

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2020 INTEGRATED)	CASE NO.
RESOURCE PLAN OF BIG RIVERS)	2020-00299
ELECTRIC CORPORATION)	

NOTICE OF FILING

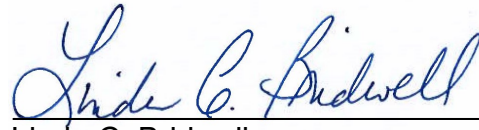
Notice is given to all parties that the following materials have been filed into the record of this proceeding:

- The digital video recording of the evidentiary hearing conducted on November 23, 2021 in this proceeding;
- Certification of the accuracy and correctness of the digital video recording;
- 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 November 23, 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/P7cDuyaiCbl>.

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

Done at Frankfort, Kentucky, this 9th day of December 2021.



Linda C. Bridwell
Executive Director
Public Service Commission of Kentucky

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2020 INTEGRATED RESOURCE)	CASE NO.
PLAN OF BIG RIVERS ELECTRIC)	2020-00299
CORPORATION)	

CERTIFICATION

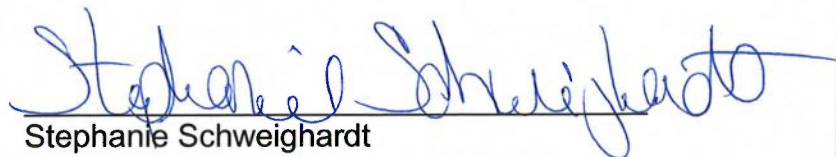
I, Candace H. Sacre, hereby certify that:

1. The attached flash drive contains a digital recording of the Formal Hearing conducted in the above-styled proceeding on November 23, 2021. The Formal Hearing Log is included with the recording on November 23, 2021;
2. I am responsible for the preparation of the digital recording;
3. The digital recording accurately and correctly depicts the Formal Hearing of November 23, 2021; and
4. The Formal Hearing Log attached to this Certificate accurately and correctly states the events that occurred at the Formal Hearing of November 23, 2021, and the time at which each occurred.

Signed this 7th day of December, 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:
11/23/2021	Public Hearing\Public Comments	Hearing Room 1	Hearing Room 1 (HR 1)

Witness: Nathaniel Berry; David Blank; Christopher Bradley; Lindsay Durbin; Mark Eacret; Steven Fenrick; Joshua Hoyt; Michael Mizell; Marlene Parsley; Russell Pogue; Matthew Sekeres; Paul Smith
 Judge: Marianne Butler; Kent Chandler; Amy Cabbage
 Clerk: Candace Sacre

Event Time	Log Event	
9:07:32 AM	Session Started	
9:07:41 AM	Chairman Chandler Note: Sacre, Candace	Good morning. We are on the record in Case No. 2020-00299, Electronic 2020 Integrated Resource Plan of Big Rivers Electric Corporation.
9:07:53 AM	Chairman Chandler Note: Sacre, Candace	My name is Kent Chandler. I am Chairman of the Kentucky Public Service Commission. With me today are Vice Chairman Amy Cabbage and Commissioner Marianne Butler.
9:08:04 AM	Chairman Chandler Note: Sacre, Candace	COVID and videoconferencing recommendations. (Click on link for further comments.)
9:08:54 AM	Chairman Chandler Note: Sacre, Candace	The hearing today is for the purpose of taking evidence on Big River's Integrated Resource Plan.
9:08:59 AM	Chairman Chandler Note: Sacre, Candace	Entry of appearance of counsel, also identify witnesses.
9:11:35 AM	Atty Santana BREC Note: Sacre, Candace	Senthia Santana, with me Tyson Kamuf. Several witnesses, Mark Eacret, Paul Smith, Mike Mizell, Lindsay Durbin, Marlene Parsley, Chris Bradley, Russell Pogue, Nathaniel Berry, and David Blank, also present three consultants Joshua Hoyt, Steven Fenrick, and Matthew Sekeres.
9:13:39 AM	Asst Atty General Cook Note: Sacre, Candace	Lawrence Cook, no witnesses.
9:13:58 AM	Atty Miller Sierra Club Note: Sacre, Candace	Matthew Miller, with me Joe Childers.
9:14:12 AM	Staff Atty Bellamy PSC Note: Sacre, Candace	Ben Bellamy, with me John Rogness.
9:14:18 AM	Chairman Chandler Note: Sacre, Candace	Outstanding motions. (Click on link for further comments.)
9:15:26 AM	Chairman Chandler Note: Sacre, Candace	Public notice. (Click on link for further comments.)
9:17:02 AM	Chairman Chandler Note: Sacre, Candace	Anything take under consideration?
9:17:10 AM	Chairman Chandler Note: Sacre, Candace	Witnesses are sworn.
9:18:39 AM	Chairman Chandler Note: Sacre, Candace	Panel procedures. (Click on link for further comments.)
9:19:12 AM	Atty Santana BREC - witness Eacret Note: Sacre, Candace	Direct Examination. Name, business address, position?

9:19:26 AM	Atty Santana BREC - witness Eacret Note: Sacre, Candace	Sponsored responses to data requests?
9:19:44 AM	Atty Santana BREC - witness Eacret Note: Sacre, Candace	Any changes to data responses?
9:19:45 AM	Atty Santana BREC - witness Smith Note: Sacre, Candace	Direct Examination. Name, business address, title?
9:20:04 AM	Atty Santana BREC - witness Smith Note: Sacre, Candace	Sponsor data request responses?
9:20:11 AM	Atty Santana BREC - witness Smith Note: Sacre, Candace	Changes, corrections to responses?
9:20:17 AM	Atty Santana BREC - witness Mizell Note: Sacre, Candace	Direct Examination. Name, business address, title?
9:20:49 AM	Atty Santana BREC - witness Durbin Note: Sacre, Candace	Direct Examination. Name, business address, title?
9:20:55 AM	Atty Santana BREC - witness Mizell Note: Sacre, Candace	Direct Examination (cont'd). Forgot qualify, sponsored data requests responses?
9:21:06 AM	Atty Santana BREC - witness Mizell Note: Sacre, Candace	Changes or corrections?
9:21:24 AM	Atty Santana BREC - witness Durbin Note: Sacre, Candace	Sponsored data request responses?
9:21:26 AM	Atty Santana BREC - witness Durbin Note: Sacre, Candace	Corrections or changes?
9:21:35 AM	Atty Santana BREC - witness Parsley Note: Sacre, Candace	Direct Examination. Title, business address, name?
9:21:58 AM	Atty Santana BREC - witness Parsley Note: Sacre, Candace	Sponsored data request responses?
9:22:03 AM	Atty Santana BREC - witness Parsley Note: Sacre, Candace	Changes or corrections?
9:22:10 AM	Atty Santana BREC - witness Bradley Note: Sacre, Candace	Direct Examination. Name, business address, title?
9:22:25 AM	Atty Santana BREC - witness Bradley Note: Sacre, Candace	Sponsored responses to data requests?
9:22:32 AM	Atty Santana BREC - witness Bradley Note: Sacre, Candace	Changes or corrections?
9:22:39 AM	Atty Santana BREC - witness Pogue Note: Sacre, Candace	Direct Examination. Name, business address, title?
9:22:58 AM	Atty Santana BREC - witness Pogue Note: Sacre, Candace	Sponsor data request responses?
9:23:04 AM	Atty Santana BREC - witness Pogue Note: Sacre, Candace	Changes or corrections?
9:23:12 AM	Atty Santana BREC - witness Berry Note: Sacre, Candace	Direct Examination. Name, business address, title?
9:23:28 AM	Atty Santana BREC - witness Berry Note: Sacre, Candace	Sponsored data request responses?
9:23:34 AM	Atty Santana BREC - witness Berry Note: Sacre, Candace	Corrections or changes?
9:23:42 AM	Atty Santana BREC - witness Blank Note: Sacre, Candace	Direct Examination. Name, business address, title?
9:24:29 AM	Atty Santana BREC - witness Blank Note: Sacre, Candace	Adopted responses sponsored by Braunecker?
9:24:39 AM	Atty Santana BREC - witness Blank Note: Sacre, Candace	Reviewed responses?

9:24:43 AM	Atty Santana BREC - witness Blank Note: Sacre, Candace	Changes or revisions?
9:24:53 AM	Atty Santana BREC - witness Hoyt Note: Sacre, Candace	Direct Examination. Name, business address, title?
9:25:24 AM	Atty Santana BREC - witness Hoyt Note: Sacre, Candace	Sponsored data requests responses?
9:25:30 AM	Atty Santana BREC - witness Hoyt Note: Sacre, Candace	Changes or revisions?
9:25:37 AM	Atty Santana BREC - witness Fenrick Note: Sacre, Candace	Direct Examination. Name, business address, position?
9:25:56 AM	Atty Santana BREC - witness Fenrick Note: Sacre, Candace	Sponsored data request responses?
9:26:02 AM	Atty Santana BREC - witness Fenrick Note: Sacre, Candace	Changes or revisions?
9:26:10 AM	Atty Santana BREC - witness Sekeres Note: Sacre, Candace	Direct Examination. Name, business address, title?
9:26:33 AM	Atty Santana BREC - witness Sekeres Note: Sacre, Candace	Sponsor data request responses?
9:26:40 AM	Atty Santana BREC - witness Sekeres Note: Sacre, Candace	Changes or revisions?
9:27:03 AM	Chairman Chandler Note: Sacre, Candace	Questions?
9:27:32 AM	Chairman Chandler Note: Sacre, Candace	Procedural recommendations. (Click on link for further comments.)
9:34:45 AM	Atty Miller Sierra Club - witness Pogue Note: Sacre, Candace	Once creep under two and below, though may be above one, still hesitancy results concluded are speculative, or does TRC test not take into account adding into calculus, additional math, not worth hassle?
9:36:31 AM	Chairman Chandler Note: Sacre, Candace	Ask clarifying question?
9:36:37 AM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Examination. Avoided capacity cost TRC used based off expected forward clearing prices Zone 6 and MISO capacity auction?
9:36:55 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Earlier this year, BREC requesting refuel unit, why residual capacity market MISO reasonable proxy for utility's avoided capacity cost?
9:39:26 AM	Chairman Chandler - witness Pogue Note: Sacre, Candace	For DSM, using annual capacity auction in lieu of bilateral spot prices?
9:39:45 AM	Chairman Chandler - witness Pogue Note: Sacre, Candace	How related actual capacity cost utility avoiding?
9:40:37 AM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Is BREC telling us unable avoid capacity the capacity will procure be from MISO capacity auction, fulfill deficit buying capacity in auction?
9:41:37 AM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Miller have lots of questions DSM, interested in answers, not cost effective taken with any weight, 5 cents per Kw month, trying understand why if BREC intention qualitative in addition quantitative firm capacity, why future utility's actual cost avoiding?
9:44:04 AM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Does but more related optionality and possibilities than what cost utility intends to avoid?

9:44:55 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Auction clearing higher/lower than ordinary prevailing bilateral prices?
9:46:31 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	If Commission stated, reading (click on link for further comments), change TRC scores in integrated resource plan?
9:48:07 AM	Vice Chairman Cabbage - witness Eacret Note: Sacre, Candace	Examination. Forecasting large load increase 2022, not see indication how meet load increase, affect analysis of cost of next Kw hour planning auction forecast or how valuing that?
9:49:20 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Examination. Know what overnight dollars per Kw of proxy unit be?
9:49:53 AM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Examination. Compared to 15 cent per Kw month in TRC?
9:50:17 AM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Make sure what say is or isn't cost effective, what recommending, effectively based off TRC uses a forward or forecasted clearing price of residual auction?
9:51:38 AM	Atty Miller Sierra Club - witness Pogue Note: Sacre, Candace	Cross Examination (cont'd). Programs 1.3, marginal ones inputs TRC calculations accurate, analogies done, not consulted, collaborative thing, how make decision present options?
9:54:52 AM	Atty Miller Sierra Club - witness Pogue Note: Sacre, Candace	Are five in 3.1 above 3.0, parts of weatherization DSM program in existence and continuing be implemented?
9:55:55 AM	Atty Miller Sierra Club - witness Pogue Note: Sacre, Candace	Confirm outreach and education being done on availability of programs?
9:56:41 AM	Atty Miller Sierra Club - witness Pogue Note: Sacre, Candace	Not affirmative outreach or comes in with problem, inquire?
9:57:43 AM	Atty Miller Sierra Club - witness Pogue Note: Sacre, Candace	Conversations affirmative outreach, mailer - email - social media, making potential savings realizing more potential?
9:58:51 AM	Atty Miller Sierra Club - witness Pogue Note: Sacre, Candace	Describe efforts and time line evaluation higher value measures not planned on IRP Staff report recommendations continue work with members evaluate, DSM docket update on reevaluations or ongoing thing, place evaluations be presented?
10:01:38 AM	Atty Miller Sierra Club - witness Berry Note: Sacre, Candace	Optimal resource plan supply side generation plan IRP, BREC retiring Green, adding 90 Mw from new combined cycle plant, confirm correct no published analysis in IRP support adding 90 Mw new combined cycle on top of gas-fired capacity?
10:04:32 AM	Atty Miller Sierra Club - witness Berry Note: Sacre, Candace	Something BREC still considering, done any fresh analysis updates circumstances converted Green capacity, market prices, environmental, analysis pursuing combined cycle cost effective and necessary?
10:05:49 AM	Atty Miller Sierra Club - witness Berry Note: Sacre, Candace	Talks with potential partners continue or on ice?
10:06:18 AM	Atty Miller Sierra Club - witness Smith Note: Sacre, Candace	Fair state more imminent need identified IRP after predicted Green retirement, need no longer exists, 414 Mw Green not planned on, fair say not need identified in IRP?

10:08:16 AM	Atty Miller Sierra Club - witness Smith Note: Sacre, Candace	Ongoing analysis pursuing combined cycle, consider supply side cost effectiveness more broadly, retirement Wilson as possibility broader analysis, correct?
10:10:11 AM	Chairman Chandler Note: Sacre, Candace	Questions?
10:10:15 AM	Staff Atty Bellamy PSC - witness Parsley Note: Sacre, Candace	Cross Examination. Agree difference meeting demand and serving customers 15 years verse serving customers over 15-year period?
10:10:57 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Projected converting Green units not cost effective IRP, shortly after CPCN conversion, explain how accounted need serve nonmember contracts during next 8 - 10 years short-term plan and how looked serve that need and played into decision cost effective end of 15-year period?
10:13:01 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Contractual obligation serve loads, also under MISO obligation have capacity serve load, OMU and KMEA?
10:13:44 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Loads within MISO Zone 6?
10:13:58 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Under MISO rules, no obligation have capacity serve loads?
10:14:42 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Contracts for OMU KMEA play no role in calculation?
10:15:12 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Contractual obligation in MISO when calculates reserve margin, have to have capacity available to meet loads satisfy MISO planning reserve margin requirement?
10:15:54 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	In order meet reserve margin MISO, contracts end current terms, how project BREC generation needs over 15-year period if not consider two substantial loads in analysis?
10:17:01 AM	Staff Atty Bellamy PSC - witness Berry and Smith Note: Sacre, Candace	Did IRP not include loads, then another analysis looking how serve loads, to do that convert Green to gas fired, invalidated least cost effective/optimal plan in IRP?
10:18:57 AM	Chairman Chandler - witness Smith Note: Sacre, Candace	Examination. Confirm not look at energy and capacity separately when doing generation resource plan?
10:19:42 AM	Chairman Chandler - witness Berry Note: Sacre, Candace	Decision made convert Green to gas, not CT, not capacity unit, utilized meet member demands across each year?
10:20:18 AM	Chairman Chandler - witness Smith Note: Sacre, Candace	When say capacity resource, what referring to economic analysis based off capacity need when proposed, not necessarily only serving as capacity resource, not expected provide economic energy?
10:21:03 AM	Chairman Chandler - witness Smith Note: Sacre, Candace	Question asking, going to be dispatched serve native demand, affects economics remaining determination portfolio changes, change economics presented in IRP?
10:22:17 AM	Chairman Chandler - witness Smith Note: Sacre, Candace	Response first question, total cost, in IRP looking at total cost meet both demands every hour and energy needs through year, perspective least cost resource planning verse Green focused on capacity value?

10:23:07 AM	Chairman Chandler - witness Berry Note: Sacre, Candace	Economic life Green post conversion, conversion completed mid-year next year?
10:23:36 AM	Chairman Chandler - witness Smith Note: Sacre, Candace	Expected economic life seven years, actual useful life Green post conversion or time period used determine cost effective as capacity option?
10:24:30 AM	Chairman Chandler - witness Smith Note: Sacre, Candace	Anticipation BREC depreciate entire Green over seven years or just costs related to conversion?
10:25:02 AM	Chairman Chandler - witness Smith Note: Sacre, Candace	Entirety plant accounts related to Green, all fully depreciated after seven years of conversion after into service post conversion?
10:25:24 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Cross Examination (cont'd). OMU and KMEA, need provide reserve margins, what contracts say about reserve margins?
10:26:10 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Contract have set price energy costs, or something passed through based on market purchases?
10:26:18 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Set price for energy costs or just passed through?
10:26:40 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	What about capacity needed serve contracts, based on fixed or market prices?
10:26:48 AM	Atty Santana BREC Note: Sacre, Candace	Remind some contractual provisions confidential.
10:27:05 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	And no need say exact price, is that what issue be confidential?
10:27:33 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	One reason BREC enter into short-term because BREC had excess capacity, Nebraska load not within MISO Zone 6, provided purchasing power in area and using serve obligations, how BREC customers benefit purchasing and selling serve load in Nebraska?
10:30:42 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Not include OMU or KMEA contracts projecting plant in IRP ended later this decade, analysis likelihood contracts extended, whether affect BREC load out through 15-year planning period?
10:31:30 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Knew not assume, analysis of likelihood continue serve OMU or KMEA to see whether or not chances contracts beyond current terms, hopeful OMU extended, if possibility, what likelihood happen and how affect planning?
10:33:30 AM	Chairman Chandler Note: Sacre, Candace	Recess until 10:45.
10:33:47 AM	Session Paused	
10:45:59 AM	Session Resumed	
10:46:09 AM	Chairman Chandler Note: Sacre, Candace	Back on record in Case No. 2020-00299.
10:46:49 AM	Chairman Chandler Note: Sacre, Candace	Continue?

10:46:56 AM	Staff Atty Bellamy PSC - witness Blank Note: Sacre, Candace	Blank Cross Examination (cont'd). Share screen, IRP Table 8.1, includes new or potential assets, solar facilities, application pending, natural gas combined cycle, natural gas combustion turbine, market PPA blocks, confirm only generation assets model pulled when determining least cost?
10:48:35 AM	Staff Atty Bellamy PSC - witness Blank Note: Sacre, Candace	Blank Other than solar already proposed, only three options, discussion options too limited projecting least cost or optimal plan generating capacity needs?
10:49:20 AM	Staff Atty Bellamy PSC - witness Blank and Smith Note: Sacre, Candace	Blank and Smith How choose which resources make available to model?
10:50:21 AM	Staff Atty Bellamy PSC - witness Smith Note: Sacre, Candace	Smith When say considered, what mean by that, how considered and rejected before included?
10:51:25 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Eacret Wind, only look at wind in Kentucky or other states then transmitted here?
10:52:18 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Eacret Examination. Entire state of Indiana in Zone 6 shared with BREC?
10:52:35 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Eacret Not only in MISO but actually in capacity zone?
10:53:02 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Eacret Cross Examination (cont'd). Concern energy basis, why not estimate cost, put in model and see if selected?
10:53:41 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Eacret Examination. Energy basis, risk of congestion?
10:54:14 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Eacret Cross Examination (cont'd). Risk, more to uncertainty of cost?
10:55:11 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Eacret Talking about building in Northern Indiana, selling into MISO, and buying back in closer where load is?
10:55:53 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Eacret Examination. 260 Mw solar, revenue gets if putting into market as self-schedule in real time, intention on solar?
10:57:12 AM	Staff Atty Bellamy PSC - witness Blank Note: Sacre, Candace	Blank Cross Examination. Consider batteries when looking potential generation resources?
10:57:50 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Eacret Not part of modeling, even considered put batteries into modeling, if not why not, if considered why not include?
10:58:36 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Eacret When looking at batteries, stand alone or in conjunction solar/wind so not have generation fluctuating?
10:59:00 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Eacret Examination. Automatically discount intermittent resources from ability provide capacity in modeling?
11:00:16 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Eacret Looked at it capacity factor, when did IRP not use LCC?
11:00:44 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Eacret Use ELCC exclusively of batteries and separately wind and solar, or look at what be as hybrid resource, different load carrying capabilities as hybrid resource?
11:01:14 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Eacret How know not economic, batteries not produce energy?

11:01:20 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Have to receive electricity to store to be released later, how able model total cost energy and capacity different resources without looking energy cost of resource be?
11:02:06 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Decision made before included in modeling?
11:02:24 AM	Staff Atty Bellamy PSC - witness Blank Note: Sacre, Candace	Cross Examination (cont'd). Table 8.15, ELCC and values put into model, nameplate capacity?
11:03:21 AM	Staff Atty Bellamy PSC - witness Note: Sacre, Candace	When run through model, constraint in model, eight percent minimum reserve capacity and 10 percent maximum, run through nameplate capacity with 8-10 percent constraint included in modeling, how evaluated?
11:03:56 AM	Chairman Chandler Note: Sacre, Candace	When say "nameplate," on ICAP basis?
11:04:01 AM	Staff Atty Bellamy PSC Note: Sacre, Candace	260 and solar just before reduction for reserve market?
11:04:08 AM	Chairman Chandler - witness Blank Note: Sacre, Candace	Examination. 260 ICAP number?
11:04:21 AM	Chairman Chandler - witness Blank and Eacret Note: Sacre, Candace	Use ICAP numbers or UCAP numbers or other rate?
11:04:53 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	In addition to those adjustments?
11:05:32 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	ELCC of a unit reflect required reserve margin, or ELCC and derated even more required reserve margin system basis?
11:07:13 AM	Staff Atty Bellamy PSC - witness (none) Note: Sacre, Candace	Cross Examination. Where in IRP D rate analysis shown?
11:07:55 AM	Atty Santana BREC Note: Sacre, Candace	Follow up? Taking a little time to find.
11:08:02 AM	Staff Atty Bellamy PSC Note: Sacre, Candace	Can follow up, anyone finds chime in.
11:08:10 AM	Staff Atty Bellamy PSC - witness Parsley Note: Sacre, Candace	Cross Examination. Understand option considered exit SEPA contract, possibility increase amount receive from SEPA, energy or capacity?
11:09:10 AM	Staff Atty Bellamy PSC - witness Blank Note: Sacre, Candace	Market EPAs included as option, short term or bilateral contracts long term?
11:09:46 AM	Staff Atty Bellamy PSC - witness Blank Note: Sacre, Candace	Any constraint placed on upper limit?
11:10:53 AM	Staff Atty Bellamy PSC - witness Pogue Note: Sacre, Candace	Breck's DSM analysis, explain why limited to one million and two million energy efficient spending scenarios looking at DSM?
11:11:45 AM	Staff Atty Bellamy PSC - witness Pogue Note: Sacre, Candace	Give consistency, sorry?
11:11:53 AM	Staff Atty Bellamy PSC - witness Pogue Note: Sacre, Candace	Limited two million maximum or just increments looked at?
11:12:40 AM	Staff Atty Bellamy PSC - witness Pogue Note: Sacre, Candace	Spend more DSM program, larger program, affect whether pursue options?
11:13:42 AM	Staff Atty Bellamy PSC - witness Pogue Note: Sacre, Candace	Increase amount, increase number of programs offered, see how affects DSM spending?

11:14:35 AM	Staff Atty Bellamy PSC - witness Pogue Note: Sacre, Candace	Same programs no matter one million or two million?
11:14:44 AM	Staff Atty Bellamy PSC - witness Smith and Bradley Note: Sacre, Candace	Mention of additional solar causing issues transmission MISO Zone 6, elaborate?
11:15:51 AM	Chairman Chandler - witness Bradley Note: Sacre, Candace	Examination. 30 and 40 percent of what?
11:15:58 AM	Chairman Chandler - witness Bradley Note: Sacre, Candace	Nameplate or UCAP or ELCC?
11:16:09 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Know what number BREC used to include as resource, limit modeling?
11:16:35 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Coincident peak load or peak load?
11:16:44 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Nameplate basis or ELCC basis?
11:16:56 AM	Chairman Chandler - witness Eacret Note: Sacre, Candace	At 25 percent ELCC, 30 percent nameplate actually 13 percent ELCC basis, peak load as long as coincident with MISO peak?
11:17:33 AM	Chairman Chandler Note: Sacre, Candace	Let out of bag, line of questioning when finally my turn. Expected plan system on system basis or MISO basis or picking and choosing, seems constraint based off system but contribution to capacity choosing resources based off ZRC MISO basis, mismatch between two parameters, statement not question.
11:18:49 AM	Staff Atty Bellamy PSC - witness Bradley Note: Sacre, Candace	Cross Examination. Other solar generating facilities in BREC territory?
11:20:01 AM	Staff Atty Bellamy PSC - witness Bradley Note: Sacre, Candace	4,000 Zone 6 or MISO totally?
11:20:11 AM	Staff Atty Bellamy PSC - witness Bradley Note: Sacre, Candace	What does connected to BREC mean?
11:20:22 AM	Staff Atty Bellamy PSC - witness Bradley Note: Sacre, Candace	Physically connected to BREC transmission facilities?
11:20:37 AM	Staff Atty Bellamy PSC - witness Bradley Note: Sacre, Candace	Time frame when expected move forward?
11:21:15 AM	Staff Atty Bellamy PSC - witness Bradley Note: Sacre, Candace	Inclusion of battery with solar facility change percentage of solar on BREC system?
11:21:53 AM	Staff Atty Bellamy PSC - witness Bradley Note: Sacre, Candace	Battery increase amount of solar connected to system without significant transmission changes?
11:22:20 AM	Staff Atty Bellamy PSC - witness Bradley Note: Sacre, Candace	Any solar facilities BREC territory intended serve specific customers or independent generators sell into MISO?
11:22:58 AM	Staff Atty Bellamy PSC - witness Bradley and Blank Note: Sacre, Candace	Excluded solar as option in IRP because of contracts have and not practical, other than that, analysis in IRP of cost of transmission change necessary add more solar?
11:24:07 AM	Staff Atty Bellamy PSC - witness Blank Note: Sacre, Candace	Excluded additional solar additional transmission cost not cost effective, IRP not include additional solar upgrades to make that practical?

11:24:44 AM	Staff Atty Bellamy PSC - witness Mizell Note: Sacre, Candace	Any changes environmental regulation BREC not project when IRP done?
11:25:41 AM	Staff Atty Bellamy PSC - witness Blank Note: Sacre, Candace	Carbon pricing used in modeling?
11:26:14 AM	Staff Atty Bellamy PSC - witness Blank Note: Sacre, Candace	Used Ace power marketing implemented 2034 and IHS market kit implemented in 2030, two analyses did?
11:26:39 AM	Staff Atty Bellamy PSC - witness Blank Note: Sacre, Candace	How choose implementation year?
11:27:06 AM	Staff Atty Bellamy PSC - witness Pogue Note: Sacre, Candace	BREC doing analysis distributed generation on system and requirements in future?
11:27:48 AM	Staff Atty Bellamy PSC - witness Pogue Note: Sacre, Candace	What interest seeing with large industrial/commercial customers?
11:28:32 AM	Staff Atty Bellamy PSC - witness Pogue and Smith Note: Sacre, Candace	Have analysis in future what might look like, generation in 10 or 20 years?
11:29:43 AM	Staff Atty Bellamy PSC - witness Smith Note: Sacre, Candace	If did have large scale customer significant rooftop solar, provide backup capacity, analyze that capacity same as own capacity?
11:31:07 AM	Staff Atty Bellamy PSC - witness Smith Note: Sacre, Candace	If have large behind meter generation, possible meet capacity needs with market purchases opposed to generation facilities?
11:32:00 AM	Staff Atty Bellamy PSC - witness Bradley Note: Sacre, Candace	What major issues transmission and distribution?
11:32:26 AM	Staff Atty Bellamy PSC - witness Bradley Note: Sacre, Candace	Just generally speaking, what issues foreseeing respect transmission/distribution systems require significant investment?
11:33:53 AM	Staff Atty Bellamy PSC - witness Mizell Note: Sacre, Candace	Carbon price thresholds induce major changes in BREC generation portfolio?
11:35:01 AM	Staff Atty Bellamy PSC - witness Pogue Note: Sacre, Candace	Explain role DSM may play in future that might raise cost of generation?
11:36:00 AM	Staff Atty Bellamy PSC - witness Blank Note: Sacre, Candace	Renewables, mainly considered in IRP gas plants, when analysis done, BREC anticipate resources located BREC footprint or elsewhere in MISO or outside that?
11:37:08 AM	Staff Atty Bellamy PSC - witness Berry Note: Sacre, Candace	Gas plant, calculating price to include in IRP analysis, within BREC footprint or allow to be elsewhere potentially more partners available?
11:37:42 AM	Staff Atty Bellamy PSC - witness Berry Note: Sacre, Candace	Only two locations considered?
11:37:58 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Limit partners for natural gas plant?
11:38:33 AM	Staff Atty Bellamy PSC - witness Eacret Note: Sacre, Candace	Difficulties finding partner, wanted build plant other partners, outside service area, cost issues, congestion, accurate
11:39:20 AM	Staff Atty Bellamy PSC - witness Berry Note: Sacre, Candace	Declining coal inventories, how BREC handled coal inventory shortage?
11:40:39 AM	Staff Atty Bellamy PSC - witness Blank Note: Sacre, Candace	Natural gas, prices spiking, how affect model in IRP?

11:41:50 AM	Staff Atty Bellamy PSC - witness Fenrick Note: Sacre, Candace	Explain why BREC moved away statistically adjusted end-use models to using econometric models for residential and small commercial classes?
11:42:44 AM	Staff Atty Bellamy PSC - witness Fenrick Note: Sacre, Candace	Econometric model cheaper?
11:43:26 AM	Staff Atty Bellamy PSC - witness Fenrick Note: Sacre, Candace	Felt equally valid, what drawbacks using economic metric model as far as accuracy of forecast?
11:44:34 AM	Chairman Chandler Note: Sacre, Candace	Questions?
11:44:39 AM	Vice Chairman Cubbage - witness Eacret Note: Sacre, Candace	Examination. Economic development activity, mentioned earlier today accounted for in this IRP or future change load projections?
11:46:46 AM	Vice Chairman Cubbage - witness Eacret Note: Sacre, Candace	Cryptocurrency development, very high energy use, expect more of those in Kentucky, concern generation capacity 10-20 years?
11:48:00 AM	Vice Chairman Cubbage - witness Eacret Note: Sacre, Candace	Expect justify need more base load generation be built within footprint?
11:49:00 AM	Chairman Chandler Note: Sacre, Candace	Break until 12.
11:49:21 AM	Session Paused	
12:00:23 PM	Session Resumed	
12:00:29 PM	Chairman Chandler Note: Sacre, Candace	Back on record in Case No. 2020-00299.
12:01:21 PM	Chairman Chandler Note: Sacre, Candace	Continue?
12:01:25 PM	Vice Chairman Cubbage - witness Parsley Note: Sacre, Candace	Examination. MISO and resource adequacy planning, expected file changes FERC including requirement seasonal accredited capacity and minimum capacity obligation, changes create major gaps in IRP as filed?
12:03:00 PM	Vice Chairman Cubbage - witness Blank Note: Sacre, Candace	Estimate capacity expansion expected MISO result of goals, 8.1 modeled small amount solar, half new capacity market purposes, in light of expectations across MISO footprint, expected ramp up and need electric capacity, are market purchases really most realistic thing here or be looking more native renewables or other way carry base load?
12:06:35 PM	Vice Chairman Cubbage - witness Blank Note: Sacre, Candace	Where 800 come from, outer limit of that?
12:07:23 PM	Vice Chairman Cubbage - witness Eacret Note: Sacre, Candace	With uncertainty, reliance on major market purchases realistic now?
12:08:35 PM	Chairman Chandler Note: Sacre, Candace	Bellamy question. (Click on link for further comments.)
12:10:08 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Examination. Is that production in time periods unit not off line?
12:10:26 PM	Chairman Chandler - witness Berry Note: Sacre, Candace	Gross capacity factor production in relation to 24/7/365?
12:11:05 PM	Chairman Chandler - witness Berry Note: Sacre, Candace	Net of station power?

12:11:09 PM	Chairman Chandler - witness Berry Note: Sacre, Candace	All current units and planning parameters, Bellamy looking for what is planning parameters other units used in modeling, where in record show ELCC used determine contribution meet reliability reserves and meet native demand?
12:12:33 PM	Chairman Chandler Note: Sacre, Candace	Appreciate to reference to 5.2, looking specifically intermittent nondispatchable nonthermal resources included in model.
12:13:00 PM	Chairman Chandler Note: Sacre, Candace	Questions?
12:13:12 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Examination. Avoided capacity, indicate confidential amounts in Table 8.6 what represent, relationship confidential numbers and nonconfidential numbers public version application Table 8.6, nonconfidential information and confidential information an apples to apples comparison expected/forecasted clearing prices for PRA?
12:15:43 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Clearing price forward forecasts and not bilateral forecasts?
12:16:04 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Safe to say '21-22 missed the mark?
12:16:27 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	If was PJM or market in which capacity and load taken into account, would be fine, no requirement to bid in entirety of generation in capacity market?
12:17:25 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Vertically integrated utilities recover capacity costs through monopoly retail regulation, majority bidding in at zero dollars, thus pushing price down?
12:18:07 PM	Chairman Chandler Note: Sacre, Candace	One thing consideration reasonable assume residual clearing prices in type of market MISO has ever approach fully allocated cost of new resource. (Click on link for further comments.)
12:19:09 PM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Avoided capacity costs input into TRCs based off figures provided in chart?
12:20:02 PM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Not apples to apples comparison?
12:20:14 PM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Which is better planning parameter use as input actually use market to serve long-term, medium-term demands of customers?
12:21:28 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Are avoided capacity values used in TRCs forward PRA results or based off forecasted bilateral dollar per megawatt or dollar per kW day?
12:22:57 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Response PSC 1-20, respondent?
12:24:15 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Based on bilateral forecast or PRA expected forecasts or blended amount of the two?
12:24:35 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Avoided capacity cost dollar per megawatt day of bilateral prices through 2050, ACES forecasted bilateral prices or ACES forecasted PRA prices or blend?

12:25:17 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Lots of different capacity prices, cleaning price at PRA or expected bilateral prices?
12:26:05 PM	Atty Miller Sierra Club Note: Sacre, Candace	Confirm neither I nor Childers signed NDA. (Click on link for further comments.)
12:27:43 PM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Replacement capacity, why forward prices be costs utility be avoiding if able reduce aggregate demand through DSM or purchase of qualifying facilities?
12:29:24 PM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Using forward forecast bilateral market determine avoided capacity cost input to DSM TRCs?
12:29:39 PM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Propose chicken and egg situation reject outright, never take incremental reductions in demand, each program each day not delay or make useless forecasted generation purchase, not do DSM program by 100 mW each year?
12:30:31 PM	Chairman Chandler - witness Eacret Note: Sacre, Candace	If not value small quantities at amount avoiding, mismatch way doing generation planning and way doing other supply planning?
12:31:42 PM	Chairman Chandler - witness Eacret Note: Sacre, Candace	BREC has ascribed dollar per kW day or month value in IRP accurate enough to plan on for new natural gas combined cycle?
12:32:46 PM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Indicated least cost resource, least cost way to meet future demands?
12:32:58 PM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Understanding/knowledge of what cost to convert coal facility, particular Green conversion costs, on million-dollar basis but easily convertible dollar per kW or mW day or month?
12:33:24 PM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Look at some point and have expectation what PRA auction results going to be, been in \$5 neighborhood, \$10 or less, recent history PRA clearing prices?
12:34:30 PM	Chairman Chandler - witness Eacret Note: Sacre, Candace	PRA not designed incent new generation?
12:34:42 PM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Have what ACES gave you dollar per kW month basis for bilateral market, input Pogue talking about?
12:35:13 PM	Chairman Chandler - witness Eacret Note: Sacre, Candace	Staff 1-20, as post-hearing data request, TRC results using other dollar per kW month capacity resources BREC identified as optimal capacity/energy resource natural gas combined cycle and actual conversion on dollar per kW month basis Green, what happens to TRCs reflective those avoided capacity values rather than forecasted bilateral capacity market?
12:36:09 PM	Chairman Chandler Note: Sacre, Candace	Ask post-hearing update TRC results using value particular to Green conversion dollar per kW month and natural gas combined cycle on dollar per kW month. (Click on link for further comments.)
12:36:10 PM	POST-HEARING DATA REQUEST Note: Sacre, Candace Note: Sacre, Candace	CHAIRMAN CHANDLER - WITNESS EACRET TRC RESULTS USING VALUE PARTICULAR TO GREEN CONVERSION DOLLAR PER KW MONTH AND NATURAL GAS COMBINED CYCLE ON DOLLAR PER KW MONTH

12:36:40 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Table 4.3 in application, TRC results \$1 million and \$2 million in excess of 2.5?
12:37:10 PM	Chairman Chandler - witness Hoyt and Pogue Note: Sacre, Candace	What 2.5 and 2.7 for \$1 and \$2 million in Table 4 represent if not TRCs in excess of one?
12:38:31 PM	Chairman Chandler - witness Hoyt Note: Sacre, Candace	Where reflected, on what page of study?
12:38:46 PM	Chairman Chandler Note: Sacre, Candace	As post-hearing data request, ask initial study provided as input for cost effectiveness of DSM.
12:38:47 PM	POST-HEARING DATA REQUEST Note: Sacre, Candace Note: Sacre, Candace	CHAIRMAN CHANDLER - WITNESS HOYT FIGURE IN INITIAL STUDY PROVIDED AS INPUT FOR COST EFFECTIVENESS OF DSM
12:38:58 PM	Chairman Chandler - witness Hoyt Note: Sacre, Candace	Table 4.1, energy efficiency potential, annual energy savings mWh basis, page 82, application, feasible synonymous with technical?
12:40:08 PM	Chairman Chandler - witness Hoyt Note: Sacre, Candace	Any measure, mean every measure?
12:40:16 PM	Chairman Chandler - witness Hoyt Note: Sacre, Candace	Economic, programs which result in TRC of one or greater?
12:40:52 PM	Chairman Chandler - witness Hoyt Note: Sacre, Candace	Table 4.3 should represent TRC for \$1 and \$2 million, BREC have \$2 million year DSM programs be cost effective or have TRC scores in excess of 1.0?
12:41:22 PM	Chairman Chandler - witness Hoyt Note: Sacre, Candace	On a system planning basis?
12:41:31 PM	Chairman Chandler - witness Hoyt Note: Sacre, Candace	TRC attempt to put demand side management more level playing field other supply side resources?
12:42:22 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	At what level BREC intend deploy DSM next five years to meet savings?
12:43:40 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	IRP stale by time filed, filed mid-2020, work done in 2018 and 2019-20, 2022 evidentiary hearing, guess BREC known has tens of thousands mW hours save through energy efficiency and DSM, waiting for something from Commission start having conversations distribution co-ops or already start?
12:45:50 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	BREC conduct IRP in order meet internal demand or conduct IRP meet MISO capacity planning requirements?
12:47:20 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Not be in violation of MISO and continue be member, ELCC of nonthermal resources MISO-wide resource specific basis, solar same ELCC even given year, not BREC specific for particular resource class?
12:48:57 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Like UCAP basis, looking actual output from generator, resource specific ELCC or modified ELCC based off each resource output?

12:49:17 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Other side equation system wide or BREC exclusive, specific each resource individual output, ELCC ability to meet demand in given hours in year based off loss of load expectation, peak times is that ELCC before D-rated for individual performance, system wide peaks looking at or BREC peaks exclusively?
12:51:05 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	If BREC next 10 years winter-peaking utility. ELCC determined on BREC individual peaks or individual highest capacity hours or based off MISO peaks?
12:51:57 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Aggregate system-wide MISO peaks?
12:52:02 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	BREC planning to ensure enough capacity own internal demands or planning meet MISO requirements, enough ZRCs in planning year or capacity for internal native demands?
12:53:05 PM	Chairman Chandler - witness Smith Note: Sacre, Candace	When looking at capacity resource makes sense, ZRC basis, making statement, (click on link for further comments), BREC planning capacity MISO rules, harder BREC leave and have enough capacity serve customers and native demand?
12:55:18 PM	Chairman Chandler - witness Smith Note: Sacre, Candace	Depends on internal demands?
12:55:47 PM	Chairman Chandler Note: Sacre, Candace	Cuts both ways, benefit of market, if Commission had no interest, footnote 10, October 26 Order, Green refueling case, concern where MISO headed, significant retirements, (click on link for further comments), important for consideration.
12:58:41 PM	Chairman Chandler - witness Berry Note: Sacre, Candace	Coal availability, hedging, more concerned available for purchase, next seven months not availability of coal to Wilson?
1:00:21 PM	Chairman Chandler - witness Berry Note: Sacre, Candace	Concern supply shortages cause other parties long-term contracts not be able deliver?
1:01:12 PM	Chairman Chandler - witness Berry Note: Sacre, Candace	Wilson only have truck and river deliver or also rail?
1:01:26 PM	Chairman Chandler Note: Sacre, Candace	Redirect?
1:01:35 PM	Chairman Chandler Note: Sacre, Candace	Additional questions?
1:02:00 PM	Chairman Chandler Note: Sacre, Candace	Anything else? (Click on link for further comments.)
1:02:09 PM	Chairman Chandler Note: Sacre, Candace	Post-hearing data requests. (Click on link for further comments.)
1:06:27 PM	Chairman Chandler Note: Sacre, Candace	Procedural schedule. (Click on link for further comments.)
1:08:19 PM	Chairman Chandler Note: Sacre, Candace	Anything else? (Click on link for further comments.)
1:09:22 PM	Chairman Chandler Note: Sacre, Candace	Anything else?
1:09:42 PM	Chairman Chandler Note: Sacre, Candace	Hearing adjourned.
1:09:55 PM	Session Ended	

*Angela M Goad
Assistant Attorney General
Office of the Attorney General Office of Rate
700 Capitol Avenue
Suite 20
Frankfort, KENTUCKY 40601-8204

*Roger Hickman
Big Rivers Electric Corporation
201 Third Street
P. O. Box 24
Henderson, KY 42420

*Joe F. Childers
Childers & Baxter PLLC
300 Lexington Building, 201 West Sho
Lexington, KENTUCKY 40507

*Tyson Kamuf
Corporate Attorney
Big Rivers Electric Corporation
201 Third Street
P. O. Box 24
Henderson, KY 42420

*John G Horne, II
Office of the Attorney General Office of Rate
700 Capitol Avenue
Suite 20
Frankfort, KENTUCKY 40601-8204

*Larry Cook
Assistant Attorney General
Office of the Attorney General Office of Rate
700 Capitol Avenue
Suite 20
Frankfort, KENTUCKY 40601-8204

*Matthew Miller
Sierra Club
50 F Street, NW, Eighth Floor
Washington, DISTRICT OF COLUMBIA 20001

*J. Michael West
Office of the Attorney General Office of Rate
700 Capitol Avenue
Suite 20
Frankfort, KENTUCKY 40601-8204

*Big Rivers Electric Corporation
201 Third Street
P. O. Box 24
Henderson, KY 42420