

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY	)	
POWER COMPANY FOR (1) A GENERAL	)	
ADJUSTMENT OF ITS RATES FOR ELECTRIC	)	
SERVICE; (2) APPROVAL OF TARIFFS AND	)	
RIDERS; (3) APPROVAL OF ACCOUNTING	)	CASE NO.
PRACTICES TO ESTABLISH REGULATORY	)	2020-00174
ASSETS AND LIABILITIES; (4) APPROVAL OF A	)	
CERTIFICATE OF PUBLIC CONVENIENCE AND	)	
NECESSITY; AND (5) ALL OTHER REQUIRED	)	
APPROVALS AND RELIEF	)	

NOTICE OF FILING

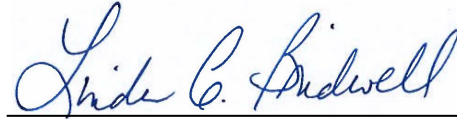
Notice is given to all parties that the following materials have been filed into the record of this proceeding:

- The digital video recording of the evidentiary hearing conducted on April 6, 2021 in this proceeding;
- Certification of the accuracy and correctness of the digital video recording;
- All exhibits introduced at the evidentiary hearing conducted on April 6, 2021 in this proceeding;
- A written log listing, inter alia, the date and time of where each witness' testimony begins and ends on the digital video recording of the evidentiary hearing conducted on April 6, 2021.

A copy of this Notice, the certification of the digital video record, and hearing log have been served upon all persons listed at the end of this Notice. Parties desiring to view the digital video recording of the hearing may do so at <https://youtu.be/JI-R3mfcBo8>.

Parties wishing an annotated digital video recording may submit a written request by electronic mail to [pscfilings@ky.gov](mailto:pscfilings@ky.gov). A minimal fee will be assessed for a copy of this recording.

Done at Frankfort, Kentucky, this 15<sup>th</sup> day of April 2021.



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Linda C. Bridwell  
Executive Director  
Public Service Commission of Kentucky

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APPROVALS AND RELIEF )


CASE NO.  
2020-00174

CERTIFICATION

I, Candace H. Sacre, hereby certify that:

1. The attached flash drive contains a digital recording of the Formal Hearing conducted in the above-styled proceeding on April 6, 2021. The Formal Hearing Log, Exhibits, and Exhibit List are included with the recording on April 6, 2021;
2. I am responsible for the preparation of the digital recording;
3. The digital recording accurately and correctly depicts the Formal Hearing of April 6, 2021; and
4. The Formal Hearing Log attached to this Certificate accurately and correctly states the events that occurred at the Formal Hearing of April 6, 2021, and the time at which each occurred.

Signed this 9<sup>th</sup> day of April, 2021.



Candace H. Sacre  
Administrative Specialist III



Stephanie Schweighardt  
Notary Public State at Large ID#: 614400  
Commission Expires: January 14, 2023



Date:	Type:	Location:	Department:
4/6/2021	Public Hearing\Public Comments	Hearing Room 1	Hearing Room 1 (HR 1)

Witness: Stephen Blankenship; Jason Cash; Jacob Crocker; Randy Holliday; Brett Mattison; Everett Phillips; Jason Stegall; Alex Vaughn; Brian West; Joo Won Jun  
 Judge: Kent Chandler; Talina Mathews; Michael Schmitt  
 Clerk: Candace Sacre

Event Time	Log Event	
9:24:53 AM	Session Started	
9:26:17 AM	Vice Chairman Chandler Note: Sacre, Candace	On the record in Case No. 2020-00174, Electronic Application of Kentucky Power Company for (1) a General Adjustment of its Rates for Electric Service; (2) Approval of Tariffs and Riders; (3) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; (4) Approval of a Certificate of Public Convenience and Necessity; and (5) All Other Required Approvals and Relief.
9:26:42 AM	Vice Chairman Chandler Note: Sacre, Candace	Kent Chandler, Vice Chairman, joining me are Chairman Michael Schmitt and Commissioner Dr. Talina Mathews.
9:26:55 AM	Vice Chairman Chandler Note: Sacre, Candace	Hearing and COVID recommendations.
9:27:44 AM	Vice Chairman Chandler Note: Sacre, Candace	The hearing is for the purpose of taking testimony.
9:27:52 AM	Vice Chairman Chandler Note: Sacre, Candace	Entry of appearance of counsel, identify witnesses. Applicant?
9:28:04 AM	Atty Overstreet Kentucky Power Note: Sacre, Candace	Mark Overstreet, Katie Glass, Christen Blend. Witnesses Brett Mattison, Randy Holliday, Jason Cash, Joo Won Jun, Everett Phillips, Steven Blankenship, Brian West, Jacob Crocker, and Alex Vaughan.
9:29:53 AM	Vice Chairman Chandler Note: Sacre, Candace	AG's office?
9:29:56 AM	Asst Atty General West Note: Sacre, Candace	Michael West, John Horne. Steve Baron available to testify.
9:30:08 AM	Vice Chairman Chandler Note: Sacre, Candace	Kentucky Industrial Utility Customers?
9:30:11 AM	Atty Cohn KIUC Note: Sacre, Candace	Jody Kyler Cohn, Mike Kurtz.
9:30:31 AM	Vice Chairman Chandler Note: Sacre, Candace	Walmart?
9:30:35 AM	Atty Grundmann Walmart Note: Sacre, Candace	Carrie Grundmann.
9:30:56 AM	Vice Chairman Chandler Note: Sacre, Candace	Kentucky Solar Industries Association?
9:31:16 AM	Atty Spenard KYSEIA Note: Sacre, Candace	Randal A. Strobo and David Spenard, Witnesses are Richard J. McCann and Benjamin D. Inskeep.
9:31:28 AM	Vice Chairman Chandler Note: Sacre, Candace	Joint Intervenors?

9:31:42 AM	Atty Fitzgerald Joint Intervenors Note: Sacre, Candace	Tom Fitzgerald. Two witnesses, Joshua Bills and Karl Rabago.
9:32:09 AM	Vice Chairman Chandler Note: Sacre, Candace	Sierra Club?
9:32:15 AM	Atty Miller Sierra Club Note: Sacre, Candace	Matthew Miller, Joe F. Childers.
9:32:41 AM	Vice Chairman Chandler Note: Sacre, Candace	SWVA?
9:32:45 AM	Atty Frye SWVA Note: Sacre, Candace	Michael Frye.
9:32:59 AM	Vice Chairman Chandler Note: Sacre, Candace	Commission Staff?
9:33:03 AM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	Nancy Vinsel, Tina Frederick.
9:33:20 AM	Vice Chairman Chandler Note: Sacre, Candace	Public notice?
9:33:29 AM	Atty Overstreet Kentucky Power Note: Sacre, Candace	Yes.
9:33:41 AM	Vice Chairman Chandler Note: Sacre, Candace	Outstanding motions?
9:33:53 AM	Atty Overstreet Kentucky Power Note: Sacre, Candace	Yes. All witnesses available.
9:34:25 AM	Vice Chairman Chandler Note: Sacre, Candace	Conflicts of witnesses next two days?
9:34:56 AM	Atty Overstreet Kentucky Power Note: Sacre, Candace	Mr. Holliday.
9:35:40 AM	Vice Chairman Chandler Note: Sacre, Candace	Five-minute break for technical difficulties. Back at 9:40, public comments.
9:36:17 AM	Session Paused	
9:41:16 AM	Session Resumed	
9:41:30 AM	Vice Chairman Chandler Note: Sacre, Candace	Back on record. Public comments.
9:41:40 AM	PUBLIC COMMENTS Note: Sacre, Candace	Nineteen (19) members of the public participating.
10:06:10 AM	Vice Chairman Chandler Note: Sacre, Candace	Anyone else? Close line to public comments.
10:07:03 AM	Vice Chairman Chandler Note: Sacre, Candace	Attorneys please ask witnesses to indicate information in front of them, testimonies, data requests.
10:08:12 AM	Vice Chairman Chandler Note: Sacre, Candace	Mr. Overstreet?
10:08:35 AM	Vice Chairman Chandler Note: Sacre, Candace	Witness is sworn.
10:08:45 AM	Vice Chairman Chandler - witness Mattison Note: Sacre, Candace	Examination. Name and address?
10:09:05 AM	Atty Blend Kentucky Power - witness Mattison Note: Sacre, Candace	Direct Examination. By whom employed, what position?
10:09:14 AM	Atty Blend Kentucky Power - witness Mattison Note: Sacre, Candace	Identify documents in front of you today?
10:09:39 AM	Atty Blend Kentucky Power Note: Sacre, Candace	Witness available.
10:10:07 AM	Vice Chairman Chandler Note: Sacre, Candace	Ms. Vinsel?

10:10:20 AM	Asst Gen Counsel Vinsel PSC - witness Mattison Note: Sacre, Candace	Cross Examination. NMS I and II in effect?
10:10:42 AM	Asst Gen Counsel Vinsel PSC - witness Mattison Note: Sacre, Candace	Customers taking service under NMS II?
10:11:00 AM	Asst Gen Counsel Vinsel PSC - witness Mattison Note: Sacre, Candace	Applications filed before January 14th, pending?
10:11:32 AM	Asst Gen Counsel Vinsel PSC - witness Mattison Note: Sacre, Candace	Kentucky Power damage ice/snow, how much invested in distribution system due to storms?
10:12:47 AM	Asst Gen Counsel Vinsel PSC - witness Mattison Note: Sacre, Candace	Requested regulatory assets for events, \$70-80 million only distribution system or additional costs for labor?
10:13:56 AM	Asst Gen Counsel Vinsel PSC - witness Mattison Note: Sacre, Candace	Holistic cost, post-hearing data request distribution costs only.
10:14:14 AM	POST-HEARING DATA REQUEST Note: Sacre, Candace Note: Sacre, Candace	ASST GEN COUNSEL VINSEL PSC - WITNESS MATTISON STORM COSTS DISTRIBUTION SYSTEM ONLY
10:14:39 AM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	No further.
10:14:57 AM	Vice Chairman Chandler Note: Sacre, Candace	Any other questions?
10:15:29 AM	Vice Chairman Chandler Note: Sacre, Candace	Mattison availability?
10:15:49 AM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	Follow-up question to ask, wait for specific witness West. (Click on link for further comments.)
10:18:16 AM	Vice Chairman Chandler Note: Sacre, Candace	Five-minute recess.
10:18:27 AM	Session Paused	
10:28:39 AM	Session Resumed	
10:29:14 AM	Session Paused	
10:30:57 AM	Session Resumed	
10:31:12 AM	Vice Chairman Chandler Note: Sacre, Candace	Back on record. Questions?
10:31:35 AM	Commissioner Mathews - witness Mattison Note: Sacre, Candace	Examination. Magnitude, net metering customers in Kentucky Power territory?
10:32:05 AM	Commissioner Mathews - witness Mattison Note: Sacre, Candace	Discussed estimate monetary impact rest of customers?
10:32:47 AM	Commissioner Mathews - witness Mattison Note: Sacre, Candace	Know total?
10:32:55 AM	Commissioner Mathews - witness Mattison Note: Sacre, Candace	Mr. West know that?
10:33:05 AM	Commissioner Mathews - witness Mattison Note: Sacre, Candace	Not here when new law passed?
10:33:21 AM	Commissioner Mathews - witness Mattison Note: Sacre, Candace	Active in getting passed?
10:33:52 AM	Commissioner Mathews - witness Mattison Note: Sacre, Candace	Not around direct staff dealing with
10:34:09 AM	Commissioner Mathews Note: Sacre, Candace	All have.
10:34:18 AM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	No need follow up with Mattison.

10:34:37 AM	Vice Chairman Chandler Note: Sacre, Candace	Step down but remain available.
10:35:08 AM	Vice Chairman Chandler Note: Sacre, Candace	Mr. Overstreet?
10:35:12 AM	Atty Overstreet Kentucky Power Note: Sacre, Candace	Call Randy E. Holliday.
10:35:22 AM	Vice Chairman Chandler Note: Sacre, Candace	Witness is sworn.
10:35:40 AM	Vice Chairman Chandler - witness Holliday Note: Sacre, Candace	Examination. Name and address?
10:35:55 AM	Atty Overstreet Kentucky Power - witness Holliday Note: Sacre, Candace	Responses to data requests?
10:36:08 AM	Atty Overstreet Kentucky Power - witness Holliday Note: Sacre, Candace	Changes or corrections?
10:36:17 AM	Atty Overstreet Kentucky Power - witness Holliday Note: Sacre, Candace	Same questions, same answers?
10:36:26 AM	Atty Overstreet Kentucky Power - witness Holliday Note: Sacre, Candace	Materials in front of you?
10:36:51 AM	Atty Overstreet Kentucky Power Note: Sacre, Candace	Available for cross.
10:36:58 AM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
10:37:52 AM	Vice Chairman Chandler Note: Sacre, Candace	Witness excused.
10:38:05 AM	Vice Chairman Chandler Note: Sacre, Candace	Take a 15-minute break, until 10:50. (Click on link for further comments.)
10:39:11 AM	Session Paused	
10:52:30 AM	Session Resumed	
10:52:41 AM	Vice Chairman Chandler Note: Sacre, Candace	Back on record.
10:52:47 AM	Vice Chairman Chandler Note: Sacre, Candace	Motion?
10:52:57 AM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	Five exhibits Staff plans to introduce by name and number.
10:53:21 AM	Vice Chairman Chandler Note: Sacre, Candace	Objection?
10:53:25 AM	Atty Overstreet Kentucky Power Note: Sacre, Candace	No.
10:53:29 AM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	PSC Exhibit 1 - KRS 278.456 subparts 1-6, PSC Exhibit 2 - Final Order in 2008-00169 January 8, 2009, PSC Exhibit 3 - Tariff R.S. T.O.D. 2, PSC Exhibits 4 and 5, Dissenting Statements by Commissioner Christie.
10:55:27 AM	Vice Chairman Chandler Note: Sacre, Candace	As many witnesses done as can, dismiss as we get to them, get all of Kentucky Power's witnesses.
10:56:17 AM	Vice Chairman Chandler Note: Sacre, Candace	Timing as relates to witnesses?
10:56:23 AM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	Mr. Fitzgerald has matter at 2:30.
10:56:43 AM	Atty Fitzgerald Joint Intervenors Note: Sacre, Candace	Oral argument at 2:30.

10:57:36 AM	Vice Chairman Chander Note: Sacre, Candace	Any other conflicts?
10:57:51 AM	Atty Blend Kentucky Power Note: Sacre, Candace	Jason Cash.
10:57:57 AM	Vice Chairman Chandler Note: Sacre, Candace	Witness is sworn.
10:58:30 AM	Vice Chairman Chandler - witness Cash Note: Sacre, Candace	Examination. Name and address?
10:58:43 AM	Atty Blend Kentucky Power - witness Cash Note: Sacre, Candace	Direct Examination. Response to data requests?
10:59:02 AM	Atty Blend Kentucky Power - witness Cash Note: Sacre, Candace	Correction or changes?
10:59:07 AM	Atty Blend Kentucky Power - witness Cash Note: Sacre, Candace	Same questions, same answers?
10:59:13 AM	Atty Blend Kentucky Power - witness Cash Note: Sacre, Candace	Materials in front of you?
10:59:27 AM	Atty Blend Kentucky Power Note: Sacre, Candace	Available for cross.
10:59:33 AM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
11:00:49 AM	Vice Chairman Chandler Note: Sacre, Candace	Mr. Overstreet?
11:00:53 AM	Atty Overstreet Kentucky Power Note: Sacre, Candace	Joo Won Jun.
11:01:08 AM	Vice Chairman Chandler Note: Sacre, Candace	Witness is sworn.
11:01:15 AM	Vice Chairman Chandler - witness Jun Note: Sacre, Candace	Examination. Name and address?
11:01:32 AM	Atty Overstreet Kentucky Power - witness Jun Note: Sacre, Candace	Direct Examination. Responses to Data Requests?
11:01:56 AM	Atty Overstreet Kentucky Power - witness Jun Note: Sacre, Candace	Corrections?
11:02:01 AM	Atty Overstreet Kentucky Power - witness Jun Note: Sacre, Candace	Same questions, same answers?
11:02:11 AM	Atty Overstreet Kentucky Power - witness Jun Note: Sacre, Candace	Materials in front of you?
11:02:15 AM	Atty Overstreet Kentucky Power Note: Sacre, Candace	Available for cross.
11:02:21 AM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
11:03:15 AM	Vice Chairman Chandler Note: Sacre, Candace	Witness excused.
11:03:27 AM	Atty Overstreet Kentucky Power Note: Sacre, Candace	Everett G. Phillips.
11:03:35 AM	Vice Chairman Chandler Note: Sacre, Candace	Witness is sworn.
11:03:46 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Examination. Name and address?
11:04:02 AM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Direct Examination. Data request responses?
11:04:10 AM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Changes or corrections?
11:04:16 AM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Same questions, same answers?



11:04:33 AM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Materials in front of you?
11:04:38 AM	Atty Overstreet Kentucky Power Note: Sacre, Candace	Witness available.
11:04:45 AM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Cross Examination. Response to DR, peak loads by circuit and substation, each has own peak load, distribution system capacity ten-year load forecast for each substation?
11:05:43 AM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Avoided distribution capacity costs location specific?
11:06:05 AM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Avoided capacity costs specific to each location mirror specific peak load?
11:07:29 AM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Who ask avoided distribution capacity cost based on peak loads?
11:08:20 AM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Net metered customers, can customer system avoid distribution system capacity costs?
11:08:39 AM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Clarification.
11:10:28 AM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Equipment required voltage change, required smart inverter installed?
11:11:44 AM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Peak load unique circuit/substation, eligible customer generator reduce peak load requirements?
11:12:39 AM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Another DR, cost estimates different size service lines, recall?
11:12:58 AM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Approximately how many customers use three types of services lines?
11:13:16 AM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Anyone who could or report to get that information?
11:13:33 AM	POST-HEARING DATA REQUEST Note: Sacre, Candace	ASST GEN COUNSEL VINSEL PSC - WITNESS PHILLIPS
	Note: Sacre, Candace	TOTAL CUSTOMERS USING THREE TYPES OF SERVICE LINES
11:13:44 AM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Only through mapping system can identify?
11:14:13 AM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Other witness, West?
11:14:49 AM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	No further.
11:15:01 AM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
11:15:16 AM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	Cross Examination. Aware situation addition net metering customer KP change out equipment local circuit?
11:16:12 AM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	Studied or KP studied impact of adding net metering customers on local circuits peak and nonpeak conditions?
11:17:11 AM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	Does energy flow beyond local circuit into substation and into larger grid?
11:18:52 AM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	Familiar current interconnection guidelines established by PSC?

11:19:13 AM Atty Fitzgerald Joint Intervenors - witness Phillips  
Note: Sacre, Candace Recall 15 percent annual circuit load cap?

11:19:32 AM Atty Fitzgerald Joint Intervenors - witness Phillips  
Note: Sacre, Candace Assume interconnection guidelines 15 percent load cap, net metering ever ?

11:20:23 AM Atty Fitzgerald Joint Intervenors - witness Phillips  
Note: Sacre, Candace If 15 percent level, would be changes needed?

11:20:38 AM Atty Fitzgerald Joint Intervenors - witness Phillips  
Note: Sacre, Candace Aware situation where that had to occur?

11:20:48 AM Atty Fitzgerald Joint Intervenors  
Note: Sacre, Candace No further.

11:20:55 AM Vice Chairman Chandler  
Note: Sacre, Candace Questions?

11:21:10 AM Atty Spenard KYSEIA - witness Phillips  
Note: Sacre, Candace Cross Examination. Mentioned step voltage regulators, recall?

11:21:26 AM Atty Spenard KYSEIA - witness Phillips  
Note: Sacre, Candace Approximate cost for new step voltage regulator?

11:21:49 AM Atty Spenard KYSEIA - witness Phillips  
Note: Sacre, Candace Several thousand dollars apiece?

11:22:00 AM Vice Chairman Chandler  
Note: Sacre, Candace Questions?

11:22:14 AM Commissioner Mathews - witness Phillips  
Note: Sacre, Candace Examination. Distribution system planning do regularly and what would do entering a request for net metering customer for interconnection?

11:24:41 AM Commissioner Mathews - witness Phillips  
Note: Sacre, Candace Did you have input into group?

11:25:20 AM Commissioner Mathews - witness Phillips  
Note: Sacre, Candace Ten-year forecast station transformer, look if already net metering on that station transformer, change ten-year forecast or based on load?

11:26:24 AM Commissioner Mathews - witness Phillips  
Note: Sacre, Candace If were single net metered home on station transformer, decrease in load, all you would see?

11:27:22 AM Commissioner Mathews - witness Phillips  
Note: Sacre, Candace Think would be on case-by-case basis whether five homes, ten homes, that would make a difference?

11:28:17 AM Commissioner Mathews - witness Phillips  
Note: Sacre, Candace Peaks hit when typically?

11:28:32 AM Commissioner Mathews - witness Phillips  
Note: Sacre, Candace Both?

11:29:26 AM Commissioner Mathews  
Note: Sacre, Candace All have.

11:29:34 AM Vice Chairman Chandler - witness Phillips  
Note: Sacre, Candace Examination. Transformer exceed rating?

11:30:13 AM Vice Chairman Chandler - witness Phillips  
Note: Sacre, Candace Options in couple of years loading will exceed rating?

11:31:00 AM Vice Chairman Chandler - witness Phillips  
Note: Sacre, Candace Why attempting reduce load not option?

11:32:07 AM Vice Chairman Chandler - witness Phillips  
Note: Sacre, Candace Just looking at building system bigger accommodate additional peaks, why not attempting reduce peaks an option?

11:32:54 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips General things, reduce capacity, company attempt reduce individual loads instead of building system bigger?
11:33:48 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips Here to talk about tariffs deal with customer generators, would not those individuals with ability to produce electricity or produce electricity even in excess of own demand resource for reducing individual loads on feeders or circuits?
11:35:27 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips If not looking to reduce capacity, always build back bigger?
11:35:51 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips Planning what perceive to be peak, what plan for peak to be?
11:36:28 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips Projections calculated how, extrapolation past year or couple years' growth?
11:36:56 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips KP's energy demands increasing or decreasing?
11:37:21 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips Perceiving to be growth, growth on circuit cause additional investment, have time to work specific to area to reduce so additional investment not necessary?
11:38:12 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips When doing this, identified circuit needing be increased, if cause anticipated growth, who convey information to?
11:39:04 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips Whose job look at options transferring load, build another station, replacing transformer?
11:39:32 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips Of folks today, who person convey information to make decision reduce program, loading requirements on line or dull growth versus transfer load, build another station, replace transformer?
11:40:13 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips West tell you put in new transformer or hold on?
11:40:31 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips Agree general matter electrons flow all available path?
11:40:58 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips Have available response to DR 9-7 you, West, Vaughan respondents?
11:41:20 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips Responsible Response (b)?
11:41:30 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips Response to (b), reading. (Click on link for further comments.) Difference between distribution circuits?
11:42:36 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips Station, circuit, individual feeders?
11:42:51 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips More than one circuit off individual transformer?
11:43:02 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips Have singular distribution voltage?
11:43:22 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips Distribution planning process review of loading, only look loading every distribution feeder only look at peak loading?
11:43:53 AM	Vice Chairman Chandler - witness Note: Sacre, Candace	Phillips Month out of year in which demand higher than usual, peak for distribution feeder, look at what cause that singular peak?

11:45:01 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Look at every peak load distribution feeder every year?
11:45:17 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Significant deviations, what actions taken to reduce peak loads?
11:45:54 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Avoided cost not having to upgrade system, assuming in answer no time individual or small number net metering introduction into system need to do load transfer?
11:47:32 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Aware DSM energy efficiency?
11:47:41 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Investments in system reduce energy ordinary or peak save time and money?
11:47:58 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Total system basis, has KP taken actions look at those individual investments customers make or company make reduce peak loads on system?
11:48:37 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Example?
11:49:38 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Customers reduce load installing behind meter generation incur or avoid system upgrades including transferring load?
11:51:07 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Have you or distribution planning group studied certain types of energy efficiency have lasting effect?
11:52:20 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Any customers durably reduce demands on distribution system?
11:53:02 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	50/50 70/30 breakdown systems have growth do not have growth?
11:53:33 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Growth specific to certain areas?
11:53:50 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Have ability to do load transfers switch different stations in areas larger load no longer there take step back when station needs replaced transfer load to different circuit retire station?
11:54:51 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Walk through planning perspective, how look individual end of life of station, take step back and look at solutions, within your area or across multiple groups?
11:56:24 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Does group suggest solution to West or suggest available options?
11:56:59 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Alternative options come from your group or different group to West /Mattison?
11:57:45 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	If somebody suggest attempting reduce peaks, still come through you?
11:57:57 AM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Proposed before?
11:58:09 AM	Vice Chairman Chandler Note: Sacre, Candace	Mr. Overstreet?
11:58:21 AM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Redirect Examination. Seasonally indicated system peaks winter, correct?

11:59:02 AM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Not sure responded second part, what time of day during winter peak load?
11:59:41 AM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Families get up and get ready school/work, also peak time?
12:00:07 PM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Notion distributed generation used reduce peak loading on distribution system, remember?
12:00:34 PM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Correct for distributed generation to assist KP to reduce peak load on circuit or substation transformer would need to be available at time of peak load?
12:01:10 PM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Scale, tell us capacity of typical distribution station transformer/circuit breaker might be?
12:01:50 PM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Same for circuit breaker at substation?
12:02:06 PM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Capacity side of equation, what about load side, typical peak load for residence without assisted generation at 7 am winter morning?
12:03:07 PM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	How many 100 kW in a megawatt?
12:03:17 PM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Multiply by 8 megawatt capacity for circuit breaker, 8,000 residences?
12:03:31 PM	Atty Overstreet Kentucky Power Note: Sacre, Candace	All have.
12:03:36 PM	Vice Chairman Chandler Note: Sacre, Candace	Ms. Vinsel?
12:03:43 PM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Recross Examination. KP planning guidelines?
12:04:03 PM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Titled AEP but what KP implements?
12:04:52 PM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Page from Kentucky Power/AEP Distribution Planning Guidelines?
12:05:10 PM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Read third paragraph only through underlined sentences?
12:05:47 PM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Also read second paragraph above last sentence?
12:06:38 PM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	I will read it, reading. (Click on link for further comments.)
12:07:09 PM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Given part of guidelines, still contention KP does not consider distributed energy resources in load reduction?
12:07:58 PM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Single family battery storage?
12:08:15 PM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Batteries, issue raised legacy customers install battery storage lose legacy status?
12:09:42 PM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Net metering differing costs, rate design, what are infrastructure costs attributed to a net metering customer - meter?
12:10:08 PM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Billing services?

12:10:14 PM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Mentioned stepped up voltage regulator, not experienced one needed?
12:10:59 PM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Is likely in foreseeable future to occur?
12:11:16 PM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Applications from communities?
12:11:29 PM	Asst Gen Counsel Vinsel PSC - witness Phillips Note: Sacre, Candace	Cost for net metered customers, bidirectional meters, cost covered by KP pursuant to statute?
12:13:37 PM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	Nothing further.
12:13:44 PM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
12:14:10 PM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	Recross Examination. Adding distributed generation decreases load?
12:15:00 PM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	Provide service peak levels even though distributive generation system operating at residence?
12:15:23 PM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	Backup power service and supplementary power service?
12:15:35 PM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	NMS Tariff II include backup power and supplementary power needs?
12:16:38 PM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	Saying company assumes distributed generation must have 100 percent backup?
12:17:07 PM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	Saying all distributed generation at 100 percent backup with system capacity?
12:17:25 PM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	How assumption factors into NMS rate design?
12:17:39 PM	Atty Overstreet Kentucky Power Note: Sacre, Candace	Mr. Phillips not rate design witness.
12:17:59 PM	Atty Fitzgerald Joint Intervenor Note: Sacre, Candace	100 percent needed distributed generation customers, testified two or three times.
12:18:26 PM	Atty Overstreet Kentucky Power Note: Sacre, Candace	Mr. Phillips never testified rate design.
12:18:38 PM	Vice Chairman Chandler Note: Sacre, Candace	Mr. Phillips either knows or doesn't know, agree not basis of testimony.
12:19:02 PM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	Whether assumption baked in to rate design for net metering?
12:19:19 PM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	Familiar rules of FERC backup power?
12:19:38 PM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	Need for having system capacity meet 100 percent of need, heard of capacity factor?
12:20:09 PM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	Capacity factor how many hours generating unit operating at rated capacity over year?
12:20:29 PM	Atty Fitzgerald Joint Intervenor - witness Phillips Note: Sacre, Candace	Distributed generation no capacity value unless available during peak load?

12:21:46 PM	Atty Fitzgerald Joint Intervenors - witness Phillips Note: Sacre, Candace	Needs to be studied both ways, would and would not be available?
12:23:24 PM	Atty Fitzgerald Joint Intervenors - witness Phillips Note: Sacre, Candace	Distributed generation have capacity value?
12:23:41 PM	Atty Fitzgerald Joint Intervenors - witness Phillips Note: Sacre, Candace	No capacity value to distributed generation or capacity factor unless peak use availability of resource?
12:25:04 PM	Atty Fitzgerald Joint Intervenors - witness Phillips Note: Sacre, Candace	Know rating for typical residential transformer?
12:25:28 PM	Atty Fitzgerald Joint Intervenors - witness Phillips Note: Sacre, Candace	100 kW not accurate?
12:25:54 PM	Atty Fitzgerald Joint Intervenors Note: Sacre, Candace	No other questions.
12:26:06 PM	VIce Chairman Chandler Note: Sacre, Candace	Questions?
12:26:27 PM	Commissioner Mathews - witness Phillips Note: Sacre, Candace	Examination. Net metered customer solar and battery, plan any differently with that customer than one without battery?
12:27:16 PM	Commissioner Mathews - witness Phillips Note: Sacre, Candace	Understand my thought process?
12:27:59 PM	Commissioner Mathews - witness Phillips Note: Sacre, Candace	Infrastructure cost, step-up voltage regulators, large generators, would not be net metering?
12:28:46 PM	Commissioner Mathews - witness Phillips Note: Sacre, Candace	Asked Mattison how much replaced, poles, transformers, substations, just distribution grid ballpark figure?
12:29:42 PM	Commissioner Mathews - witness Phillips Note: Sacre, Candace	Number of?
12:30:23 PM	Commissioner Mathews - witness Phillips Note: Sacre, Candace	How many transformers distribution?
12:30:46 PM	Commissioner Mathews - witness Phillips Note: Sacre, Candace	When replace transformers, substations, replacing exactly same capacity that is out, or went all new?
12:32:03 PM	Commissioner Mathews - witness Phillips Note: Sacre, Candace	No system substations out?
12:32:32 PM	Commissioner Mathews - witness Phillips Note: Sacre, Candace	On poles, pole-mounted transformers, replaced same size?
12:33:42 PM	Commissioner Mathews Note: Sacre, Candace	All questions.
12:34:12 PM	VIce Chairman Chandler - witness Phillips Note: Sacre, Candace	Examination. Discussing final line, island being is when load is serving itself and not necessarily connected to rest of distribution system?
12:34:42 PM	VIce Chairman Chandler - witness Phillips Note: Sacre, Candace	Not what we have been discussing today?
12:34:49 PM	VIce Chairman Chandler - witness Phillips Note: Sacre, Candace	Whose job is it at KP to abide by second underlined sentence?
12:35:26 PM	VIce Chairman Chandler - witness Phillips Note: Sacre, Candace	Aware any instances seen written down on paper plan considering DG alternative solution overload distribution system?
12:36:01 PM	VIce Chairman Chandler - witness Phillips Note: Sacre, Candace	Would you be one asking questions?

12:36:20 PM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Why would this document say planners also consider DG as alternative solution?
12:37:06 PM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Why would manual say should consider DG as alternative solution?
12:37:30 PM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Aware instance which seen somebody at KP consider DG as alternative solution?
12:38:13 PM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Agree does not seem to discuss DG as being customer owned, just in general?
12:38:36 PM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Agree second underlined sentence consider options to save money?
12:38:57 PM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Agree second sentence way to save money is by deferring additional or more expensive investments?
12:39:31 PM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	As post-hearing discovery difference in distribution transformers and substation transformers and different sizes KP keeps in possession, ten and 15, provide difference in cost, whatever you use?
12:40:41 PM	POST-HEARING DATA REQUEST Note: Sacre, Candace Note: Sacre, Candace	VICE CHAIRMAN CHANDLER - WITNESS PHILLIPS DIFFERENCE DISTRIBUTION AND SUBSTATION TRANSFORMERS IN POSSESSION, SIZES, COST
12:41:07 PM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Cost for facility and capitalized cost of removal and installation?
12:41:22 PM	POST-HEARING DATA REQUEST Note: Sacre, Candace Note: Sacre, Candace	VICE CHAIRMAN CHANDLER - WITNESS PHILLIPS COST FOR FACILITY, CAPITALIZED COST REMOVAL AND INSTALLATION
12:41:34 PM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	20 Mva transformer upgrade, next size, cost differential?
12:42:04 PM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Transferring load, extending a circuit to meet another circuit?
12:43:37 PM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Radial line?
12:43:44 PM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Switched, done that last few years, representative cost?
12:44:13 PM	Vice Chairman Chandler - witness Phillips Note: Sacre, Candace	Have project by project cost of tie line projects, work order?
12:44:29 PM	POST-HEARING DATA REQUEST Note: Sacre, Candace Note: Sacre, Candace	VICE CHAIRMAN CHANDLER - WITNESS PHILLIPS WORK ORDER/COST OF TIE LINE PROJECTS
12:45:00 PM	Vice Chairman Chandler Note: Sacre, Candace	Mr. Overstreet?
12:45:23 PM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Redirect Examination. Distribution Planning Manual, Guidelines, Distributed Generation, pg 35 of 40, indicated although KP uses, it is an AEP system?
12:46:28 PM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Other AEP East operating companies summer peaking companies?
12:47:04 PM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	AEP operating company is a summer peaking utility?



12:47:20 PM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Peak on summer peaking utility tend to occur at times when sun shining and need for air conditioning is greatest?
12:47:41 PM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Solar distributed generation could be of assistance?
12:47:56 PM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	KP winter peaking utility, 5-7 at night, day or night, sun normally shining when winter peaks occur?
12:48:28 PM	Atty Overstreet Kentucky Power - witness Phillips Note: Sacre, Candace	Solar of any benefit on circuit or distribution system at that time?
12:48:40 PM	Atty Overstreet Kentucky Power Note: Sacre, Candace	All have.
12:48:48 PM	Vice Chairman Chandler Note: Sacre, Candace	Witness excused.
12:49:31 PM	Vice Chairman Chandler Note: Sacre, Candace	Recess for lunch until 1:45.
12:50:26 PM	Session Paused	
1:47:05 PM	Session Resumed	
1:47:15 PM	Vice Chairman Chandler Note: Sacre, Candace	Back on the record in 2020-00174, roll call.
1:49:09 PM	Vice Chairman Chandler Note: Sacre, Candace	Next witness?
1:49:12 PM	Atty Blend Kentucky Power Note: Sacre, Candace	Stephen B. Blankenship.
1:49:23 PM	Vice Chairman Chandler Note: Sacre, Candace	Witness is sworn.
1:49:30 PM	Vice Chairman Chandler - witness Blankenship Note: Sacre, Candace	Examination. Name and address?
1:49:54 PM	Atty Blend Kentucky Power - witness Blankenship Note: Sacre, Candace	Direct Examination. By whom employed and position?
1:50:06 PM	Atty Blend Kentucky Power - witness Blankenship Note: Sacre, Candace	Responses to DRs?
1:50:14 PM	Atty Blend Kentucky Power - witness Blankenship Note: Sacre, Candace	Changes or corrections?
1:50:21 PM	Atty Blend Kentucky Power - witness Blankenship Note: Sacre, Candace	Same questions, same answers?
1:50:28 PM	Atty Blend Kentucky Power - witness Blankenship Note: Sacre, Candace	Materials in front of you?
1:50:53 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	Cross Examination. KRS 278.466 (2), reading. (Click on link for further comments.) Correct KP current tariff NMS standard meter capable of registering electricity in two directions for net metering purposes?
1:52:23 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	NMS standard meter meets statutory requirement?
1:52:43 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	Other functionality needed that current meter lacks?
1:52:58 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	Time of use, meet that requirement how KP structured net metering rates?
1:53:25 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	Only functionality needed is time of use?

1:53:59 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	Standard meter not being manufactured, manufacturer no longer manufacturing?
1:54:20 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	Manufacturer?
1:54:44 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	KP have meters in inventory?
1:54:53 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	How many?
1:55:02 PM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	Post-hearing data request number of meters in inventory.
1:55:12 PM	POST-HEARING DATA REQUEST Note: Sacre, Candace Note: Sacre, Candace	ASST GEN COUNSEL VINSEL PSC - WITNESS BLANKENSHIP NUMBER OF METERS IN INVENTORY
1:57:55 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	Staff Second Request, September 16, 2020, purchase used AMR meters, clarify current stock AMR meters, referring to meters used for current net metering standard meter, or all KP standard meters?
1:59:01 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	Bidirectional meters, time of use functionality?
1:59:18 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	What type meter use for time of day, time of use customers?
1:59:54 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	Three different meters, AMR meters able offer time of use rates?
2:00:36 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	Typical meter time of use or bidirectional, not both?
2:00:52 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	In DR, referenced KP planned to purchase used time of use meters, still plan for that?
2:01:34 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	Purchasing used time of use meters least expensive possibly if were to use for bidirectional use? Same meter, either time of use or bidirectional?
2:02:08 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	Use to collect imports and exports, still option to use AEP used meters?
2:03:21 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	Commission approves AMI proposal KP in future, customer under NMS II have to replace meter with AMI meter?
2:03:50 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	For residential customers time of use meter, are requirements complied with to use time of use meter for net metering statute?
2:04:20 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	Commission approves rates as is and time of use requirement and bidirectional, no meters in stock that can meet that requirement?
2:04:59 PM	Asst Gen Counsel Vinsel PSC - witness Blankenship Note: Sacre, Candace	What type of meters?
2:05:56 PM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	No further.
2:06:00 PM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
2:06:17 PM	Atty Fitzgerald Joint Intervenors - witness Blankenship Note: Sacre, Candace	Cross Examination. Correct implement NMS II tariff using existing meters?

2:07:15 PM	Atty Fitzgerald Joint Intervenors - witness Blankenship Note: Sacre, Candace	Serve new customer under NMS II, new meter?
2:07:22 PM	Atty Fitzgerald Joint Intervenors - witness Blankenship Note: Sacre, Candace	That's all.
2:07:27 PM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
2:08:09 PM	Vice Chairman Chandler - witness Blankenship Note: Sacre, Candace	Examination. If KP requests new CPCN advanced metering and receives AMI across system, NMS II customers have to pay for meters, if customer requests today and company gets what it is requesting, tariff interval and block capability, KP charge NMS II customer for metering since different from all other folks in that class?
2:10:13 PM	Vice Chairman Chandler - witness Blankenship Note: Sacre, Candace	NMS II available subject to refund since January, customer comes take service under NMS II, their meter not work for company proposal for NMS II?
2:11:32 PM	Vice Chairman Chandler - witness Blankenship Note: Sacre, Candace	Expectation continue to be case if CPCN granted for advanced metering, if customers require meter above and beyond what class required, cost of meter not recovered from customer?
2:12:09 PM	Vice Chairman Chandler Note: Sacre, Candace	All questions.
2:12:19 PM	Vice Chairman Chandler Note: Sacre, Candace	Ms. Blend?
2:12:21 PM	Atty Blend Kentucky Power - witness Blankenship Note: Sacre, Candace	Redirect Examination. Types of meters, standard residential meter, please describe?
2:13:09 PM	Atty Blend Kentucky Power - witness Blankenship Note: Sacre, Candace	EH006 meter not capable of metering time of use customers or existing net metering customers?
2:13:37 PM	Atty Blend Kentucky Power - witness Blankenship Note: Sacre, Candace	Standard metering technology for standard time of use customers?
2:14:29 PM	Atty Blend Kentucky Power - witness Blankenship Note: Sacre, Candace	Those three meters GS008 and TS008 time of use and G3008 used for current net metering tariff, all meters capable of registering flow in two directions?
2:15:05 PM	Atty Blend Kentucky Power - witness Blankenship Note: Sacre, Candace	Consider all types ??? metering types of KP?
2:15:32 PM	Atty Blend Kentucky Power - witness Blankenship Note: Sacre, Candace	Familiar with metering technology applied for industrial customers?
2:15:55 PM	Atty Blend Kentucky Power - witness Blankenship Note: Sacre, Candace	Are standard industrial meters interval meters?
2:16:23 PM	Atty Blend Kentucky Power Note: Sacre, Candace	No further.
2:16:39 PM	Vice Chairman Chandler Note: Sacre, Candace	Witness excused.
2:17:01 PM	Vice Chairman Chandler Note: Sacre, Candace	Mr. Overstreet, Ms. Blend?
2:17:07 PM	Atty Overstreet Kentucky Power Note: Sacre, Candace	Brian K. West.
2:17:20 PM	Vice Chairman Chandler Note: Sacre, Candace	Witness is sworn.
2:17:29 PM	Vice Chairman Chandler - witness West Note: Sacre, Candace	Examination. Name and address?

2:17:44 PM Atty Overstreet Kentucky Power - witness West  
Note: Sacre, Candace Direct Examination. Position?

2:17:58 PM Atty Overstreet Kentucky Power - witness West  
Note: Sacre, Candace Responses to DR?

2:18:23 PM Atty Overstreet Kentucky Power - witness West  
Note: Sacre, Candace Changes or corrections?

2:18:33 PM Atty Overstreet Kentucky Power - witness West  
Note: Sacre, Candace Same questions, same answers?

2:18:43 PM Atty Overstreet Kentucky Power - witness West  
Note: Sacre, Candace Materials in front of you?

2:18:46 PM Atty Overstreet Kentucky Power  
Note: Sacre, Candace Witness available.

2:18:55 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace Cross Examination. Applications pending and filed after January 14, status of applications, seven applications before January 14?

2:19:58 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace Applications submitted for all 10 requests?

2:20:12 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace After January 14, three applications?

2:20:34 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace Seven additional applications since Responses to DR?

2:20:55 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace What information waiting on?

2:21:20 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace Battery/backup storage, legacy net metering customer, customer net metering service prior to Jan 14 2021, wants to install battery storage, KP consider that expansion of generating facility?

2:22:46 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace Legacy net metering customer new application for battery storage?

2:23:10 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace Mean legacy net metering customer lose status as legacy net metering customer?

2:23:42 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace What is KP's basis for position in terms of legacy net metering customers that by adding battery storage/solar power effectively lose legacy customer status?

2:24:28 PM POST-HEARING DATA REQUEST  
Note: Sacre, Candace ASST GEN COUNSEL VINSEL PSC - WITNESS WEST  
Note: Sacre, Candace KENTUCKY POWER BASIS FOR LEGACY CUSTOMER LOSING STATUS BY ADDING BATTERY STORAGE

2:24:48 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace Final Order in Case 2008-00169, Administrative Interconnection Case, Commission established application fees for two types of applications, Level 1 and Level 2, agree third paragraph no application fees, processing fee up to \$100, \$1000 initial impact study, agree?

2:28:04 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace KP's current Tariff NMS, Level 1 no application fee, Level 2 impact fee up to \$1,000, current tariff consistent with Order. Proposed fees in NMS 1 and NMS 2?

2:29:11 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace Proposed NMS 1 \$100 application fee, NMS II \$150, any reasonable cost for impact study, no limit, given Order still in effect, KP requesting fees not in line with Commission Order?

2:30:57 PM	Asst Gen Counsel Vinsel PSC - witness West Note: Sacre, Candace	KP not ask for deviation?
2:31:10 PM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	No further.
2:31:13 PM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
2:31:36 PM	Atty Spenard KYSEIA - witness West Note: Sacre, Candace	Cross Examination. How much cost install time of use meter to implement NMS II?
2:32:13 PM	Atty Spenard KYSEIA - witness West Note: Sacre, Candace	Cost to code rate schedule time and use rates for customer class, how much?
2:32:45 PM	Atty Spenard KYSEIA - witness West Note: Sacre, Candace	Will KP have to code and implement rate schedule time of use rates for the net metering service to customers?
2:33:31 PM	Atty Spenard KYSEIA - witness West Note: Sacre, Candace	KP studied issue of cost of time and use rates for service to customers?
2:34:25 PM	Atty Spenard KYSEIA - witness West Note: Sacre, Candace	Decision to implement new program, KP not studied cost associated implementing time of use meters necessary for NMS II?
2:35:27 PM	Atty Spenard KYSEIA - witness West Note: Sacre, Candace	Cost to code and implement new rate schedule on billing side, has KP studied?
2:36:25 PM	Atty Spenard KYSEIA - witness West Note: Sacre, Candace	Eligible electric generating facilities, current situation and rate of capacity, provisions of Kentucky law, qualify net metering service, eligible electric generating capacity not greater than 25kW?
2:37:21 PM	Atty Spenard KYSEIA - witness West Note: Sacre, Candace	Application for net metering service, required to disclose rated capacity of system?
2:37:45 PM	Atty Spenard KYSEIA - witness West Note: Sacre, Candace	If have customer who has rated capacity of 30 kW without battery storage and adds batter storage, addition of battery storage would change rated capacity of system?
2:38:32 PM	Atty Spenard KYSEIA - witness West Note: Sacre, Candace	Material change of capacity, if you know, does it change rated capacity?
2:38:57 PM	Atty Spenard KYSEIA Note: Sacre, Candace	Thank you.
2:39:03 PM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
2:39:26 PM	Vice Chairman Chandler - witness West Note: Sacre, Candace	Examination. Opportunity to look at document Phillips reading, AEP Planning Manual?
2:39:51 PM	Vice Chairman Chandler - witness West Note: Sacre, Candace	Remember asking him who/group ultimately made decision solution to fix sited distribution issues?
2:40:14 PM	Vice Chairman Chandler - witness West Note: Sacre, Candace	It was you he said put decisions to?
2:42:49 PM	Vice Chairman Chandler - witness West Note: Sacre, Candace	Underlined areas pg 35 of 40, reading. (Click on link for further comments.) See that, Solar arrays?

2:43:47 PM	Vice Chairman Chandler - witness	West
	Note: Sacre, Candace	Questions to Phillips, brings to you and Mattison, identifies issues, bring to you solutions/options, ultimately you and Mattison determine move forward, fair characterization?
2:46:40 PM	Vice Chairman Chandler - witness	West
	Note: Sacre, Candace	Batteries not mentioned, build a battery in lieu of building transmission, radial line with battery at end?
2:47:18 PM	Vice Chairman Chandler - witness	West
	Note: Sacre, Candace	Where in process are things like building a line with battery, looked at prior to getting to you and Mattison?
2:47:58 PM	Vice Chairman Chandler - witness	West
	Note: Sacre, Candace	Transmission planning group, not necessarily distribution planning group?
2:48:28 PM	Vice Chairman Chandler - witness	West
	Note: Sacre, Candace	Example of out of box proposal relates to transmission planning, any examples seeing alternative solutions considered in context of distribution planning under own manual?
2:49:50 PM	Vice Chairman Chandler - witness	West
	Note: Sacre, Candace	Brought any solutions to distribution issues over year that you and Mattison decision on?
2:50:16 PM	Vice Chairman Chandler - witness	West
	Note: Sacre, Candace	Who at KP has responsibility identify areas of DSM efficiency cost effective versus nonwire alternative?
2:51:18 PM	Vice Chairman Chandler - witness	West
	Note: Sacre, Candace	Were to inquire if KP distribution planning looked at DG alternatives avoiding capital investments, be able to provide or if existed not on paper?
2:51:55 PM	Vice Chairman Chandler - witness	West
	Note: Sacre, Candace	If something comes to you, get something that says what else looked at or ask them bring you other possible solutions to determine this most cost effective solution?
2:52:42 PM	Vice Chairman Chandler - witness	West
	Note: Sacre, Candace	Time of doing this, have asked distribution group to look at load reduction efforts to meet load growth?
2:53:14 PM	Vice Chairman Chandler - witness	West
	Note: Sacre, Candace	If asked for representative example to meet additional loading, all document that went in that alternative solutions, provide proposal that would include that?
2:53:48 PM	Vice Chairman Chandler - witness	West
	Note: Sacre, Candace	When manuals are used by KP, strictly adhered to, adhered to, or guidelines?
2:54:23 PM	Vice Chairman Chandler - witness	West
	Note: Sacre, Candace	Distribution one, transmission manuals, guidance document on flying helicopter, whose responsibility is it to ensure employees following those documents and manuals?
2:55:47 PM	Vice Chairman Chandler - witness	West
	Note: Sacre, Candace	If distribution and transmission planning groups to look at certain things before bring option, whose responsibility to ensure they are following guidelines?
2:56:48 PM	Vice Chairman Chandler - witness	West
	Note: Sacre, Candace	Not been brought distribution projects yet by Phillips?
2:57:03 PM	Vice Chairman Chandler	
	Note: Sacre, Candace	Mr. Overstreet?

2:57:20 PM Atty Overstreet Kentucky Power - witness West  
Note: Sacre, Candace Redirect Examination. Distribution planning guidelines how used by planning group, recall?

2:57:41 PM Atty Overstreet Kentucky Power - witness West  
Note: Sacre, Candace Crocker provide information how used?

2:57:56 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace Recross Examination. NMS II Level 1 and 2 have \$150 application fee, Level 2 cap lifted, distribution of planning guidelines, Distribution System Planning Guidelines, pg 30, gridSMART Energy Storage, sets forth expectations planning distribution system for energy storage, reading. (Click on link for further comments.) Familiar with this?

3:00:45 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace Part of planning guidelines?

3:01:01 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace Increased fees for Level 1 and 2 application, January 13 2021 Order in this case, reading. (Click on link for further comments.)

3:03:15 PM Asst Gen Counsel Vinsel PSC - witness West  
Note: Sacre, Candace Work occur during normal business hours?

3:03:24 PM Asst Gen Counsel Vinsel PSC  
Note: Sacre, Candace Nothing further.

3:03:32 PM Vice Chairman Chandler  
Note: Sacre, Candace Questions?

3:04:14 PM Atty Overstreet Kentucky Power - witness West  
Note: Sacre, Candace Redirect Examination. Proposal grid modernization rider this case?

3:04:32 PM Atty Overstreet Kentucky Power - witness West  
Note: Sacre, Candace Accurate to say Commission denied?

3:04:41 PM Atty Overstreet Kentucky Power - witness West  
Note: Sacre, Candace Company propose grid modernization rider fund additional gridSMART projects?

3:05:17 PM Atty Overstreet Kentucky Power  
Note: Sacre, Candace All have.

3:05:19 PM Vice Chairman Chandler  
Note: Sacre, Candace Witness excused.

3:05:44 PM Atty Glass Kentucky Power  
Note: Sacre, Candace Jason Stegall.

3:06:15 PM Vice Chairman Chandler  
Note: Sacre, Candace Witness is sworn.

3:06:23 PM Vice Chairman Chandler - witness Stegall  
Note: Sacre, Candace Examination. Name and address?

3:06:35 PM Atty Glass Kentucky Power - witness Stegall  
Note: Sacre, Candace Direct Examination. Testimony and Responses to data requests?

3:06:49 PM Atty Glass Kentucky Power - witness Stegall  
Note: Sacre, Candace Corrections or changes?

3:06:54 PM Atty Glass Kentucky Power - witness Stegall  
Note: Sacre, Candace Same questions, same answers?

3:07:02 PM Atty Glass Kentucky Power - witness Stegall  
Note: Sacre, Candace Materials in front of you?

3:07:25 PM Atty Glass Kentucky Power  
Note: Sacre, Candace Witness available.

3:07:35 PM Asst Gen Counsel Vinsel PSC - witness Stegall  
Note: Sacre, Candace Cross Examination. Supplemental direct testimony filed after Jan 14 reference sponsored full class cost of study separate class net metering customers, create separate class net metering, anyone at KP conduct load research on net metering class?

3:09:08 PM	Asst Gen Counsel Vinsel PSC - witness Stegall Note: Sacre, Candace	Did not separately load research on net metering class, based on previous cost of service study and solar generation provided by Vaughn?
3:10:07 PM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	Nothing further.
3:10:12 PM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
3:10:28 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Cross Examination. Supplemental testimony pgs 1 and 2 indicated testimony intended to provide full cost of service study include separate classes, first such study provided by KP in this case?
3:11:33 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	How many cost of service studies addressing net metering customers are there in this case?
3:12:06 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Provision due to question posed by KYSEIA?
3:12:28 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Results reported class cost of service study, identified subsidy of residential net metering customers by nonparticipating customers?
3:13:01 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	How much?
3:13:53 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Annual?
3:13:56 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	What works out to per customer for subsidy?
3:14:12 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Number of residential customers into that number?
3:14:24 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	15 cents a year?
3:14:48 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	How much costing nonparticipating customers per year?
3:15:34 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Have actual load profile data and data from net metering customers to do COS, or took general COS and tweaked it in order to do this separate COS?
3:16:39 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Really not a full COS because lacking that data?
3:17:26 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	COS shows dramatically different load profile for net metering customers and nonparticipating customers, essentially the same?
3:18:18 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Overall load profile for net metering relative to load profiles for those not participating?
3:19:29 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Expect load profile for net metering and nonparticipating customer would be similar?
3:20:41 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Know whether other utilities or state regulators required utilities to do load research on net metering customers to produce accurate COS?
3:21:11 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Surveyed to see if regulatory agencies have approved without load research?



3:21:25 PM Atty Fitzgerald Joint Intervenors  
Note: Sacre, Candace All have.

3:21:32 PM Vice Chairman Chandler  
Note: Sacre, Candace Questions?

3:21:40 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Cross Examination. Part 1 of proceedings this case filed class COS included in application?

3:22:25 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Class COS identify seven different customer classes?

3:22:55 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Part 2 after Jan 13 provided supplemental testimony?

3:23:11 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace With that provided class COS, also put COS into record with Feb 25 testimony?

3:23:47 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Way that changed class COS Feb 25 rather than seven presented nine classes?

3:24:19 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Excel file submitted with Feb 25 filing JMS-S2 pg 1 of 3, Proposed for that file, Column 1 Current Class, class added?

3:25:43 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Represents residential customers with net metering services?

3:25:58 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace COS filed with application in class RS?

3:26:13 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Row 3 for classes, CNI MMS class?

3:26:29 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Initial COS customers housed in class GS and class LGS?

3:26:53 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Four remaining classes, no customers pulled from any four remaining classes?

3:27:15 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Supplemental testimony filed on Feb 25 JMS-S2, other places identified in table of contents revenue allocation exhibit?

3:27:51 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace When looking at JMS-S2, what does exhibit represent?

3:28:19 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace If need to reference other pages, looking at pg 1 of 3, but if want to describe entire exhibit, sponsored to what end?

3:29:10 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Looking at pg 1 of 3 Column 4 RS NMS, see (11,852), see that amount?

3:29:36 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace What identified by this amount, what does that represent?

3:30:04 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Next row down CNI NMS, loss amount is \$6,055?

3:30:25 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Representing same thing as number above?

3:30:38 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Supplemental rebuttal testimony March 5, included Exhibit JMS-SR2, pg 1 of 3?

3:31:10 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Column 1, Classes, net metering residential and commercial/industrial?

3:31:37 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Differences between what filed on Feb 25 and March 25, basically revision or update of JMS-S2 filed on Jan 25?

3:32:24 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace When look at correction, RS NMS revenue \$169,839, see that?

3:33:01 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Rate base column 3 differs from rate base in Feb 25?

3:33:18 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Current revenue \$38,939 for SMR2 whereas it had been reported as \$40,621 on JMS-S2?

3:33:48 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Net effect shows column 2 reduction in revenue from RS NMS II as a consequence of correction?

3:34:07 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Results out in column 4 a loss of \$11,935?

3:34:34 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Exhibit filed on Mar 25 JMS-SR4 pg 1 of 3, title of this, NMS II Proposed Revenue Allocation?

3:35:19 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Identify how this schedule differs from other rebuttal schedule SR2?

3:36:14 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace When look at RS NMS and column 4 Current Income, loss of \$11,327?

3:36:43 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Current Revenue, Column 2 \$42,784?

3:37:14 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace JMS-SMR 2 and JMS-SR4 increase revenue for that particular class?

3:37:55 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace When look at SR4 for CNI NMS customer class, Current Revenue \$99,837, Column 4 loss of \$10,242?

3:38:32 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Current revenue amount JMS-SR2 \$106,569?

3:38:46 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Why revenues decrease whereas increasing for RS NMS class?

3:39:27 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Extraction of residential NMS customers on revised class COS taken out of RS customers?

3:40:37 PM Atty Spenard KYSEIA - witness Stegall  
Note: Sacre, Candace Looking at schedule JMS-SR4 application of NMS II rates comparing to JMS-SR2 correction error Feb 25 class COS submitted, why current income number for RS class change when apply NMS II rates to RS NMS class?

3:42:33 PM Atty Spenard KYSEIA  
Note: Sacre, Candace No further.

3:42:46 PM Vice Chairman Chandler  
Note: Sacre, Candace Questions?

3:43:10 PM Vice Chairman Chandler - witness Stegall  
Note: Sacre, Candace Examination. Read Electricity Journal article appendix to Commission's 2019 docket electronic consideration of Net Metering Act incorporated into this case?

3:44:40 PM Vice Chairman Chandler - witness Stegall  
Note: Sacre, Candace Heard of Brattle Group?

3:45:04 PM Vice Chairman Chandler - witness Stegall  
Note: Sacre, Candace Understand them to be fairly large well respected economists?

3:46:33 PM	Vice Chairman Chandler Note: Sacre, Candace	15-minute recess until 4 o'clock.
3:46:44 PM	Session Paused	
4:05:00 PM	Session Resumed	
4:05:45 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall Copy of Appendix C in your possession?
4:06:01 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall Seen before?
4:06:15 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall Paper from Brattle Group - Quantifying Net Metering Studies, second page, paragraph 3, Methodology, reading. (Click on link for further comments.) See that?
4:07:04 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall NEM net energy metering?
4:07:17 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall Cost of service approach, read that paragraph?
4:07:55 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall Next page, see Figure 2 shows NEM utility cost of service and NEM customer bills?
4:08:44 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall What KP attempted to do through COS?
4:09:11 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall Talk about that, defining subsidy as shortfall in terms of COS from revenue shortfall not earning system wide ROR?
4:10:21 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall Where get \$40,000 amount?
4:10:34 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall That similar exhibit showed \$31 million subsidy for rest of residential class?
4:10:56 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall What is it you take from what you read by Brattle Group?
4:11:37 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall COS performed post-January Order, prior to Commission authorization of new rates or before?
4:12:12 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall Insofar higher customer charge NMS I and NMS II not taken into consideration in study you performed?
4:12:40 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall Steps Brattle Group took to calculate COS approach? Step1?
4:13:03 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall Step 1, reading. (Click on link for further comments.) Use monthly energy usage and non-energy usage peak demand?
4:13:44 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall Blankenship, meters, know what production looks like for net metering customers have, what production distributed generating facilities looks like?
4:15:09 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall Top-down approach, uses both approaches, reading. (Click on link for further comments.)
4:15:40 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall Only used one of those approaches?
4:15:51 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Stegall Did not use data from KP, used data from utility that has same parent company?

4:16:31 PM	Vice Chairman Chandler - witness Stegall Note: Sacre, Candace	Wherever got low profile, basis of summary, laid over residential classes load profile?
4:17:04 PM	Vice Chairman Chandler - witness Stegall Note: Sacre, Candace	No assumption any elasticity or attempt to modify demand in accordance with production?
4:17:41 PM	Vice Chairman Chandler - witness Stegall Note: Sacre, Candace	Did not study whether residential customer lumped together for COS?
4:18:17 PM	Vice Chairman Chandler - witness Stegall Note: Sacre, Candace	Looks as if one person, one COS for representative residential customer, average revenues off representative load profile?
4:19:36 PM	Vice Chairman Chandler - witness Stegall Note: Sacre, Candace	Step 2 in front of you?
4:20:05 PM	Vice Chairman Chandler - witness Stegall Note: Sacre, Candace	Reading. (Click on link for further comments.) More complicated process than did in this COS to determine subsidy?
4:21:16 PM	Vice Chairman Chandler - witness Stegall Note: Sacre, Candace	Only did cost side of COS?
4:21:43 PM	Vice Chairman Chandler - witness Stegall Note: Sacre, Candace	Step 3, cost of serving DG customers for pre and post DG, step that you followed, or strictly determine cost of serve netted against class revenues?
4:22:33 PM	Vice Chairman Chandler Note: Sacre, Candace	Appreciate it.
4:22:50 PM	Atty Blend Kentucky Power - witness Stegall Note: Sacre, Candace	Redirect Examination. Company not do separate load research?
4:23:05 PM	Atty Blend Kentucky Power - witness Stegall Note: Sacre, Candace	Necessary Company do additional load research specific to net metering customers?
4:23:46 PM	Atty Blend Kentucky Power - witness Stegall Note: Sacre, Candace	Even if chose to do load research or if necessary, could company actually have done separate load research with metering system?
4:24:29 PM	Atty Blend Kentucky Power - witness Stegall Note: Sacre, Candace	If Company had AMI meters, able to get that data?
4:24:47 PM	Atty Blend Kentucky Power - witness Stegall Note: Sacre, Candace	Separate load research net metering customers, currently 18 classes?
4:25:19 PM	Atty Blend Kentucky Power - witness Stegall Note: Sacre, Candace	Accept my number of 18 for classes, class COS for those separate classes, five different load profiles?
4:26:00 PM	Atty Blend Kentucky Power - witness Stegall Note: Sacre, Candace	Tariff rates approved for outdoor lighting and street lighting no research for that class?
4:26:24 PM	Atty Blend Kentucky Power - witness Stegall Note: Sacre, Candace	Supplemental rebuttal testimony Inskip, assumptions made when developing profiles for developing load profiles for net metering customers, did you develop load profiles?
4:27:39 PM	Atty Blend Kentucky Power - witness Stegall Note: Sacre, Candace	Inskip alleged KP developed phantom load, did you develop phantom load like claimed?
4:28:31 PM	Atty Blend Kentucky Power - witness Stegall Note: Sacre, Candace	Explain results of scaling process your rebuttal testimony?

4:29:22 PM	Atty Blend Kentucky Power - witness Stegall Note: Sacre, Candace	Allocation methodology used in net metering COS the same as used in all other COS?
4:29:58 PM	Atty Blend Kentucky Power Note: Sacre, Candace	All questions.
4:30:08 PM	Vice Chairman Chandler Note: Sacre, Candace	Witness excused.
4:30:23 PM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
4:30:49 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Recross Examination. When did COS net metering customers, not load data for actual revenue customers?
4:31:31 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Did you have usage pattern data for net metering customers?
4:31:44 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Nonpeak and peak data?
4:32:42 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	NMS II tariff filed by KP based on this COS, or COS developed after filing?
4:33:14 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Calculated cost to serve net metering customers include revenue lost because of lower usage?
4:33:52 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Revenue side?
4:34:00 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Not included cost to serve that customer?
4:34:31 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Cost of serving opposed to revenue collected, include lost revenues on cost of serving side?
4:34:56 PM	Atty Fitzgerald Joint Intervenor - witness Stegall Note: Sacre, Candace	Difference usage of average customer versus usage of net metering customer?
4:35:36 PM	Atty Fitzgerald Joint Intervenor Note: Sacre, Candace	Thank you.
4:35:43 PM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
4:36:02 PM	Vice Chairman Chandler Note: Sacre, Candace	Witness excused.
4:36:23 PM	Atty Blend Kentucky Power Note: Sacre, Candace	Jacob H. Crocker.
4:36:32 PM	Vice Chairman Chandler Note: Sacre, Candace	Witness is sworn.
4:36:42 PM	Vice Chairman Chandler - witness Crocker Note: Sacre, Candace	Examination. Name and address?
4:37:00 PM	Atty Blend Kentucky Power - witness Crocker Note: Sacre, Candace	Direct Examination. By whom employed, what position?
4:37:16 PM	Atty Blend Kentucky Power - witness Crocker Note: Sacre, Candace	Response to DR?
4:37:25 PM	Atty Blend Kentucky Power - witness Crocker Note: Sacre, Candace	Corrections?
4:37:31 PM	Atty Blend Kentucky Power - witness Crocker Note: Sacre, Candace	Same questions, same answers?
4:37:39 PM	Atty Blend Kentucky Power - witness Crocker Note: Sacre, Candace	Materials in front of you?

4:38:11 PM Atty Blend Kentucky Power - witness Crocker  
Note: Sacre, Candace Been in hearing?

4:38:19 PM Atty Blend Kentucky Power - witness Crocker  
Note: Sacre, Candace Recall questions regarding AEP distribution system document?

4:38:33 PM Atty Blend Kentucky Power - witness Crocker  
Note: Sacre, Candace Attachment 1, familiar with document?

4:38:54 PM Atty Blend Kentucky Power - witness Crocker  
Note: Sacre, Candace Describe familiarity and use of that document?

4:40:09 PM Atty Blend Kentucky Power - witness Crocker  
Note: Sacre, Candace Available if questions regarding document?

4:40:24 PM Atty Blend Kentucky Power  
Note: Sacre, Candace No further, witness available.

4:40:32 PM Asst Gen Counsel Vinsel PSC - witness Crocker  
Note: Sacre, Candace Cross Examination. Mattison and West pending applications for net metering 10 before Jan 14 and 10 since then, 10 applications since Jan 14 waiting on customer information, what kind of information?

4:42:03 PM Asst Gen Counsel Vinsel PSC - witness Crocker  
Note: Sacre, Candace How many applications received since Jan 14 into service?

4:42:18 PM POST-HEARING DATA REQUEST  
Note: Sacre, Candace ASST GEN COUNSEL VINSEL PSC - WITNESS CROCKER  
Note: Sacre, Candace INFORMATION REQUESTED FROM APPLICANTS ON PENDING APPLICATIONS

4:44:29 PM Asst Gen Counsel Vinsel PSC  
Note: Sacre, Candace Number of customers begun service under NMS II since January 14.

4:44:56 PM POST-HEARING DATA REQUEST  
Note: Sacre, Candace ASST GEN COUNSEL VINSEL PSC - WITNESS CROCKER  
Note: Sacre, Candace CUSTOMERS RECEIVING SERVICE UNDER NMS II SINCE JANUARY 14

4:45:05 PM Asst Gen Counsel Vinsel PSC - witness Crocker  
Note: Sacre, Candace Applications pending before Jan 14, how many have gone into service?

4:46:49 PM Asst Gen Counsel Vinsel PSC - witness Crocker  
Note: Sacre, Candace Taking service under Tariff NMS I or Tariff NMS II?

4:47:14 PM Asst Gen Counsel Vinsel PSC - witness Crocker  
Note: Sacre, Candace Net metering customers applications after January 14 and into service, applications received after January 14, 10 received?

4:48:22 PM Asst Gen Counsel Vinsel PSC - witness Crocker  
Note: Sacre, Candace Customers taking service now under Tariff NMS II?

4:48:56 PM Asst Gen Counsel Vinsel PSC - witness Crocker  
Note: Sacre, Candace Listening West cross amount of application fee under NMS II, fees Level 1 and Level 2 \$50 higher than permissible by Commission Order and cost for impact study capped at \$50 but not, Order issued January 13 nonrecurring charges for labor during normal business hours not part of marginal cost, basis for \$150 application fee, reflecting work on applications?

4:50:33 PM Asst Gen Counsel Vinsel PSC - witness Crocker  
Note: Sacre, Candace Work take place during normal working hours?

4:50:45 PM Asst Gen Counsel Vinsel PSC - witness Crocker  
Note: Sacre, Candace Initial impact study not capped, explain reasoning?

4:52:02 PM Asst Gen Counsel Vinsel PSC - witness Crocker  
Note: Sacre, Candace Give rough estimate cost for initial impact study, customer taking service under NMS II?

4:52:52 PM	Asst Gen Counsel Vinsel PSC - witness Crocker Note: Sacre, Candace	Question to Phillips residential customers three different service lines, provided information, post-hearing data request how many customers use this service, mapping system, only way to retrieve information customers using three types of customer lines?
4:55:12 PM	Asst Gen Counsel Vinsel PSC - witness Crocker Note: Sacre, Candace	Fair to say mapping system fairly accurate data?
4:56:35 PM	Asst Gen Counsel Vinsel PSC - witness Crocker Note: Sacre, Candace	Looking at cost of net metering customers, meters, billing system imports/exports, interconnection fees/potential system costs, any other costs overlooked providing service to net metering customers?
4:59:17 PM	Asst Gen Counsel Vinsel PSC - witness Crocker Note: Sacre, Candace	Administrative costs monitor ongoing system?
4:59:41 PM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	All questions.
4:59:45 PM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
5:00:04 PM	Atty Fitzgerald Joint Intervenor - witness Crocker Note: Sacre, Candace	Cross Examination. Currently how many applications pending interconnection?
5:00:59 PM	Atty Fitzgerald Joint Intervenor - witness Crocker Note: Sacre, Candace	Those prior to Jan 14, served under NMS I?
5:01:30 PM	Atty Fitzgerald Joint Intervenor - witness Crocker Note: Sacre, Candace	Nine filed after Jan 14, processed under NMS I or II?
5:03:01 PM	Atty Fitzgerald Joint Intervenor - witness Crocker Note: Sacre, Candace	Switch over after that time?
5:03:22 PM	Atty Fitzgerald Joint Intervenor Note: Sacre, Candace	No further.
5:03:31 PM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
5:03:38 PM	Atty Spenard KYSEIA - witness Crocker Note: Sacre, Candace	Cross Examination. Part of what you do in mix relationship applicants net metering service and company?
5:04:03 PM	Atty Spenard KYSEIA - witness Crocker Note: Sacre, Candace	Not everyone eligible take service under net metering tariff?
5:04:38 PM	Atty Spenard KYSEIA - witness Crocker Note: Sacre, Candace	How team processes applications for net metering, threshold determination as to rated capacity of generating facility not greater than 25 kilowatts?
5:05:45 PM	Atty Spenard KYSEIA - witness Crocker Note: Sacre, Candace	AEP standard for rating capacity, issue certificate, how document rated capacity of a system?
5:07:05 PM	Atty Spenard KYSEIA - witness Crocker Note: Sacre, Candace	Rating capacity on application, instances include battery storage or made separately?
5:08:07 PM	Atty Spenard KYSEIA - witness Crocker Note: Sacre, Candace	Electrical storage system, applicant add battery storage and configures system not to export, change capacity rating of facility?
5:09:35 PM	Atty Spenard KYSEIA - witness Crocker Note: Sacre, Candace	Process, if customer submits application and intent isolate system and configure not produce exports, knock out of grandfathering position?
5:11:35 PM	Atty Spenard KYSEIA Note: Sacre, Candace	Thank you.

5:11:46 PM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
5:12:07 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Examination. Costs of implementing program generallyly?
5:12:38 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker How many jurisdictions similar functions as Kentucky?
5:13:20 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker DER programs?
5:13:24 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Multiple programs?
5:13:43 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Any states have DERs in which utility or state commission in charge of interconnection but payment for services done by ISO or RTO
5:14:30 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Participating for similar DER more simple for state run net metering program than participation in wholesale program?
5:15:58 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Agree net metering time of use proposal meter studies directional flow?
5:17:24 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Implementing state approved plan Kentucky, bidirectional meter, time of day approved, time of use approved, bidirectional also do time of use?
5:18:00 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Understanding participation in wholesale services, expectation interconnected DERs using programs, additional metering?
5:18:29 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Beyond initial study, additional costs driven by participation of DER in retail market?
5:20:20 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Expectation also require additional work on company behalf?
5:21:01 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Possible costs will rise after interconnection as penetration increases?
5:22:37 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Costs driven following interconnection, interconnecting DNR recover at time of interconnection?
5:23:29 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker System planning and middleman between applicants and company, aware significant costs company incurring not recovering from net metering customers?
5:24:20 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Following interconnection, aware costs customers are driving not accounted for in interconnection process?
5:24:51 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Different than other residential customers?
5:25:01 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker What are costs?
5:26:48 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Know your customer, customer service issues?
5:28:50 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Small group net metering, little effect on distribution system, is that not case?
5:32:01 PM	Vice Chairman Chandler - witness Note: Sacre, Candace	Crocker Distribution guideline, does manual apply to KP or not?



5:33:37 PM Vice Chairman Chandler - witness Crocker  
Note: Sacre, Candace Aware Kentucky standards keep KP from considering DG in lieu of major upgrades?

5:34:36 PM Vice Chairman Chandler - witness Crocker  
Note: Sacre, Candace Nice way of saying supposed to be considering underlying requirements in guidelines?

5:35:35 PM Vice Chairman Chandler - witness Crocker  
Note: Sacre, Candace Anticipation similarly situated DER drive less system costs by participating in non TOU state run net metering program than would exclusively participating wholesale RTO or ISO program?

5:37:39 PM Vice Chairman Chandler - witness Crocker  
Note: Sacre, Candace Low profile questions to Vaughan?

5:37:57 PM Vice Chairman Chandler  
Note: Sacre, Candace All questions.

5:38:12 PM Atty Blend Kentucky Power - witness Crocker  
Note: Sacre, Candace Redirect Examination. Time spend working on interconnection requests for KP customers?

5:38:50 PM Atty Blend Kentucky Power - witness Crocker  
Note: Sacre, Candace Not working on KP, bill KP?

5:39:04 PM Atty Blend Kentucky Power - witness Crocker  
Note: Sacre, Candace Employee AEP?

5:39:18 PM Atty Blend Kentucky Power - witness Crocker  
Note: Sacre, Candace Cost of your work on interconnection is marginal cost to KP?

5:39:45 PM Atty Blend Kentucky Power  
Note: Sacre, Candace All questions.

5:39:59 PM Vice Chairman Chandler  
Note: Sacre, Candace Questions?

5:40:15 PM Atty Fitzgerald Joint Intervenors - witness Crocker  
Note: Sacre, Candace Recross Examination. Part of job with AEP understanding interconnection guidelines of various states?

5:40:40 PM Atty Fitzgerald Joint Intervenors - witness Crocker  
Note: Sacre, Candace Understand are protections built into interconnection guidelines Kentucky generation capacity and aggregated generation?

5:41:37 PM Atty Fitzgerald Joint Intervenors - witness Crocker  
Note: Sacre, Candace Limit generation?

5:41:48 PM Atty Fitzgerald Joint Intervenors - witness Crocker  
Note: Sacre, Candace Intended to prevent utilities from incurring additional costs?

5:43:00 PM Atty Fitzgerald Joint Intervenors - witness Crocker  
Note: Sacre, Candace Also limitation of generation capacity cannot exceed transformer  
????

5:43:19 PM Atty Fitzgerald Joint Intervenors - witness Crocker  
Note: Sacre, Candace Part of interconnection guidelines in Kentucky?

5:43:32 PM Atty Fitzgerald Joint Intervenors - witness Crocker  
Note: Sacre, Candace Possibility distributed generating customers cause damage to AEP system and damage to customer system?

5:44:42 PM Atty Fitzgerald Joint Intervenors - witness Crocker  
Note: Sacre, Candace Customer in compliance limitations, assures net metering never see  
?????

5:45:36 PM Atty Fitzgerald Joint Intervenors  
Note: Sacre, Candace Thank you.

5:45:43 PM Vice Chairman Chandler  
Note: Sacre, Candace Questions?

5:46:09 PM Commissioner Mathews - witness Crocker  
Note: Sacre, Candace Examination. Wouldn't know what on system, taken care of yearly review distribution system?

5:49:20 PM	Commissioner Mathews - witness Crocker Note: Sacre, Candace	How common is that, how many customers in KP territory operating under net metering?
5:49:53 PM	Commissioner Mathews Note: Sacre, Candace	I'm done.
5:50:08 PM	Vice Chairman Chandler Note: Sacre, Candace	Witness excused.
5:50:34 PM	Vice Chairman Chandler Note: Sacre, Candace	Procedure. (Click on link for further comments.)
5:51:21 PM	Session Note Entry Note: Sacre, Candace	Recess until 6 o'clock.
5:51:34 PM	Session Paused	
6:02:09 PM	Session Resumed	
6:02:58 PM	Atty Blend Kentucky Power Note: Sacre, Candace	Alex Vaughan.
6:03:10 PM	Vice Chairman Chandler Note: Sacre, Candace	Witness is sworn.
6:03:56 PM	Vice Chairman Chandler - witness Vaughan Note: Sacre, Candace	Examination. Name and address?
6:04:15 PM	Atty Blend Kentucky Power - witness Vaughan Note: Sacre, Candace	Direct Examination. By whom employed, what position?
6:04:30 PM	Atty Blend Kentucky Power - witness Vaughan Note: Sacre, Candace	Responses to Data Requests?
6:04:43 PM	Atty Blend Kentucky Power - witness Vaughan Note: Sacre, Candace	Corrections?
6:04:49 PM	Atty Blend Kentucky Power - witness Vaughan Note: Sacre, Candace	Same questions, same answers?
6:04:56 PM	Atty Blend Kentucky Power - witness Vaughan Note: Sacre, Candace	Materials in front of you?
6:05:14 PM	Atty Blend Kentucky Power - witness Vaughan Note: Sacre, Candace	Reference to Exhibit C was to Appendix C to Dec 18 2019 Order Case No. 2019-00256?
6:05:29 PM	Atty Blend Kentucky Power Note: Sacre, Candace	No further, witness available.
6:05:40 PM	Vice Chairman Chandler Note: Sacre, Candace	Confidential session.
6:06:12 PM	Private Mode Activated	
6:06:12 PM	Private Recording Activated	
6:17:17 PM	Normal Mode Activated	
6:17:17 PM	Public Recording Activated	
6:17:23 PM	Vice Chairman Chandler Note: Sacre, Candace	Ms. Vinsel, continue.
6:17:28 PM	Asst Gen Counsel Vinsel PSC - witness Vaughan Note: Sacre, Candace	Cross Examination (cont'd). Forward pricing, speaking forecasts like S&P Global, NYMEX, CME?
6:18:11 PM	Asst Gen Counsel Vinsel PSC - witness Vaughan Note: Sacre, Candace	Parties deal with broader group than sources quoted?
6:19:53 PM	Asst Gen Counsel Vinsel PSC - witness Vaughan Note: Sacre, Candace	Confirm \$100 per megawatt most recent base residual market for RMP?
6:21:21 PM	Asst Gen Counsel Vinsel PSC - witness Vaughan Note: Sacre, Candace	Generator to participate in PJM RPM, meet requirements/certain level of performance for capacity payment?

6:22:43 PM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	No further.
6:22:50 PM	Vice Chairman Chandler Note: Sacre, Candace	Questions?
6:23:08 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	Cross Examination. Rebuttal pg 2 lines 17-19, NMS proposal, in front of you?
6:24:10 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	Supplemental rebuttal?
6:24:27 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	NMS II proposal, reading. (Click on link for further comments.) See that?
6:24:48 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	In that phrase, what mean by net usage, net of what?
6:25:54 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	Credited at retail rate?
6:26:34 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	Netting over billing period, 30 days?
6:26:44 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	Not crediting at avoided rate unless excess over use end of month?
6:27:33 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	Supplemental testimony pg 2, reading. (Click on link for further comments.) Correct initial rebuttal testimony Nov 9 2020 net metering loads no different than other customers?
6:30:58 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	More costly to serve, same line running to house?
6:31:27 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	More costly to serve because generation behind meter, what are additional costs?
6:33:32 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	When comparing lower incomes per class, comparing to average residential customer or average commercial customer?
6:34:05 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	Using mean or average?
6:35:01 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	Comparing each customer against what norm?
6:35:27 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	High user even after net metering using more electricity than would be expected for residential customer class, still being subsidizing?
6:36:29 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	Dealing with net metering customers in residential class, working assumption is entire class of net metering customers is paying less in terms of costs, fixed costs, because using less electricity, correct working assumption?
6:38:48 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	Supplemental rebuttal pg 7 lines 11-12, criticize testimony of Karl Rabago, reading. (Click on link for further comments.) Multiple COS of record in this case, how many address net metering?
6:41:12 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	Saying prior COS that included separate study for net metering customers?
6:42:58 PM	Atty Fitzgerald Joint Intervenors - witness Vaughan Note: Sacre, Candace	Your testimony multiple COS that separate out net metering customers as a class or two produced after January order by Stegall?

6:44:27 PM	Atty Fitzgerald Joint Intervenor - witness Vaughan Note: Sacre, Candace	Proposing separate rate structure for net metering customers?
6:44:50 PM	Atty Fitzgerald Joint Intervenor - witness Vaughan Note: Sacre, Candace	Stegall study original and revised only COS that support separate class for net metering customers?
6:45:03 PM	Atty Blend Kentucky Power Note: Sacre, Candace	Object, asked multiple times.
6:45:08 PM	Atty Fitzgerald Joint Intervenor Note: Sacre, Candace	Statement multiple services studies intended taken literally or figuratively?
6:45:37 PM	Atty Blend Kentucky Power Note: Sacre, Candace	Vaughan provided straight answer, numerous studies such as those he performed.
6:46:00 PM	Atty Fitzgerald Joint Intervenor Note: Sacre, Candace	Attempting clarify whether only COS specifically disaggregates net metering customers and support for treating differently was one conducted by Stegall?
6:46:18 PM	Atty Blend Kentucky Power Note: Sacre, Candace	Vaughan answered already, and answer was no.
6:46:23 PM	Vice Chairman Chandler - witness Vaughan Note: Sacre, Candace	Examination. Familiar with imbedded COS that has a functional assignment classification allocation?
6:46:53 PM	Vice Chairman Chandler - witness Vaughan Note: Sacre, Candace	Commonly referred to as class COS?
6:47:29 PM	Vice Chairman Chandler - witness Vaughan Note: Sacre, Candace	What study intended to reflect?
6:47:38 PM	Vice Chairman Chandler - witness Vaughan Note: Sacre, Candace	One for rate of return purposes?
6:47:53 PM	Vice Chairman Chandler - witness Vaughan Note: Sacre, Candace	COS referencing being specific to imbedded COS?
6:48:07 PM	Vice Chairman Chandler Note: Sacre, Candace	Clarified the point?
6:48:11 PM	Atty Fitzgerald Joint Intervenor Note: Sacre, Candace	Yes, clarify multiple COS of record and criticism of joint intervenors witness was not referring multiple class COS.
6:48:52 PM	Atty Fitzgerald Joint Intervenor Note: Sacre, Candace	No further.
6:49:07 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Cross Examination. Rebuttal testimony in front of you?
6:49:38 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Turn rebuttal testimony pg 21?
6:49:50 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Beginning at line 8, read into record line 8 through line 13?
6:50:37 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Line 14, read sentence that ends on line 16?
6:51:04 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Testimony all solar generation projects compensated solely at transparent commodity price at PJM?
6:52:23 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Discussed solar generation projects, testimony same compensated at transparent commodity price at PJM?
6:53:25 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	All in, do that by reference to PJM price?

6:55:56 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Compensating is such foundation/bedrock large part PJM in pricing receive from PJM?
6:56:40 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	PJM and notion of locational marginal pricing, sets price electricity real time points across high voltage transmission system?
6:57:32 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	For locational marginal pricing, LMP, does differ across footprint of PJM?
6:58:00 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	KP unit in service territory different price than one in another area of PJM footprint?
6:58:54 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Loss component talking about line loss component, what?
6:59:27 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Reduction in demand at LMP point service area large reduction in LMP at that point at another local such as Illinois?
7:00:30 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Rebuttal testimony pg 30, discussion begins line 4, focusing on scrubber chemicals and allowance costs, KP recover 100 percent of costs with revenues from sales in PJM market?
7:02:16 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Does KP compare full set operational costs to PJM revenues received for unit for that production?
7:03:14 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	KP compensation, being compensated for own generation only at PJM market price?
7:03:47 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Some states, PJM market price some compensation through PJM process and PJM market price?
7:04:51 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Does KP have sufficient capacity for next 25 years to meet load requirements?
7:05:14 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Will it purchase when shows has to meet capacity in current year, how does KP plan to meet generation deficiency?
7:06:29 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Rebuttal pg 39 line 11, answer line 13, reference on line 18, SPP, Southwest Power Pool?
7:07:23 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	PSO Public Service Company Oklahoma?
7:07:43 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Affiliate within AEP family?
7:07:54 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Sentence line 18, reading. (Click on link for further comments.) See that?
7:08:19 PM	Atty Spenard KYSEIA - witness Vaughan Note: Sacre, Candace	Does PSO pay SPP LMP for excess customer generation before or after netting out customer usage?
7:09:37 PM	Atty Spenard KYSEIA Note: Sacre, Candace	All questions.
7:09:45 PM	Vice Chairman Chandler Note: Sacre, Candace	Questions?

7:10:10 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Examination. Any two DERs compensation at LMP if cogen small power producer?
7:10:47 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Which LMP load or generator?
7:11:18 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Net metering PJM load reduction when it comes to LSEs?
7:11:40 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Load LMP no activity receive unable to have own set generator node?
7:12:54 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Complicated response for energy ?????
7:14:11 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	EDC or LSE fill out paperwork and tell them about it?
7:14:28 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Fixed capacity?
7:14:44 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	In reality, net cone reflection of new entry net of expected energy revenue and same unit capturing?
7:15:48 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	When building additional generation, costs avoided are gross cone attempt to recover from customers?
7:17:15 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	KP chooses leave PJM and not join RTO, may never receive revenues for generating facilities built?
7:17:52 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Avoided energy rate?
7:18:11 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Not discounting energy revenues twice?
7:18:39 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Intend to recover investment in capacity or generation?
7:20:16 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Which specific unit used versus discount?
7:21:25 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Aware how many CTs built in PJM last few years?
7:21:47 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Evidence in record net metering customers exact same internal energy demands as residential customer not net metering customer?
7:24:57 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Have data shows data consistent among net meterers and rest of residential class?
7:27:21 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	In Virginia data asking about?
7:27:50 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Have separately metered data in any jurisdictions?
7:28:36 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Difference class COS looking at net and prenet gross for distribution planning, helpful data?
7:29:36 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Agree no difference in avoided compensation rate afforded QF, all compensated similarly?
7:30:19 PM	Vice Chairman Chandler - witness	Vaughan
	Note: Sacre, Candace	Still gets same avoided cost?

7:31:19 PM	Vice Chairman Chandler Note: Sacre, Candace	Redirect?
7:31:29 PM	Atty Blend Kentucky Power - witness Vaughan Note: Sacre, Candace	Redirect Examination. Company Exhibit 1, discussing load profile, indicated validated load profile using Virginia data?
7:32:48 PM	Atty Blend Kentucky Power - witness Vaughan Note: Sacre, Candace	Show in Exhibit 1?
7:34:30 PM	Atty Blend Kentucky Power - witness Vaughan Note: Sacre, Candace	Load profile, Inskeep testimony?
7:34:50 PM	Atty Blend Kentucky Power - witness Vaughan Note: Sacre, Candace	Criticizes KP COS?
7:35:06 PM	Atty Blend Kentucky Power - witness Vaughan Note: Sacre, Candace	Agree?
7:36:34 PM	Atty Blend Kentucky Power - witness Vaughan Note: Sacre, Candace	Have Appendix C in front of you?
7:36:52 PM	Atty Blend Kentucky Power - witness Vaughan Note: Sacre, Candace	Steps of this report?
7:37:14 PM	Atty Blend Kentucky Power - witness Vaughan Note: Sacre, Candace	Walk through steps and what company did as compared to Brattle report?
7:39:05 PM	Atty Blend Kentucky Power - witness Vaughan Note: Sacre, Candace	Expert opinion, any respect KP analysis differ than outlined in report?
7:39:54 PM	Atty Blend Kentucky Power Note: Sacre, Candace	No further.
7:40:00 PM	Vice Chairman Chandler Note: Sacre, Candace	Introduce Company Exhibit 1?
7:40:08 PM	Atty Blend Kentucky Power Note: Sacre, Candace	Yes.
7:40:13 PM	Vice Chairman Chandler Note: Sacre, Candace	So ordered.
7:40:21 PM	COMPANY EXHIBIT 1 Note: Sacre, Candace Note: Sacre, Candace	ATTY BLEND KENTUCKY POWER - WITNESS VAUGHAN NET METERING LOAD RESEARCH/PEAK HOUR COMPARISON
7:40:30 PM	Asst Gen Counsel Vinsel PSC Note: Sacre, Candace	Move PSC Staff Exhibits 1 and 2 be introduced.
7:40:37 PM	Vice Chairman Chandler Note: Sacre, Candace	So ordered.
7:40:38 PM	PSC STAFF EXHIBIT 1 Note: Sacre, Candace Note: Sacre, Candace	ASST GEN COUNSEL VINSEL PSC KRS 278.466 AVAILABILITY OF NET METERING
7:40:39 PM	PSC STAFF EXHIBIT 2 Note: Sacre, Candace Note: Sacre, Candace	ASST GEN COUNSEL VINSEL PSC COMMISSION ORDER ADMINISTRATIVE CASE NO. 2008-00169
7:40:40 PM	Vice Chairman Chandler Note: Sacre, Candace	Procedural. (Click on link for further comments.)
7:41:09 PM	Vice Chairman Chandler Note: Sacre, Candace	All company witnesses?
7:41:16 PM	Atty Blend Kentucky Power Note: Sacre, Candace	Yes.
7:41:25 PM	Vice Chairman Chandler Note: Sacre, Candace	Anything else?
7:42:04 PM	Vice Chairman Chandler Note: Sacre, Candace	Hearing adjourned.







## Exhibit List Report

2020-00174 06Apr2021

**Kentucky Power Company  
(Kentucky Power)**

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<b>Name:</b>	<b>Description:</b>
Company Hearing Exhibit 1	Net Metering Load Research/Peak Hour Comparison
PSC Staff Exhibit 1	KRS 278.466 Availability of net metering
PSC Staff Exhibit 2	Commission Order in Case No. 2008-00169

**Net Metering Load Research/Peak Hour Comparison**  
**APCO VA LR vs. KPCO KY Profile -TY End March 31, 2020**

**Distribution Peaks**

Date	Hour	VA Profile	KY Profile
4/1/2019	8	2.07	0.52
5/28/2019	16	-	-
6/28/2019	15	0.90	0.24
7/19/2019	15	-	-
8/20/2019	15	0.58	-
9/13/2019	15	0.83	-
10/1/2019	15	0.43	-
11/13/2019	7	6.00	4.13
12/19/2019	8	4.50	3.78
1/22/2020	8	6.85	4.29
2/15/2020	8	4.96	2.07
3/1/2020	8	3.72	2.99
12CP Avg		2.57	1.50

**Generation and Transmission Peaks**

Date	Hour	VA Profile	KY Profile
4/1/2019	6	4.03	3.02
5/28/2019	15	-	-
6/27/2019	15	-	-
7/19/2019	15	0.01	2.09
8/19/2019	15	0.96	1.91
9/11/2019	15	0.30	-
10/1/2019	15	0.43	-
11/13/2019	7	6.00	4.13
12/19/2019	7	4.60	3.66
1/22/2020	7	6.44	4.16
2/15/2020	7	4.58	4.08
3/1/2020	7	3.75	3.38
12CP Avg		2.59	2.20

**Average Installed System kW AC**

KY	8.84
VA	6.58

**278.466 Availability of net metering -- Type, expense, and installation of meter -- Compensation to eligible customer-generators for electricity fed back into grid -- Commission to set compensation rate -- Excess generation credits nonrefundable -- Twenty-five year cap on preexisting net metering tariff provisions -- Safety and power quality standards -- Transferability of installation at same premises.**

- (1) Each retail electric supplier shall make net metering available to any eligible customer-generator that the supplier currently serves or solicits for service. If the cumulative generating capacity of net metering systems reaches one percent (1%) of a supplier's single hour peak load during a calendar year, the supplier shall have no further obligation to offer net metering to any new customer-generator at any subsequent time.
- (2) Each retail electric supplier serving a customer with eligible electric generating facilities shall use a standard kilowatt-hour meter capable of registering the flow of electricity in two (2) directions. Any additional meter, meters, or distribution upgrades needed to monitor the flow in each direction shall be installed at the customer-generator's expense. If additional meters are installed, the net metering calculation shall yield the same result as when a single meter is used.
- (3) A retail electric supplier serving an eligible customer-generator shall compensate that customer for all electricity produced by the customer's eligible electric generating facility that flows to the retail electric supplier, as measured by the standard kilowatt-hour metering prescribed in subsection (2) of this section. The rate to be used for such compensation shall be set by the commission using the ratemaking processes under this chapter during a proceeding initiated by a retail electric supplier or generation and transmission cooperative on behalf of one (1) or more retail electric suppliers.
- (4) Each billing period, compensation provided to an eligible customer-generator shall be in the form of a dollar-denominated bill credit. If an eligible customer-generator's bill credit exceeds the amount to be billed to the customer in a billing period, the amount of the credit in excess of the customer's bill shall carry forward to the customer's next bill. Excess bill credits shall not be transferable between customers or premises. If an eligible customer-generator closes his or her account, no cash refund for accumulated credits shall be paid.
- (5) Using the ratemaking process provided by this chapter, each retail electric supplier shall be entitled to implement rates to recover from its eligible customer-generators all costs necessary to serve its eligible customer-generators, including but not limited to fixed and demand-based costs, without regard for the rate structure for customers who are not eligible customer-generators.
- (6) For an eligible electric generating facility in service prior to the effective date of the initial net metering order by the commission in accordance with subsection (3) of this section, the net metering tariff provisions in place when the eligible customer-generator began taking net metering service, including the one-to-one (1:1) kilowatt-hour denominated energy credit provided for electricity fed into the grid, shall remain in effect at those premises for a twenty-five (25) year period, regardless

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

DEVELOPMENT OF GUIDELINES FOR	)	ADMINISTRATIVE
INTERCONNECTION AND NET METERING	)	CASE NO.
FOR CERTAIN GENERATORS WITH	)	2008-00169
CAPACITY UP TO THIRTY KILOWATTS	)	

O R D E R

In its Order issued on May 30, 2008, the Commission initiated Administrative Case No. 2008-00169 to establish interconnection and net metering guidelines in accordance with Senate Bill 83 ("SB 83"), which was enacted by the Kentucky General Assembly during the 2008 Regular Session and signed by Governor Steve Beshear on April 24, 2008. SB 83 amended the existing statutory requirements for the net metering<sup>1</sup> of electricity, which are codified in KRS 278.465 to 278.468. The amendments are designed to increase the number of net metering customers by expanding the types and sizes of customer-owned electric generating facilities that qualify for net metering. More specifically, SB 83 included the following provisions:

1. The definition of an "eligible electric generating facility" is expanded from solar only to include wind energy, biomass or biogas energy, and hydro-energy;
2. The maximum size of eligible generators is increased from 15 kW to 30 kW;
3. The limit at which the Commission may restrict new net metering customers is increased from 0.1% to 1% of a retail supplier's single-hour peak load;

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<sup>1</sup> "Net metering" is defined as "measuring the difference between the electricity supplied by the electric grid and the electricity generated by an eligible customer-generator that is fed back to the electric grid over a billing period." KRS 278.465(4).

4. Bill credits for generation fed back to the retail supplier in excess of the electricity supplied during the billing period are carried forward for the life of the account;
5. The net metering customer is responsible for the cost of any upgrade to the interconnection that is required by an approved tariff;
6. Interconnection and net metering guidelines are to be developed by the Commission for all retail electric suppliers; and
7. Retail electric suppliers are required to file net metering tariffs and application forms to comply with the Commission-established guidelines.

SB 83 requires that the interconnection and net metering guidelines referenced in Item 6 above be established by the Commission by January 11, 2009, 180 days after the bill's effective date of July 15, 2008.

In its May 30, 2008 Order, the Commission made all jurisdictional electric utilities parties to the case: Louisville Gas & Electric Company ("LG&E"); Kentucky Utilities Company ("KU"); Duke Energy Kentucky, Inc.; Kentucky Power Company; Big Rivers Electric Corporation ("Big Rivers"); East Kentucky Power Cooperative, Inc. ("East Kentucky Power"); and the 19 distribution cooperatives which are wholesale customer/owners of Big Rivers<sup>2</sup> and East Kentucky Power.<sup>3</sup>

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<sup>2</sup> The three member cooperatives of Big Rivers are Kenergy Corp., Jackson Purchase Energy Corporation, and Meade County Rural Electric Cooperative Corporation.

<sup>3</sup> The 16 member cooperatives of East Kentucky Power are Big Sandy Rural Electric Cooperative Corporation; Blue Grass Energy Cooperative Corporation; Clark Energy Cooperative, Inc.; Cumberland Valley Electric, Inc.; Farmers Rural Electric Cooperative Corporation; Fleming-Mason Energy Cooperative; Grayson Rural Electric Cooperative Corporation; Inter-County Energy Cooperative Corp.; Jackson Energy Cooperative Corp.; Licking Valley Rural Electric Cooperative Corporation; Nolin Rural Electric Cooperative Corporation; Owen Electric Cooperative, Inc.; Salt River Electric Cooperative; Shelby Energy Cooperative, Inc.; South Kentucky Rural Electric Cooperative Corporation; and Taylor County Rural Electric Cooperative Corporation.

The Attorney General (“AG”) intervened pursuant to KRS 367.150(8)(b). In addition, full intervenor status was granted to Appalachia-Science in the Public Interest, Solar Energy Solutions LLC, and Joshua Bills (collectively referred to as the “intervening parties”). The intervening parties have an interest, generally, in the marketing, promotion, and installation of distributed renewable generation equipment (e.g., solar photovoltaic generating equipment).

### PROCEDURAL HISTORY

In meeting the General Assembly’s directive to adopt net metering and interconnection guidelines, the Commission determined to undertake a cooperative process in which it would work with the stakeholders in an effort to come to a consensus, rather than engaging in an adversarial administrative hearing process. The Commission believed that, while there would be some differences in opinion between the jurisdictional electric utilities and those advocating further deployment of net metering throughout the state, there was substantial common ground for cooperation on these issues. As this case has developed, it is clear that the parties have worked cooperatively and, as a result, have been able to reach a consensus.

During the case, Commission Staff held a number of informal conferences with the parties in which they and the parties engaged in discussions of the interconnection and net metering issues.<sup>4</sup> The utilities and the intervening parties also engaged in additional settlement discussions without the participation of Commission Staff or the AG. These negotiations resulted in the production of draft interconnection and net metering guidelines (“draft guidelines”) which were distributed to all parties for review on October 2, 2008.

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<sup>4</sup> Informal conferences were held on August 18, 2008; September 5, 2008; and October 16, 2008.

Following receipt of the draft guidelines, Commission Staff held a final informal conference with the parties on October 16, 2008, after which Commission Staff made a number of additional revisions, including revising the title of the document to "Net Metering Tariff – Kentucky," which Staff believed necessary, as the draft guidelines referred to themselves as a "tariff."<sup>5</sup> The revised draft guidelines were appended to the October 16, 2008 informal conference memorandum, which was sent to the parties on November 3, 2008 with instructions to provide any final comments within 10 days. On the same date, the Commission issued an Order to the parties requiring any party desiring a formal hearing in this matter to file a request for a hearing within 10 days.

No request for a hearing was filed by any party. However, all of the parties filed comments requesting that the Commission remove the word "tariff" from the title of the draft guidelines document. The utilities commented that the title should be amended because it was inconsistent with KRS 278.467 and "because each utility's operating environment and customer base varies from those of other utilities," thus requiring "the flexibility inherent in the Guidelines . . . ."<sup>6</sup> The intervening parties commented that the title should be changed to "Guidelines" because "the General Assembly differentiated the two in KRS 278.467 by requiring that the Commission develop the guidelines that would result in the filing of conforming net metering tariffs by the retail electric suppliers within a time certain after the adoption of the guidelines."<sup>7</sup> No other comments were filed.

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<sup>5</sup> E.g., "[t]he term 'Customer' hereinafter shall refer to any customer requesting or receiving Net Metering services under this tariff." Draft guidelines at 1.

<sup>6</sup> Comments of LG&E and KU, submitted November 13, 2008. Other comments submitted by the utilities either support those submitted by LG&E and KU or substantially mirror them.

<sup>7</sup> Comments of intervening parties submitted December 2, 2008.

## COMMISSION DETERMINATION

Having reviewed the draft guidelines and the parties' comments to the draft guidelines, the Commission finds that the draft guidelines are in accordance with the provisions of SB 83 and KRS 278.465-468. The Commission also finds that the parties' request to remove the word "tariff" from the title of the document is necessary and appropriate, as KRS 278.467(2) requires the Commission to issue "interconnection and net metering guidelines," while KRS 278.467(3) requires the jurisdictional utilities to file "a net metering tariff and application forms to comply with those guidelines" within 90 days of the issuance of the guidelines.

The Commission also commends the parties for their willingness to engage productively in this cooperative effort. The Commission believes that their hard work has resulted in a strong, comprehensive set of interconnection and net metering guidelines. The Commission believes that this stakeholder process will substantially contribute to the successful implementation of the guidelines, as all of the parties were well-represented and were provided the opportunity to fully voice their opinions on those issues most important to them regarding interconnection and net metering in Kentucky.

IT IS THEREFORE ORDERED that:

1. The Commission hereby issues the "Interconnection and Net Metering Guidelines – Kentucky," attached hereto as Appendix A, as the interconnection and net metering guidelines required by KRS 278.467(2).
2. All jurisdictional electric utilities who are parties to this case shall file net metering tariffs and application forms to comply with the "Interconnection and Net Metering Guidelines – Kentucky" within 90 days of the issuance of this Order.



Done at Frankfort, Kentucky, this 8th day of January, 2009.

By the Commission

ATTEST:

  
\_\_\_\_\_  
Executive Director

Administrative Case No. 2008-00169

APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE  
COMMISSION IN ADMINISTRATIVE CASE NO. 2008-00169  
DATED JANUARY 8, 2009

Interconnection and Net Metering Guidelines – Kentucky

## **Interconnection and Net Metering Guidelines – Kentucky**

These guidelines are intended to facilitate the use of net metering and interconnection of renewable energy generators by establishing interconnection and net metering guidelines for all retail electric suppliers operating in the Commonwealth, incorporating all applicable safety and power quality standards established by the National Electrical Code (NEC), Institute of Electrical and Electronics Engineers (IEEE) and accredited testing laboratories such as Underwriters Laboratories (UL).

To the extent this tariff conflicts with any federal law or regulation or any law or regulation of the Commonwealth of Kentucky, the law or regulation shall supersede and control over any conflicting tariff provision.

### **AVAILABILITY**

Net Metering is available to eligible customer-generators in the Utility's service territory, upon request, and on a first-come, first-served basis up to a cumulative capacity of one percent (1%) of the Utility's single hour peak load in Kentucky during the previous year. If the cumulative generating capacity of net metering systems reaches 1% of a supplier's single hour peak load during the previous year, upon Commission approval, the Utility's obligation to offer net metering to a new customer-generator may be limited. An eligible customer-generator shall mean a retail electric customer of the Utility with a generating facility that:

- (1) Generates electricity using solar energy, wind energy, biomass or biogas energy, or hydro energy;
- (2) Has a rated capacity of not greater than thirty (30) kilowatts;
- (3) Is located on the customer's premises;
- (4) Is owned and operated by the customer;
- (5) Is connected in parallel with the Utility's electric distribution system;  
and
- (6) Has the primary purpose of supplying all or part of the customer's own electricity requirements.

At its sole discretion, the Utility may provide Net Metering to other customer-generators not meeting all the conditions listed above on a case-by-case basis.

The term "Customer" hereinafter shall refer to any customer requesting or receiving Net Metering services under this tariff.

## **METERING**

Due to variations among utilities in Kentucky in the types of meters used, it is impractical to have common language for this section that clearly describes the type of meter that will be used by any one utility to enable net metering.

The Utility shall provide net metering services, without any cost to the Customer for metering equipment, through a standard kilowatt-hour metering system capable of measuring the flow of electricity in two (2) directions. This provision does not relieve Customer of his or her responsibility to pay metering costs embedded in the utility's Commission-approved base rates.

Any additional meter, meters, or distribution upgrades needed to monitor the flow in each direction shall be installed at the Customer's expense.

## **BILLING**

Due to variations among utilities in Kentucky in rate tariff structure, billing system capabilities, and net metering equipment described above, it is impractical to have common language for this section that clearly describes the billing details of any one utility. Each Utility will provide language in its tariff filing that uniquely describes its billing practice consistent with the requirements in KRS 278.465 to 278.468.

## **APPLICATION AND APPROVAL PROCESS**

The Customer shall submit an Application for Interconnection and Net Metering ("Application") and receive approval from the Utility prior to connecting the generator facility to the Utility's system.

Applications will be submitted by the Customer and reviewed and processed by the Utility according to either Level 1 or Level 2 processes defined below.

The Utility may reject an Application for violations of any code, standard, or regulation related to reliability or safety; however, the Utility will work with the Customer to resolve those issues to the extent practicable.

Customers may contact the Utility to check on status of an Application or with questions prior to submitting an Application. Utility contact information can be found on the Application form.

Each Utility shall provide contact information for inquiries regarding the Utility's net metering program and application process. The Utility shall provide electronic and phone contact information on all net metering application forms and on the Utility's website or in customer bill inserts if no website is available.

Each Utility with a website shall provide net metering application forms and information regarding the retail electric provider's net metering program on the

website. Companies shall accept applications by mail or in person. At its sole discretion, the Utility may accept applications electronically.

## **LEVEL 1**

A Level 1 Application shall be used if the generating facility is inverter-based and is certified by a nationally recognized testing laboratory to meet the requirements of Underwriters Laboratories Standard 1741 "Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources" (UL 1741).

The Utility will approve the Level 1 Application if the generating facility also meets all of the following conditions:

- (1) For interconnection to a radial distribution circuit, the aggregated generation on the circuit, including the proposed generating facility, will not exceed 15% of the Line Section's most recent annual one hour peak load. A line section is the smallest part of the primary distribution system the generating facility could remain connected to after operation of any sectionalizing devices.
- (2) If the proposed generating facility is to be interconnected on a single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed generating facility, will not exceed the smaller of 20 kVA or the nameplate rating of the transformer.
- (3) If the proposed generating facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition shall not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
- (4) If the generating facility is to be connected to three-phase, three wire primary utility distribution lines, the generator shall appear as a phase-to-phase connection at the primary utility distribution line.
- (5) If the generating facility is to be connected to three-phase, four wire primary utility distribution lines, the generator shall appear to the primary utility distribution line as an effectively grounded source.

- (6) The interconnection will not be on an area or spot network.<sup>8</sup>
- (7) The Utility does not identify any violations of any applicable provisions of IEEE 1547, "Standard for Interconnecting Distributed Resources with Electric Power Systems."
- (8) No construction of facilities by the Utility on its own system will be required to accommodate the generating facility

If the generating facility does not meet all of the above listed criteria, the Utility, in its sole discretion, may either: 1) approve the generating facility under the Level 1 Application if the Utility determines that the generating facility can be safely and reliably connected to the Utility's system; or 2) deny the Application as submitted under the Level 1 Application.

The Utility shall notify the customer within 20 business days whether the Application is approved or denied, based on the criteria provided in this section.

If the Application lacks complete information, the Utility shall notify the Customer that additional information is required, including a list of such additional information. The time between notification and receipt of required additional information will add to the time to process the Application.

When approved, the Utility will indicate by signing the approval line on the Level 1 Application Form and returning it to the Customer. The approval will be subject to successful completion of an initial installation inspection and witness test if required by the Utility. The Utility's approval section of the Application will indicate if an inspection and witness test are required. If so, the Customer shall notify the Utility within 3 business days of completion of the generating facility installation and schedule an inspection and witness test with the Utility to occur within 10 business days of completion of the generator facility installation or as otherwise agreed to by the Utility and the Customer. The Customer may not operate the generating facility until successful completion of such inspection and witness test, unless the Utility expressly permits operational testing not to exceed two hours. If the installation fails the inspection or witness test due to non-compliance with any provision in the Application and Utility approval, the Customer shall not operate the generating facility until any and all non-compliance is corrected and re-inspected by the Utility.

If the Application is denied, the Utility will supply the Customer with reasons for denial. The Customer may resubmit under Level 2 if appropriate.

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<sup>8</sup> Area and spot networks are systems in which multiple transformers are interconnected on the secondary side and multiple primary voltage circuits are used to feed the transformers. A spot network is typically used to serve a single building and all the transformers are in one location. An area network typically serves multiple customers with secondary conductors covering multiple city blocks and with transformers at various locations.

## LEVEL 2

A Level 2 Application is required under any of the following:

- (1) The generating facility is not inverter based;
- (2) The generating facility uses equipment that is not certified by a nationally recognized testing laboratory to meet the requirements of UL 1741; or
- (3) The generating facility does not meet one or more of the additional conditions under Level 1.

The Utility will approve the Level 2 Application if the generating facility meets the Utility's technical interconnection requirements, which are based on IEEE 1547. The Utility shall make its technical interconnection requirements available online and upon request.

The Utility will process the Level 2 Application within 30 business days of receipt of a complete Application. Within that time the Utility will respond in one of the following ways:

- (1) The Application is approved and the Utility will provide the Customer with an Interconnection Agreement to sign.
- (2) If construction or other changes to the Utility's distribution system are required, the cost will be the responsibility of the Customer. The Utility will give notice to the Customer and offer to meet to discuss estimated costs and construction timeframe. Should the Customer agree to pay for costs and proceed, the Utility will provide the Customer with an Interconnection Agreement to sign within a reasonable time.
- (3) The Application is denied. The Utility will supply the Customer with reasons for denial and offer to meet to discuss possible changes that would result in Utility approval. Customer may resubmit Application with changes.

If the Application lacks complete information, the Utility shall notify the Customer that additional information is required, including a list of such additional information. The time between notification and receipt of required additional information will add to the 30-business-day target to process the Application.

The Interconnection Agreement will contain all the terms and conditions for interconnection consistent with those specified in this tariff, inspection and witness test requirements, description of and cost of construction or other changes to the Utility's distribution system required to accommodate the

generating facility, and detailed documentation of the generating facilities which may include single line diagrams, relay settings, and a description of operation.

The Customer may not operate the generating facility until an Interconnection Agreement is signed by the Customer and Utility and all necessary conditions stipulated in the agreement are met.

### **APPLICATION, INSPECTION AND PROCESSING FEES**

No application fees or other review, study, or inspection or witness test fees may be charged by the Utility for Level 1 Applications.

The Utility may require each Customer to submit with each Level 2 Application a non-refundable application, inspection and processing fee of up to \$100 for Level 2 Applications. In the event the Utility determines an impact study is necessary with respect to a Level 2 Application, the Customer shall be responsible for any reasonable costs up to \$1,000 for the initial impact study. The Utility shall provide documentation of the actual cost of the impact study. Any other studies requested by the Customer shall be at the Customer's sole expense.

### **TERMS AND CONDITIONS FOR INTERCONNECTION**

To interconnect to the Utility's distribution system, the Customer's generating facility shall comply with the following terms and conditions:

1. The Utility shall provide the Customer net metering services, without charge for standard metering equipment, through a standard kilowatt-hour metering system capable of measuring the flow of electricity in two (2) directions. If the Customer requests any additional meter or meters or distribution upgrades are needed to monitor the flow in each direction, such installations shall be at the Customer's expense.
2. The Customer shall install, operate, and maintain, at Customer's sole cost and expense, any control, protective, or other equipment on the Customer's system required by the Utility's technical interconnection requirements based on IEEE 1547, the NEC, accredited testing laboratories such as Underwriters Laboratories, and the manufacturer's suggested practices for safe, efficient and reliable operation of the generating facility in parallel with Utility's electric system. Customer shall bear full responsibility for the installation, maintenance and safe operation of the generating facility. Upon reasonable request from the Utility, the Customer shall demonstrate generating facility compliance.
3. The generating facility shall comply with, and the Customer shall represent and warrant its compliance with: (a) any applicable safety and power quality standards established by IEEE and accredited testing laboratories such as Underwriters Laboratories; (b) the NEC as may be revised from time to time; (c) Utility's rules, regulations, and Utility's Service



Regulations as contained in Utility's Retail Electric Tariff as may be revised from time to time with the approval of the Kentucky Public Service Commission (Commission); (d) the rules and regulations of the Commission, as such rules and regulations may be revised from time to time by the Commission; and (e) all other applicable local, state, and federal codes and laws, as the same may be in effect from time to time. Where required by law, Customer shall pass an electrical inspection of the generating facility by a local authority having jurisdiction over the installation.

4. Any changes or additions to the Utility's system required to accommodate the generating facility shall be considered excess facilities. Customer shall agree to pay Utility for actual costs incurred for all such excess facilities prior to construction.
5. Customer shall operate the generating facility in such a manner as not to cause undue fluctuations in voltage, intermittent load characteristics or otherwise interfere with the operation of Utility's electric system. At all times when the generating facility is being operated in parallel with Utility's electric system, Customer shall so operate the generating facility in such a manner that no adverse impacts will be produced thereby to the service quality rendered by Utility to any of its other customers or to any electric system interconnected with Utility's electric system. Customer shall agree that the interconnection and operation of the generating facility is secondary to, and shall not interfere with, Utility's ability to meet its primary responsibility of furnishing reasonably adequate service to its customers.
6. Customer shall be responsible for protecting, at Customer's sole cost and expense, the generating facility from any condition or disturbance on Utility's electric system, including, but not limited to, voltage sags or swells, system faults, outages, loss of a single phase of supply, equipment failures, and lightning or switching surges, except that the Utility shall be responsible for repair of damage caused to the generating facility resulting solely from the negligence or willful misconduct on the part of the Utility.
7. After initial installation, Utility shall have the right to inspect and/or witness commissioning tests, as specified in the Level 1 or Level 2 Application and approval process. Following the initial testing and inspection of the generating facility and upon reasonable advance notice to Customer, Utility shall have access at reasonable times to the generating facility to perform reasonable on-site inspections to verify that the installation, maintenance, and operation of the generating facility comply with the requirements of this tariff.
8. For Level 1 and 2 generating facilities, where required by the Utility, an eligible Customer shall furnish and install on Customer's side of the point of common coupling a safety disconnect switch which shall be capable of

fully disconnecting the Customer's energy generating equipment from Utility's electric service under the full rated conditions of the Customer's generating facility. The external disconnect switch (EDS) shall be located adjacent to Utility's meters or the location of the EDS shall be noted by placing a sticker on the meter, and shall be of the visible break type in a metal enclosure which can be secured by a padlock. If the EDS is not located directly adjacent to the meter, the Customer shall be responsible for ensuring that the location of the EDS is properly and legibly identified for so long as the generating facility is operational. The disconnect switch shall be accessible to Utility personnel at all times. The Utility may waive the requirement for an EDS for a generating facility at its sole discretion, and on a case-by-case basis, upon review of the generating facility operating parameters and if permitted under the Utility's safety and operating protocols.

Any utility requiring the use of an EDS shall establish a training protocol for line workers on the location and use of the EDS, and shall require that the EDS be used when appropriate, and that the switch be turned back on once the disconnection is no longer necessary.

9. Utility shall have the right and authority at Utility's sole discretion to isolate the generating facility or require the Customer to discontinue operation of the generating facility if Utility believes that: (a) continued interconnection and parallel operation of the generating facility with Utility's electric system creates or contributes (or may create or contribute) to a system emergency on either Utility's or Customer's electric system; (b) the generating facility is not in compliance with the requirements of this tariff, and the noncompliance adversely affects the safety, reliability, or power quality of Utility's electric system; or (c) the generating facility interferes with the operation of Utility's electric system. In non-emergency situations, Utility shall give Customer notice of noncompliance including a description of the specific noncompliance condition and allow Customer a reasonable time to cure the noncompliance prior to isolating the generating facilities. In emergency situations, when the Utility is unable to immediately isolate or cause the Customer to isolate only the generating facility, the Utility may isolate the Customer's entire facility.
10. Customer shall agree that, without the prior written permission from Utility, no changes shall be made to the generating facility as initially approved. Increases in generating facility capacity will require a new "Application for Interconnection and Net Metering" which will be evaluated on the same basis as any other new application. Repair and replacement of existing generating facility components with like components that meet UL 1741 certification requirements for Level 1 facilities and not resulting in increases in generating facility capacity is allowed without approval.

11. The liability of the Customer to the Utility and the Utility to the Customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the Customer is taking service.

OR: (AT UTILITY'S OPTION PER ITS STANDARD TARIFFS and CONDITIONS OF SERVICE)

To the extent permitted by law, the Customer shall protect, indemnify, and hold harmless the Utility and its directors, officers, employees, agents, representatives and contractors against and from all loss, claims, actions or suits, including costs and attorneys fees, for or on account of any injury or death of persons or damage to property caused by the Customer or the Customer's employees, agents, representatives and contractors in tampering with, repairing, maintaining, or operating the Customer's generating facility or any related equipment or any facilities owned by the Utility except where such injury, death or damage was caused or contributed to by the fault or negligence of the Utility or its employees, agents, representatives, or contractors.

The liability of the Utility to the Customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the Customer is taking service.

12. The Customer shall maintain general liability insurance coverage (through a standard homeowner's, commercial, or other policy) for both Level 1 and Level 2 generating facilities. Customer shall, upon request, provide Utility with proof of such insurance at the time that application is made for net metering.
13. By entering into an Interconnection Agreement, or by inspection, if any, or by non-rejection, or by approval, or in any other way, Utility does not give any warranty, express or implied, as to the adequacy, safety, compliance with applicable codes or requirements, or as to any other characteristics, of the generating facility equipment, controls, and protective relays and equipment.
14. A Customer's generating facility is transferable to other persons or service locations only after notification to the Utility has been made and verification that the installation is in compliance with this tariff. Upon written notification that an approved generating facility is being transferred to another person, customer, or location, the Utility will verify that the installation is in compliance with this tariff and provide written notification to the customer(s) within 20 business days. If the installation is no longer in compliance with this tariff, the Utility will notify the Customer in writing and list what must be done to place the facility in compliance.
15. The Customer shall retain any and all Renewable Energy Credits (RECs) that may be generated by their generating facility.

## LEVEL 1

### Application for Interconnection and Net Metering

Use this application form only for a generating facility that is inverter based and certified by a nationally recognized testing laboratory to meet the requirements of UL 1741.

Submit this Application to:

Utility name and address

If you have questions regarding this Application or its status, contact the Utility at:

Phone #, email

Customer Name: \_\_\_\_\_ Account Number: \_\_\_\_\_

Customer Address: \_\_\_\_\_

Customer Phone No.: \_\_\_\_\_ Customer E-Mail Address: \_\_\_\_\_

Project Contact Person: \_\_\_\_\_

Phone No.: \_\_\_\_\_ E-mail Address (Optional): \_\_\_\_\_

Provide names and contact information for other contractors, installers, or engineering firms involved in the design and installation of the generating facilities:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Energy Source:  Solar  Wind  Hydro  Biogas  Biomass

Inverter Manufacturer and Model #: \_\_\_\_\_

Inverter Power Rating: \_\_\_\_\_ Inverter Voltage Rating: \_\_\_\_\_

Power Rating of Energy Source (i.e., solar panels, wind turbine): \_\_\_\_\_

Is Battery Storage Used:  No  Yes If Yes, Battery Power Rating: \_\_\_\_\_

Attach documentation showing that inverter is certified by a nationally recognized testing laboratory to meet the requirements of UL 1741.

Attach site drawing or sketch showing location of Utility's meter, energy source, (**optional: Utility accessible disconnect switch**) and inverter.

Attach single line drawing showing all electrical equipment from the Utility's metering location to the energy source including switches, fuses, breakers, panels, transformers, inverters, energy source, wire size, equipment ratings, and transformer connections.

Expected Start-up Date: \_\_\_\_\_

## TERMS AND CONDITIONS:

1. The Utility shall provide Customer net metering services, without charge for standard metering equipment, through a standard kilowatt-hour metering system capable of measuring the flow of electricity in two (2) directions. If the Customer requests any additional meter or meters or distribution upgrades are needed to monitor the flow in each direction, such installations shall be at the Customer's expense.
2. Customer shall install, operate, and maintain, at Customer's sole cost and expense, any control, protective, or other equipment on the Customer's system required by the Utility's technical interconnection requirements based on IEEE 1547, the NEC, accredited testing laboratories such as Underwriters Laboratories, and the manufacturer's suggested practices for safe, efficient, and reliable operation of the generating facility in parallel with Utility's electric system. Customer shall bear full responsibility for the installation, maintenance, and safe operation of the generating facility. Upon reasonable request from the Utility, the Customer shall demonstrate generating facility compliance.
3. The generating facility shall comply with, and the Customer shall represent and warrant its compliance with: (a) any applicable safety and power quality standards established by the Institute of Electrical and Electronics Engineers (IEEE) and accredited testing laboratories such as Underwriters Laboratories (UL); (b) the National Electrical Code (NEC) as may be revised from time to time; (c) Utility's rules, regulations, and Utility's Service Regulations as contained in Utility's Retail Electric Tariff as may be revised from time to time with the approval of the Kentucky Public Service Commission (Commission); (d) the rules and regulations of the Commission, as such rules and regulations may be revised from time to time by the Commission; and (e) all other applicable local, state, and federal codes and laws, as the same may be in effect from time to time. Where required by law, Customer shall pass an electrical inspection of the generating facility by a local authority having jurisdiction over the installation.
4. Any changes or additions to the Utility's system required to accommodate the generating facility shall be considered excess facilities. Customer shall agree to pay Utility for actual costs incurred for all such excess facilities prior to construction.
5. Customer shall operate the generating facility in such a manner as not to cause undue fluctuations in voltage, intermittent load characteristics, or otherwise interfere with the operation of Utility's electric system. At all times when the generating facility is being operated in parallel with Utility's electric system, Customer shall so operate the generating facility in such a manner that no adverse impacts will be produced thereby to the service

quality rendered by Utility to any of its other customers or to any electric system interconnected with Utility's electric system. Customer shall agree that the interconnection and operation of the generating facility is secondary to, and shall not interfere with, Utility's ability to meet its primary responsibility of furnishing reasonably adequate service to its customers.

6. Customer shall be responsible for protecting, at Customer's sole cost and expense, the generating facility from any condition or disturbance on Utility's electric system, including, but not limited to, voltage sags or swells, system faults, outages, loss of a single phase of supply, equipment failures, and lightning or switching surges, except that the Utility shall be responsible for repair of damage caused to the generating facility resulting solely from the negligence or willful misconduct on the part of the Utility.
7. After initial installation, Utility shall have the right to inspect and/or witness commissioning tests, as specified in the Level 1 or Level 2 Application and approval process. Following the initial testing and inspection of the generating facility and upon reasonable advance notice to Customer, Utility shall have access at reasonable times to the generating facility to perform reasonable on-site inspections to verify that the installation, maintenance and operation of the generating facility comply with the requirements of this tariff.
8. For Level 1 generating facilities, where required by the Utility, an eligible Customer shall furnish and install on Customer's side of the point of common coupling a safety disconnect switch which shall be capable of fully disconnecting the Customer's energy generating equipment from Utility's electric service under the full rated conditions of the Customer's generating facility. The external disconnect switch (EDS) shall be located adjacent to Utility's meters or the location of the EDS shall be noted by placing a sticker on the meter, and shall be of the visible break type in a metal enclosure which can be secured by a padlock. If the EDS is not located directly adjacent to the meter, the Customer shall be responsible for ensuring the location of the EDS is properly and legibly identified for so long as the generating facility is operational. The disconnect switch shall be accessible to Utility personnel at all times. The Utility may waive the requirement for an EDS for a generating facility at its sole discretion, and on a case-by-case basis, upon review of the generating facility operating parameters and if permitted under the Utility's safety and operating protocols.

Any utility requiring the use of an EDS shall establish a training protocol for line workers on the location and use of the EDS, and shall require that the EDS be used when appropriate, and that the switch be turned back on once the disconnection is no longer necessary.

9. Utility shall have the right and authority at Utility's sole discretion to isolate the generating facility or require the Customer to discontinue operation of the generating facility if Utility believes that: (a) continued interconnection and parallel operation of the generating facility with Utility's electric system creates or contributes (or may create or contribute) to a system emergency on either Utility's or Customer's electric system; (b) the generating facility is not in compliance with the requirements of this tariff, and the noncompliance adversely affects the safety, reliability or power quality of Utility's electric system; or (c) the generating facility interferes with the operation of Utility's electric system. In non-emergency situations, Utility shall give Customer notice of noncompliance including a description of the specific noncompliance condition and allow Customer a reasonable time to cure the noncompliance prior to isolating the generating facilities. In emergency situations, when the Utility is unable to immediately isolate or cause the Customer to isolate only the generating facility, the Utility may isolate the Customer's entire facility.
10. Customer shall agree that, without the prior written permission from Utility, no changes shall be made to the generating facility as initially approved. Increases in generating facility capacity will require a new "Application for Interconnection and Net Metering" which will be evaluated on the same basis as any other new application. Repair and replacement of existing generating facility components with like components that meet UL 1741 certification requirements for Level 1 facilities and not resulting in increases in generating facility capacity is allowed without approval.
11. The liability of the Customer to the Utility and the Utility to the Customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the Customer is taking service.

OR: (AT UTILITY'S OPTION PER ITS STANDARD TARIFFS and CONDITIONS OF SERVICE)

To the extent permitted by law, the Customer shall protect, indemnify, and hold harmless the Utility and its directors, officers, employees, agents, representatives and contractors against and from all loss, claims, actions or suits, including costs and attorneys fees, for or on account of any injury or death of persons or damage to property caused by the Customer or the Customer's employees, agents, representatives and contractors in tampering with, repairing, maintaining or operating the Customer's generating facility or any related equipment or any facilities owned by the Utility except where such injury, death or damage was caused or contributed to by the fault or negligence of the Utility or its employees, agents, representatives, or contractors.

The liability of the Utility to the Customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the Customer is taking service.

12. The Customer shall maintain general liability insurance coverage (through a standard homeowner's, commercial, or other policy) for Level 1 generating facilities. Customer shall, upon request, provide Utility with proof of such insurance at the time that application is made for net metering.
13. By entering into an Interconnection Agreement, or by inspection, if any, or by non-rejection, or by approval, or in any other way, Utility does not give any warranty, express or implied, as to the adequacy, safety, compliance with applicable codes or requirements, or as to any other characteristics, of the generating facility equipment, controls, and protective relays and equipment.
14. A Customer's generating facility is transferable to other persons or service locations only after notification to the Utility has been made and verification that the installation is in compliance with this tariff. Upon written notification that an approved generating facility is being transferred to another person, customer, or location, the Utility will verify that the installation is in compliance with this tariff and provide written notification to the customer(s) within 20 business days. If the installation is no longer in compliance with this tariff, the Utility will notify the Customer in writing and list what must be done to place the facility in compliance.
15. The Customer shall retain any and all Renewable Energy Credits (RECs) that may be generated by their generating facility.

### **Effective Term and Termination Rights**

This Agreement becomes effective when executed by both parties and shall continue in effect until terminated. This Agreement may be terminated as follows: (a) Customer may terminate this Agreement at any time by giving the Utility at least sixty (60) days' written notice; (b) Utility may terminate upon failure by the Customer to continue ongoing operation of the generating facility; (c) either party may terminate by giving the other party at least thirty (30) days prior written notice that the other party is in default of any of the terms and conditions of the Agreement or the Rules or any rate schedule, tariff, regulation, contract, or policy of the Utility, so long as the notice specifies the basis for termination and there is opportunity to cure the default; (d) the Utility may terminate by giving the Customer at least thirty (30) days notice in the event that there is a material change in an applicable law, regulation or statute affecting this Agreement or which renders the system out of compliance with the new law or statute.



I hereby certify that, to the best of my knowledge, all of the information provided in this Application is true, and I agree to abide by all the Terms and Conditions included in this Application for Interconnection and Net Metering and Utility's Net Metering Tariff.

\_\_\_\_\_  
Customer Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Title

### UTILITY APPROVAL SECTION

When signed below by a Utility representative, Application for Interconnection and Net Metering is approved subject to the provisions contained in this Application and as indicated below.

**Utility inspection and witness test:**    Required    Waived

If Utility inspection and witness test is required, Customer shall notify the Utility within 3 business days of completion of the generating facility installation and schedule an inspection and witness test with the Utility to occur within 10 business days of completion of the generating facility installation or as otherwise agreed to by the Utility and the Customer. Unless indicated below, the Customer may not operate the generating facility until such inspection and witness test is successfully completed. Additionally, the Customer may not operate the generating facility until all other terms and conditions in the Application have been met.

Call \_\_\_\_\_ to schedule an inspection and witness test.

**Pre-Inspection operational testing not to exceed two hours:**    Allowed    Not Allowed

If Utility inspection and witness test is waived, operation of the generating facility may begin when installation is complete, and all other terms and conditions in the Application have been met.

#### Additions, Changes, or Clarifications to Application Information:

None    As specified here: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

## LEVEL 2

### Application For Interconnection And Net Metering

*Use this Application form when generating facility is not inverter-based or is not certified by a nationally recognized testing laboratory to meet the requirements of UL 1741 or does not meet any of the additional conditions under Level 1.*

Submit this Application (optional: along with an application fee of \$100) to:

Utility name and address

If you have questions regarding this Application or its status, contact the Utility at:

Phone #, email

Customer Name: \_\_\_\_\_ Account Number: \_\_\_\_\_

Customer Address: \_\_\_\_\_

Project Contact Person: \_\_\_\_\_

Phone No.: \_\_\_\_\_ Email Address (Optional): \_\_\_\_\_

Provide names and contact information for other contractors, installers, or engineering firms involved in the design and installation of the generating facilities:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Total Generating Capacity of Generating Facility: \_\_\_\_\_

Type of Generator:  Inverter-Based  Synchronous  Induction

Power Source:  Solar  Wind  Hydro  Biogas  Biomass

Adequate documentation and information must be submitted with this application to be considered complete. Typically this should include the following:

1. Single-line diagram of the customer's system showing all electrical equipment from the generator to the point of interconnection with the Utility's distribution system, including generators, transformers, switchgear, switches, breakers, fuses, voltage transformers, current transformers, wire sizes, equipment ratings, and transformer connections.
2. Control drawings for relays and breakers.
3. Site Plans showing the physical location of major equipment.
4. Relevant ratings of equipment. Transformer information should include capacity ratings, voltage ratings, winding arrangements, and impedance.

5. If protective relays are used, settings applicable to the interconnection protection. If programmable relays are used, a description of how the relay is programmed to operate as applicable to interconnection protection.
6. A description of how the generator system will be operated including all modes of operation.
7. For inverters, the manufacturer name, model number, and AC power rating. For certified inverters, attach documentation showing that inverter is certified by a nationally recognized testing laboratory to meet the requirements of UL 1741.
8. For synchronous generators, manufacturer and model number, nameplate ratings, and impedance data ( $X_d$ ,  $X'_d$ , &  $X''_d$ ).
9. For induction generators, manufacturer and model number, nameplate ratings, and locked rotor current.

Customer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

LEVEL 2  
INTERCONNECTION AGREEMENT

**THIS INTERCONNECTION AGREEMENT** (Agreement) is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between \_\_\_\_\_ (Utility), and \_\_\_\_\_ (Customer). Utility and Customer are hereinafter sometimes referred to individually as "Party" or collectively as "Parties".

**WITNESSETH:**

**WHEREAS**, Customer is installing, or has installed, generating equipment, controls, and protective relays and equipment (Generating Facility) used to interconnect and operate in parallel with Utility's electric system, which Generating Facility is more fully described in Exhibit A, attached hereto and incorporated herein by this Agreement, and as follows:

Location: \_\_\_\_\_

Generator Size and Type: \_\_\_\_\_

**NOW, THEREFORE**, in consideration thereof, Customer and Utility agree as follows:

Utility agrees to allow Customer to interconnect and operate the Generating Facility in parallel with the Utility's electric system and Customer agrees to abide by Utility's Net Metering Tariff and all the Terms and Conditions listed in this Agreement including any additional conditions listed in Exhibit A.

**Terms and Conditions:**

To interconnect to the Utility's distribution system, the Customer's generating facility shall comply with the following terms and conditions:

1. The Utility shall provide Customer net metering services, without charge for standard metering equipment, through a standard kilowatt-hour metering system capable of measuring the flow of electricity in two (2) directions. If the Customer requests any additional meter or meters or distribution upgrades are needed to monitor the flow in each direction, such installations shall be at the Customer's expense.
2. Customer shall install, operate, and maintain, at Customer's sole cost and expense, any control, protective, or other equipment on the Customer's system required by the Utility's technical interconnection requirements based on IEEE 1547, the NEC, accredited testing laboratories such as Underwriters Laboratories, and the manufacturer's suggested practices for

safe, efficient, and reliable operation of the generating facility in parallel with Utility's electric system. Customer shall bear full responsibility for the installation, maintenance, and safe operation of the generating facility. Upon reasonable request from the Utility, Customer shall demonstrate generating facility compliance.

3. The generating facility shall comply with, and Customer shall represent and warrant its compliance with: (a) any applicable safety and power quality standards established by the Institute of Electrical and Electronics Engineers (IEEE) and accredited testing laboratories such as Underwriters Laboratories (UL); (b) the National Electrical Code (NEC) as may be revised from time to time; (c) Utility's rules, regulations, and Utility's Service Regulations as contained in Utility's Retail Electric Tariff as may be revised from time to time with the approval of the Kentucky Public Service Commission (Commission); (d) the rules and regulations of the Commission, as such rules and regulations may be revised from time to time by the Commission; and (e) all other applicable local, state, and federal codes and laws, as the same may be in effect from time to time. Where required by law, Customer shall pass an electrical inspection of the generating facility by a local authority having jurisdiction over the installation.
4. Any changes or additions to the Utility's system required to accommodate the generating facility shall be considered excess facilities. Customer shall agree to pay Utility for actual costs incurred for all such excess facilities prior to construction.
5. Customer shall operate the generating facility in such a manner as not to cause undue fluctuations in voltage, intermittent load characteristics or otherwise interfere with the operation of Utility's electric system. At all times when the generating facility is being operated in parallel with Utility's electric system, Customer shall so operate the generating facility in such a manner that no adverse impacts will be produced thereby to the service quality rendered by Utility to any of its other customers or to any electric system interconnected with Utility's electric system. Customer shall agree that the interconnection and operation of the generating facility is secondary to, and shall not interfere with, Utility's ability to meet its primary responsibility of furnishing reasonably adequate service to its customers.
6. Customer shall be responsible for protecting, at Customer's sole cost and expense, the generating facility from any condition or disturbance on Utility's electric system, including, but not limited to, voltage sags or swells, system faults, outages, loss of a single phase of supply, equipment failures, and lightning or switching surges, except that the Utility shall be responsible for repair of damage caused to the generating facility resulting solely from the negligence or willful misconduct on the part of the Utility.

7. After initial installation, Utility shall have the right to inspect and/or witness commissioning tests, as specified in the Level 1 or Level 2 Application and approval process. Following the initial testing and inspection of the generating facility and upon reasonable advance notice to Customer, Utility shall have access at reasonable times to the generating facility to perform reasonable on-site inspections to verify that the installation, maintenance and operation of the generating facility comply with the requirements of this tariff.
  
8. For Level 2 generating facilities, where required by the Utility, an eligible Customer shall furnish and install on Customer's side of the point of common coupling a safety disconnect switch which shall be capable of fully disconnecting the Customer's energy generating equipment from Utility's electric service under the full rated conditions of the Customer's generating facility. The external disconnect switch (EDS) shall be located adjacent to Utility's meters or the location of the EDS shall be noted by placing a sticker on the meter and shall be of the visible break type in a metal enclosure which can be secured by a padlock. If the EDS is not located directly adjacent to the meter, the Customer shall be responsible for ensuring the location of the EDS is properly and legibly identified for so long as the generating facility is operational. The disconnect switch shall be accessible to Utility personnel at all times. The Utility may waive the requirement for an EDS for a generating facility at its sole discretion, and on a case-by-case basis, upon review of the generating facility operating parameters and if permitted under the Utility's safety and operating protocols.

Any utility requiring the use of an EDS shall establish a training protocol for line workers on the location and use of the EDS, and shall require that the EDS be used when appropriate, and that the switch be turned back on once the disconnection is no longer necessary.

9. Utility shall have the right and authority at Utility's sole discretion to isolate the generating facility or require the Customer to discontinue operation of the generating facility if Utility believes that: (a) continued interconnection and parallel operation of the generating facility with Utility's electric system creates or contributes (or may create or contribute) to a system emergency on either Utility's or Customer's electric system; (b) the generating facility is not in compliance with the requirements of this tariff, and the noncompliance adversely affects the safety, reliability or power quality of Utility's electric system; or (c) the generating facility interferes with the operation of Utility's electric system. In non-emergency situations, Utility shall give Customer notice of noncompliance including a description of the specific noncompliance condition and allow Customer a reasonable time to cure the noncompliance prior to isolating the Generating Facilities. In emergency situations, where the Utility is unable to immediately isolate

or cause the Customer to isolate only the generating facility, the Utility may isolate the Customer's entire facility.

10. Customer shall agree that, without the prior written permission from Utility, no changes shall be made to the generating facility as initially approved. Increases in generating facility capacity will require a new "Application for Interconnection and Net Metering" which will be evaluated on the same basis as any other new application. Repair and replacement of existing generating facility components not resulting in increases in generating facility capacity is allowed without approval.
11. The liability of the customer to the Utility and the Utility to the customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the customer is taking service.

OR: (AT UTILITY'S OPTION PER ITS STANDARD TARIFFS and CONDITIONS OF SERVICE)

To the extent permitted by law, the Customer shall protect, indemnify, and hold harmless the Utility and its directors, officers, employees, agents, representatives and contractors against and from all loss, claims, actions or suits, including costs and attorneys fees, for or on account of any injury or death of persons or damage to property caused by the Customer or the Customer's employees, agents, representatives and contractors in tampering with, repairing, maintaining, or operating the Customer's generating facility or any related equipment or any facilities owned by the Utility except where such injury, death or damage was caused or contributed to by the fault or negligence of the Utility or its employees, agents, representatives, or contractors.

The liability of the Utility to the Customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the Customer is taking service.

12. The Customer shall maintain general liability insurance coverage (through a standard homeowner's, commercial, or other policy). Customer shall provide Utility with proof of such insurance at the time that application is made for net metering.
13. By entering into an Interconnection Agreement, or by inspection, if any, or by non-rejection, or by approval, or in any other way, Utility does not give any warranty, express or implied, as to the adequacy, safety, compliance with applicable codes or requirements, or as to any other characteristics, of the generating facility equipment, controls, and protective relays and equipment.
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verification that the installation is in compliance with this tariff. Upon written notification that an approved generating facility is being transferred to another person, customer, or location, the Utility will verify that the installation is in compliance with this tariff and provide written notification to the customer(s) within 20 business days. If the installation is no longer in compliance with this tariff, the Utility will notify the Customer in writing and list what must be done to place the facility in compliance.

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This Agreement becomes effective when executed by both parties and shall continue in effect until terminated. This Agreement may be terminated as follows: (a) Customer may terminate this Agreement at any time by giving the Utility at least sixty (60) days' written notice; (b) Utility may terminate upon failure by the Customer to continue ongoing operation of the generating facility; (c) either party may terminate by giving the other party at least thirty (30) days prior written notice that the other party is in default of any of the terms and conditions of the Agreement or the Rules or any rate schedule, tariff, regulation, contract, or policy of the Utility, so long as the notice specifies the basis for termination and there is opportunity to cure the default; (d) the Utility may terminate by giving the Customer at least thirty (30) days notice in the event that there is a material change in an applicable law, regulation, or statute affecting this Agreement or which renders the system out of compliance with the new law or statute.

**IN WITNESS WHEREOF**, the Parties have executed this Agreement, effective as of the date first above written.

**UTILITY**

**CUSTOMER**

By: \_\_\_\_\_ By: \_\_\_\_\_

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Printed Name

Title: \_\_\_\_\_ Title: \_\_\_\_\_



## **Exhibit A**

Exhibit A will contain additional detailed information about the Generating Facility such as a single line diagram, relay settings, and a description of operation.

When construction of Utility facilities is required, Exhibit A will also contain a description and associated cost.

Exhibit A will also specify requirements for a Utility inspection and witness test and when limited operation for testing or full operation may begin.

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