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PUBLIC SERVICE COMMISSION

May 1, 2019

HAND DELIVERY

Gwen R. Pinson Executive Director Public Service Commission 211 Sower Boulevard P.O. Box 615 Frankfort, KY 40602-0615

RE: Kentucky Power Company's 2018 Public Service Commission Annual Report

and Related Filings

Dear Ms. Pinson:

Enclosed please find and accept for filing the original and ten copies of Kentucky Power Company's 2018 Annual Resource Assessment in accordance with the Commission's March 29, 2004 Order in Administrative Case No. 387. The 2018 Annual Resource Assessment was identified in my transmittal letter dated April 30, 2019, but was omitted inadvertently from the Company's filing of that date.

Please do not hesitate to contact me if you have any questions.

Mark R. Overstreet

ery truly yours,

MRO

Kentucky Power Company KPSC Administration Case No. 387 Order Dated December 20, 2001 Annual Resource Assessment

DATA REQUEST

KPSC 1 1

Actual and weather-normalized monthly coincident peak demands for the just completed calendar year. Demands should be disaggregated into (a) native load demand (firm and non-firm) and (b) off-system demand (firm and non-firm). Please provide the information for both Kentucky Power Company individually and the AEP-East Power Pool (pursuant to the Commission's December 13, 2004 Order in the Rockport UPSA extension, Case No. 2004-00420).

RESPONSE

Please refer to Page 1 of KPCO_R_KPSC_1_1_Attachment1 for actual and weather normalized 2018 monthly peak native load demands for Kentucky Power Company.

Kentucky Power Company had two customers with interruptible provisions in their contracts in 2018 for PJM initiated events. The two customers had approximately 5.6 MW of total interruptible load available for use in PJM capacity auctions. The interruptible load available for PJM auctions reflects the average load for these customers, less contractually firm load, at the time of the PJM five coincident peaks in the summer of 2017.

Please refer to Page 2 of KPCO_R_KPSC_1_1_Attachment1 for actual 2018 monthly system demands for Kentucky. The system demands include internal load and off-system sales. Weather-normalized monthly peak system demands for Kentucky Power Company have not been developed and are not available.

The AEP Interconnection Agreement terminated on January 1, 2014, and the AEP-East Power Pool no longer exists. The requested information regarding the AEP-East Power Pool no longer exists.

Witness:

Brian K. West

KPSC Administration Case No. 387 Order Dated December 20, 2001 Calendar Year 2018 Annual Resource Assessment

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Kentucky Power Company Actual and Weather Normalized Peak Internal Demand (MW) 2018

Kentucky Power Company

| | Kentucky Fower Company | | | | | | | | | |
|-----------|------------------------|------------|------|------------|--|--|--|--|--|--|
| | | Peak | Peak | Normalized | | | | | | |
| Month | Peak | Day | Hour | Peak | | | | | | |
| January | 1,446 | 1/2/2018 | 9 | 1,355 | | | | | | |
| February | 1,173 | 2/3/2018 | 9 | 1,220 | | | | | | |
| • | • | | - | • | | | | | | |
| March | 1,007 | 3/14/2018 | 9 | 1,115 | | | | | | |
| April | 905 | 4/5/2018 | 7 | 795 | | | | | | |
| May | 898 | 5/15/2018 | 15 | 836 | | | | | | |
| June | 999 | 6/19/2018 | 15 | 983 | | | | | | |
| July | 985 | 7/4/2018 | 16 | 1,027 | | | | | | |
| August | 983 | 8/28/2018 | 16 | 1,002 | | | | | | |
| September | 990 | 9/4/2018 | 15 | 926 | | | | | | |
| October | 889 | 10/8/2018 | 14 | 762 | | | | | | |
| November | 1,056 | 11/28/2018 | 9 | 1,032 | | | | | | |
| December | 1,062 | 12/11/2018 | 8 | 1,196 | | | | | | |

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Kentucky Power Company Actual Peak System Demand (MW) 2018

Kentucky Power Company

| | • | Peak | Peak | | | | | | | |
|-----------|-------|------------|------|--|--|--|--|--|--|--|
| Month | Peak | Day | Hour | | | | | | | |
| _ | | | | | | | | | | |
| January | 1,471 | 1/17/2018 | 12 | | | | | | | |
| February | 1,306 | 2/5/2018 | 9 | | | | | | | |
| March | 488 | 3/2/2018 | 14 | | | | | | | |
| April | 675 | 4/29/2018 | 21 | | | | | | | |
| May | 1,014 | 5/29/2018 | 13 | | | | | | | |
| June | 1,386 | 6/30/2018 | 17 | | | | | | | |
| July | 1,399 | 7/1/2018 | 17 | | | | | | | |
| August | 1,368 | 8/14/2018 | 14 | | | | | | | |
| September | 1,357 | 9/5/2018 | 11 | | | | | | | |
| October | 1,235 | 10/8/2018 | 16 | | | | | | | |
| November | 705 | 11/7/2018 | 21 | | | | | | | |
| December | 846 | 12/13/2018 | 14 | | | | | | | |

Kentucky Power Company KPSC Administration Case No. 387 Order Dated December 20, 2001 Annual Resource Assessment

DATA REQUEST

KPSC 1 2

Load shape curves that show actual peak demands and weathernormalized peak demands (native load demand and total demand) on a monthly basis for the just competed calendar year. Please provide the information for both Kentucky Power Company individually and the AEP-East Power Pool (pursuant to the Commission's December 13, 2004 Order in the Rockport UPSA extension, Case No. 2004-00420).

RESPONSE

Please refer to Pages 1 through 12 of KPCO_R_KPSC_1_2_Attachment1 for 2018 monthly load duration curves for Kentucky Power Company's internal (native) load. Please refer to Pages 13 through 24 of KPCO_R_KPSC_1_2_Attachment1 for 2018 monthly load duration curves for Kentucky Power Company's system load. The system load, for Kentucky Power Company, includes internal load and off-system sales.

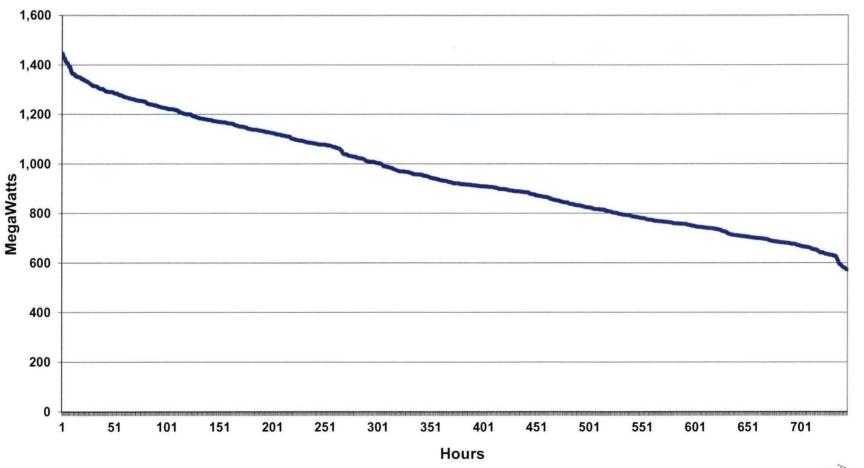
Weather-normalized monthly internal peaks for Kentucky Power Company are provided on Page 1 of KPCO_R_KPSC_1_Attachment1. Weather normalized system peaks have not been developed and are not available.

The AEP Interconnection Agreement terminated on January 1, 2014, and the AEP-East Power Pool no longer exists. The requested information regarding the AEP-East Power Pool no longer exists.

Witness:

Brian K. West

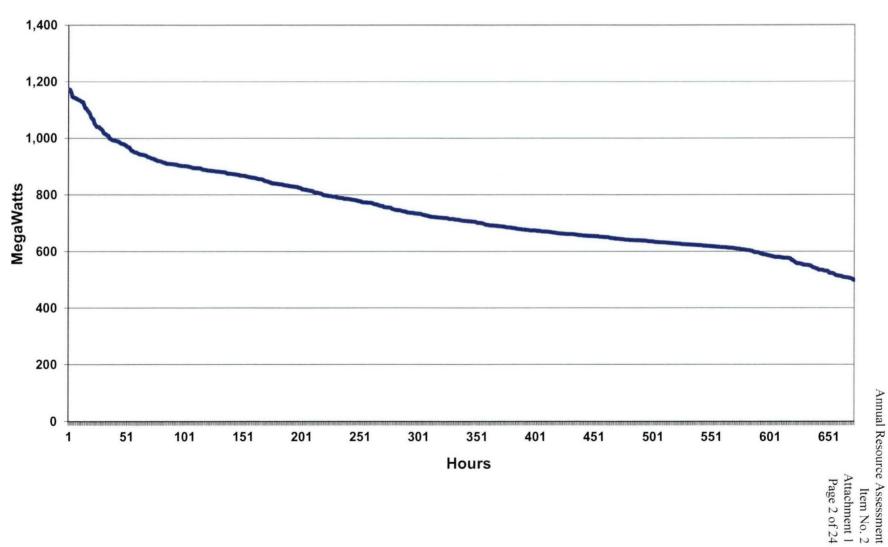
Kentucky Power Company January 2018 Load Duration Curve (Internal Load)



KPSC Administration Case No. 387 Order Dated December 20, 2001 Calendar Year 2018 Annual Resource Assessment

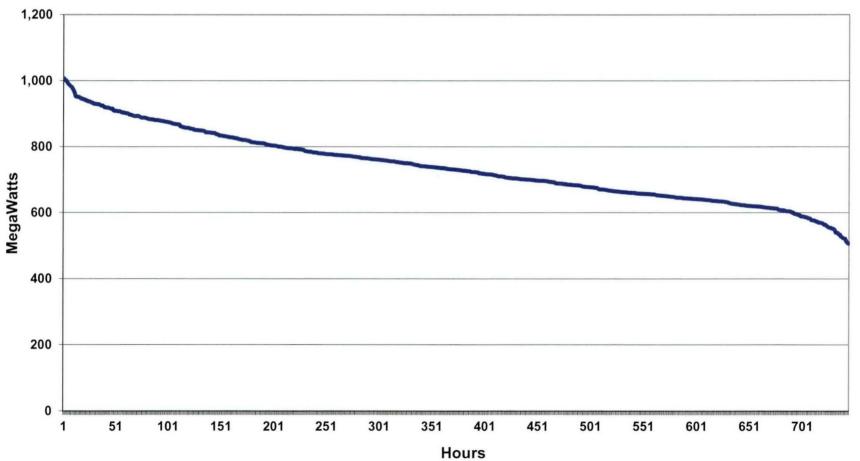
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Kentucky Power Company February 2018 Load Duration Curve (Internal Load)



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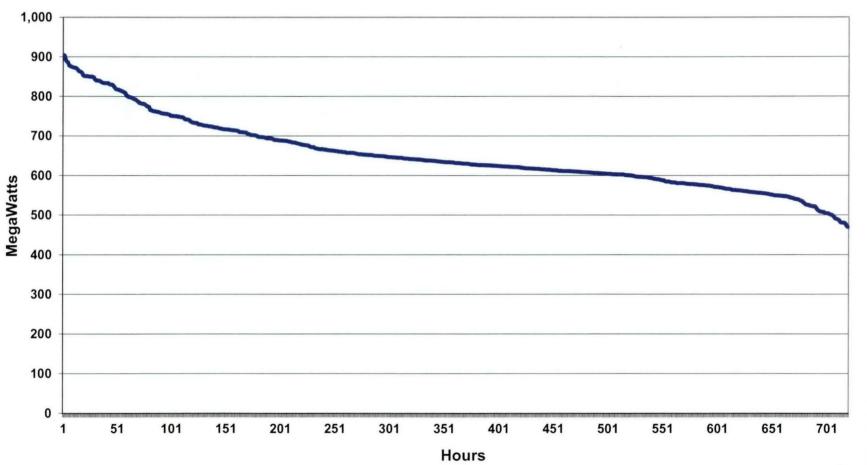
Kentucky Power Company March 2018 Load Duration Curve (Internal Load)



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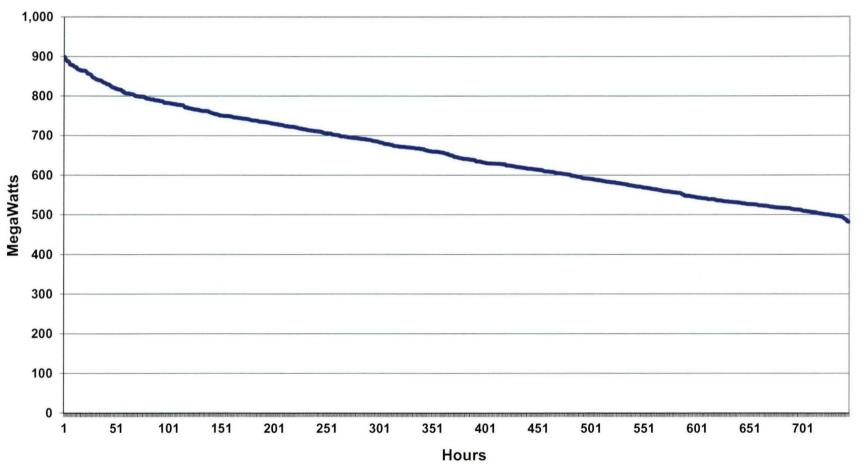
Kentucky Power Company April 2018 Load Duration Curve (Internal Load)



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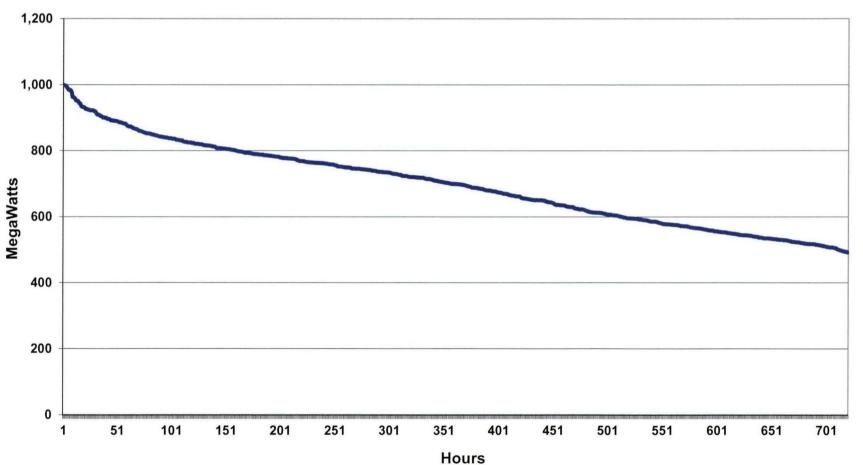
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Kentucky Power Company May 2018 Load Duration Curve (Internal Load)



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Kentucky Power Company June 2018 Load Duration Curve (Internal Load)



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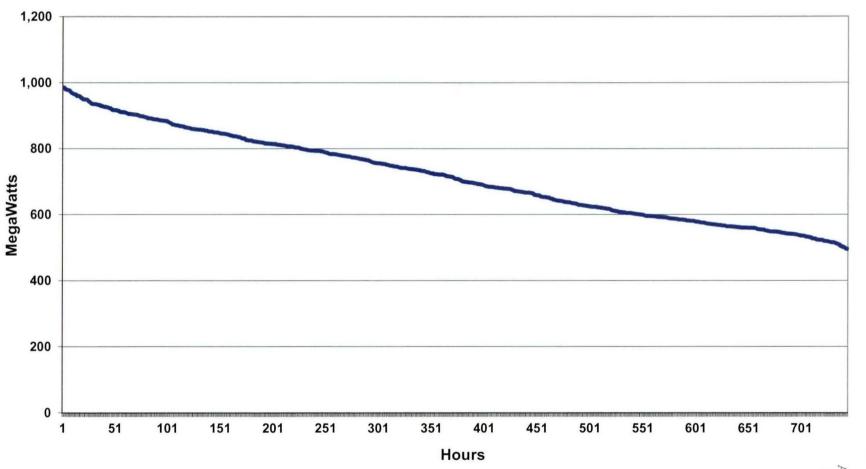
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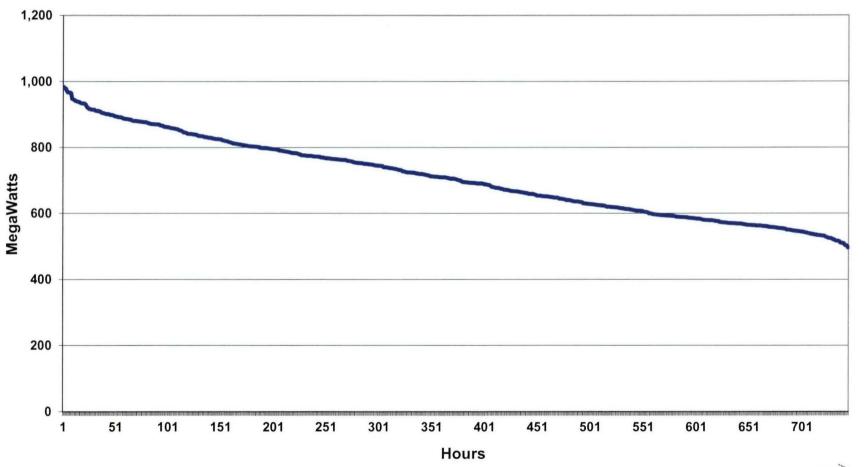
Kentucky Power Company July 2018 Load Duration Curve (Internal Load)



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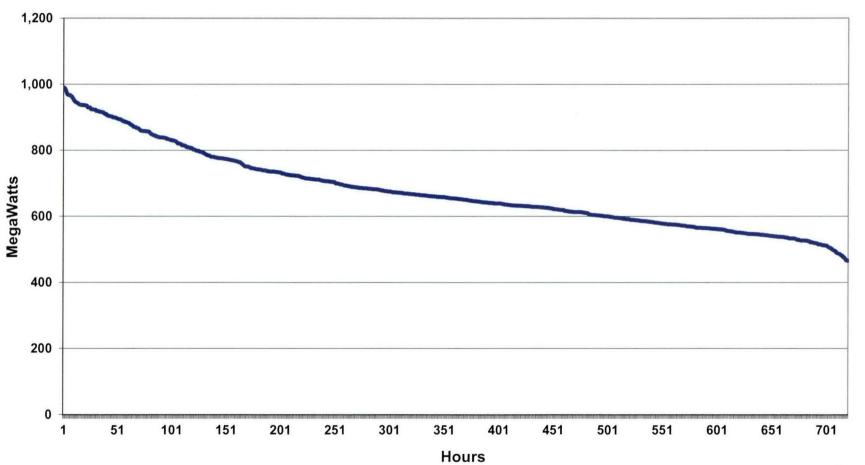
Kentucky Power Company August 2018 Load Duration Curve (Internal Load)



der Dated December 20, 2001 Calendar Year 2018 Annual Resource Assessment

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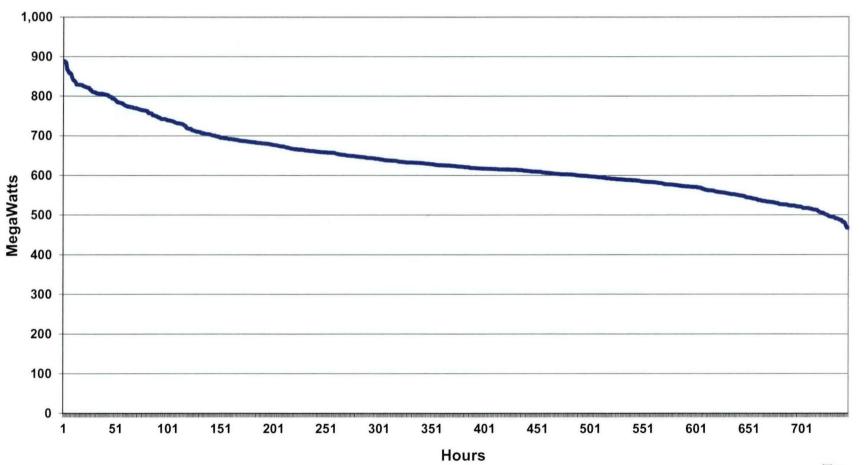
Kentucky Power Company September 2018 Load Duration Curve (Internal Load)



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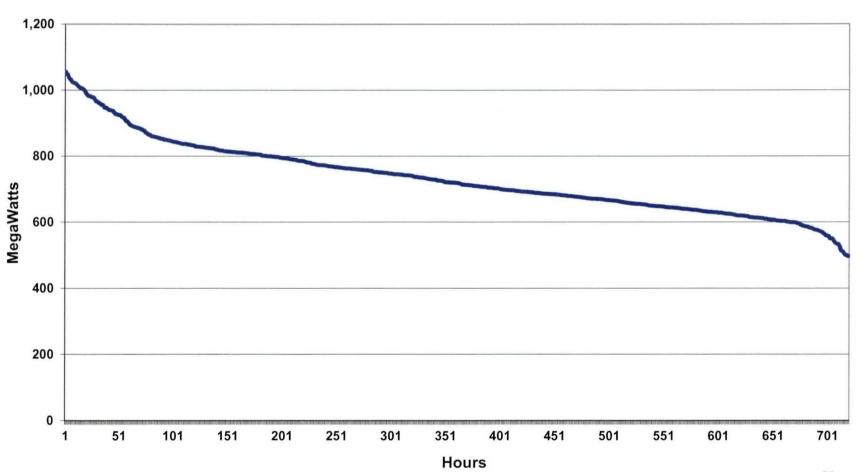
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Kentucky Power Company October 2018 Load Duration Curve (Internal Load)



der Dated December 20, 2001
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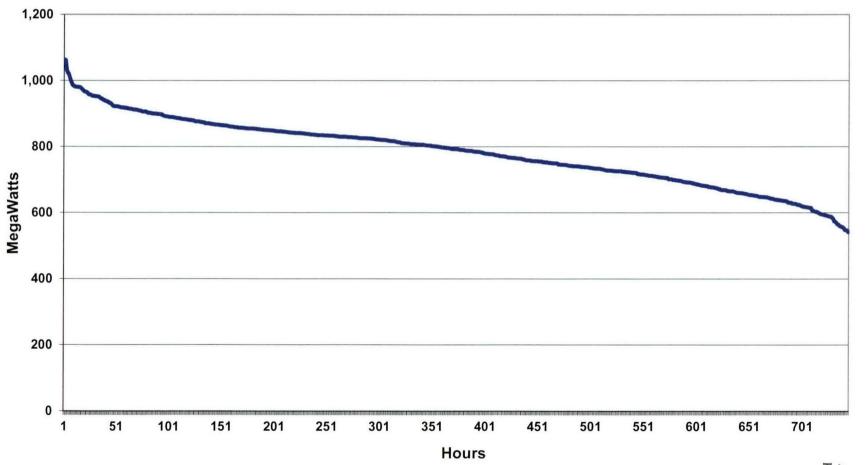
Kentucky Power Company November 2016 Load Duration Curve (Internal Load)



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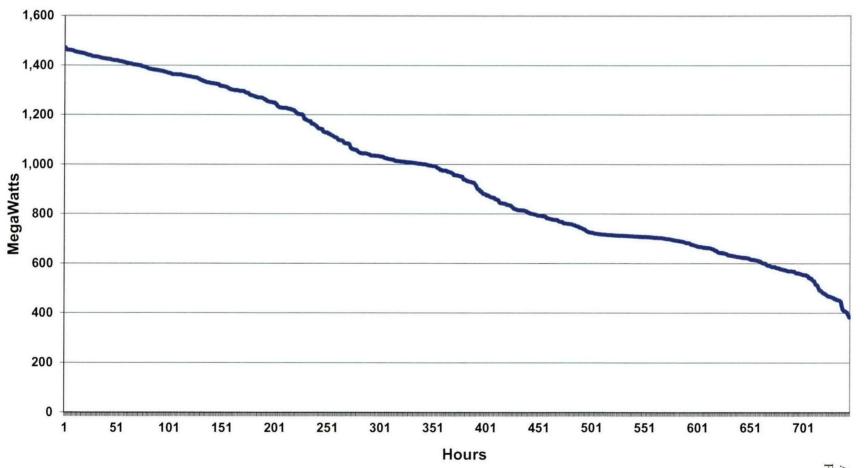
Kentucky Power Company December 2018 Load Duration Curve (Internal Load)



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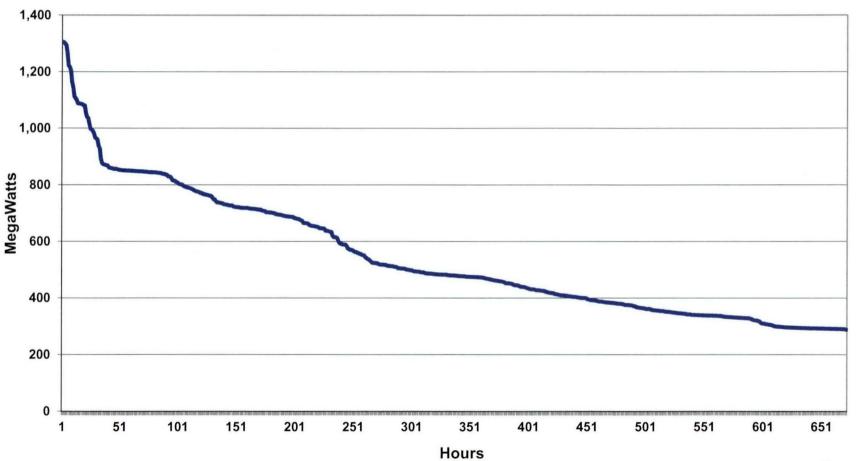
Kentucky Power Company January 2018 Load Duration Curve (System Load)



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Kentucky Power Company February 2018 Load Duration Curve (System Load)

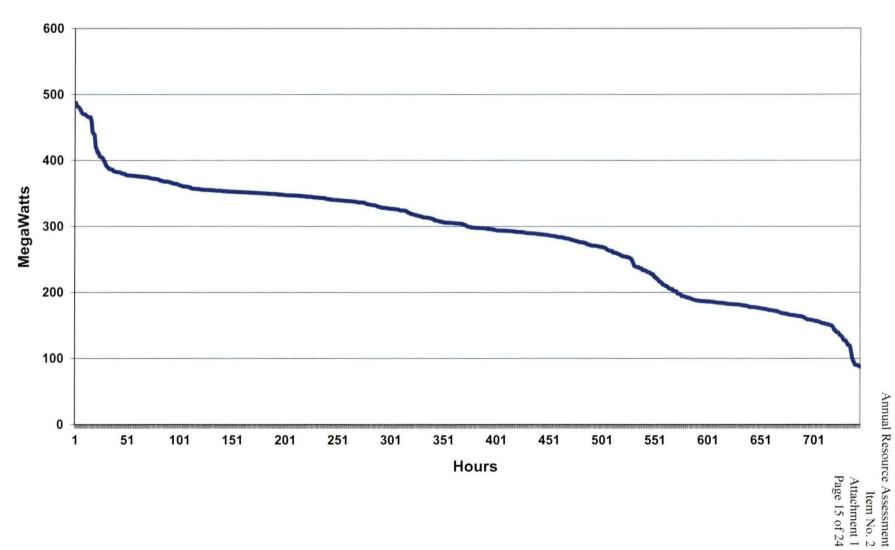


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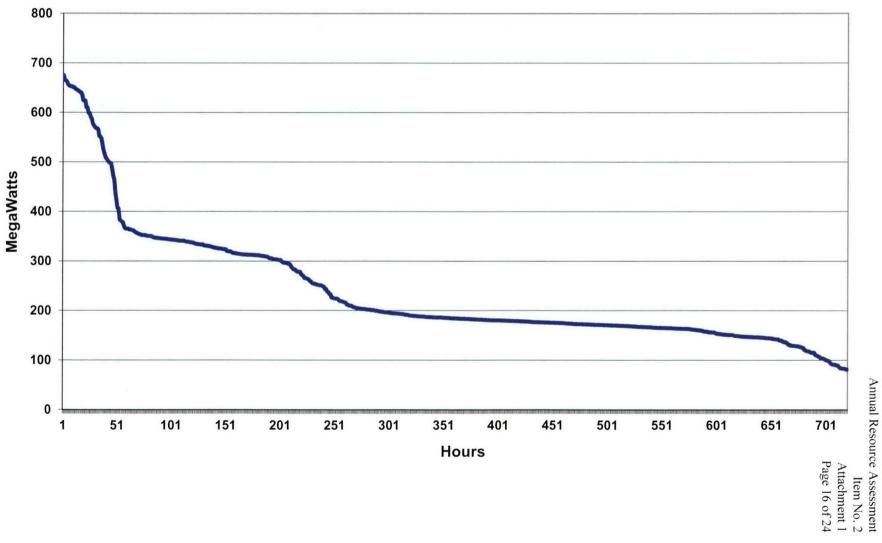
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Kentucky Power Company March 2018 Load Duration Curve (System Load)



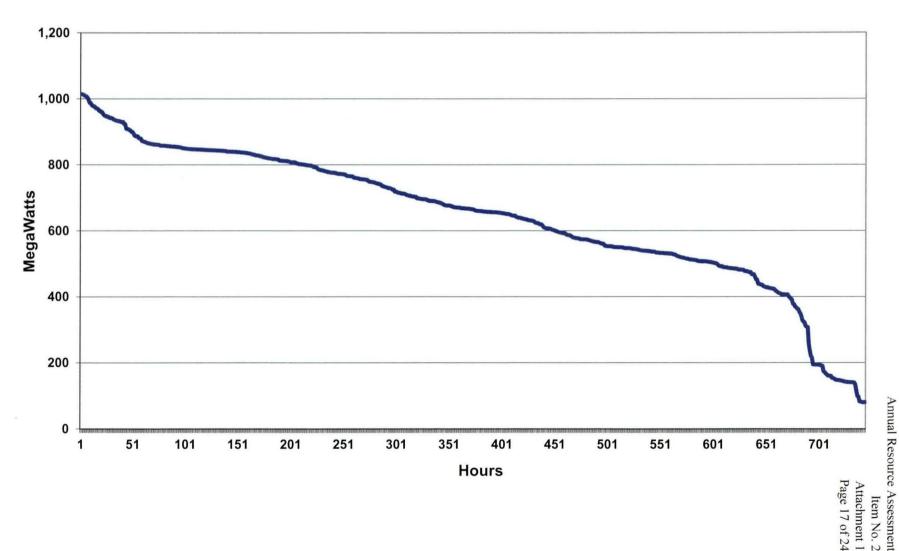
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Kentucky Power Company April 2018 Load Duration Curve (System Load)



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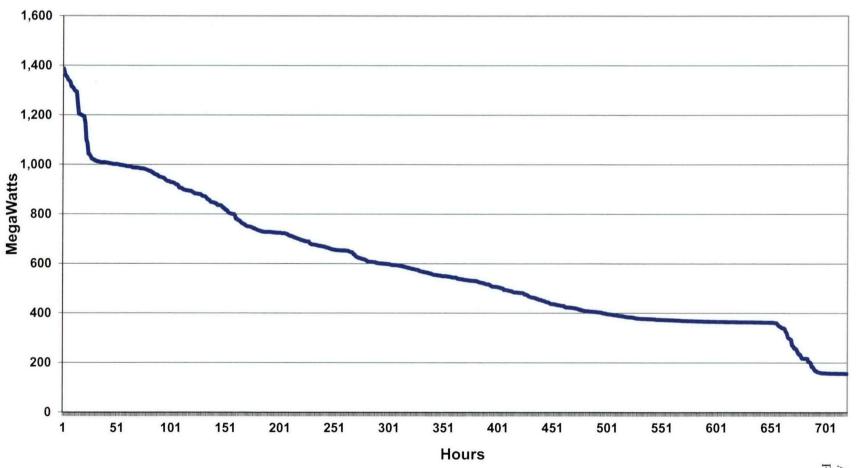
Kentucky Power Company May 2018 Load Duration Curve (System Load)



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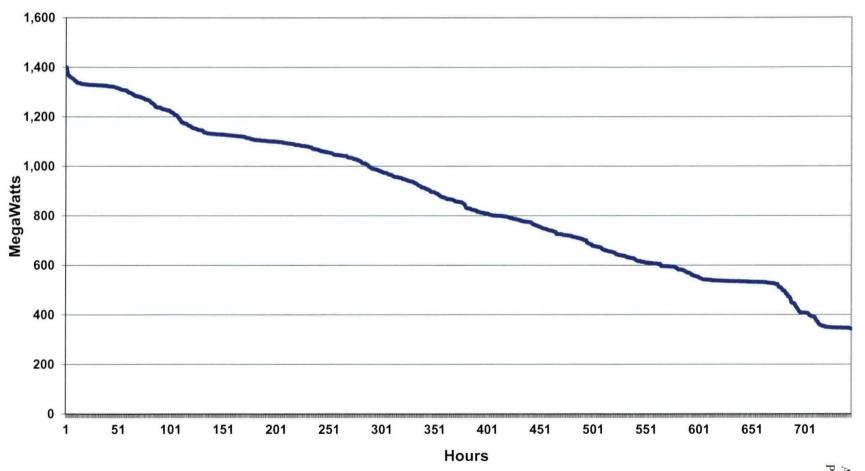
Kentucky Power Company June 2018 Load Duration Curve (System Load)



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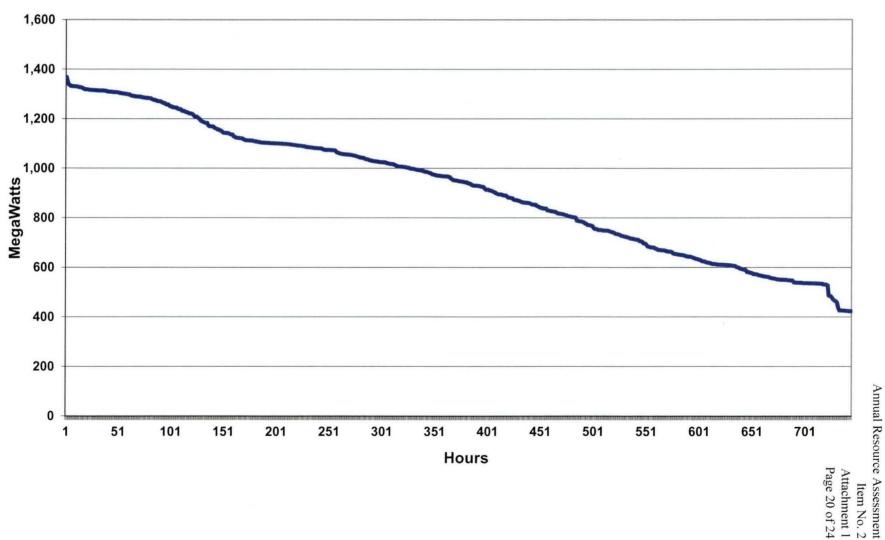
Kentucky Power Company July 2018 Load Duration Curve (System Load)



KPSC Administration Case No. 387 Order Dated December 20, 2001 Calendar Year 2018

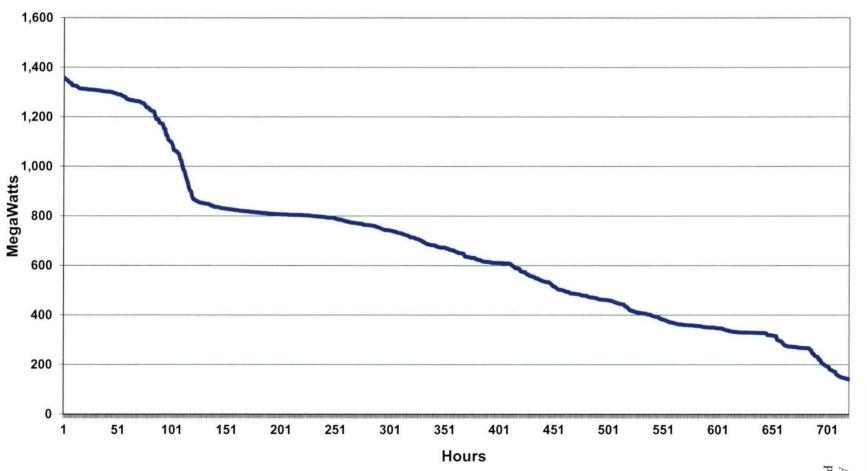
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Kentucky Power Company August 2018 Load Duration Curve (System Load)



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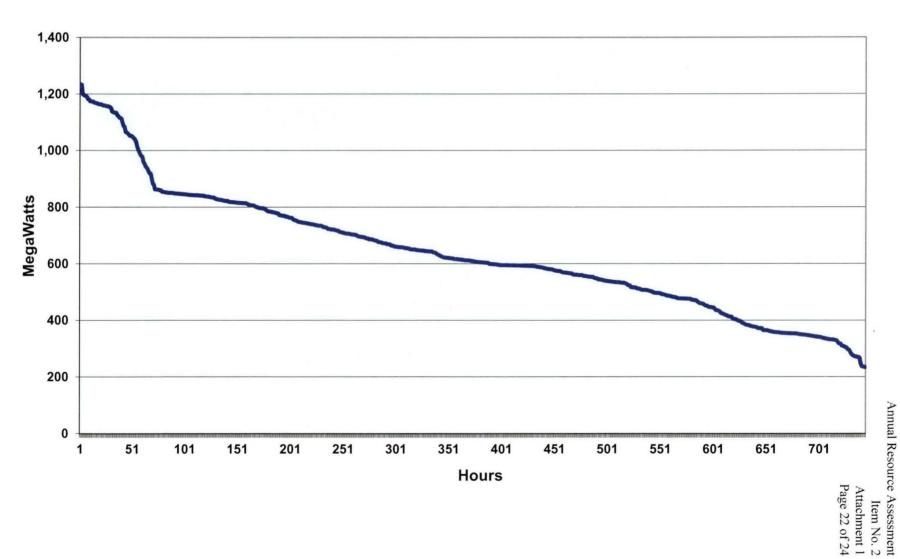
Kentucky Power Company September 2018 Load Duration Curve (System Load)



KPSC Administration Case No. 387 Order Dated December 20, 2001 Calendar Year 2018

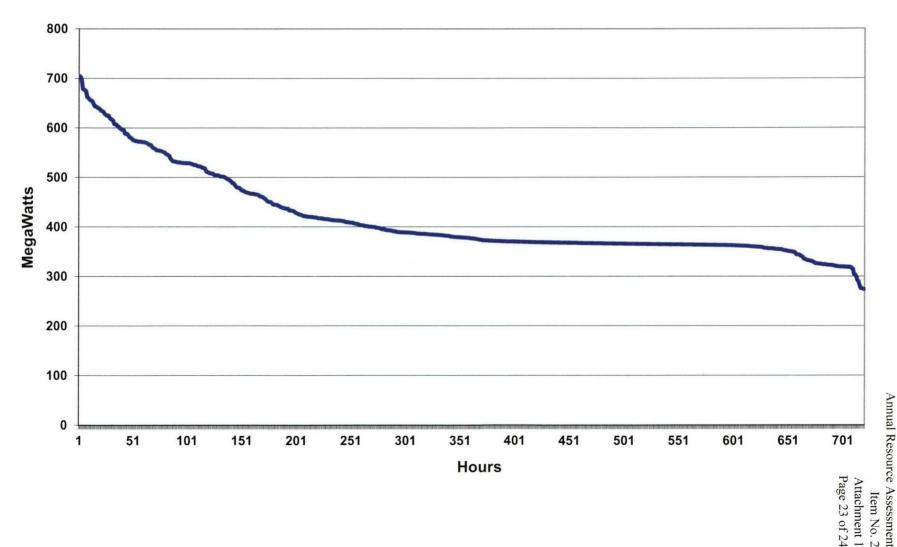
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Kentucky Power Company October 2018 Load Duration Curve (System Load)



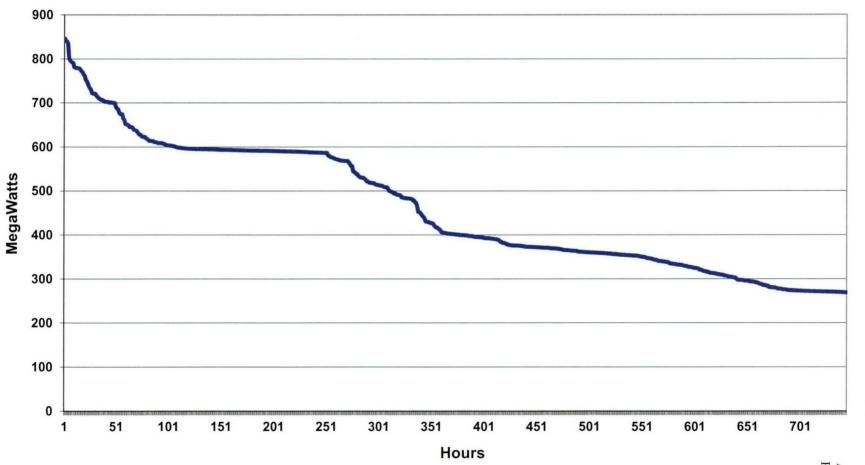
KPSC Administration Case No. 387 Order Dated December 20, 2001 Calendar Year 2018

Kentucky Power Company November 2018 Load Duration Curve (System Load)



KPSC Administration Case No. 387 Order Dated December 20, 2001 Calendar Year 2018

Kentucky Power Company December 2018 Load Duration Curve (System Load)



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Kentucky Power Company KPSC Administration Case No. 387 Order Dated December 20, 2001 Annual Resource Assessment

DATA REQUEST

KPSC 1 3

Based on the most recent demand forecast, the base case demand and energy forecasts and high case demand and energy forecasts for the current year and the following four years. The information should be disaggregated into (a) native load (firm and non-firm demand) and (b) off-system load (both firm and non-firm demand). Please provide the information for both Kentucky Power Company individually and the AEP-East Power Pool (pursuant to the Commission's December 13, 2004 Order in the Rockport UPSA extension, Case No. 2004-00420).

RESPONSE

Please refer to Page 1 of KPCO_R_KPSC_1_3_Attachment1 for Kentucky Power Company's forecast of seasonal peak internal demands and annual internal energy requirements. In addition, the associated high forecasts for seasonal peak internal demands and internal energy requirements are provided on Page 1.

The off-system energy sales forecasts for Kentucky Power Company are provided on Page 2 of KPCO_R_KPSC_1_3_Attachment1. Forecasts of off-system peak demand for Kentucky Power Company have not been developed and are not available. In addition, high case forecasts for off-system energy sales and peak demand have not been developed and are not available.

The AEP Interconnection Agreement terminated on January 1, 2014, and the AEP-East Power Pool no longer exists. The requested information regarding the AEP-East Power Pool no longer exists.

Witness: Brian K. West

Kentucky Power Company Base and High Forecast Energy Sales (GWH) and Seasonal Peak Demand (MW) 2019 - 2023

| | Energy | Sales | | nmer Jemand | Preceding Winter Peak Demand | | | |
|------|--------|-------|-------|----------------|---------------------------------|-------|--|--|
| Year | Base | High | Base | High | Base | High | | |
| 2019 | 6,200 | 6,263 | 1,022 | 1,033 | 1,329 | 1,343 | | |
| 2020 | 6,188 | 6,290 | 1,033 | 1,050 | 1,339 | 1,361 | | |
| 2021 | 6,368 | 6,519 | 1,052 | 1,077 | 1,362 | 1,394 | | |
| 2022 | 6,345 | 6,518 | 1,049 | 1,078 | 1,354 | 1,391 | | |
| 2023 | 6,325 | 6,517 | 1,046 | 1,078 | 1,347 | 1,388 | | |

Kentucky Power Company Forecast Off-System Energy Sales (GWh) 2019 - 2023

| | KPCo Off-System |
|-------------|--------------------|
| <u>Year</u> | <u>Sales</u> |
| 2019 | 1,377 |
| 2020 | 1,260 |
| 2021 | 983 |
| 2022 | 904 |
| 2023 | 288 |

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Kentucky Power Company KPSC Administration Case No. 387 Order Dated December 20, 2001 Annual Resource Assessment

DATA REQUEST

KPSC 1 4

The target reserve margin currently used for planning purposes, stated as a percentage of demand. If changed from what was in use in 2001, include a detailed explanation for the change. Please provide the information for both Kentucky Power Company individually and the AEP-East Power Pool (pursuant to the Commission's December 13, 2004 Order in the Rockport UPSA extension, Case No. 2004-00420).

RESPONSE

The AEP-East operating companies are required to comply with the PJM mandated reserve margin following its October 1, 2004 integration of AEP's Eastern System into the PJM Interconnection.

The installed reserve margin requirement (IRM) is recalculated each year based on a five-year average of PJM generating units reliability, PJM load shape, and assistance available from neighboring regions. In addition, Kentucky Power's responsibility to PJM depends on its twelve-month history of generator reliability or Unforced Capacity value and its peak demand diversity in relation to the PJM total load.

For the delivery periods 2019/20 through 2023/24, PJM set the IRM at 16.0%, 15.9%, 15.8%, 15.7%, and 15.7%, respectively. Kentucky Power assumed the same IRM levels for PJM and other planning purposes.

The AEP Interconnection Agreement terminated on January 1, 2014, and the AEP-East Power Pool no longer exists. The requested information regarding the AEP-East Power Pool no longer exists.

Witness:

Brian K. West

Kentucky Power Company KPSC Administration Case No. 387 Order Dated December 20, 2001 Annual Resource Assessment

DATA REQUEST

KPSC 1 5

Projected reserve margins stated in megawatts and as a percentage of demand for the current year and the following 4 years. Identify projected deficits and current plans for addressing these. For each year identify the level of firm capacity purchases projected to meet native load demand. Please provide the information for both Kentucky Power Company individually and the AEP-East Power Pool (pursuant to the Commission's December 13, 2004 Order in the Rockport UPSA extension, Case No. 2004-00420)

RESPONSE

KPCO_R_KPSC_1_5_Attachment1 provides projected PJM peak demands, capabilities, and margins for Kentucky Power for PJM Planning Years 2019/20 through 2023/24. The Company expects to fully address its future resource needs in its next Integrated Resource Plan filing in December 2019.

The AEP Interconnection Agreement terminated on January 1, 2014, and the AEP-East Power Pool no longer exists. The requested information regarding the AEP-East Power Pool no longer exists.

Witness:

Brian K. West

KENTUCKY POWER COMPANY Projected PJM Peak Demands, Generating Capabilities, and Margins

| | | | Pe | ak Demand - MW | L | | | Capacity - MW | | | | | | | | Reserve Margin | | Reserve Margin | | PJM UCAP Position | |
|-----------------|---------------|--------------------|------|--------------------|--------------|----------------|----------|--------------------------------------|--------------------------|------|------------------|---------------------------|----------------------|----------------------|---------------------|-------------------------|--|--------------------|---------|---------------------|--|
| | | Inter- ruptible | , | | Net Other | | Existing | Planned Capacity Additions (UCAP) | | | KPCo | | Before Interruptible | | After Interruptible | | After Interruptible w/ New Capacity | | | | |
| | Internal | Demand | DSM | Net KPCo | Committed | Total | Capacity | | | | | | Compan | | w/ Nev | v Capacity | w/ New | Capacity | PJM | | |
| PJM Planning | Demand (a) | Response (b) | (c) | Internal Demand | Sales | KPCo Demand | | Committed Net Sales | Name/ Identifier (e) | MW | Annual Purch. | Total ICAP Capacity | y-wide EFORd | Available UCAP | MW | % of Demand | MW | % of Demand | FPR (%) | Net Position MW | |
| | (1) | (2) | ((3) | (4)=sum(1 thru 3) | (5) | (6)=(4)+(5) | (7) | (8) | (9) | (10) | (11) | (12)=(7)-(8)+Sum(10)+(11) | (13) | (14) = (12)*(1-(13)) | (15)=(14)-((6)-(2)) | (16)=(15)/((6)-(2))*100 | (17)=(14)-(6) | (17)=(15)/(6) *100 | (18) | (14)-((6)*(1+(18))) | |
| 2019 /20 | 982 | 0 | 0 | 982 | 0 | 982 | 1,452 | 8 | | | | 1,444 | 10.87% | 1,287 | 305 | 31.1 | 305 | 31.1 | 1.0895 | 217 | |
| 2020 /21 | 978 | 0 | 0 | 978 | 0 | 978 | 1,452 | | | | | 1,452 | 10.38% | 1,301 | 323 | 33.0 | 323 | 33.0 | 1.0890 | 236 | |
| 2021 /22 | 983 | 0 | 0 | 983 | 0 | 983 | 1,452 | | 75 MW Wind + 20 MW Solar | 19.4 | | 1,471 | 10.38% | 1,319 | 336 | 34.2 | 336 | 34.2 | 1.0884 | 249 | |
| 2022 /23 | 989 | 0 | 0 | 989 | 0 | 989 | 1,452 | | | | | 1,471 | 10.38% | 1,319 | 330 | 33.4 | 330 | 33.4 | 1.0887 | 242 | |
| 2023 /24 | 1,013 | 1 | 0 | 1,014 | 0 | 1.014 | 1,060 | | | | | 1.079 | 12.74% | 942 | (71) | (7.0) | (72) | (7.1) | 1.0887 | (162) | |

Notes: (a) Based on Aug. update of (June 2018) Load Forecast (with implied PJM diversity factor).

(b) Demand Response approved by PJM in the prior planning year plus forecasted "Active" DR.

(c) Existing plus approved and projected "Passive" EE, and VVO. DSM is included in the PJM forecast.

(d) Rockport 2 lease ends 12/07/2022, however, for current capacity planning purposes the Company is assuming that the Rockport 2 capacity is available for the PJM planning year 2022/2023. The final decision is yet to be made.

(e) All Planned Capacity Additions are the supply side resources identified as part of KPCo's 2016 IRP beginning with the 2021/22 planning year due to development and implementation time.

Due to the new PJM Capacity Performance rules - wind and solar are given a capacity credit equal to 12.3% and 51.1% of their nameplate respectively.

(f) Forecast Pool Requirement (FPR) = (1 + IRM) * (1 - PJM EFORd).

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Kentucky Power Company KPSC Administration Case No. 387 Order Dated December 20, 2001 Annual Resource Assessment

DATA REQUEST

KPSC 1_6 A list that identifies scheduled outages or retirements of generating

capacity during the current year and the following four years.

RESPONSE

For a list of scheduled outages for the years 2019 – 2023, please see attachments KPCO_R_KPSC_1_6_Attachment1 and KPCO_R_KPSC_1_6_ConfidentialAttachment2.

The Rockport Unit Power Agreement with AEP Generating Company (AEG), under which the Company purchases 30% of AEG's 50% share of the output of the Rockport Plant (393 MW), expires in December 2022.

Witness: Brian K. West

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Kentucky Power Company Generating Unit Scheduled Outages for the Period January - March 2019

| | | <u></u> - | |
|-------------|-----------------|-----------------|---|
| Unit Name | Event Start | Event End | Event Description |
| Big Sandy 1 | 1/16/2019 1:02 | 1/19/2019 0:00 | Boiler inspection and repair. |
| Big Sandy 1 | 1/22/2019 22:02 | 1/25/2019 15:10 | Boiler inspection and repair. |
| Big Sandy 1 | 2/2/2019 13:47 | 2/15/2019 16:00 | High pressure turbine cross-over piping south inlet flange leak and boiler inspection and repair. |
| Big Sandy 1 | 2/21/2019 0:29 | 2/23/2019 7:51 | Boiler inspection and repair. |
| Big Sandy 1 | 3/9/2019 1:36 | 3/10/2019 8:00 | Boiler inspection and repair. |
| Big Sandy 1 | 3/13/2019 12:51 | 3/16/2019 20:45 | Boiler inspection and repair. |
| Big Sandy 1 | 3/30/2019 0:23 | 4/1/2019 9:45 | Boiler inspection and repair. |
| Mitchell 1 | 3/9/2019 0:33 | 5/26/2019 0:00 | Precipitator upgrade, economizer partition wall replacement, stack breaching damper modification, generator FIP inspection, main turbine valve repairs, and routine inspections. |
| Mitchell 2 | 1/4/2019 7:00 | 1/5/2019 9:00 | Boiler feedpump turbine stop valve repairs. |
| Mitchell 2 | 2/4/2019 6:08 | 2/13/2019 23:20 | Repair LVDT on left 1st reheat turbine stop valve, LVDT on boiler feedpump turine stop valve, boiler inspection and repair, precipitator inspection and repair, ID fan casing leak repairs and pipe hanger repairs. |

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| | | | | | | | |
|---|------|-----------------|---------------|--|--|--|--|
| Kentucky Power Generating Unit Scheduled Outages for the Period | | | | | | | |
| April 2019 - December 2023 | | | | | | | |
| Plant | Unit | Scheduled Start | Scheduled End | | | | |
| Big Sandy | 11 | | | | | | |
| Big Sandy | 1 | | | | | | |
| Big Sandy | 11 | | | | | | |
| Big Sandy | 11 | | | | | | |
| Big Sandy | 1 | | | | | | |
| Big Sandy | 1 | | | | | | |
| Big Sandy | 1 | | | | | | |
| Big Sandy | 1 | | | | | | |
| Big Sandy | 11 | | | | | | |
| Mitchell | 11 | | | | | | |
| Mitchell | 11 | | | | | | |
| Mitchell | 1 | | | | | | |
| Mitchell | 1 | | | | | | |
| Mitchell | 11 | | | | | | |
| Mitchell | 2 | | | | | | |
| Mitchell | 2 | | | | | | |
| Mitchell | 2 | | | | | | |
| Mitchell | 2 | | | | | | |
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DATA REQUEST

KPSC 1_7

Identify all planned base load or peaking capacity additions to meet native load requirements over the next 10 years. Show the expected in service date, size and site for all planned additions. Include additions planned by the utility, as well as those by affiliates, if constructed in Kentucky or intended to meet load in Kentucky. Please provide the information for both Kentucky Power Company individually and the AEP-East Power Pool (pursuant to the Commission's December 13, 2004 Order in the Rockport UPSA extension, Case No. 2004-00420).

RESPONSE

Kentucky Power does not plan to add base load or peaking capacity to meet native load requirements over the next 10 years.

Kentucky Power's 2016 Integrated Resource Plan projected as part of its Preferred Plan the addition of 320 MW of solar and wind resources during the 2017 through 2021 time period. The Preferred Plan was not a commitment by Kentucky Power to the identified specific resource additions. Due to development and implementation constraints, the timing and size of these resources, as detailed in the 2016 IRP, have been reduced and deferred as identified in columns 9 and 10 of KPCO_R_KPSC_1_5_Attachment1. The Company expects to fully address its future resource needs in its next Integrated Resource Plan filing in December 2019.

The AEP Interconnection Agreement terminated on January 1, 2014, and the AEP-East Power Pool no longer exists. The requested information regarding the AEP-East Power Pool no longer exists.

Witness: Brian K. West

DATA REQUEST

KPSC 1_8 a&b The following transmission energy data for the just completed calendar

year and the forecast for the current year and the following four years: a. Total energy received from all interconnections and generation sources

connected to the transmission system.

b. Total energy delivered to all interconnections on the transmission

system.

RESPONSE

Please see KPCO_R_KPSC_1_8a__8b_Attachment1 for the requested information.

Witness: Brian K. West

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8(a) All quantities represent metered values.

| Received from (MWh): | 2013 (Actual) | 2014 (Actual) | 2015 (Actual) | 2016 (Actual) | 2017 (Actual) | 2018 (Actual) | 2019 | |
|-------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------|-----|
| Appalachian Power (1) | 4,631,523 | 5,171,726 | 4,017,819 | 4,720,669 | 5,890,958 | 4,684,108 | (4) | |
| Ohio Power (1) | 10,066,676 | 9,354,195 | 9,802,944 | 9,333,487 | 8,911,083 | 8,311,169 | (4) | |
| East Ky Power Coop | 386,124 | 294,361 | 271,558 | 300,264 | 281,573 | 255,874 | (4) | |
| LGE(Kentucky Utilities) | 565,818 | 623,285 | 533,642 | 392,126 | 372,296 | 514,195 | (4) | |
| TVA | 566,823 | 460,644 | 431,204 | 310,003 | 328,457 | 434,753 | (4) | |
| Illinois Power Co. (2) | 111,628 | 84,189 | 380,121 | 319,112 | 257,896 | 429,424 | (5) | |
| Illinois Power Co. (3) | 89,276 | 67,185 | 193,480 | 204,194 | 173,916 | 261,051 | (5) | |
| Big Sandy Generating Plant | 2,764,447 | 4,708,473 | 3,132,143 | 530,333 | 563,778 | 624,804 | 546,030 | |
| Mitchell 1&2 (KPCo Share 50%) | | 4096020 | 2,688,981 | 3,814,606 | 3,820,609 | 2,714,974 | 3,243,554 | (7) |
| Rockport (KPCo Share 15%) | | 2507563.5 | 1,866,891 | 1,727,064 | 1,631,917 | 1,777,423 | 1,863,417 | (7) |

8(b) All quantities represent metered values.

| Delivered to (MWh): | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------------------|------------|------------|------------|-----------|------------|-----------|------|
| Appalachian Power (1) | 11,550,084 | 13,038,290 | 11,369,584 | 9,073,136 | 10,111,259 | 8,585,984 | (4) |
| Ohio Power (1) | 371,910 | 433,763 | 440,883 | 509,828 | 454,121 | 435,997 | (4) |
| East Ky Power Coop | 136,118 | 236,884 | 240,042 | 291,229 | 245,640 | 289,530 | (4) |
| LGE(Kentucky Utilities) | 0 | 0 | 0 | 0 | 0 | 0 | (4) |
| TVA | 0 | 0 | 0 | 0 | 0 | 0 | (4) |
| Illinois Power Co. (2) | 0 | 0 | 0 | 0 | 0 | 0 | (5) |
| Illinois Power Co. (3) | 0 | 0 | 0 | 0 | 0 | 0 | (5) |
| Vanceburg and Olive Hill | 95,502 | 96,494 | 90,532 | 85,455 | 80,426 | 86,019 | (6) |

Notes: (1) An AEP System company.

- (2) At the Zelda Unit of the Riverside independent power producing plant (IPP) in Lawrence County, KY.
- (3) At the Foothills Unit of the Riverside independent power producing plant (IPP) in Lawrence County, KY.
- (4) The Company does not forecast metered interchange; however, the future years' energy flows are not expected to be materially different from the year 2015 actuals.
- (5) The Company does not, and can not, forecast energy production output from an IPP.
- (6) This is a 3rd Party Firm Load that is served by Kentucky Power.
- (7) Net Generation less Non-generating auxiliaries shares from Mitchell Power Plant and Rockport are from Plants not directly connected to the KPCo system.

DATA REQUEST

KPSC 1 8 c&d

The following transmission energy data for the just completed calendar year and the forecast for the current year and the following four years.

c. Peak load capacity of the transmission system.

d. Peak demand for summer and winter seasons on the transmission

system.

RESPONSE

c. The maximum amount of electric energy that can be transmitted through a transmission network is a function of the level of the load and generation connected to the transmission system, as well as the level and direction of transmission service into, out of, and through the network. Therefore, the 'Peak Load Capacity' of the transmission system cannot be quantified as a single value.

The Kentucky Power transmission system, including planned additions, rebuilds, and upgrades of the system, is designed to serve both the existing and projected load. It is also designed to reliably serve the load in connection with any single contingency outage of a line, transformer, or generator. The existing transmission system, together with the transmission capacity additions described in response to KPCO_R_KPSC_1_9_ConfidentialAttachment1, will provide adequate capacity to serve the existing and projected loads provided in the response to part d of this request.

d. Please refer to KPCO_R_KPSC_ 1_8d_Attachment1 for the peak demand for summer and winter seasons on the transmission system.

Witness: Brian K. West

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Kentucky Power Company Seasonal Peak Demand Actual 2018 and Forecast 2019-2023

| Year | Summer Peak Demand (MW) | Preceding Winter Peak Demand (MW) |
|------|-------------------------------|---|
| 2018 | 999* | 1,446* |
| 2019 | 1,022 | 1,329 |
| 2020 | 1,033 | 1,339 |
| 2021 | 1,052 | 1,362 |
| 2022 | 1,049 | 1,354 |
| 2023 | 1,046 | 1,347 |
| | | |

^{*}Based on Actual Data

DATA REQUEST

KPSC 1_9

Identify all planned transmission capacity additions for the next 10 years. Include the expected in-service date, size and site for all planned

additions and identify the transmission need each addition is intended to

address.

RESPONSE

Please refer to KPCO_R_KPSC_1_9_ConfidentialAttachment1 for the requested information.

Witness:

Brian K. West

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ALL CAPACITIES AND IN-SERVICE DATES ARE APPROXIMATE AND SUBJECT TO CHANGE

Hazard – Wooton 161 kV Project – This project addresses thermal violations, equipment material condition, performance, and risk concerns identified with the Hazard-Wooton 161 kV line and 161/138 kV transformer. Specifically, this project will rebuild approximately 6.6 miles of the Hazard - Wooton 161 kV line and replace three, single phase 161/138 kV transformers at Hazard with a single higher capacity three phase transformer. Additionally, the existing 138/69 kV transformers at Hazard are being evaluated for replacement, due to identified equipment material condition, performance, and risk concerns. The revised inservice date for this project is June 2021.

Hazard - Wooton 161 kV Line

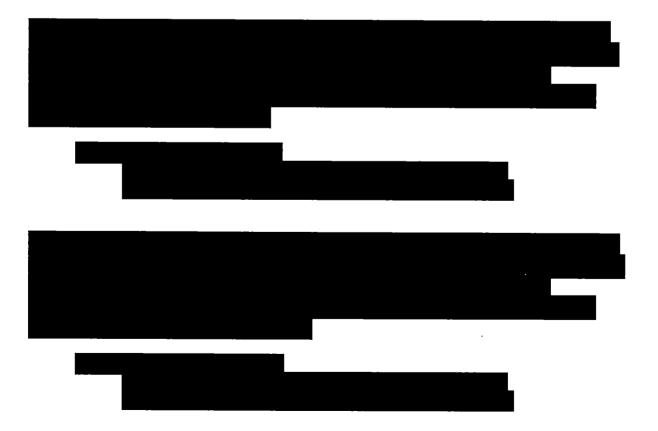
Existing Summer Emergency Conductor Capacity: 215 MVA Proposed Summer Emergency Conductor Capacity: 390 MVA

Hazard 161/138 kV Transformer

Existing Nameplate Capacity: 135 MVA Proposed Nameplate Capacity: 350 MVA

Hazard 138/69 kV Transformer #1

Existing Nameplate Capacity: 50 MVA Proposed Nameplate Capacity: 130 MVA



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Leslie Transformer Replacement – This project will replace the 161/69 kV transformer at Leslie station. The transformer is being replaced, due to insulation and short circuit strength breakdown. The current projected in-service date for the transformer replacement is December 2021

Leslie Transformer

Existing Nameplate Capacity: 90 MVA Proposed Nameplate Capacity: 130 MVA

Cannonsburg – South Neal 69 kV Line Section Rebuild – To address thermal violations, this project will rebuild approximately 5 miles of the Cannonsburg – South Neal 69 kV line. The current projected in-service date for the project is December 2019.

Cannonsburg - South Neal 69 kV Line

Existing Summer Emergency Conductor Capacity: 75 MVA Proposed Summer Emergency Conductor Capacity: 102 MVA

Dorton Transformer Replacement – This project will replace the 138/46 kV transformer at Dorton station with a 138/69/46 kV transformer. The transformer is being replaced, due to insulation and short circuit strength breakdown. The current projected in-service date for the transformer replacement is December 2019.

Dorton Transformer

Existing 46 kV Nameplate Capacity: 45 MVA Proposed 46 kV Nameplate Capacity: 60 MVA

EastPark 138 kV Transmission Line – This project will construct approximately 3 miles of 138 kV line to connect the existing Chadwick – Kentucky Electric Steel 138 kV line to the proposed Moore Hollow 138 kV substation located in the EastPark Industrial Center. The project will serve as a transmission service delivery point to industrial customers at the EastPark Industrial Center. The current projected in-service date for the project is December 2020.

EastPark 138 kV transmission line

Proposed Summer Emergency Conductor Capacity: 413 MVA

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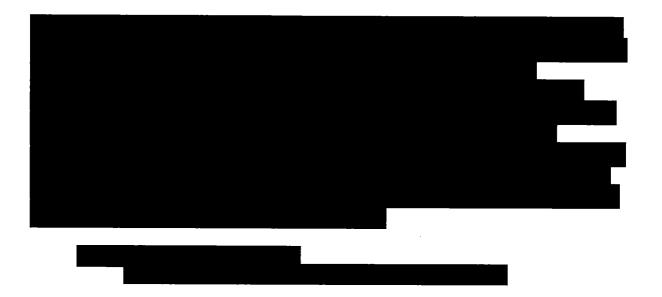
Boyd County Area Improvements - This project will construct approximately 8 Page 3 of 4 miles of 138 kV line to connect the proposed Moore Hollow 138 kV substation located in the EastPark Industrial Center to the proposed Ramey substation off the existing Bellefonte – Grangston 138 kV circuit. The project will serve as the second transmission source to industrial customers at the EastPark Industrial

Second transmission source to industrial customers at the EastPark Industrial Center.

Chadwick Station Improvements – This project will install a second 138/69 kV transformer at the existing Chadwick station. The project will address thermal and voltage violations identified on the South Neal area 69 kV network. The current projected in-service date for the project is April 2020.

Chadwick Transformer #2

Proposed Nameplate Capacity: 200 MVA



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VERIFICATION

| The undersigned, Brian K. West, being duly sworn, deposes and says he is the Directo | |
|--|----|
| Regulatory Services for Kentucky Power, that he has personal knowledge of the matte | rs |
| set forth in the foregoing responses and the information contained therein is true and | |
| correct to the best of his information, knowledge, and belief. | |
| Brian K. West | |
| Commonwealth of Kentucky) | |
|) Administrative Case No. 387 | |
| County of Boyd) | |
| | |
| Subscribed and sworn before me, a Notary Public, by Brian K. West this day of April, 2019. | |
| Motary Public | |
| Notary Fublic | |
| My Commission Expires 8/34/30 | |
| wry Commission Expires | |