted peak demand and the FPR. Minor differences in the values shown on pages 21 and 239 are due to the rounding of values, and have no impact on the analysis.

c. Kentucky Power's required reserve margin is the PJM FPR. Details on FPR are discussed on page 60 of the IRP. Details on how the Company's net capacity position and reserve margin are determined for the Preferred Plan are available in Exhibit G-11 on page 239 of the IRP.

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Commission Staff's Second Set of Data Requests
Item No. 3

Witness: Randy E. Holliday

Q - 3 Refer to the IRP, page 45 of 1497, Section 2.4.4.5, All Other Energy Sales. Explain if lagged energy sales are an input for the forecasted sales for public street and highway lighting.

A - 3 Lagged energy sales are not used as an input in the public street and highway lighting energy sales forecast model.

Q - 4 Refer to the IRP, page 61 of 147. a. Provide the cost of the Dry Sorbent Injection ("DSI") systems for Rockport Units 1 and 2 and the impact their deployment has had on Kentucky Power's power bills since they have been in operation. b. State when or if Kentucky Power's costs associated with the DSI systems were modeled in its IRPs.

A - 4 a. Please refer to KPCO_R_KPSC_2_4_Attachment1.xls for the requested information.

b. The IRP model does not account for fixed costs on existing units and systems which have already been placed in service because such prior investment costs would be the same under all IRP portfolio alternatives considered (see page 131 of the IRP). The model included the variable costs associated with Rockport's DSI systems. Such DSI-related variable costs were incorporated into each year of the IRP model.

Q - 5 Refer to Kentucky Power's Response to Staff's First Data Request ("Staff's First Request"), Item 1. Provide the additional resource choices and least cost alternatives that will replace the Rockport Plant capacity.

A - 5 Kentucky Power has not at this time identified any specific additional resources that would be used to meet its capacity and energy needs in the event it elects not to renew the Rockport UPA. Identifying real-world alternatives and their relative costs at this time is premature. It is possible, however, that alternatives reviewed would be similar to the alternative resources described in Section 5.2.1 of the 2016 IRP Report.

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Commission Staff's Second Set of Data Requests
Item No. 6

Witness: John F. Torpey

Q - 6 Refer to Kentucky Power's Response to Staff's First Request, Item 3. There was no response provided to Item 3. Provide an appropriate response.

A - 6 Kentucky Power filed with the Commission a supplemental response for Item No. 3 on March 10, 2017 that included the response.

Q - 7 Refer to Kentucky Power's Response to Staff's First Request, Item 4. a. Confirm that the increased demand charge resulting from the upgrades at the Rockport Plant have not been included in Kentucky Power's modeling for its Preferred Plan. b. Does Kentucky Power intend to include the increased demand charge in its 2019 IRP modeling? c. Identify and explain how the efficiency improvements at the Rockport Plant are expected to affect its fuel rates.

A - 7 a. Prior investment upgrades at the Rockport Plant were not assumed to result in increased demand charges under the Unit Power Agreement, for the reasons described in the response to Staff's Second Set, Question 4. However, future anticipated upgrades at the Rockport Plant were captured in the IRP model as on-going capital expenses.

b. Kentucky Power will review the demand charges associated with the Rockport Plant when it begins the process of preparing the 2019 IRP. Any necessary changes in projected cost assumptions associated with the Rockport Plant will be reflected in the IRP modeling at that time.

c. Efficiency improvements at Rockport will have the effect of lowering the heat rates of the units. Lower heat rates will lead to lower fuel consumption, and potentially lower fuel rates.

KPSC Case No. 2016-00413
Commission Staff's Second Set of Data Requests
Item No. 8

Witness: Gordon S. Fisher
Witness: Ranie K. Wohnhas

Q - 8 Refer to Kentucky Power's Response to Staff's First Request, Item 5. a. Provide an estimate of the difference in the cost of Kentucky Power's plan for acquiring wind energy as compared to that of the plan recommended by the Southern Wind Energy Association based on current projected costs. b. Given that the wind resources will be added beginning in 2018, provide a schedule for the requests for proposal.

A - 8 a. The requested analysis cannot be performed. The "plan recommended by the Southern Wind Energy Association" was for Kentucky Power to:

> immediately issue a request for proposals (RFP) for at least 300 megawatts of wind energy resources, and select preferred wind power purchase agreement(s) before the end of 2017 for delivery by 2020/2021.

Because the Southern Wind Energy Association plan requires the issuance and evaluation of a real-world RFP, a task neither the Southern Wind Energy Association nor Kentucky Power has undertaken, there are no results to compare to Kentucky Power's plan.

Nor is it practicable to model in response to this data request the results of a hypothetical 300 MW RFP conducted in 2017. The pricing inputs used in the Company's IRP modeling were based upon the acquisition of wind energy in 75 MW annual increments beginning in 2018 and concluding in 2021. The pricing of wind energy is likely to vary materially based upon both the quantity and timing of the acquisition of the wind resources.

b. Kentucky Power's 2016 Integrated Resource Plan is based upon the best information available to the Company at the time of its preparation.

Changes that can affect the IRP can occur without notice. As with any planning document, the IRP is not a commitment by the Company to specific resource additions or other courses of action, particularly in light of the uncertainties of the Company's service territory and evolving economic and political conditions.

Kentucky Power currently has not scheduled the issuance of an RFP for 75 MW (nameplate capacity)/year of wind resources beginning in 2018 for a total of 300 MW by 2021. Given that the normal time frame to complete the RFP process is four to six months, the Company currently anticipates beginning the RFP process for capacity to be added in 2018 no later than June 2018. The decision to issue an RFP, and its timing and requirements, will be made based upon the then current conditions and circumstances.

KPSC Case No. 2016-00413
Commission Staff's Second Set of Data Requests
Item No. 9

Witness: Gordon S. Fisher
Witness: John A. Rogness

Q - 9 Refer to Kentucky Power's Response to Staff's First Request, Item 8. a. Provide the annual distributed generation ("DG") growth assumption for the 2016 IRP forecast. b. Explain why it is slower than the annual DG growth assumption of 40 percent in the 2013 IRP.

A - 9 a. The Compound Average Growth Rate (CAGR) of DG resources over the planning period is 15%.

b. The growth rate used in the 2013 IRP was developed by Kentucky Power for use in the IRP, whereas the growth rate used in the 2016 IRP was determined from PJM's forecast of distributed generation for Kentucky Power's territory in PJM. Kentucky Power cannot specify the exact considerations used in PJM's forecast which led to the 15% CAGR. However, at the time the 2013 IRP was prepared the Company was anticipating significant growth in rooftop solar installations by 2016. This growth was expected due to the reduction in the Investment Tax Credit (ITC) from 30% in 2015 to 10% in 2016, which would motivate customers to install systems prior to 2016. However, the actual experienced growth in rooftop solar from 2012 to 2016 was very limited, as shown in Figure 25 on page 114 of the 2016 IRP.

KPSC Case No. 2016-00413
Commission Staff's Second Set of Data Requests
Item No. 10

Witness: Randy E. Holliday

Q - 10 Refer to Kentucky Power's Response to Staff's First Request, Item 11 , KPCO_R_KPSC_1_11_Attachment1 .xls, lines 140-144. a. The spreadsheet indicates that the results are from the 2015 survey. Provide the correct year. b.Refer to the results for Solar Power (panels). It states that one percent of Kentucky Power's residential customers plan to purchase solar panels in the next 2 years. Explain if Kentucky Power has modeled any residential solar generation.

A - 10 a. The Company's latest residential survey was completed in 2016. Therefore, the correct reference is 2016 Residential Survey.

b.The 2016 Residential Appliance Saturation Survey indicate that less than 1% of Kentucky Power's residential customers (.6%) expressed an interest in solar panels within the next two years. For more information on how residential solar was modeled, please see Section 4.5.3.4 on Page 114 of the Company's IRP for a discussion of residential solar. For load forecasting purposes, the Company monitors activity to assess potential impacts on the customer's energy consumption. The current residential solar activity has minimal impacts on the load and the expectations are that this will continue at least through the near term.

Q - 11 Refer to Kentucky Power's Response to Staff's First Request, Item 20. a. For the Inflection point in manufacturing sales due to an expected recovery, explain if the forecast adjustment was an increase or decrease. b. Explain what professional judgment was applied and how it altered the forecasted coal mining stability

A - 11 a. The economic drivers that created an inflection point in manufacturing sales resulted in an increase in load through increased operation of existing facilities along with the operation of new or expanded facilities. These changes were offset somewhat by plant closures. Total manufacturing sales were projected to show some growth after a few years of decline.

b. The forecast for Eastern Kentucky coal production is internally developed and based upon an Energy Information Administration (EIA) forecast for Central Appalachian coal. The EIA Central Appalachian coal production forecast included in the 2015 EIA Annual Energy Outlook can be found at the following link: https://www.eia.gov/outlooks/aeo/data/browser/#/?id=95-AEO2015. The 2015 forecast was the most current, long-term outlook from EIA available at the time the Company developed the load forecast for use in the 2016 IRP.

The Central Appalachian coal production forecast in the 2017 EIA Annual Energy Outlook does not include significant declines in coal production in the region through 2031. The 2017 Annual Energy Outlook forecast can be found at the following link: https://www.eia.gov/outlooks/aeo/data/browser/#/?id=95-AEO2017&region=0-0&cases=ref2017&start=2015&end=2031&f=A&linechart=ref2017-d120816a.2-95-AEO2017&sourcekey=0. Beyond the Central Appalachian region, The EIA's latest short-term forecast projects stability in coal

production for industry as a whole. The latest short-term forecast can be found at the following link: https://www.eia.gov/outlooks/steo/data/browser/#?v=18. It is expected that as natural gas prices rise, coal will gain some competitive advantage and result in more coal mining activity.

KPCO_R_KPSC_11_Attachment1 provides Eastern Kentucky monthly coal production for 2015 and 2016. These data show that coal mining activity has stabilized and shown slight growth in recent months from the sharp declines in 2015 and early 2016. Likewise, the Company's energy sales to mine power customers (see KPCO_R_KPSC_2_11_Attachment2) have stabilized in the second half of 2016 and exhibited slight growth. The expectations are that coal mining industry will not experience the significant declines encountered through early 2016.

Q - 12 Refer to the Kentucky Power's Response to the Attorney General's First Set of Data Requests, Item 1 . a. State the total amount of funds that have been collected through the joint efforts of Kentucky Power and its customers in the Kentucky Power Economic Growth Grant ("K-PEGG") program to date. b. Provide the impacts the K-PEGG program has had on economic development in terms of new businesses, employment, and Kentucky Power's retail sales to date. c. Provide the impacts of all of Kentucky Power's economic development programs in terms of new businesses, employment, and its retail sales since 2012.

A - 12 a. As of February 28, 2017, the Company had collected $493,529.46 through Tariff KEDS and had contributed a matching total of $493,529.46. Since inception, a total of $987,058.92 has been deposited into the K-PEGG program account.

b. Kentucky Power rekindled its economic development efforts in 2012 when it hired, with shareholder funds, InSite Consulting to perform a "gap analysis" of the economic development landscape in the Company's service territory. The InSite gap analysis identified the following gaps in local and regional economic development efforts in the Company's service territory:

- a lack of sufficient functional and properly trained local or regional economic development organizations;
- limited competitive and marketable industrial parks and buildings;
- insufficient marketing infrastructure for available opportunities; and
- insufficient workforce development and training.

The InSite analysis provided the road map for the Company's economic development efforts. The Company's economic development efforts, including the K-PEGG Program, focus on helping communities and economic development organizations in the region close the identified gaps. The Company's efforts are designed to support the local and regional economic development agencies whose primary roles are to attract new business opportunities to the region. Kentucky Power does not issue grants directly to companies; insteadit relies on the expertise of local economic development agencies, subject to Company review, to determine which projects and prospects are worth funding.

Through the K-PEGG Program, the Company issues grants to economic development entities in the Company's service territories to support the following project types:

- economic development agency ("EDA") support projects;
- workforce training projects;
- site development projects; and
- marketing and promotional projects.

Most of the projects funded through the K-PEGG Program are designed to assist the local economic development organizations create and maintain the institutional infrastructure necessary to compete for businesses and jobs for the service territory. A description of the K-PEGG Program grants issued since program inception in January 2016 is provided in KPCO_R_KPSC_2_12_Attachment1.

Three of the K-PEGG grants directly resulted in jobs:

- The June 27, 2016 grant of $100,000 to the Big Sandy Regional Industrial Development Authority made the relocation and expansion of Logan Corporation's Martin County facility to Magoffin County (remaining within the Company's service territory) practicable. This expansion prevented the loss of 35 jobs and will result the creation of an additional 80 jobs at Logan Corporation's new Magoffin County facility.

- The August 15, 2016 grant of $15,000 to Ashland Alliance offset the costs of expanding a natural gas line in Greenup County to support the development of a new galvanizing facility for Steel Ventures, Inc. This new facility will result in 65 new jobs.

- The August 15, 2016 grant of $100,000 to Floyd County Fiscal Court supported the site development work necessary for RCL Chemical Conversion, LLC to locate natural gas to liquids facilities in Floyd and Pike Counties. Once constructed, this facility will result in 100 new jobs.

Because these new facilities are still under construction, Kentucky Power does not have any information on resulting additional retail energy sales.

c. Similar to the K-PEGG Program, Kentucky Power's other economic development programs address the gaps identified in the 2012 InSite study. Funds provided through the Company's other economic development programs, including the Kentucky Economic Advancement Program ("KEAP"), are often used for projects that create and support the economic development infrastructure necessary to attract new businesses to the region.

KEAP is an economic development program through which the Company provides economic development funding for Lawrence County and the six Kentucky counties contiguous to Lawrence County – Boyd, Carter, Elliot, Johnson, Martin, and Morgan Counties. Through KEAP, the Company also makes annual contributions of $16,500 each to Ashland Community and Technical College and to Big Sandy Community and Technical College, the two community and technical colleges that serve the KEAP program area, for job training. A description of the KEAP grants issued since program inception in 2014 is provided in KPCO_R_KPSC_2_12_Attachment2.

The Company also participates in economic development activities through the use of corporate economic development funds. Every year Kentucky Power is allocated funds from AEP's Economic and Business Development group for use within its service territory. These funds are wholly shareholder-provided funds.

Between 2012 and 2016, the Company received and used over $300,000 from AEP's Economic and Business Development Group. The Company used a portion of these funds to pay for the InSite gap analysis described in response to KPSC 2-12(b) above. These funds have also been used for economic development training for local economic development agencies, sponsorship support for local economic development agencies, and memberships in statewide economic development agencies that allow the Company to leverage its economic development efforts. A description of how the Company has utilized funding from AEP's Economic and Business Development Group is provided in KPCO_R_KPSC_2_12_Attachment3.

When Kentucky Power commissioned the InSite study in 2012 there were no active economic development projects – defined as instances where communities were actively involved in potential business relocation or expansion efforts – within the region. Currently, there are 23 active economic development projects in the service territory. Kentucky's Power's support of the local economic development agencies in this region was a key component of this growth