EAST KENTUCKY POWER COOPERATIVE

A Touchstone Energy® Cooperative

March 31, 2022

Ms. Linda C. Bridwell, P.E.
Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, Kentucky 40602-0615

Re: Annual Resource Assessment for East Kentucky Power Cooperative, Inc. (Administrative Case No. 387).

Dear Ms. Bridwell:

Pursuant to the Commission's Order dated October 7, 2005 in Administrative Case No. 387, please find enclosed for filing with the Commission the 2021 Annual Resource Assessment for East Kentucky Power Cooperative, Inc. ("EKPC").

Pursuant to the Commission's Order dated September 30, 2021 in Case No. 2021-00103, EKPC is relieved of the price elasticity reporting requirements set forth in Administrative Case No. 387 and thus EKPC has not included that report within the enclosure.

If you have any questions, please call me.

Thank You,

Chris Adams
Director, Regulatory and Compliance Services

Enclosures

4775 Lexington Road, POB 707
Winchester, KY 40392
859-744-4812

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

A REVIEW OF THE ADEQUACY OF KENTUCKY'S GENERATION CAPACITY AND TRANSMISSION SYSTEM	))))	**PSC ADMINISTRATIVE CASE NO. 387**

CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Julia J. Tucker, being duly sworn, states that she has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission in the above-referenced case dated December 20, 2001, and that the matters and things set forth therein are true and accurate to the best of her knowledge, information and belief, formed after reasonable inquiry.

Julia J. Tucker

Subscribed and sworn before me on this 31st day of March 2022.

Gwyn M. Willoughby
Notary Public

GWYN M. WILLOUGHBY
Notary Public
Commonwealth of Kentucky
Commission Number KYNP38003
My Commission Expires Nov 30, 2025

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STATE OF KENTUCKY)
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Darrin Adams, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission in the above-referenced case dated December 20, 2001, and that the matters and things set forth therein are true and accurate to the best of his knowledge, information and belief, formed after reasonable inquiry.

Darrin Adams

Subscribed and sworn before me on this 31st day of March 2022.

Gwyn M. Willoughby
Notary Public

GWYN M. WILLOUGHBY
Notary Public
Commonwealth of Kentucky
Commission Number KYNP38003
My Commission Expires Nov 30, 2025

EAST KENTUCKY POWER COOPERATIVE, INC.

UPDATED INFORMATION TO BE FILED ANNUALLY AS SUPPLEMENT TO THE ANNUAL REPORT

AS ORDERED on October 7, 2005 in the CLOSED PSC ADMINISTRATIVE CASE 387

PUBLIC SERVICE COMMISSION'S REQUEST DATED 12/20/01

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

A REVIEW OF THE ADEQUACY OF KENTUCKY'S GENERATION CAPACITY AND TRANSMISSION SYSTEM	**)** **)** **)** **)**	**ADMINISTRATIVE CASE NO. 387**

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC ADMINISTRATIVE CASE 387

PUBLIC SERVICE COMMISSION'S REQUEST DATED 12/20/01

East Kentucky Power Cooperative, Inc. (EKPC) hereby submits responses to the information requests contained in Appendix G to the Order of the Public Service Commission ("PSC") in this case dated December 20, 2001, as subsequently revised by Orders dated March 29, 2004 and October 7, 2005. Each response with its associated supportive reference materials is individually tabbed.

The requests listed below, which were originally contained in Appendix G of the Commission's Order dated December 20, 2001, are no longer required pursuant to the Commission's Order of March 29, 2004, amending the previous Order.

Request No. 1
Request No. 2
Request No. 5
Request No. 9
Request No. 10

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC ADMINISTRATIVE CASE NO. 387
ANNUAL RESOURCE ASSESSMENT FILING

PUBLIC SERVICE COMMISSION REQUEST DATED 12/20/01
REQUEST 3
RESPONSIBLE PERSON: **Julia J. Tucker**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 3. Actual and weather-normalized 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).

Response 3a. Refer to table below.

Monthly Native Load Peak Demands 2021

	Actual (Firm and Non-Firm) (MW)	Weather Adjusted (Firm and Non-Firm) (MW)
January	2,696	3,390
February	2,862	3,230
March	2,352	2,644
April	2,173	2,160
May	2,069	2,071
June	2,382	2,382
July	2,340	2,355
August	2,450	2,460
September	2,130	2,155
October	1,789	1,817
November	2,364	2,366
December	2,255	2,392

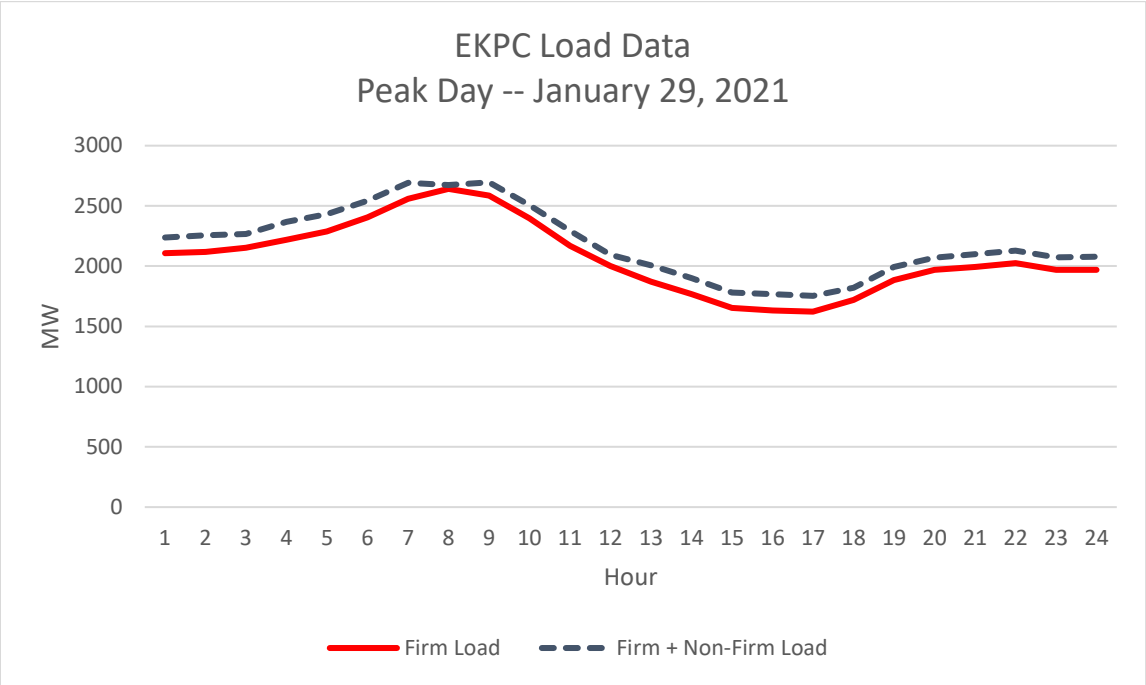
Response 3b. EKPC had no off-system demand obligations during the calendar year 2021.

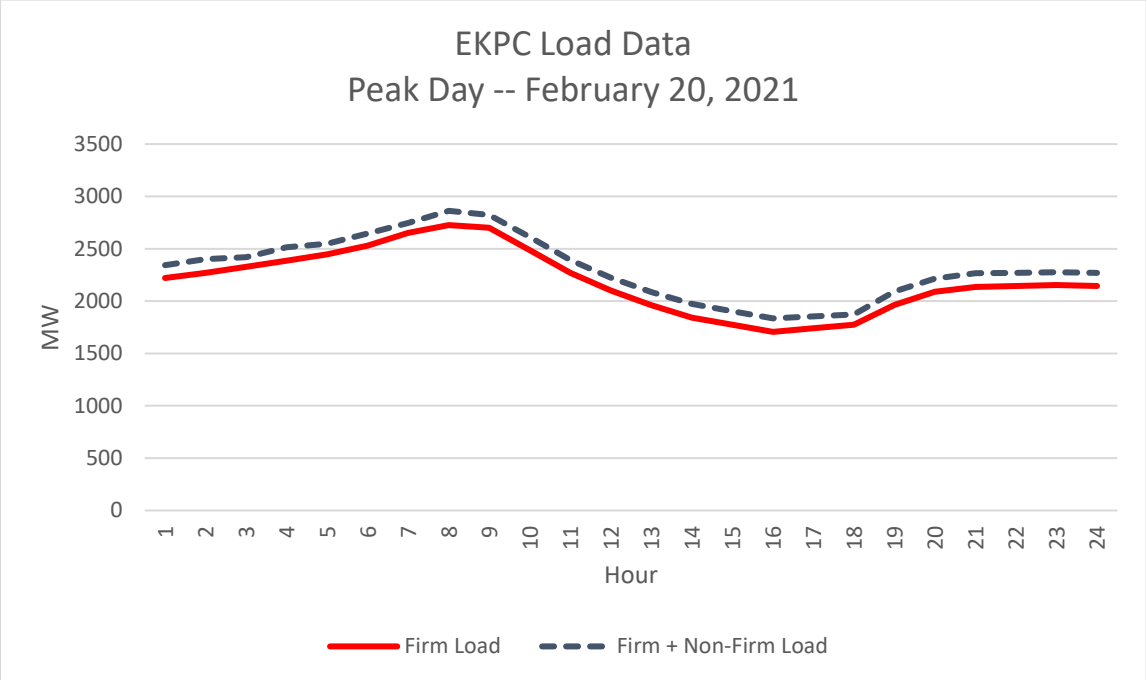
EAST KENTUCKY POWER COOPERATIVE, INC.
PSC ADMINISTRATIVE CASE NO. 387
ANNUAL RESOURCE ASSESSMENT FILING

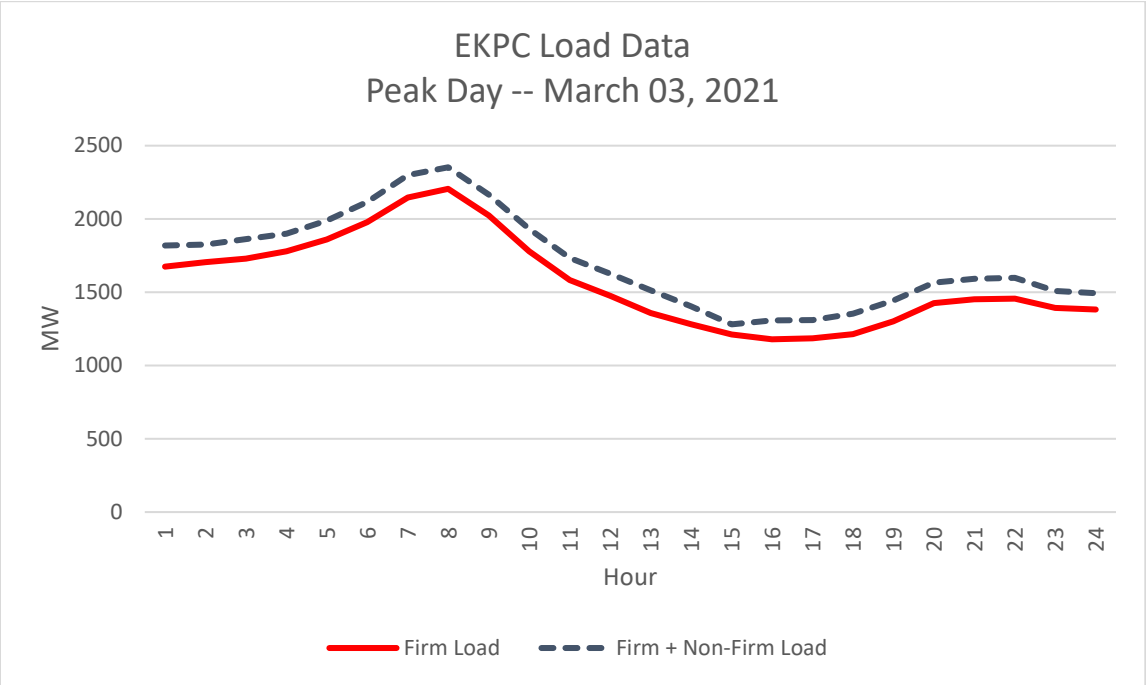
PUBLIC SERVICE COMMISSION REQUEST DATED 12/20/01
REQUEST 4
RESPONSIBLE PERSON: **Julia J. Tucker**
COMPANY: **East Kentucky Power Cooperative, Inc.**

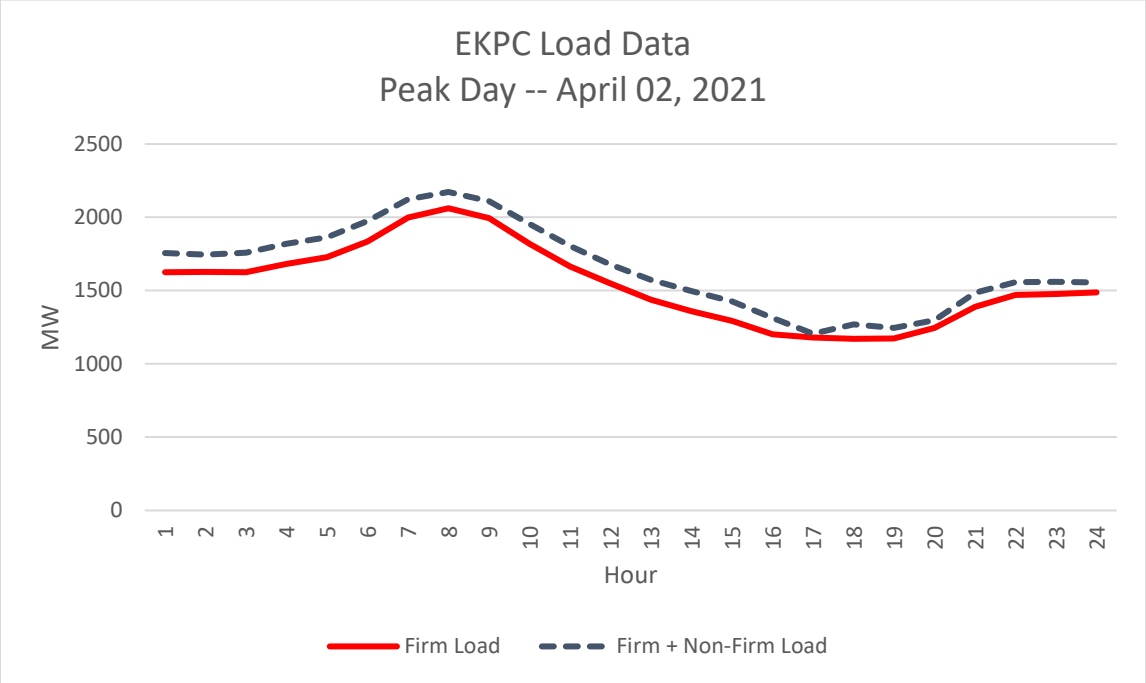
Request 4. Load shape curves that show actual peak demands and weather-normalized peak demands (native load demand and total demand) on a monthly basis for the just completed calendar year.

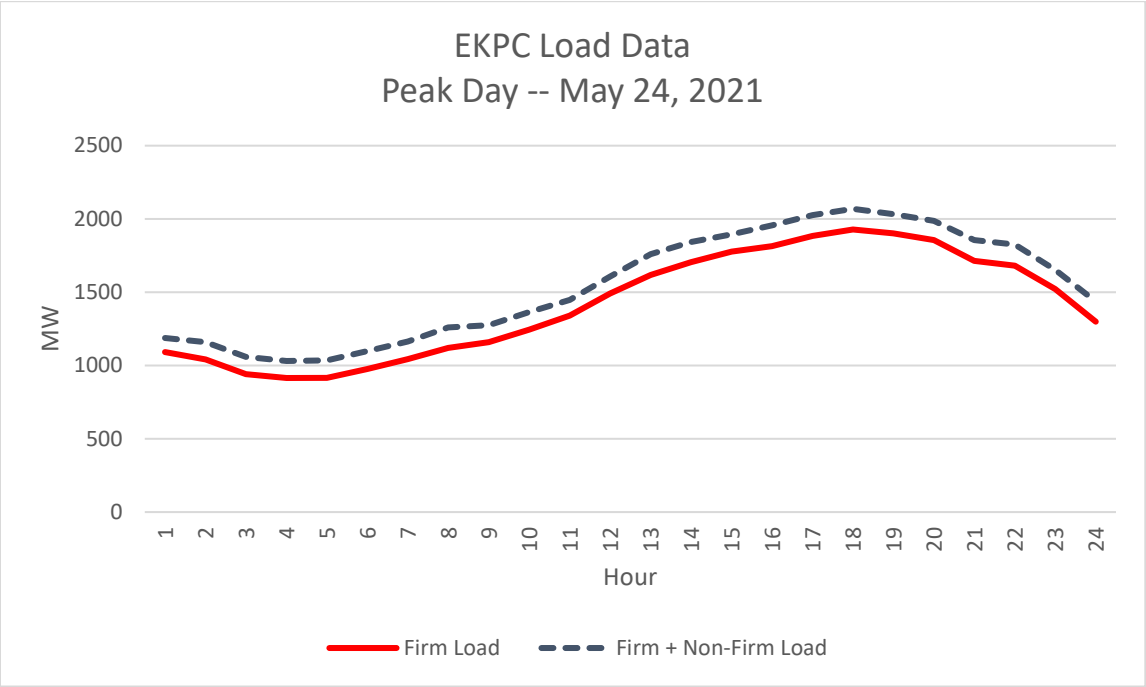
Response 4. Actual monthly peak-day load shapes are presented on pages 2 through 7 of this response. EKPC performs an analysis to weather-normalize the peak hour but EKPC does not weather-normalize the peak-day load shapes.

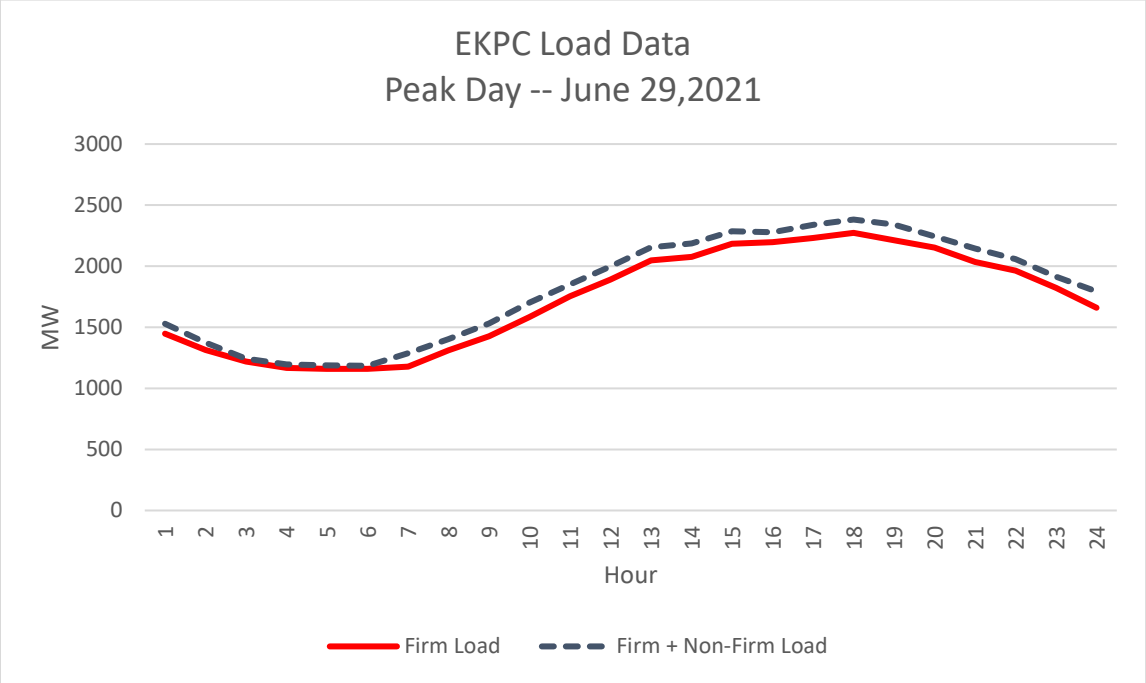

EKPC Load Data
Peak Day -- January 29, 2021
MW
3000
2500
2000
1500
1000
500
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour
Firm Load
Firm + Non-Firm Load

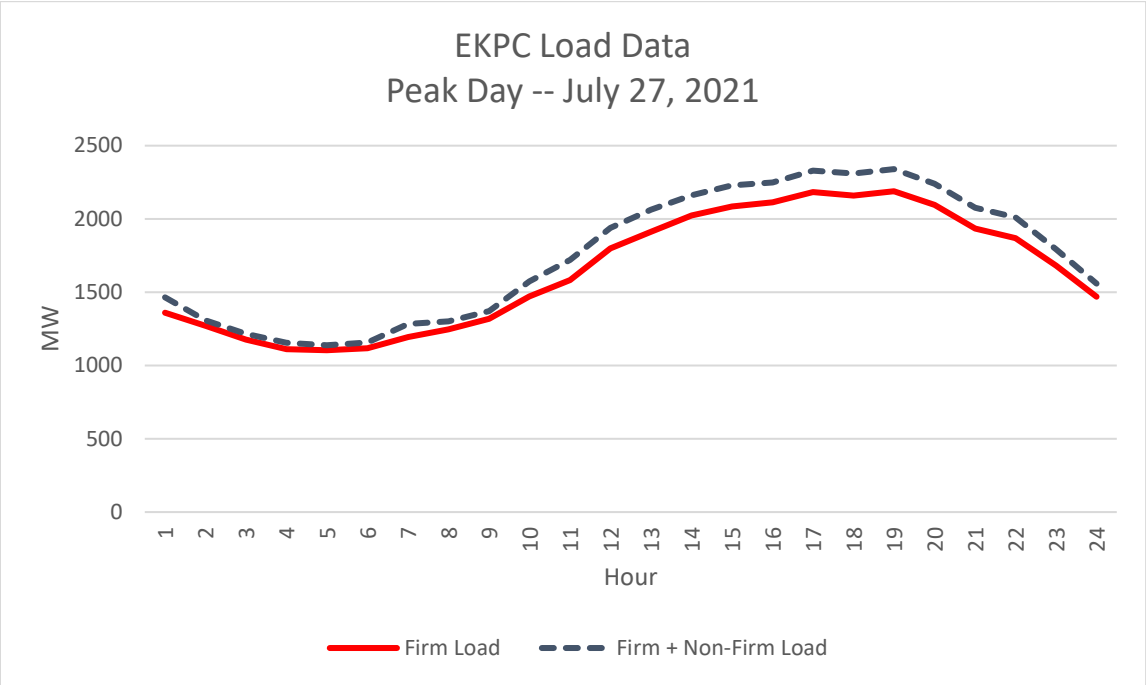

EKPC Load Data
Peak Day -- February 20, 2021
MW
3500
3000
2500
2000
1500
1000
500
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour
Firm Load
Firm + Non-Firm Load

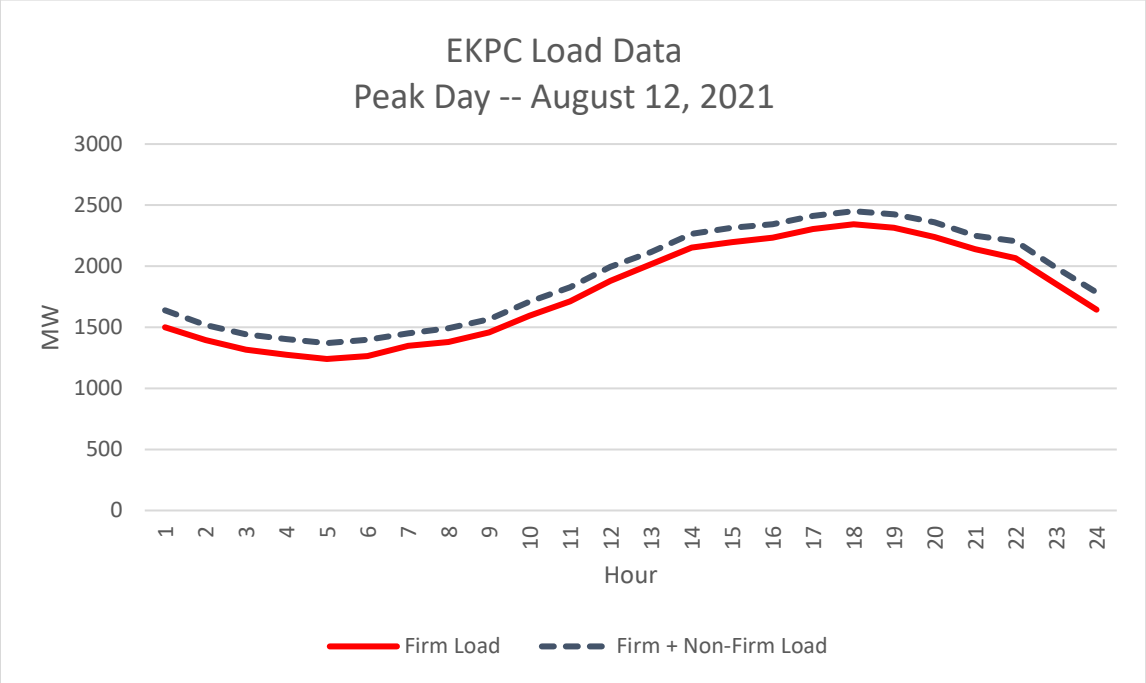

EKPC Load Data
Peak Day -- March 03, 2021
MW
2500
2000
1500
1000
500
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour
Firm Load
Firm + Non-Firm Load

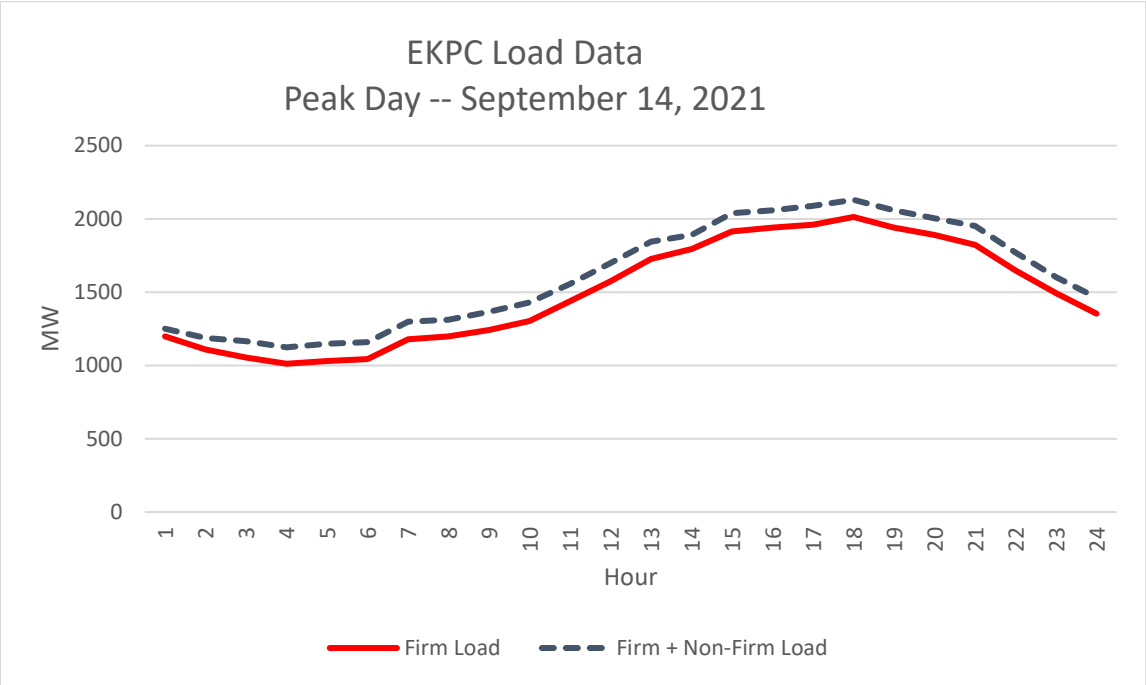

EKPC Load Data
Peak Day -- April 02, 2021
MW
2500
2000
1500
1000
500
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour
Firm Load
Firm + Non-Firm Load

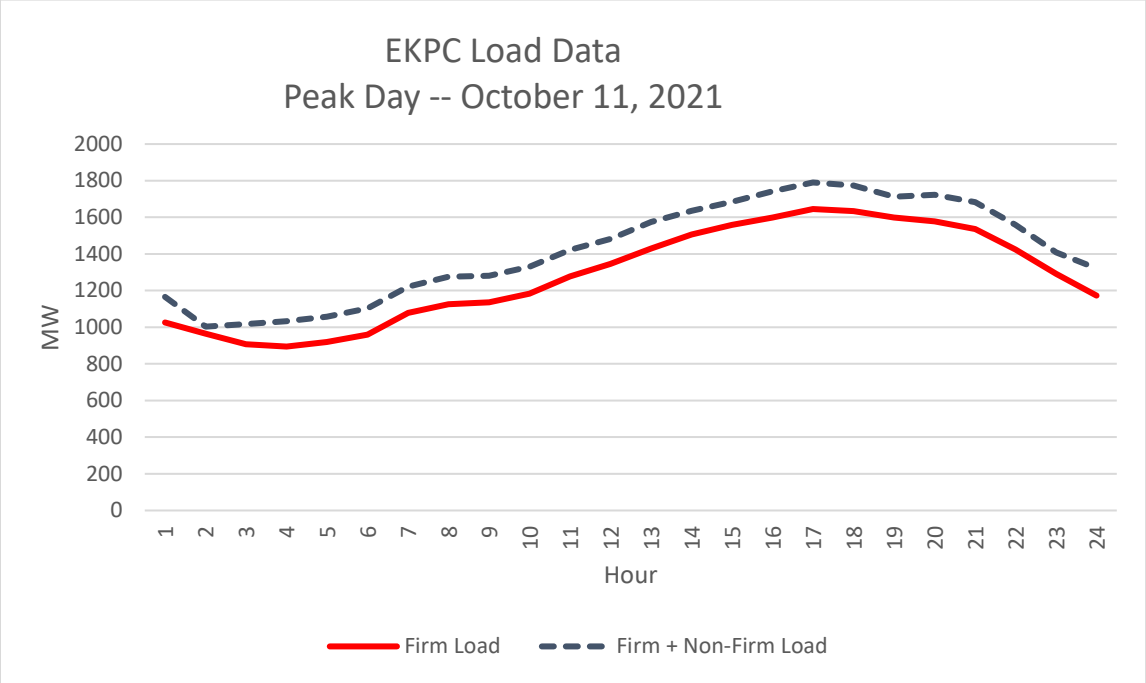

EKPC Load Data
Peak Day -- May 24, 2021
MW
2500
2000
1500
1000
500
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour
Firm Load
Firm + Non-Firm Load

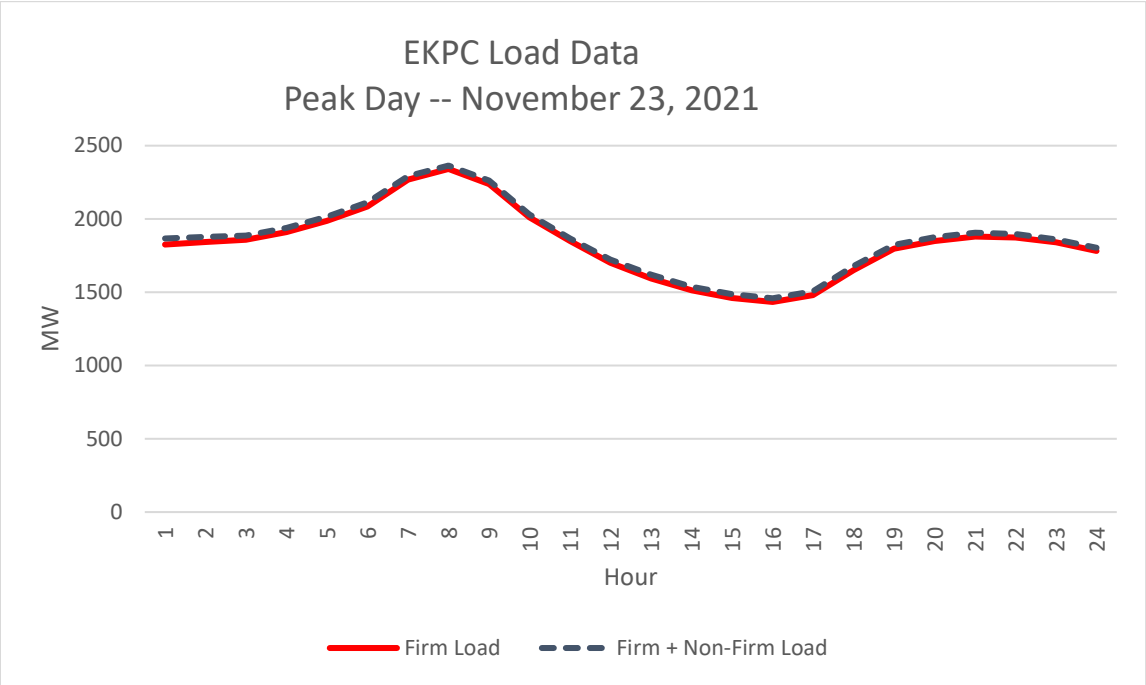

EKPC Load Data
Peak Day -- June 29,2021
MW
3000
2500
2000
1500
1000
500
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour
Firm Load
Firm + Non-Firm Load

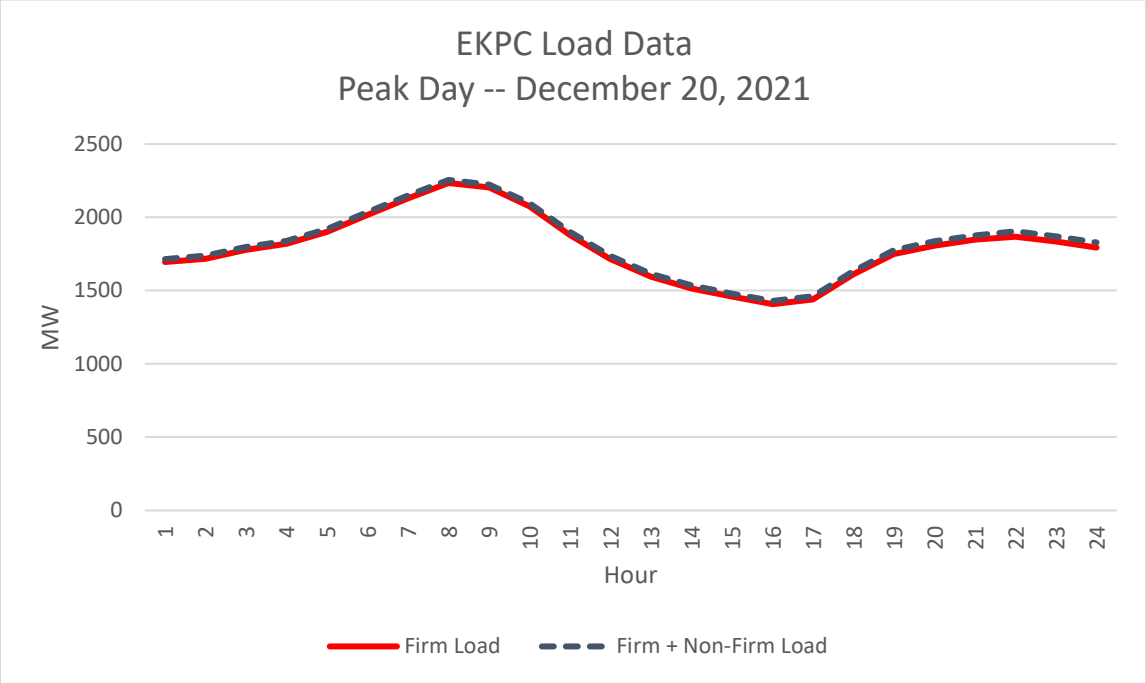

EKPC Load Data
Peak Day -- July 27, 2021
MW
2500
2000
1500
1000
500
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour
Firm Load
Firm + Non-Firm Load


EKPC Load Data
Peak Day -- August 12, 2021
MW
3000
2500
2000
1500
1000
500
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour
Firm Load
Firm + Non-Firm Load


EKPC Load Data
Peak Day -- September 14, 2021
MW
2500
2000
1500
1000
500
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour
Firm Load
Firm + Non-Firm Load


EKPC Load Data
Peak Day -- October 11, 2021
MW
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour
Firm Load
Firm + Non-Firm Load


EKPC Load Data
Peak Day -- November 23, 2021
MW
2500
2000
1500
1000
500
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour
Firm Load
Firm + Non-Firm Load


EKPC Load Data
Peak Day -- December 20, 2021
MW
2500
2000
1500
1000
500
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour
Firm Load
Firm + Non-Firm Load

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC ADMINISTRATIVE CASE NO. 387
ANNUAL RESOURCE ASSESSMENT FILING

PUBLIC SERVICE COMMISSION REQUEST DATED 12/20/01
REQUEST 6
RESPONSIBLE PERSON: **Julia J. Tucker**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 6. 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).

Response 6a. EKPC prepares higher and lower growth scenarios to bracket its baseline scenario forecast. The ranges are shown in the table below. The peaks are firm native load only. EKPC does not prepare range forecasts for non-firm native load.

Net Total Energy Requirements - Thousand MWh					
Year	Pessimistic Economics Mild Weather	Pessimistic Economics Normal Weather	**BASE CASE**	Optimistic Economics Normal Weather	Optimistic Economics Extreme Weather
2022	14,059	14,847	**15,025**	15,372	16,247
2023	14,147	14,936	**15,206**	15,736	16,610
2024	14,169	14,957	**15,319**	16,035	16,909
2025	14,170	14,958	**15,411**	16,317	17,191
2026	14,180	14,968	**15,515**	16,614	17,489

Net Winter Peak Demand (MW) by Economic and Weather Scenario					
Year	Pessimistic Economics Mild Weather	Pessimistic Economics Normal Weather	**BASE CASE**	Optimistic Economics Normal Weather	Optimistic Economics Extreme Weather
2021 - 22	2,902	3,297	**3,337**	3,414	3,824
2022 - 23	2,904	3,300	**3,359**	3,476	3,893
2023 - 24	2,904	3,300	**3,380**	3,538	3,962
2024 - 25	2,893	3,287	**3,387**	3,586	4,016
2025 - 26	2,890	3,284	**3,404**	3,646	4,083

Net Summer Peak Demand (MW) by Economic and Weather Scenario					
Year	Pessimistic Economics Mild Weather	Pessimistic Economics Normal Weather	**BASE CASE**	Optimistic Economics Normal Weather	Optimistic Economics Extreme Weather
2022	2,236	2,541	**2,572**	2,631	2,947
2023	2,221	2,524	**2,569**	2,659	2,978
2024	2,240	2,546	**2,608**	2,729	3,057
2025	2,236	2,541	**2,618**	2,772	3,105
2026	2,233	2,537	**2,630**	2,816	3,154

Response 6b. EKPC is projecting no off-system demand.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC ADMINISTRATIVE CASE NO. 387
ANNUAL RESOURCE ASSESSMENT FILING

PUBLIC SERVICE COMMISSION REQUEST DATED 12/20/01
REQUEST 7
RESPONSIBLE PERSON: **Julia J. Tucker**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 7. 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 of the change.

Response 7. EKPC's obligation to PJM for capacity is defined by the Resource Planning Model (RPM). PJM establishes a Variable Resource Requirement against which all supply resources clear, establishing the clearing price for committed capacity resources. The Variable Resource Requirement incorporates the reserve requirement established for the particular delivery year. Among other factors, the reserve requirement incorporates PJM's summer peak load forecast, forced outage rates of resources and, an expectation of resources the PJM region might receive from other regions during emergency conditions. The calculated reserve requirement for the delivery year June 1, 2022 through May 31, 2023 is 14.9% installed reserve margin, established in 2021.

EKPC's allocated capacity obligation based upon the RPM clearings have resulted in EKPC carrying its stand-alone summer peak load requirement plus a roughly three percent addition. The three percent addition is due to load diversity throughout the PJM region. EKPC does not historically peak at the same time that the PJM system as a whole peaks. Therefore, the reserve margin for the EKPC only load is less than the reserve margin that PJM carries on its entire load at the time of its coincident peak. All EKPC capacity resources that clear in the market are committed to the PJM region to ensure resource adequacy; all committed resources are responsible to perform when PJM needs them to ensure regional reliability. All also must offer into the Day Ahead Energy Market.

The commitment of capacity resources to be available to produce electricity in a future delivery year, however, does not lock in energy market prices for that future delivery year. The only way to guarantee a maximum cost on energy is to secure enough resources or energy contracts to hedge the prices that may result from the real time conditions and fuel prices in the energy market. EKPC takes measures to hedge its energy price exposure through the entire year.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC ADMINISTRATIVE CASE NO. 387
ANNUAL RESOURCE ASSESSMENT FILING

PUBLIC SERVICE COMMISSION REQUEST DATED 12/20/01
REQUEST 8
RESPONSIBLE PERSON: **Julia J. Tucker**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 8. 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.

Response 8. The table below shows the projected summer peak and reserve levels.

Year	Summer Load (MW)	Capacity (MW)	Reserves (%)	Winter Load (MW)	Capacity (MW)	Reserves (%)
2022	2,500	3,132	25%	3,309	3,434	4%
2023	2,574	3,132	22%	3,363	3,434	2%
2024	2,612	3,132	20%	3,384	3,434	1%
2025	2,623	3,132	19%	3,391	3,434	1%
2026	2,634	3,132	19%	3,409	3,434	1%

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC ADMINISTRATIVE CASE NO. 387
ANNUAL RESOURCE ASSESSMENT FILING

PUBLIC SERVICE COMMISSION REQUEST DATED 12/20/2001
REQUEST 11
RESPONSIBLE PERSON: **Julia J. Tucker**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 11. A list that identifies scheduled outages or retirements of generating capacity during the current year and the following four years.

Response 11. Please see scheduled outage information on pages 2 through 3 of this response.

Cooper Unit 1

2022	8	week(s) or less
2023	4	week(s) or less
2024	4	week(s) or less
2025	4	week(s) or less
2026	4	week(s) or less

Cooper Unit 2

2022	15	week(s) or less
2023	4	week(s) or less
2024	4	week(s) or less
2025	4	week(s) or less
2026	4	week(s) or less

Spurlock Unit 1

2022	7	week(s) or less
2023	8	week(s) or less
2024	7	week(s) or less
2025	5	week(s) or less
2026	7	week(s) or less

Spurlock Unit 2

2022	6	weeks or less
2023	7	weeks or less
2024	7	weeks or less
2025	8	weeks or less
2026	8	weeks or less

Spurlock Unit 3

2022	5	week(s) or less
2023	5	week(s) or less
2024	5	week(s) or less
2025	9	week(s) or less
2026	5	week(s) or less

JK Smith CT1

2022	6	week(s) or less
2023	4	week(s) or less
2024	4	week(s) or less
2025	4	week(s) or less
2026	4	week(s) or less

JK Smith CT2

2022	4	week(s) or less
2023	4	week(s) or less
2024	4	week(s) or less
2025	4	week(s) or less
2026	4	week(s) or less

JK Smith CT3

2022	5	week(s) or less
2023	4	week(s) or less
2024	4	week(s) or less
2025	4	week(s) or less
2026	4	week(s) or less

JK Smith CT4

2022	7	weeks or less
2023	4	weeks or less
2024	4	weeks or less
2025	4	weeks or less
2026	4	weeks or less

JK Smith CT5

2022	4	week(s) or less
2023	4	week(s) or less
2024	4	week(s) or less
2025	4	week(s) or less
2026	4	week(s) or less

Spurlock Unit 4

2022	5	week(s) or less
2023	5	week(s) or less
2024	5	week(s) or less
2025	5	week(s) or less
2026	5	week(s) or less

Bluegrass CT1

2022	8	week(s) or less
2023	8	week(s) or less
2024	6	week(s) or less
2025	6	week(s) or less
2026	6	week(s) or less

Bluegrass CT2

2022	8	week(s) or less
2023	8	week(s) or less
2024	6	week(s) or less
2025	6	week(s) or less
2026	6	week(s) or less

Bluegrass CT3

2022	8	week(s) or less
2023	8	week(s) or less
2024	6	week(s) or less
2025	6	week(s) or less
2026	6	week(s) or less

JK Smith CT6

2022	6	week(s) or less
2023	4	week(s) or less
2024	4	week(s) or less
2025	4	week(s) or less
2026	4	week(s) or less

JK Smith CT7

2022	7	week(s) or less
2023	4	week(s) or less
2024	4	week(s) or less
2025	4	week(s) or less
2026	4	week(s) or less

JK Smith CT9

2022	26	week(s) or less
2023	5	week(s) or less
2024	5	week(s) or less
2025	5	week(s) or less
2026	5	week(s) or less

JK Smith CT10

2022	7	week(s) or less
2023	4	week(s) or less
2024	5	week(s) or less
2025	5	week(s) or less
2026	5	week(s) or less

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC ADMINISTRATIVE CASE NO. 387
ANNUAL RESOURCE ASSESSMENT FILING

PUBLIC SERVICE COMMISSION REQUEST DATED 12/20/01
REQUEST 12
RESPONSIBLE PERSON: **Julia J. Tucker**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 12. 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.

Response 12. EKPC's 2022 Integrated Resource Plan ("IRP") indicates that a peaking unit could be needed by 2032, but EKPC has not started developing plans for this resource yet.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC ADMINISTRATIVE CASE NO. 387
ANNUAL RESOURCE ASSESSMENT FILING

PUBLIC SERVICE COMMISSION REQUEST DATED 12/20/01
REQUEST 13
RESPONSIBLE PERSON: **Darrin Adams**
COMPANY: **East Kentucky Power Cooperative, Inc.**

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

Request 13a. Total energy received from all interconnections and generation sources connected to the transmission system.

Request 13b. Total energy delivered to all interconnections on the transmission system.

Response 13a & b. The total energy received from all interconnections and from generation sources connected to the EKPC transmission system for calendar year 2021 was 23,869,781 MWh. The total energy delivered to all interconnections on the EKPC system in 2021 was 10,686,326 MWh.

The forecasted total energy requirements for the EKPC system for 2022 through 2026 are as follows:

2022	15,025,345 MWh
2023	15,205,782 MWh
2024	15,318,864 MWh
2025	15,411,475 MWh
2026	15,514,567 MWh

Request 13c. Peak load capacity of the transmission system.

Response 13c. The transmission capacity of a grid system changes constantly based on factors like generation dispatch, ambient temperature, load characteristics, facility outages, power transfers, etc. EKPC's transmission system is planned and constructed to deliver all of its generation resources to its native load delivery points and to other contracted users (e.g., merchant generation facilities, customers taking Network Integration Transmission Service, etc.) of the EKPC transmission system during forecasted normal summer and winter peak load conditions. EKPC's transmission system is also designed to accommodate an outage of a single transmission facility and/or generating unit at these load levels. Also, EKPC designs its transmission system to reliably deliver its generation resources to its native load delivery points during "extreme" weather conditions (1-in-10 year temperatures) for summer and winter with all facilities in service. Other than simulation of imports into EKPC to replace an outage of a single generating unit, the transfers used in the EKPC transmission planning process are those modeled in the NERC MMWG models, which are typically the long-term firm transactions known at the time of the development of the models.

Transfer studies performed in regional assessments by both SERC and PJM have not identified any significant limitations within the EKPC system. Therefore, EKPC's system is expected to be capable of handling a reasonable level of overlaid transfers while also delivering energy to EKPC's native-load customers and other transmission customers using EKPC's transmission system to deliver energy to the PJM market (for instance, merchant generation facilities) or for their native-load customers (for instance, LG&E/KU).

Request 13d. Peak demand for summer and winter season on the transmission system.

Response 13d.

SUMMER	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Date	8/12/2021					
Hr.	1800					
Peak Demand (MW)	2450	2572	2569	2608	2618	2630

WINTER	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Date	2/20/2021	1/27/2022*				
Hr.	0800	0800				
Peak Demand (MW)	2862	3017	3359	3380	3387	3404

*Reflects January 2022 actual winter peak.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC ADMINISTRATIVE CASE NO. 387
ANNUAL RESOURCE ASSESSMENT FILING
PUBLIC SERVICE COMMISSION REQUEST DATED 12/20/01
REQUEST 14
RESPONSIBLE PERSON: **Darrin Adams**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 14. 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 14. Pages 2 through 7 of this response include EKPC's 10-year transmission expansion plan for the 2022-2031 period. During this period, EKPC expects to make the following transmission improvements for replacement of aging transmission line and substation infrastructure, normal system development, and load growth to serve native load customers and other long-term contracted uses of the EKPC transmission system:

- 0.8 mile of new 161 kV transmission line
- 35.3 miles of new 69 kV transmission line
- 255.1 miles of transmission line re-conductor/rebuild (all at 69 kV)
- 8.1 miles of transmission line conductor operating temperature upgrade
- 2 new transmission stations/upgrades (50 MVA added capacity)
- 4 new 69 kV transmission switching stations
- 5 new transmission capacitor banks (73.5 MVAR addition)
- 6 projects to add/upgrade terminal facilities
- 9 new distribution substations (220 MVA added)
- 39 upgrades of existing distribution substations (239.4 MVA added)

In addition, EKPC has identified the need for the following transmission expansion projects due to generator interconnection requested projects with executed Interconnection Construction Service Agreements and that have been granted a Certificate of Construction by the Kentucky Electric Generation and Transmission Siting Board:

- One new 69 kV switching station
- One expansion of an existing 161 kV transmission substation

EKPC 10-YEAR TRANSMISSION EXPANSION SCHEDULE (2022 – 2031)	
A. New Transmission Lines **Project Description**	**Needed In-Service Date**
Construct a new Floyd-Woodstock 69kV line section using 556 ACSR (7 miles)	10/2023
Construct a new Coburg-EKPC Campbellsville 69kV line section using 556 ACSR (9.3 miles)	12/2026

EKPC 10-YEAR TRANSMISSION EXPANSION SCHEDULE (2022 – 2031)	
B. Transmission Line Rebuilds Project Description	**Needed In-Service Date**
Rebuild the 4/0 Boone-Bullittsville 69kV line section using 556 ACSR (6.4 miles)	May-22
Rebuild the 4/0 Brodhead-Three Links Junction 69 kV line section using 556 ACSR (8.2 miles)	Oct-22
Rebuild the 3/0 Goddard-Oak Ridge 69kV line section using 556 ACSR (8.04 miles)	Jun-23
Rebuild the 3/0 Beattyville Distribution-Booneville 69kV line section using 556 ACSR (9.0 miles)	Jul-23
Rebuild the 4/0 Three Links-Three Links Junction 69kV line section using 556 ACSR (9.3 miles)	Aug-23
Rebuild the 4/0 Summersville-Magnolia 69kV line section using 556 ACSR (15.0 miles)	Dec-23
Rebuild the 4/0 Boone-Williamstown 69 kV line section using 556 ACSR (28.5 miles)	Dec-23
Rebuild the 3/0 Booneville-South Fork 69kV line section using 556 ACSR (5.48 miles)	May-24
Rebuild the 3/0 Oak Ridge-Charters 69kV line section using 556 ACSR (8.95 miles)	Sep-24
Rebuild the 3/0 Fall Rock-Manchester 69kV line section using 556 ACSR (5.83 miles)	Dec-24
Rebuild the 3/0 Stephensburg-Vertrees 69kV line section using 556 ACSR (8.7 miles)	Dec-24
Rebuild the 556 Duncannon Lane-Fawkes 69kV line section using 795 ACSR (7.48 miles)	Dec-24
Rebuild the 3/0 Liberty Junction-Peyton's Store 69kV line section using 556 ACSR (14.2 miles)	Jun-25
Rebuild the 4/0 KU Carrollton-EK Bedford 69kV line section using 556 ACSR (22.1 miles)	Dec-25
Rebuild the 4/0 Headquarters-Millersburg 69kV line section using 556 ACSR (5.12 miles)	Dec-25
Rebuild the 4/0 Norwood Junction-Shopville 69kV line section using 556 ACSR (6.3 miles)	Jun-26
Rebuild the 266.8 Budd-Logan Tap 69kV line section using 556 ACSR (0.48 miles)	Jun-27
Rebuild the 3/0 Headquarters-Murphysville 69kV line section using 556 ACSR (19.9 miles)	Jul-27
Rebuild the 3/0 KU Wofford-McCreary Co. Junction 69kV line section using 556 ACSR (20.7 miles)	Dec-27
Rebuild the 4/0 Maytown-West Liberty 69kV line section using 556 ACSR (12.3 miles)	Nov-28
Rebuild the 3/0 South Fork-Tyner 69kV line section using 556 ACSR (14.9 miles)	Dec-28
Rebuild the 266.8 Dale-Newby 69 kV Double-Circuit line section using 556 ACSR (11.1 miles)	Dec-28
Rebuild the 266.8 Bekaert-Budd 69kV line section using 556 ACSR (0.76 miles)	Jun-30

EKPC 15-YEAR TRANSMISSION EXPANSION SCHEDULE (2022 – 2031)	
C. Transmission Line High Temperature Upgrades Project Description	**Needed In-Service Date**
Increase the conductor maximum operating temperature of the North London-Dav Lane tap 266 ACSR 69kV line section from 167°F to 212°F (2.55 miles)	12/2023
Increase the conductor maximum operating temperature of the Dav Lane Tap-Laurel County Industrial Tap 266 ACSR 69kV line section from 167°F to 212°F (0.57 miles)	12/2029
Increase the conductor maximum operating temperature of the Tharp Tap-KU Elizabethtown 69kV 556 ACSR line section from 280°F to 302°F (2.1 miles)	12/2030
Increase the conductor maximum operating temperature of the Plumville-Rectorville 266 ACSR 69kV line section from 167°F to 212°F (2.9 miles)	6/2031

EKPC 10-YEAR TRANSMISSION EXPANSION SCHEDULE (2022 – 2031)	
D. New Transmission Substations & Transmission Substation Upgrades Project Description	**Needed In-Service Date**
Upgrade the existing West Berea 138-69 kV 100 MVA autotransformer to 150 MVA	11/2022
Rebuild the 69 kV Tyner Switching Station	10/2023

EKPC 10-YEAR TRANSMISSION EXPANSION SCHEDULE (2022– 2031)	
E. New Transmission Switching Stations Project Description	**Needed In-Service Date**
Build a new Patriot Parkway 69kV (Switching Station	2/2022
Build a new Penn 69 kV Switching Station	12/2022
Build a new Norwood Junction 69kV Switching Station	11/2023
Build a new Coburg Junction 69kV Switching Station	12/2026

EKPC 15-YEAR TRANSMISSION EXPANSION SCHEDULE (2022 – 2031)	
F. Capacitor Bank Additions Project Description	**Needed In-Service Date**
Install a new 28 MVAR, 69 kV capacitor bank at Liberty Junction substation	12/2026
Increase the size of the Coburg 69kV Capacitor Bank from 7.1 to 17 MVARs	12/2026
Increase the size of the Green River Plaza 69kV Capacitor Bank from 20.4 to 27 MVARs	12/2026
Install a new 20.5 MVAR, 69 kV capacitor bank at Bullitt County substation	12/2031
Install a new 8.5 MVAR cap bank at Elliottville substation	12/2031

EKPC 10-YEAR TRANSMISSION EXPANSION SCHEDULE (2022 – 2031)	
G. Terminal Facility Upgrades & Additions Project Description	**Needed In-Service Date**
Add a new 69 kV breaker at Boone Switching for service to the Boone Distribution substation	Oct-22
Add a new 138 kV breaker at Fawkes 138 kV for protection of the Fawkes-Fawkes KU interconnection	Dec-22
Add a new 69 kV breaker at Elizabethtown	Dec-22
Replace the relay at Argentum, and add a new 138 kV breaker for the existing line to Greenup Hydro	Jun-23
Add a new breaker at Magoffin County for the existing 69 kV line to Falcon	Dec-23
Add a new breaker at Rowan County for the existing 69 kV line to Elliotville	Dec-26

EKPC 10-YEAR TRANSMISSION EXPANSION SCHEDULE (2022 – 2031)	
H. New Distribution Substations and associated Tap Lines Project Description	**Needed In-Service Date**
Construct a new Speedwell Road 69-25 kV 18/24/30 MVA Distribution Substation and associated 69 kV tap line to Crooksville (4.79 miles)	Apr-22
Construct a new Dahl Rd 69-12.5 kV 12/16/20 MVA Distribution Substation, tapping the existing Asahi Motor Wheel-Shopville 69kV line section (0.1 miles)	Jun-22
Construct a new Dav Lane 69-12.5 kV 12/16/20 MVA Distribution Substation, tapping the existing North London-Laurel County Industrial Tap 69 kV line section (0.03 miles)	Dec-23
Construct a new Asahi Motor Wheel #2 69-12.5 kV 12/16/20 MVA Distribution Substation	Dec-23
Construct a new Brooks #2 69-13.2 kV 18/24/30 MVA Distribution Substation	Dec-23
Construct a new Mineola Pike 69-12.5 kV 12/16/20 MVA Distribution Substation and associated 69 kV tap line to the Hebron 69 kV substation (8.0 miles)	Dec-24
Construct a new Wieland 69-25 kV 18/24/30 MVA Distribution Substation by looping it into the existing Bekaert-Budd 69 kV line section (1.2 miles)	Dec-25
Construct a new Big Hill 69-13.2 kV 12/16/20 MVA Distribution Substation, tapping the existing Hickory Plains 69 kV tap line (4.4 miles)	Dec-25
Construct a new Hebron #2 138-13.2 kV 18/24/30 MVA Distribution Substation	Dec-28

EKPC 10-YEAR TRANSMISSION EXPANSION SCHEDULE (2022 – 2031)	
I. Distribution Substation Upgrades and associated Tap Lines Project Description	**Needed In-Service Date**
Rebuild the 69 kV Miller's Creek Distribution Substation to 161-13.2 kV 12/16/20 MVA, tapping the Powell County-Beattyville 161 kV line (New Location) (0.6 miles)	Apr-22
Rebuild and upgrade the Lees Lick 69-12.47 kV Distribution Substation to 12/16/20 MVA	May-22
Rebuild the East Bernstadt Distribution Substation to 69-13.2kV 12/16/20 MVA	May-22
Rebuild and upgrade the Thelma Distribution Substation to 69-13.2 kV 12/16/20 MVA	Jun-22
Upgrade the Alcan #1 Transformer to 18/24/30 MVA	Jun-22
Rebuild and upgrade the existing Highland 69-25 kV Distribution Substation and tap to 12/16/20 MVA (New Location) (0.3 miles)	Sep-22
Rebuild and upgrade the Balltown Distribution Substation to 69-13.2 kV 12/16/20 MVA	Sep-22
Rebuild and upgrade the Munk Distribution Substation to 69-12.47 kV 12/16/20 MVA	Nov-22
Rebuild and upgrade the Redbush Distribution Substation to 69-13.2 kV 12/16/20 MVA	Dec-22
Rebuild and upgrade the Penn Distribution Substation to 69-13.2 kV 12/16/20 MVA	Dec-22
Rebuild and upgrade the Newfoundland 69kV Distribution Substation to 69-13.2kV 12/16/20	Jan-23
Rebuild and upgrade the Rice Distribution Substation to 69-13.2 kV 12/16/20 MVA	Jan-23
Rebuild the Griffin 69 kV Distribution Substation 69-12.5 kV 12/16/20 and tap line (6.4 miles)	Jun-23
Rebuild and upgrade the Rockholds Distribution Substation to 69-13.2 kV 12/16/20 MVA	Jul-23
Rebuild the Frenchburg Distribution Substation to 69kV-25kV 11.2 MVA	Jul-23
White Oak 69-13.2 kV 12/16/20 MVA Distribution Substation & Tap and Retirement of the South Fork Distribution Substation (New Location) (0.1 miles)	Aug-23
Rebuild and upgrade the Three Links Distribution Station to 69/13.2 kV 12/16/20 MVA	Aug-23
Rebuild and upgrade the Albany Distribution Substation to 69-13.2 kV 12/16/20 MVA	Sep-23
Rebuild the Shopville 69kV Distribution Substation to 69-13.2kV	Oct-23
Rebuild the 69 kV Taylorsville Distribution Substation to 161-13.2 kV 12/16/20 MVA (New Location) (0.2 miles)	Nov-23
Rebuild and relocate the Tyner 69 kV Distribution Substation in the Tyner 161 kV yard (0.1 miles)	Nov-23
Rebuild and upgrade the Brodhead Substation to 69-13.2kV 12/16/20 MVA	Nov-23
Upgrade the Kargle #1 Transformer to 12/16/20 MVA	Dec-23
Upgrade the Plesant Grove #1 Transformer to 18/24/30 MVA	Dec-23
Upgrade the West Mt. Washington Transformer to 12/16/20 MVA	Dec-23
Rebuild and upgrade the Oakdale Distribution Substation to 69-13.2 kV 12/16/20 MVA	Dec-23
Upgrade the 3M #1 Transformer to 15/20/25 MVA	Dec-23
Rebuild and upgrade the Nicholasville Substation to 69-13.2kV 12/16/20 MVA	Mar-24
Rebuild and upgrade the Salt Lick Distribution Substation to 138-13.2 kV 12/16/20 MVA	Sep-24
Rebuild and upgrade the Newby Substation to 69-12.5kV 12/16/20 MVA	Dec-24

EKPC 10-YEAR TRANSMISSION EXPANSION SCHEDULE (2022 – 2031)	
I. Distribution Substation Upgrades and associated Tap Lines Project Description	**Needed In-Service Date**
Rebuild and upgrade the Campbellsburg Distribution Substation 69-13.2 kV 12/16/20 MVA	Dec-24
Rebuild and upgrade the Greensburg Distribution Substation 69-13.2 kV 12/16/20 MVA	Dec-24
Rebuild and upgrade the North Springfield Distribution Substation to 69-13.2 kV 12/16/20 MVA	Dec-24
Rebuild and upgrade the Elizabethtown #1 Distribution Substation to 69-13.2 kV 12/16/20 MVA	Dec-24
Rebuild and upgrade the Whitley City Distribution Substation to 69-26.4 kV 12/16/20 MVA	Dec-24
Upgrade the Shepherdsville #2 Transformer to 12/16/20 MVA	Dec-24
Rebuild the Homestead Lane Distribution Substation to 69-13.2 kV 18/24/30 MVA	Dec-25
Upgrade the Lebanon Transformer to 12/16/20 MVA	Dec-26
Upgrade the Cedar Grove Industrial Park #2 Transformer to 18/24/30 MVA	Dec-30

EKPC 10-YEAR TRANSMISSION EXPANSION SCHEDULE (2022 – 2031)	
J. Solar Generation Interconnection Request with executed Interconnection construction service agreements and certificates to construct Project Description	**Needed In-Service Date**
Construct a new 69 kV switching station (East Lancaster Switching) to facilitate connection of the AE2-254 solar generation project to the existing Garrard County-Tommy Gooch 69 kV line section	12/2022
Expand the Marion County 161 kV bus to facilitate connection of the AE1-143 solar generation project	7/2024