

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2023 INTEGRATED RESOURCE)	CASE NO.
PLAN OF BIG RIVERS ELECTRIC)	2023-00310
CORPORATION)	

NOTICE OF FILING

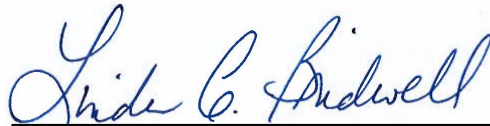
Notice is given to all parties that the following materials have been filed into the record of this proceeding:

- The digital video recording of the evidentiary hearing conducted on May 22, 2024 in this proceeding;
- Certification of the accuracy and correctness of the digital video recording;
- All exhibits introduced at the evidentiary hearing conducted on May 22, 2024 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 May 22, 2024.

A copy of this Notice, the certification of the digital video record, and the hearing log have been served upon all persons listed at the end of this Notice. Parties may view the digital video recording of the hearing at https://youtu.be/T_tHiePWhog.

Parties may request a copy of the annotated digital video recording of the hearing by submitting 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 29th day of August 2024.

A handwritten signature in blue ink that reads "Linda C. Bridwell". The signature is written in a cursive style with a horizontal line underneath it.

Linda C. Bridwell, PE

Executive Director

Public Service Commission of Kentucky

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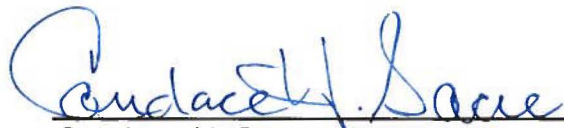
ELECTRONIC 2023 INTEGRATED RESOURCE)	CASE NO.
PLAN OF BIG RIVERS ELECTRIC)	2023-00310
CORPORATION)	

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 May 22, 2024. The Formal Hearing Log (portions of hearing log are unavailable due to technical difficulties), Exhibits, and Exhibit List are included with the recording on May 22, 2024;
2. I am responsible for the preparation of the digital recording;
3. The digital recording accurately and correctly depicts the Formal Hearing of May 22, 2024, and;
4. The Formal Hearing Log attached to this Certificate accurately and correctly states the events that occurred at the Formal Hearing of May 22, 2024, and the time at which each occurred.

Signed this 22nd day of August, 2024.



Candace H. Sacre
Administrative Specialist III



Stephanie Schweighardt
Kentucky State at Large ID# KYNP 64180
Commission Expires: January 14, 2027



Date:	Type:	Location:	Department:
5/22/2024	Public Hearing\Public Comments	Hearing Room 1	Hearing Room 1 (HR 1)

Witness: Christopher Bradley; Jason Burden; John Christensen; Brittaney Johnson; Talina Mathews; Michael Mizell; Vicky Payne; Christopher Warren; Terry Wright Jr.
 Judge: Kent Chandler; Angie Hatton
 Clerk: Candace Sacre

Event Time	Log Event
9:07:58 AM	Session Started
9:07:59 AM	DUE TO TECHNICAL DIFFICULTIES, HEARING LOG IS UNAVAILABLE.
9:08:08 AM	Chairman Chandler Note: Sacre, Candace On the record.
9:08:16 AM	Chairman Chandler Note: Sacre, Candace Preliminary remarks.
9:08:36 AM	Chairman Chandler Note: Sacre, Candace Entry of appearance.
9:08:40 AM	Atty Depp BREC Note: Sacre, Candace Edward Depp, Evan Buckley, and John Lavanga, BREC has Tyson Kamuf and Senthia Santana.
9:08:53 AM	Asst Atty General Cook Note: Sacre, Candace Lawrence Cook.
9:09:04 AM	Atty Childers Sierra Club Note: Sacre, Candace Joe Childers, Kate Huddleston, and Nihal Shrinath.
9:09:23 AM	Atty Cohn KIUC Note: Sacre, Candace Jody Kyler Cohn.
9:09:30 AM	Atty Gary Joint Intervenors Note: Sacre, Candace Byron Gary, Shannon Fisk, Thomas Cmar, and Mychal Ozaeta.
9:09:41 AM	Staff Atty Colyer PSC Note: Sacre, Candace Jason Colyer and Ashley Hatcher.
9:09:45 AM	Chairman Chandler Note: Sacre, Candace Public notice.
9:10:00 AM	Chairman Chandler Note: Sacre, Candace Outstanding motions.
9:11:43 AM	Chairman Chandler Note: Sacre, Candace Any other issues need to take up? (Click on link for further comments.)
9:13:02 AM	Chairman Chandler Note: Sacre, Candace Mr. Depp?
9:13:04 AM	Atty Depp BREC Note: Sacre, Candace Vicky Payne.
9:13:26 AM	Chairman Chandler Note: Sacre, Candace Witness is sworn.
9:13:32 AM	Chairman Chandler - witness Payne Note: Sacre, Candace Examination. Name and address?
9:13:43 AM	Atty Depp BREC - witness Payne Note: Sacre, Candace Direct Examination. Title?
9:13:48 AM	Atty Depp BREC - witness Payne Note: Sacre, Candace Sponsor data request responses?

9:13:52 AM	Atty Depp BREC - witness Payne Note: Sacre, Candace	Updates or amendment?
9:13:54 AM	Atty Depp BREC - witness Payne Note: Sacre, Candace	If asked same requests today, answers remain same?
9:13:59 AM	Atty Depp BREC - witness Payne Note: Sacre, Candace	Adopt as testimony today?
9:14:03 AM	Atty Depp BREC - witness Payne Note: Sacre, Candace	Have any materials on stand?
9:14:08 AM	Chairman Chandler Note: Sacre, Candace	Questions?
9:14:30 AM	Staff Atty Colyer PSC - witness Payne Note: Sacre, Candace	Cross Examination. Are witness today knows most about gas purchases?
9:14:46 AM	Staff Atty Colyer PSC - witness Payne Note: Sacre, Candace	Gas purchasing for Green and Reid units?
9:14:56 AM	Staff Atty Colyer PSC - witness Payne Note: Sacre, Candace	Who procures it?
9:15:03 AM	Staff Atty Colyer PSC - witness Payne Note: Sacre, Candace	Other witnesses here involved with gas purchase process?
9:15:29 AM	Staff Atty Colyer PSC - witness Payne Note: Sacre, Candace	For Green and Reid units, gas purchases day ahead purchases for longer contracts?
9:15:49 AM	Staff Atty Colyer PSC - witness Payne Note: Sacre, Candace	Involved in modeling process for IRP?
9:15:56 AM	Staff Atty Colyer PSC - witness Payne Note: Sacre, Candace	Know whether model used day ahead pricing?
9:16:11 AM	Staff Atty Colyer PSC - witness Payne Note: Sacre, Candace	Gas transportation for Green and Reid, use firm or interruptible capacity?
9:16:25 AM	Staff Atty Colyer PSC - witness Payne Note: Sacre, Candace	Tell me witnesses who know most about plans for building an NGCC unit?
9:16:57 AM	Chairman Chandler Note: Sacre, Candace	Redirect?
9:17:00 AM	Atty Depp BREC - witness Payne Note: Sacre, Candace	Redirect Examination. At Big Rivers who would know the most about NGCC?
9:17:23 AM	Chairman Chandler Note: Sacre, Candace	Mr. Depp?
9:17:27 AM	Atty Buckley BREC Note: Sacre, Candace	Brittaney Johnson.
9:17:38 AM	Chairman Chandler Note: Sacre, Candace	Witness is sworn.
9:17:47 AM	Chairman Chandler - witness Johnson Note: Sacre, Candace	Examination. Name and address?
9:17:56 AM	Atty Buckley BREC - witness Johnson Note: Sacre, Candace	Direct Examination. By whom employed?
9:17:59 AM	Atty Buckley BREC - witness Johnson Note: Sacre, Candace	Title?
9:18:04 AM	Atty Buckley BREC - witness Johnson Note: Sacre, Candace	Sponsor data request responses?
9:18:08 AM	Atty Buckley BREC - witness Johnson Note: Sacre, Candace	Additions or changes?

9:18:12 AM Atty Buckley BREC - witness Johnson
Note: Sacre, Candace If asked questions again, responses be same?

9:18:18 AM Atty Buckley BREC - witness Johnson
Note: Sacre, Candace Adopt responses as testimony?

9:18:24 AM Chairman Chandler
Note: Sacre, Candace Questions?

9:18:36 AM Staff Atty Colyer PSC - witness Johnson
Note: Sacre, Candace Cross Examination. Familiar with PACE program?

9:18:42 AM Atty Buckley BREC - witness Johnson
Note: Sacre, Candace Know which witness know most?

9:18:52 AM Chairman Chandler - witness Johnson
Note: Sacre, Candace Examination. How long in current position?

9:19:18 AM Atty Depp BREC
Note: Sacre, Candace Jason Burden.

9:19:35 AM Chairman Chandler
Note: Sacre, Candace Witness is sworn.

9:19:40 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Examination. Name and address?

9:19:51 AM Atty Depp BREC - witness Burden
Note: Sacre, Candace Direct Examination. Title?

9:19:56 AM Atty Depp BREC - witness Burden
Note: Sacre, Candace Sponsor responses?

9:19:59 AM Atty Depp BREC - witness Burden
Note: Sacre, Candace Updates or amendments?

9:20:02 AM Atty Depp BREC - witness Burden
Note: Sacre, Candace If asked same requests, answers remain same?

9:20:05 AM Atty Depp BREC - witness Burden
Note: Sacre, Candace Adopt as testimony?

9:20:08 AM Atty Depp BREC - witness Burden
Note: Sacre, Candace Have materials at stand?

9:20:15 AM Chairman Chandler
Note: Sacre, Candace Questions?

9:20:44 AM Atty Fisk Joint Intervenors - witness Burden
Note: Sacre, Candace Cross Examination. Role in preparation of IRP?

9:21:06 AM Atty Fisk Joint Intervenors - witness Burden
Note: Sacre, Candace Any other role?

9:21:14 AM Atty Fisk Joint Intervenors - witness Burden
Note: Sacre, Candace What sort of inputs?

9:21:24 AM Atty Fisk Joint Intervenors - witness Burden
Note: Sacre, Candace Any other?

9:21:32 AM Atty Fisk Joint Intervenors - witness Burden
Note: Sacre, Candace Reviewed comments?

9:21:39 AM Atty Fisk Joint Intervenors - witness Burden
Note: Sacre, Candace Specifically ones provided by joint intervenors?

9:21:45 AM Atty Fisk Joint Intervenors - witness Burden
Note: Sacre, Candace Have any role in preparation of response to intervenor comments?

9:21:50 AM Atty Fisk Joint Intervenors - witness Burden
Note: Sacre, Candace Seen the response?

9:22:00 AM Atty Fisk Joint Intervenors - witness Burden
Note: Sacre, Candace Have adopted Berry responses regarding IRP issued 2022?

9:22:11 AM Atty Fisk Joint Intervenors - witness Burden
Note: Sacre, Candace Have role in preparation of RFP?

9:22:21 AM Atty Fisk Joint Intervenors - witness Burden
Note: Sacre, Candace Know who here today have role in that preparation?

9:22:31 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Mike Poland somebody internal to BREC?

9:22:47 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Role in evaluating responses to RFP?

9:23:10 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Adopted response to JI Request 1-9?

9:23:38 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Have document including supplemental response?

9:25:32 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Have that document now?

9:25:41 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Adopt entire response?

9:25:49 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Only adopted which portions?

9:26:06 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Christensen remains respondent for C and B?

9:26:20 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Subpart B, explanation why BREC issued IRP, say facilitate entry into MISO interconnection queue for 2022?

9:26:38 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Why looking enter into MISO queue in 2022?

9:27:25 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace The NGCC plant that entered into queue in 2022?

9:27:34 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Is 635 MW gas plant propose build at Sebree?

9:27:44 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Some other size figure should use?

9:28:06 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Built as 635 MW, not something larger?

9:28:18 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Before IRP filed, already submitted request to generation queue for gas plant?

9:28:34 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Know when in 2022 submitted into queue?

9:28:50 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace How all-source IRP facilitate entry into queue?

9:29:33 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Gas plant identified in 2020 IRP?

9:29:41 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace A new gas plant had not?

9:29:57 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Company determined in 2020 IRP process wanted to build new combined cycle gas plant?

9:30:40 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace That IRP found BREC only own 90 MW of new CC gas plant?

9:30:54 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Today's IRP saying BREC build entire 635 MW CC gas plant for itself?

9:31:08 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Back to RFP, respondents required to submit proposals by end of May 2022?

9:31:22 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Prior to adoption of Inflation Reduction Act?

9:31:29 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Went into effect Aug 16 2022?

9:31:38 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Bids received not reflect impact of Inflation Reduction Act?

9:31:48 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Bidders provided opportunity update bids?

9:32:10 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Ran that process?

9:32:24 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Christensen have knowledge about process?

9:32:32 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Know if any bidders provided updated bids after IRA passed?

9:32:58 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Company provided confidential summary of short-listed bids in supplemental response?

9:33:55 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Christensen sponsors exhibit?

9:34:04 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Submitted self-build into this process?

9:34:18 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Bid reflected in exhibit?

9:39:03 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Have response to Staff Request 2-32?

9:39:32 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace In part B talks about all-source RFP and last sentence says, reading (click on link for further comments), see that?

9:39:58 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Do evaluation to compare solar storage and hybrid resources to NGCC?

9:40:08 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace What is basis for statement are adopting?

9:40:28 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Any written evaluation comparing solar storage and hybrid resources to NGCC?

9:40:40 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace That would be his?

9:40:47 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Even though adopted, questions better directed to Christensen?

9:41:04 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Turn to response to JI 2-64, adopted response?

9:41:29 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace This question deals with consideration of partners/co-owners for NGCC plant?

9:41:45 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Response says, reading (click on link for further comments), is that right?

9:42:06 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Regards output, goal is have some energy or capacity of NGCC to go to other parties?

9:42:45 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Because BREC not need full 635 MW to serve customers?

9:43:05 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Looking for other co-owners would suggest not need full amount?

9:43:17 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Certain level of partnership before decide proceed?

9:43:37 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Know who would know?

9:43:54 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Ones involved in discussions around how much co-ownership be needed?

9:44:05 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Anybody else involved in discussions?

9:44:16 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Had role in trying to identify partners or co-owners?

9:44:40 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Know who has direct role in efforts?

9:44:59 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Ones reaching out to partners or co-owners?

9:45:04 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace No one who is witness today involved in outreach?

9:45:18 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Know why asked to sponsor if not involved?

9:45:38 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Response says no formal discussions have happened?

9:45:47 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Know if informal discussions happened?

9:45:53 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Know with who?

9:45:56 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Who would know that?

9:46:22 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Agree could be beneficial site new resource on site BREC owns?

9:46:49 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Because if site new project site of existing can minimize chance of siting challenges?

9:47:33 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Know if siting clean energy projects at existing BREC power generation site make eligible for tax credits or financial assistance?

9:48:00 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Response JI Request 2-54, have adopted response?

9:48:20 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Request talks about whether BREC evaluated potential self-build solar on own site?

9:48:42 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Say BREC has not formally evaluated such self-build at own site?

9:48:54 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Last sentence, you note, reading (click on link for further comments), see that?

9:49:13 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Why be imprudent to build at Coleman site before legacy pond rule finalized?

9:49:47 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Have concerns about legacy coal ash ponds at Coleman?

9:50:00 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Any involvement in coal ash?

9:50:05 AM Atty Fisk Joint Intervenor - witness Burden
Note: Sacre, Candace Know anything about legacy ponds?

9:50:16 AM Atty Fisk Joint Intervenors - witness Burden
Note: Sacre, Candace Know whether leaking, causing contamination?

9:50:30 AM Atty Fisk Joint Intervenors - witness Burden
Note: Sacre, Candace CCR rule related to legacy ponds finalized?

9:51:14 AM Chairman Chandler
Note: Sacre, Candace Ms. Huddleston?

9:51:16 AM Chairman Chandler
Note: Sacre, Candace Procedural discussion. (Click on link for further comments.)

9:52:47 AM Chairman Chandler
Note: Sacre, Candace Recess until 10:05.

9:53:09 AM Session Paused

10:08:40 AM Session Resumed

10:08:46 AM Session Paused

10:08:56 AM Session Resumed

10:09:01 AM Chairman Chandler
Note: Sacre, Candace Ms. Huddleston?

10:09:05 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Cross Examination. GADS data D B Wilson, SC 2-10 attachment, adopted testimony?

10:09:19 AM Via Presentation Activated

10:09:56 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Walk us through, on Dec 22 2022 line 107 from 11:21 pm Dec 22 to Dec 23 at 1:56 pm all 417 MW D B Wilson offline?

10:11:23 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace What does that mean #2 IDF out of service?

10:11:38 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Why is that important?

10:11:43 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace What happens when becomes positive?

10:11:49 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace That would be a problem?

10:12:23 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Two and half hours Wilson entirely offline?

10:12:28 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Prior, for 81 hours, Wilson half offline?

10:12:41 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace What original cause for 81 hours, know IDF, why out of service?

10:12:59 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Why did it go to ground?

10:13:20 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Scrolling up seems lot of problems with IDFs, line 68, above and below issues related to induced draft fans?

10:14:13 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Reviewed GADS data for 2022?

10:14:25 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Find problems could not discern pattern among them?

10:15:07 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Other issues noticed or pattern of issues?

10:15:19 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Someone in company review data to look for causes of outages or derates?

10:15:30 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Have other witnesses here from that group?

10:15:40 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace What happens next after group does that review?

10:16:02 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Keep track of expenses related to problems identified in GADS data or identified by group?

10:16:18 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Anyone in BREC keep track of expenses?

10:16:32 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace In post-hearing data request, get information on 2022 all remedial measures related to forced outages from GADS data?

10:16:33 AM POST-HEARING DATA REQUEST
Note: Sacre, Candace ATTY HUDDLESTON SIERRA CLUB - WITNESS BURDEN
Note: Sacre, Candace AMOUNT SPENT TO REMEDIATE ISSUES FROM A PARTICULAR YEAR

10:17:05 AM Atty Depp BREC
Note: Sacre, Candace Unclear what scope of request is. (Click on link for further comments.)

10:18:01 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Seems to me want to know if BREC not functioning and needing to fix how much costing fix D B Wilson any given year, keep track of XYZ and this and had that, repair X dollars, adding all up or individually?

10:19:38 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Do not do that?

10:19:42 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Do track for maintenance overall?

10:19:48 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Anything in record related to maintenance costs for a given year?

10:20:07 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Just be general maintenance and not separate routine maintenance from maintenance due to specific problems?

10:20:24 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Dec 19 on, during Elliott?

10:20:40 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Dec 22 on is during Winter Storm Elliott?

10:20:53 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Two hours and 35 minutes of outage, D B Wilson unavailable, Kentuckians really looking for power?

10:21:16 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Dec 23 1:56 AM to 7:53 PM, 204 MW of D B Wilson offline?

10:21:55 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Next outage line 109 Dec 28 additional 86 hours?

10:22:40 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Still had 200 MW offline?

10:22:56 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Means had plant operating at 50 percent capacity between Dec 19 and Jan 1 for more than half of that time?

10:23:34 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace When say this is reliable generation Dec 19 to Jan 1?

10:24:02 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Only asking Dec 19 to Jan 1, during that time, is reliable generation?

10:24:15 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Half unit being unavailable, would say reliable generation?

10:24:31 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Response to Sierra Club 1-18A, Attachment 1A, response adopted?

10:25:25 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Page is titled Big Rivers Electric Corp Winter Storm Elliott Generator Outages?

10:25:38 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Where data from, what is source?

10:25:47 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Data says on Dec 22 at 11:21 PM to Dec 23 at 1:56 AM there was forced outage at D B Wilson?

10:26:09 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Discussed difference derate and outage, explain what difference is?

10:26:24 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace If look at next line, says, reading (click on link for further comments), correct?

10:26:47 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Where this line of data come from?

10:27:05 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Look at SC-1 Wilson GADS data, where reflect forced outage?

10:27:46 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Contradiction between these two pieces of discovery, which is correct?

10:28:06 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace GADS data later produced in discovery, how is there line in first that is not in second?

10:28:28 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Second question was all of the GADS data?

10:29:09 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Clarify that in post-hearing data request?

10:29:10 AM POST-HEARING DATA REQUEST
Note: Sacre, Candace ATTY HUDDLESTON SIERRA CLUB - WITNESS BURDEN
Note: Sacre, Candace CLARIFY CONTRADICTION BETWEEN GADS INFORMATION IN DATA REQUEST RESPONSES

10:29:12 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Cross Examination (cont'd). Did BREC do a post-Winter Storm Elliott evaluation?

10:29:52 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Who responsible for doing that?

10:30:13 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Saying don't remember whether Wilson offline for two-and-a-half or six-and-a-half hours?

10:30:46 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Agree seems odd there is a very specific line first data request that does not appear in second data request?

10:31:33 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Examination. On 1-18 when derate/outage start not show up here?

10:32:02 AM Chairman Chandler - witness Burden
Note: Sacre, Candace What time?

10:32:06 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Synonymous with 19:53?

10:32:09 AM Chairman Chandler - witness Burden
Note: Sacre, Candace When line 108 end?

10:33:11 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Term a lot used, instances induced draft fans occurred, agree out of 109 incidents that 71 of 109 being IDFs would be a lot?

10:33:44 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Know power plant, know what Wilson is, given size complexity and number of parts ordinary that IDF be primary as relates to machine of that complexity?

10:34:18 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Sixty percent, normal 60 percent GADS incidents outages or derates related to IDF seem odd to you?

10:34:45 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Question asking, induced draft fan normally cause GADS outage or derate, 60+ percent reports through GADS, agree that not normal?

10:35:04 AM Chairman Chandler - witness Burden
Note: Sacre, Candace But FGD replacement occurred when?

10:35:17 AM Chairman Chandler - witness Burden
Note: Sacre, Candace IDF issues early on in year, relative to Dec or first half of 2022?

10:35:36 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Early on, outages related to IDF were related to installation of FGD, preinstallation issues?

10:36:00 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Talking about amp issues?

10:36:04 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Post-September, why IDF still having problems post-October not related to preinstallation of FGD?

10:36:31 AM Chairman Chandler - witness Burden
Note: Sacre, Candace A number of incidents through Nov and Dec of IDF, chalk those up as post-FGD installation issues?

10:37:50 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Fixed the induced draft fans?

10:37:55 AM Chairman Chandler - witness Burden
Note: Sacre, Candace In 2023, IDFs did these continue?

10:38:00 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Vibration stops, so get stuff happened later Nov and into Dec?

10:38:46 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Cross Examination (cont'd). Is bearing failure what happening line 47-49 where cost code is 1400 or just different?

10:39:00 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Why those fans fail?

10:39:30 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Back to 2022, last calendar year before 2023 IRP?

10:39:45 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Last full year of data would have had?

10:39:52 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Look at few more outages from 2022, line 5, 55-hour 417 MW forced outage?

10:40:23 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Means all of D B Wilson unavailable?

10:40:28 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Due to tube leak in reheater?

10:40:33 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace What that mean?

10:40:49 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Skipping to line 6 and line 7, 22-hour-and-24-minute forced derate?

10:41:11 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace In March?

10:41:15 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Electrostatic precipitator field out of service?

10:41:20 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace What that mean?

10:41:27 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Different from tube leak and reheater, different from IDF?

10:41:38 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Nine hours unit offline?

10:41:47 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Total of 31 hours significant derate or outage?

10:42:24 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace How much of Wilson available, 31 hours half unavailable?

10:42:41 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Row 7 what mean when says boiler tripped when closing 12A3 feeder breaker?

10:43:01 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Different issue than three previous discussed?

10:43:10 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace May 15 to May 17, line 10, almost 46-hour-57-minute forced outage offline?

10:43:27 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Due to Economizer tube leak near penthouse floor?

10:43:33 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace What that mean?

10:43:41 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Different issue than any discussed?

10:43:57 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Line 11, another forced outage 417 MW for 84 hours?

10:44:16 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Due to different cause code 1050?

10:44:26 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Different from other issues?

10:44:32 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Jun 17 to Jun 20, Line 13, 417 MW outage?

10:44:49 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Forced - Immediate outage, what mean?

10:44:58 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Offline 72 hours 54 minutes?

10:45:05 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Says 8823, loss of SCR flow path?

10:45:11 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace What that mean?

10:45:28 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace What is an HMI?

10:46:04 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace During summer?

10:46:07 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Line 15, Jul 6 to Jul 11?

10:46:26 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace 108 hours and 45 minutes, full outage 417 MW?

10:46:32 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Says 1040 - First superheater, tube leak in platen SH?

10:46:39 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace What that mean?

10:46:49 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Different set of tubes from talked about?

10:46:57 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Also in middle of summer?

10:47:07 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Agree was summer?

10:47:12 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Row 17, looking at 36-hour-11-minute forced derate of 262 MW?

10:47:31 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Due to induced draft fans?

10:47:39 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Issue discussed with Commissioner?

10:47:46 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Aug 21 to 22, and looks like 24-hour derate of 67 MW?

10:48:03 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Also due to induced draft fans?

10:48:16 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Aug 24 to 26, line 44?

10:48:26 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace 43 hours and 29 minutes?

10:48:33 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Aug 24 from 2:00 to 2:07, 65 MW derate?

10:48:54 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Line 43, 65 MW, 3410 - Feedwater pump #2 BFP?

10:49:05 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace What that mean?

10:49:31 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Why offline for repairs?

10:49:38 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Someone who looks at that?

10:49:44 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace So would have that information?

10:49:49 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Derated for 7 hours and 40 minutes, and, from that, goes into 417 MW forced outage?

10:50:06 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace What is cause for that?

10:50:18 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace No. 1 PAH not turning?

10:50:25 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace What that mean?

10:50:31 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Why not turning?

10:50:49 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Is different from all other issues in 2022 D B Wilson, new issue?

10:51:10 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Sept 9 to 11, Sept 8 24 hours 19.43 MW derate?

10:51:37 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Sept 9 24-hour 92.73 MW derate?

10:51:54 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Cost code 8100?

10:51:58 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Says cleaning and repairs?

10:52:02 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace What that mean?

10:52:15 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Looks like two 24-hour periods for that?

10:52:35 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Soon after, on Sept 11, line 63 73-hour 417 MW forced outage?

10:52:53 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace And this is platen superheater, tube leak B platen SH?

10:53:00 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace This is issue discussed before with respect D B Wilson?

10:53:12 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Recurring issue?

10:53:23 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Another 417 MW forced complete outage?

10:53:30 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace For 30 hours 25 minutes?

10:53:34 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace 1080 Economizer, tube leak econ inlet header?

10:53:39 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Issue discussed previously with D B Wilson?

10:53:48 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Another recurring issue?

10:53:54 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Last one, Nov 25 to 26 another 37-hour-and-49-minute induced draft fan outage?

10:54:20 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace 417 MW offline?

10:54:26 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Small 10 MW derate?

10:54:37 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace If look through different outages or derate reflective of reliable generation in 2022?

10:55:12 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace All events went through at least 50 MW derates and some were 417 MW forced outages?

10:55:41 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Agree this is a lot of events?

10:55:49 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Are a lot of different causes?

10:56:02 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Recall reading or contributing to BREC IRP document?

10:56:12 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Recall document stating Wilson highly reliable?

10:56:17 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Think in 2022 Wilson highly reliable?

10:56:55 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace 2022 alone, if had only 2022 data in isolation, say highly reliable?

10:57:33 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Done that for 2022?

10:57:38 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace What was conclusion for 2022?

10:57:44 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Not recall conclusion?

10:57:50 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Ask your conclusion in post-hearing data request?

10:58:01 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace My understanding performed an analysis based on data from 2022?

10:58:25 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Done that for 2022?

10:58:28 AM Atty Huddleston Sierra Club - witness Burden
Note: Sacre, Candace Have information available for post-hearing data request?

10:58:29 AM POST-HEARING DATA REQUEST
Note: Sacre, Candace ATTY HUDDLESTON SIERRA CLUB - WITNESS BURDEN
Note: Sacre, Candace EQUIVALENT AVAILABILITY FACTOR IN 2022

10:58:39 AM Chairman Chandler
Note: Sacre, Candace Staff?

10:58:42 AM Staff Atty Colyer PSC - witness Burden
Note: Sacre, Candace Cross Examination. Direct back to RFP proposal summary, identify bids by spreadsheet row number, Row 6, thermal generation, tell me what type of thermal generation bid was for?

10:58:58 AM Via Presentation Deactivated

11:00:25 AM Staff Atty Colyer PSC - witness Burden
Note: Sacre, Candace Information someone at BREC provide in post-hearing data request?

11:01:00 AM Staff Atty Colyer PSC - witness Burden
Note: Sacre, Candace Testified decision on 635 MW NGCC decision made above level by executives?

11:01:10 AM Staff Atty Colyer PSC - witness Burden
Note: Sacre, Candace Believe decision made contingent on finding partnerships with other utilities?

11:01:42 AM Staff Atty Colyer PSC - witness Burden
Note: Sacre, Candace If no partners found, expect BREC to seek to build something with less capacity?

11:02:10 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Examination. Not right person or cannot answer because too remote?

11:02:16 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Christensen not either?

11:02:19 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Who is?

11:02:41 AM Staff Atty Colyer PSC - witness Burden?
Note: Sacre, Candace Cross Examination (cont'd). Any price/cost information, O&M or capital cost information in spreadsheet used for modeling purposes?

11:03:47 AM Staff Atty Colyer PSC - witness Burden?
Note: Sacre, Candace Document put together in response to bids after Inflation Reduction Act passed?

11:04:05 AM Staff Atty Colyer PSC - witness Burden?
Note: Sacre, Candace This RFP proposal summary spreadsheet reflects bids made after passage of Inflation Reduction Act?

11:04:53 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Examination. BREC converted Green units from coal to natural gas?

11:05:04 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Sought Commission approval to do so?

11:05:12 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Aware of case in which Commission approved that?

11:05:40 AM Chairman Chandler - witness Burden
Note: Sacre, Candace Asked question and answer was utility position on importance of 2029, remember answering question about expectation of Green through 2029?

11:06:10 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	What BREC position regarding Green units before during after 2029?
11:07:12 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Capacity not keep lights on, energy does?
11:07:19 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Capacity just ability to produce energy?
11:07:28 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	What good capacity if not run?
11:07:38 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Reading from Order in 2021-00079 case, reading (click on link for further comments), understanding facilities used for Green sufficient for NGC unit?
11:08:26 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Order goes on to say, restatement of BREC position, reading (click on link for further comments), agree somewhat in contradiction to what Commission restatement of BREC position in 2021-00079, Green could still be capacity unit?
11:09:26 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Just saying also be energy source?
11:09:42 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	When say depend on it, as a financial or operational hedge against energy prices?
11:10:13 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Asking about your understanding of what assertion is, when say use or depend on, what talking about?
11:10:26 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Goes on to say, reading (click on link for further comments), when all source RFP go out?
11:10:53 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	As respondent to all source RFP, envision capacity additions prior to 2029?
11:11:21 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Not say expectation respondents be available/online by X date?
11:11:56 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	In providing response, have projected in service date NGCC?
11:12:04 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	What was projected in service date?
11:12:53 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Proposal in response to RFT premised on joint ownership or purchase or sharing capacity with other entity other than BREC?
11:13:53 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Discussing in last IRP was partnership related to NGCC?
11:14:18 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Does 90 MW share of 592 MW NGCC sound right?
11:14:29 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Footnote 12, just a small piece of sub 600 MW combined cycle?
11:14:49 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Your proposal entirety of sub 700 MW combined cycle?
11:15:03 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Talked about assertion CC use infrastructure and metering from Green station just not the case?
11:15:40 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Benefit of NGCC as opposed to Green converted unit far more efficient?

11:15:55 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	What envisioned in IRP is CC depending on producing significant portion of BREC energy?
11:16:10 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Know if significant upgrades required of current infrastructure or new contracts or agreements required provide service and infrastructure to run CC more often than Green is requiring?
11:16:50 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Know whether provided information necessary in IRP taken into account incremental expense to accommodate NGCC?
11:17:12 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Both infrastructure cost and incremental cost?
11:17:30 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Other item in finding of Order page 11, Commission says, reading (click on link for further comments), remember one alternative?
11:18:00 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Reading (click on link for further comments), who here today best positioned discuss additional discussions about partner for NGCC?
11:19:03 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Not like be too detail oriented, IRP requires, reading (click on link for further comments), be involved in those discussions?
11:20:22 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	On other side of businesspeople doing RFP?
11:20:34 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Have you last five years discussions other utilities about coordinating constructing and operating new units?
11:20:59 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	If going to build it, be necessarily involved in that conversation?
11:21:10 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	And you've not been directed to or asked come in to, not had conversations with other utilities?
11:21:51 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	General discussions about CCs?
11:22:02 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Not in furtherance of joining up with them, general conversations about technology?
11:22:11 AM	Chairman Chandler - witness Burden Note: Sacre, Candace	Peers about prevailing things occurring?
11:22:36 AM	Chairman Chandler Note: Sacre, Candace	Counsel?
11:22:42 AM	Atty Depp BREC - witness Burden Note: Sacre, Candace	Redirect Examination. Coal fired generating plant require ongoing maintenance?
11:22:57 AM	Atty Depp BREC - witness Burden Note: Sacre, Candace	Conceivable maintenance costs associated with Wilson included in modeling?
11:23:06 AM	Atty Depp BREC - witness Burden Note: Sacre, Candace	Mean modeling decisions accounted for anticipated maintenance costs?
11:23:20 AM	Atty Depp BREC - witness Burden Note: Sacre, Candace	Elliott cause interruption in delivery of power to BREC members?
11:23:32 AM	Atty Depp BREC - witness Burden Note: Sacre, Candace	Know whether BREC hedged against any market exposure buy power from market?

11:23:45 AM	Atty Depp BREC - witness Burden Note: Sacre, Candace	Know whether BREC performs analysis of resource mix in addition to IRP process?
11:24:00 AM	Atty Depp BREC - witness Burden Note: Sacre, Candace	BREC have internal processes apart from IRP involve ongoing assessment what generated resource mix should be?
11:24:24 AM	Atty Depp BREC - witness Burden Note: Sacre, Candace	BREC looks at how should plan generating resources on an ongoing basis?
11:24:40 AM	Atty Depp BREC - witness Burden Note: Sacre, Candace	Typical for utility assess plant reliability on one-year or two-year timeframe?
11:25:23 AM	Chairman Chandler Note: Sacre, Candace	Mr. Depp?
11:25:28 AM	Atty Depp BREC Note: Sacre, Candace	Talina Mathews.
11:25:49 AM	Chairman Chandler Note: Sacre, Candace	Witness is sworn.
11:25:57 AM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Examination. Name and address?
11:26:08 AM	Atty Depp BREC - witness Mathews Note: Sacre, Candace	Direct Examination. Title?
11:26:12 AM	Atty Depp BREC - witness Mathews Note: Sacre, Candace	Sponsor data request responses?
11:26:16 AM	Atty Depp BREC - witness Mathews Note: Sacre, Candace	Updates or amendments?
11:26:20 AM	Atty Depp BREC - witness Mathews Note: Sacre, Candace	If asked same questions, answers remain same?
11:26:23 AM	Atty Depp BREC - witness Mathews Note: Sacre, Candace	Adopt as testimony?
11:26:26 AM	Atty Depp BREC - witness Mathews Note: Sacre, Candace	Have materials on stand?
11:26:36 AM	Chairman Chandler Note: Sacre, Candace	Questions?
11:26:53 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Cross Examination. CFO of BREC?
11:26:59 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Role in IRP?
11:27:21 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	When say financial modeling, which modeling is that?
11:27:41 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Any other modeling oversight?
11:27:46 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Anyone else here today report to you?
11:27:58 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Involved in strategy sessions, what were those?
11:28:17 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Involved strategy sessions around NGCC plant proposed?
11:28:48 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	When arrive BREC?
11:29:03 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	When said decisions NGCC made before arrival, what referring to?
11:29:18 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Before Aug 16 2022 decisions pursuing NGCC plans already made?

11:29:47 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace What mean by shared resource?

11:30:00 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Review comments filed by intervenors?

11:30:11 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace All of them?

11:30:14 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Have any role drafting of BREC response to comments?

11:30:26 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Provide inputs to that?

11:30:36 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Have role in deciding what opportunities under Inflation Reduction Act BREC pursue?

11:30:58 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Who else involved in decisions?

11:31:08 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Any of those folks witnesses here today?

11:31:33 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace In strategy discussions regarding Wilson plant operating until 2045?

11:31:50 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Who else involved?

11:31:55 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Anyone else?

11:32:03 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Decision made after came to BREC?

11:32:27 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Decision made before arrival?

11:32:43 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Means that modeling not test economics of continuing to run Wilson until 2045 versus retiring earlier?

11:33:01 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace No information in record that would provide economics of choice?

11:33:15 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Not presented in any previous IRP?

11:33:26 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace When said previous IRPs used assumption?

11:33:41 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Turning to NGCC, understanding is that 2020 IRP assumed be partners/co-owners for new NGCC plant BREC part of?

11:34:18 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Results said BREC have 90 MW share?

11:34:28 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Current IRP proposes 635 MW NGCC owned and operated by BREC?

11:34:40 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Been involved in conversations regarding efforts locate partners/co-owners for NGCC?

11:35:13 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Not reached out to any?

11:35:18 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace About NGCC partnership/co-ownership?

11:35:24 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Who reported had conversations?

11:35:34 AM Atty Fisk Joint Intervenor - witness Mathews
Note: Sacre, Candace Anyone else?

11:35:42 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Asked anyone at BREC about efforts to get partners or co-owners for NGCC?

11:36:00 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace What Berry report to you regarding efforts get partners/co-owners?

11:36:11 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Identify entities?

11:36:18 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Know if he worked with anybody at BREC on this effort?

11:36:30 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Know who could?

11:36:41 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Burden mistaken when suggested have information about co-owners or partners?

11:36:47 AM Atty Depp BREC
Note: Sacre, Candace Objection. (Click on link for further comments.)

11:37:20 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Cross Examination (cont'd). Do you know if certain level of co-ownership/partnership needed before BREC proceed?

11:37:35 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Know who would know that?

11:38:05 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Does this strategic plan have a 635 MW NGCC in it?

11:38:27 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Strategic plan do modeling?

11:38:50 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Process informed by this IRP?

11:39:17 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Everything in this IRP being looked at fresh?

11:40:00 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Already started strategic process?

11:40:08 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Update to former plan?

11:40:14 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace When that strategic plan issued?

11:40:25 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace So last one was in 2023?

11:41:05 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Undertaking new strategic plan will inform next IRP?

11:41:15 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Will plan be disclosed to Commission?

11:41:45 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace NGCC, not know if certain level of co-ownership needed?

11:42:00 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Know who would know that?

11:42:23 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Page 55 of IRP, section top of page, regulatory climate?

11:43:26 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Next page says opportunities?

11:43:35 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Listed is Inflation Reduction Act and Infrastructure Investment in Jobs Act?

11:43:49 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Both apps provide various opportunities obtain financial support for clean energy projects?
11:44:07 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	In IRP BREC discusses two opportunities, PACE program and New ERA program?
11:44:25 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	These are opportunities because obtain financial support reduce costs owners/customers pay?
11:44:48 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Agree pursuing opportunities way to protect customers?
11:45:10 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Said involved in discussions regarding pursuit of federal financial opportunities?
11:45:18 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Know who decider what opportunities be pursued?
11:45:42 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Two opportunities BREC pursued PACE and New ERA programs, board approved?
11:46:00 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	In future decided to pursue they would be board?
11:46:15 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Recommendation made to CEO made by who?
11:46:28 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Have you recommended pursuit of specific federal financial support?
11:46:50 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	What program applying for?
11:47:05 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Any other programs?
11:47:32 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Accurate to date prioritized grant low-interest loan opportunities managed through PACE and New ERA programs?
11:47:49 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	BREC completed written evaluation of opportunities under IRA and infrastructure law?
11:48:04 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Why not?
11:48:16 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	That is only reason?
11:48:36 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Realize some funding opportunities may have closed already?
11:48:46 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Not because not have time evaluate, may have missed some?
11:49:04 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	In Responses JI 1-14 and 15, say are, last two lines, reading (click on link for further comments), see that?
11:49:33 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Who involved in reviewing this?
11:49:55 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Who is responsible for keeping up with programs?
11:50:28 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	For RUS programs, your responsibility decide to apply?
11:50:40 AM	Atty Fisk Joint Intervenors - witness Mathews Note: Sacre, Candace	Other IRA programs, other people responsible?

11:51:10 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace How about funding for energy efficiency and demand response?

11:51:26 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Any written documentation of review of federal opportunities?

11:51:41 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Turning to New ERA program, grants and loans available clean energy projects?

11:52:02 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Pull up JI 1-13, attachment, letter of intent BREC submitted to RUS?

11:52:52 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Sept 2023 BREC submitted letter of intent applying under New ERA program?

11:53:04 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Opening paragraph letter of intent refers to notice of funding published in Federal Register?

11:53:12 AM Atty Depp BREC
Note: Sacre, Candace Confidential document. (Click on link for further comments.)

11:53:22 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Cross Examination (cont'd). Put on screen Federal Register, look at page 6, top left says eligibility information, see that?

11:53:51 AM Via Presentation Activated

11:54:03 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Long list, first part eligible entities, scrolling to middle of left column says eligible project, see that?

11:54:26 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Long list of eligible projects and types of projects?

11:54:32 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Out of long list, selected carbon capture sequestration at Wilson?

11:54:42 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Look down bottom left column, number 4, modifying/refinancing existing loans from RUS?

11:55:01 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace BREC have existing loans from RUS?

11:55:05 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Any consideration applying to New ERA program for modification or refinancing?

11:55:16 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Why not?

11:55:30 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace When say too early, what basing that on?

11:55:46 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace What was that window?

11:55:53 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace That discussion with RUS?

11:56:00 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Documentation from RUS saying plants not qualify?

11:56:21 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Know who would know what that date is?

11:56:35 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Page 3 to 4 of letter of intent, capital estimate for CCS project is \$2.52 billion?

11:57:18 AM Via Presentation Deactivated

11:57:43 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Top of page 4 shows a 25% project grant of \$630 million?

11:57:55 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace And zero percent project loan of \$1.89 billion?

11:58:01 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Involved in identifying those figures?

11:58:06 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Know who was?

11:58:19 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Don't believe to be incorrect?

11:58:23 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Back to Federal Register, page 4, right side, award amounts, total amount single applicant receive \$970 million?

11:58:40 AM Via Presentation Activated

11:58:55 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Combination of grants and loans?

11:59:01 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Grant counts towards amount dollar for dollar basis?

11:59:08 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Zero percent loan counts at 40 percent rate?

11:59:13 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Amount requested letter of intent exceed \$970 million cap?

11:59:25 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Would agree exceeds?

11:59:35 AM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Disagree does count 40 percent?

11:59:38 AM Atty Depp BREC
Note: Sacre, Candace Object. (Click on link for further comments.)

12:00:17 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Cross Examination (cont'd). Have read this Federal Register, right?

12:01:10 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Put up document frequently asked questions, seen this document before?

12:02:18 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace See maximum limit \$970 million?

12:02:36 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace First line talks about subsidy rates expected be 42.23 percent?

12:02:43 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Figure just talking about, 40 percent?

12:02:48 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Letter of intent amount requesting be over cap, is that right?

12:03:04 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Know why BREC submit letter of intent that on face exceeded program limit?

12:03:18 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Decision made by, know who made by?

12:03:32 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace BREC believe CCS technologically feasible?

12:04:25 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Going back to my question, BREC believe CCS technologically feasible?

12:04:47 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Know who at BREC know whether company believes CCS feasible?

12:05:04 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Reasonable assume Wilson plant able capture and sequester 90 percent of emissions by 2032?

12:05:38 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Is because not reasonable assume Wilson could?

12:05:54 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Think get to it by 2032?

12:06:14 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace BREC believe carbon capture available from vendors?

12:07:07 PM Via Presentation Deactivated

12:07:16 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace In letter of intent, decided pursue funding for technology believe not available?

12:07:43 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace New ERA provided \$970 million in funding, why company decide apply for technology believed not obtain?

12:08:18 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Know of Energy Infrastructure Reinvestment Program?

12:08:34 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Know who would be?

12:08:57 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace If look at JI 1-14, have adopted response?

12:09:20 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace Did not know what program was when provided answer?

12:09:30 PM Atty Fisk Joint Intervenors - witness Mathews
Note: Sacre, Candace And have not looked opportunities under program for reducing costs for customers?

12:10:20 PM Atty Fisk Joint Intervenors
Note: Sacre, Candace Mark Federal Register notice as Joint Intervenors Hearing Exhibit 1. (Click on link for further comments.)

12:11:58 PM Chairman Chandler
Note: Sacre, Candace Recess until 12:55.

12:12:13 PM Session Paused

1:00:54 PM Session Resumed

1:00:54 PM Camera Lock Deactivated

1:01:13 PM Session Paused

1:01:26 PM Session Resumed

1:01:44 PM Chairman Chandler
Note: Sacre, Candace Back on the record.

1:01:48 PM Chairman Chandler
Note: Sacre, Candace Cross examination?

1:01:53 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Cross Examination. Adopting many of Berry discovery responses?

1:02:10 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Right person address questions with regard IRP requirements, or Warren?

1:03:00 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Also adopting many Murphy discovery responses?

1:03:06 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Address questions regarding federal programs?

1:03:19 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Response to Sierra Club 1-20, there said, reading (click on link for further comments), see that?

1:03:50 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace IRA only mentioned three times in IRP, sound right?

1:04:00 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Assuming true, why is that, said to Fisk not have time?

1:04:09 PM	Atty Depp BREC Note: Sacre, Candace	Asking why has not counted? (Click on link for further comments.)
1:04:42 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	Cross Examination (cont'd). When you say not have resources, mean capacity?
1:04:58 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	How IRA programs and clean energy tax credits considered in resource planning?
1:05:18 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	IRA tax credits lower cost of wind solar and storage?
1:05:30 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	IRP requires consideration of costs selecting resource mix?
1:05:39 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	How IRA reduces cost important for assessing resource mix in IRP?
1:06:02 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	Presumed IRA reduces cost utility scale, important in IRP process where cost important consideration?
1:06:28 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	BREC model procurement of sources take advantage tax credits?
1:06:46 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	Know if BREC compared investments in coal and gas to investments in resources lower cost due to IRA tax credits?
1:07:15 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	Responsible resource planning requires investigating all avenues for least cost resources?
1:07:35 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	Exploring multiple avenues change what least cost pathway be is important?
1:07:55 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	Given in IRP and through RFPs, should not BREC favor procurement resource types and locations?
1:08:15 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	Agree not doing so leaving money on table for members?
1:08:33 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	BREC maximizing use of IRA tax credits?
1:08:55 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	Not sure answered question, has BREC maximized tax credits for benefit of members?
1:09:20 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	But can build resources that replace existing resources with tax credits?
1:09:40 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	BREC not evaluated whether take advantage of wind investments to maximize production tax credit?
1:09:59 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	BREC not evaluated whether take advantage of solar investments to maximize production and investment tax credit?
1:10:11 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	In IRP?
1:10:42 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	Outside PACE program, BREC not evaluated whether take advantage of energy storage investment maximize investment tax credits?
1:11:01 PM	Atty Shrinath Sierra Club - witness Mathews Note: Sacre, Candace	BREC not evaluated whether take advantage of investments in energy communities to maximize production tax credits?

1:11:23 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Refer Exhibit SC-2, project on screen, seen this document before?

1:11:41 PM Via Presentation Activated

1:12:22 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Examining criteria, communities near coal plants that would qualify as energy communities under Inflation Reduction Act?

1:12:40 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Looking at map on next page, energy communities in BREC service territory?

1:13:31 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Aware IRA includes 10 percent step-up production tax credits for projects in energy communities?

1:13:43 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Aware projects qualify are projects with greenhouse emissions not greater than zero?

1:14:20 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Given all this, could BREC save costs targeting energy procurement in coal communities near Green, Reid, Coleman, and others?

1:14:44 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace When will that new look happen?

1:14:50 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace How new look be manifested?

1:15:17 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Spoke to Fisk about criteria, planning issue new all-source IRP subject to new information?

1:15:32 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace So are no plans to do so?

1:15:43 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Told Fisk unaware of Energy Infrastructure Reinvestment Program?

1:16:04 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Remember loan guarantee program passed part of Bipartisan Infrastructure Act?

1:16:18 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace BREC states not considered availability of Low-Income Communities Bonus Credit Program?

1:16:30 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace BREC could qualify for this program?

1:16:42 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Not taken look at criteria?

1:16:48 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Anyone within company?

1:16:58 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Possible BREC leaving money on table not taking advantage of funds?

1:17:09 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Is not IRP place to model cost savings through alternative resources and federal programs?

1:17:25 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Without modeling, how ratepayers be assured receiving just and reasonable rates?

1:17:45 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace BREC not sought financing through Rural Energy for America Program?

1:17:59 PM Atty Shrinath Sierra Club - witness Mathews
Note: Sacre, Candace Know whether BREC qualify for this program?

1:18:17 PM	Atty Shrinath Sierra Club Note: Sacre, Candace	Take administrative notice of SC-2. (Click on link for further comments.)
1:20:00 PM	Atty Shrinath Sierra Club Note: Sacre, Candace	Move to introduce. (Click on link for further comments.)
1:20:41 PM	Chairman Chandler Note: Sacre, Candace	Admit as Sierra Club Hearing Exhibit 2. (Click on link for further comments.)
1:20:42 PM	SIERRA CLUB HEARING EXHIBIT 2 Note: Sacre, Candace Note: Sacre, Candace	ATTY SHRINATH SIERRA CLUB - WITNESS MATHEWS ENERGY COMMUNITY TAX CREDIT BONUS
1:21:23 PM	Chairman Chandler Note: Sacre, Candace	Anything else, counsel?
1:21:28 PM	Chairman Chandler Note: Sacre, Candace	Questions?
1:21:39 PM	Via Presentation Deactivated	
1:21:41 PM	Staff Atty Colyer PSC - witness Mathews Note: Sacre, Candace	Cross Examination. Climax of IRP, 600+ MW NGCC operational by 2029 and Green being retired, when expect BREC file CPCN application for new generation in 2029?
1:23:26 PM	Staff Atty Colyer PSC - witness Mathews Note: Sacre, Candace	Talked about a new round of modeling, be part of decision-making process as far as assumptions regards modeling what resources and retirements be considered?
1:24:09 PM	Staff Atty Colyer PSC - witness Mathews Note: Sacre, Candace	Considering fact have to file CPCN soon, planning on building new generation in 2029, expect partnership with another utility regarding constructing NGCC?
1:25:03 PM	Staff Atty Colyer PSC - witness Mathews Note: Sacre, Candace	Fair to say options for resource assumptions much broader than when IRP filed?
1:25:48 PM	Staff Atty Colyer PSC - witness Mathews Note: Sacre, Candace	Burden testified earlier mentioned self-build as option chosen over RFPs, still preference?
1:26:30 PM	Staff Atty Colyer PSC - witness Mathews Note: Sacre, Candace	Self-build option does give broader range, only limited by nameplate constraints what available technologically?
1:27:08 PM	Staff Atty Colyer PSC - witness Mathews Note: Sacre, Candace	Mentioned leadership decided not opt for carbon capture due to cost?
1:27:51 PM	Staff Atty Colyer PSC - witness Mathews Note: Sacre, Candace	Assuming carbon capture survives to a point ten years from now, include retirement of Wilson in modeling?
1:28:36 PM	Staff Atty Colyer PSC - witness Mathews Note: Sacre, Candace	Modeling doing now and for next IRP, treat Wilson Station differently than in this IRP?
1:29:28 PM	Staff Atty Colyer PSC - witness Mathews Note: Sacre, Candace	IRP, page 56, RUS forgiving 40 percent loans for renewable energy, what are conditions for achieving maximum loan?
1:30:10 PM	Staff Atty Colyer PSC - witness Mathews Note: Sacre, Candace	What is that based on?
1:30:42 PM	Staff Atty Colyer PSC - witness Mathews Note: Sacre, Candace	Things can change quickly, certain assumptions change, besides things talked about any other assumptions think be changed for modeling plan to do?

1:32:33 PM Staff Atty Colyer PSC - witness Mathews
Note: Sacre, Candace Expect solar PPAs part of planning?

1:33:03 PM Staff Atty Colyer PSC - witness Mathews
Note: Sacre, Candace When wind power selected under resource selections despite no bids made, think wind still be considered option in next modeling?

1:34:10 PM Chairman Chandler
Note: Sacre, Candace Questions?

1:34:18 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace Examination. Generally aware of Green conversion?

1:34:34 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace Aware dismissed as pathway in 2020 IRP?

1:34:51 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace Aware Green conversion not identified as appropriate pathway in 2020 IRP?

1:35:14 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace Surprise you to know 2021-00079 Order said, reading (click on link for further comments), sounds like something Commission might say?

1:35:39 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace Commission went on to say, reading (click on link for further comments), sound familiar, take my word for it?

1:36:30 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace Jun 11 2021 Order in 2021-00079, in that case alternatives proposed to Green conversion, CPCN application include alternatives to proposal?

1:37:37 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace Commission notes BREC evaluated four options, reading (click on link for further comments), sound familiar?

1:38:16 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace Utility propose idling Green and purchasing capacity from MISO?

1:38:35 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace The third one, option three?

1:38:38 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace No firm gas there now?

1:38:41 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace Nonfirm, holding that, retaining Green station to comply with CCR rule, Green conversion least cost option?

1:39:26 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace Reason to believe possible upgrading for CCR would have been cheaper than anticipated?

1:39:49 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace Conversations with people who have made that assertion?

1:40:10 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace Agree that in this IRP BREC analysis conducted in IRPs materially different than analysis utility would conduct in preparation and filing of CPCN?

1:40:45 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace Based on familiarity with this IRP and experience in CPCNs, analyses conducted in this IRP sufficient to support application for CPCN?

1:41:23 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace As a starting point or sufficient in entirety?

1:41:29 PM Chairman Chandler - witness Mathews
Note: Sacre, Candace Position BREC running and planning system for benefit of owner members?

1:41:52 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Pose risk if type or breadth of analyses different in IRP than in CPCN?
1:42:14 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Risk to consumers in doing one thing in IRP that is inconsistent with type of analysis utility actually conduct in furtherance of CPCN?
1:43:31 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	In this case, know whether folks conduct IRP allowed models choose economic retirement and additions or hard coded?
1:43:58 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Was Green allowed to do anything prior to 2029?
1:44:12 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	That be type of differences between CPCN analysis and IRP hard coding determinations of economics, kind of thing be different?
1:44:57 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	At its base, determination to retire something comparison of stay open costs current generation verse replacement capacity cost alternative generation?
1:45:12 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	That is economic analyses at base these models conduct?
1:45:25 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Not hard coded, if allowed to choose to retire, comparison model makes?
1:45:35 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Least cost, most reasonable, that's what would want to know, whether made sense invest in this verse other thing?
1:45:54 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	That is not modeling run in this case, as relates to Wilson and as relates to Green station vis-a-vis 2029?
1:46:27 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	If somebody bring to you this IRP, type of additional studies would want to conduct?
1:46:51 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	In light of recent strategic priorities, open-ended outcome?
1:47:17 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Indication of what BREC intends to do as relates to 696 MW queue request for NGCC for in-service date of Apr 30 2029?
1:48:06 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Should take fact CC still in queue indication BREC continue with it or status quo and not changed?
1:48:22 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Why 696 MW facility and not megawatt discussed in IRP?
1:48:34 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Know who would know that?
1:48:37 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Anybody here today know answer to question?
1:49:25 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Asked Burden question, discussion of all options, having reviewed IRP cannot find discussion of that, in practice have personal knowledge whether discussions with other utilities regarding expansion, construction or operating units?
1:50:32 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Ask post-hearing, who discussions with and who include, there is existence of information?

1:50:33 PM	POST-HEARING DATA REQUEST Note: Sacre, Candace Note: Sacre, Candace	CHAIRMAN CHANDLER - WITNESS MATHEWS IDENTIFY DISCUSSIONS AND WITH WHOM REGARDING EXPANSION OF GENERATING FACILITIES AND ASSESSMENTS OF ECONOMIC OPPORTUNITIES OF COORDINATION IN CONSTRUCTING OR OPERATING NEW UNITS
1:51:20 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Quote read from Green conversion order, building CC would put utility over needs, remember?
1:51:42 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Think that would have assumed keep Wilson on, have need in future for 696 MW with or without retirement of Green?
1:52:26 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Response change if question is if not have Green and not have Wilson?
1:53:10 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Somewhere between 800 and 850 MW?
1:53:44 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	IRP regulation requires utility provide historical information relating to energy cells and CP of retail and wholesale customers firm commitments, same other nonfirm basis, sound familiar?
1:54:30 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	One other reference to wholesale customers and utility has to inform Commission committed capacity sales coincident with peak, as relates to resource planning, is there distinction way think about planning for retail verse wholesale, nonnative customers?
1:55:35 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Sales, want to say wholesale and retail but only have wholesale sales?
1:55:55 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Sales to folks who are not your three owner members or their owner members, think about differently?
1:56:12 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	In next IRP, have anticipation call out difference in thinking about capacity serves own retail owner members verse capacity serve other wholesale customers?
1:57:02 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	BREC has wholesale contracts with three owner members?
1:57:11 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Other contracts with other entities also provide services to?
1:57:20 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Contracts have with three owner members beyond 15-year planning horizon next IRP 2026?
1:57:41 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Contracts have everyone else shorter or within 15-year planning horizon for next IRP?
1:58:08 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Shorter than 2043?
1:58:45 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	If want to ask about distinction how BREC looks at costs resource planning and IRPs verse how looks at costs when looks at meeting customer load, who best witness?

1:59:38 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Heard Burden testimony about post-2029 needing energy not just capacity, FAC hearings, idea of how operationally BREC buying selling producing and hedging, talk about practices employs accurately taken into account way utility modeling interaction energy and capacity?
2:02:02 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Have copy of IRP?
2:02:10 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Turn to 104, 7.1 power and planning model, last paragraph before 7.11, starts EnCompass, says, reading (click on link for further comments), does utility merely economically dispatch generation and all it does on energy front?
2:04:15 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Asking you, ever written check for other than LMP paying to MISO, pay to hedge energy?
2:04:36 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Agree not simply not how participate in producing energy for owner members?
2:05:00 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Only cost BREC employs not merely associated with least cost dispatch of existing generation?
2:05:27 PM	Chairman Chandler - witness Mathews Note: Sacre, Candace	Agree likely judgment employed in hedging strategy?
2:05:53 PM	Chairman Chandler Note: Sacre, Candace	Recess until 2:15.
2:06:14 PM	Session Paused	
2:17:24 PM	Session Resumed	
2:17:49 PM	Chairman Chandler Note: Sacre, Candace	Redirect?
2:17:55 PM	Chairman Chandler Note: Sacre, Candace	Objection to admitting Sierra Club Hearing Exhibit 2. (Click on link for further comments.)
2:17:56 PM	SIERRA CLUB HEARING EXHIBIT 2 Note: Sacre, Candace Note: Sacre, Candace	ATTY SHRINATH SIERRA CLUB - WITNESS MATHEWS ENERGY COMMUNITY TAX CREDIT BONUS
2:18:45 PM	Chairman Chandler Note: Sacre, Candace	Next witness?
2:18:49 PM	Atty Depp BREC Note: Sacre, Candace	Christopher Warren.
2:18:56 PM	Chairman Chandler Note: Sacre, Candace	Witness is sworn.
2:19:03 PM	Chairman Chandler - witness Warren Note: Sacre, Candace	Examination. Name and address?
2:19:13 PM	Atty Depp BREC - witness Warren Note: Sacre, Candace	Direct Examination. Title?
2:19:18 PM	Atty Depp BREC - witness Warren Note: Sacre, Candace	Sponsor responses?
2:19:22 PM	Atty Depp BREC - witness Warren Note: Sacre, Candace	Updates or amendments?
2:19:26 PM	Atty Depp BREC - witness Warren Note: Sacre, Candace	If asked same requests, answers be same?
2:19:30 PM	Atty Depp BREC - witness Warren Note: Sacre, Candace	Adopt as testimony?

2:19:33 PM	Atty Depp BREC - witness Warren Note: Sacre, Candace	Have materials on stand?
2:19:41 PM	Chairman Chandler Note: Sacre, Candace	Questions?
2:19:51 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	Cross Examination. Describe role at BREC?
2:20:05 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	Explain involvement in IRP process?
2:20:16 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	Direct attention to BREC response to comments, familiar with the document?
2:20:26 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	Direct attention to page 15, familiar with quote, build and hold approach, that's mentioned?
2:21:33 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	Section C, last sentence of first paragraph?
2:21:56 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	Appears approach BREC plan build excess capacity and maintain that, sound right?
2:22:18 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	In light of Mathews statements fresh new look, BREC planning reevaluate plan?
2:23:01 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	Also include 635 MW CC?
2:23:14 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	Nonmember energy sales, page A-45 Appendix A to IRP, states BREC engages in selling to nonmembers where transactions, quote, derive value for members, correct?
2:24:06 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	Determine whether nonmember sales derive value BREC need to determine total revenue sales provide?
2:24:20 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	Company also need determine cost of providing energy sales?
2:24:31 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	Profit/value of sales difference between total revenue and total costs?
2:24:40 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	Turn attention to Attachment 1 to JI Request 1-23, provides actual gross margin analysis nonmember contracts 2018 through 2023, correct?
2:25:44 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	Just the actual from 2018 to 2013, believe forecasted for years after that?
2:25:55 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	At least the actual for 2018 through 2022?
2:26:01 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	Bottom this Public Attachment 1, Nebraska revenues and expenses reported on a net basis?
2:26:14 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	BREC not conduct net margin analysis for other nonmember customer contracts?
2:27:14 PM	Atty Ozaeta Joint Intervenor - witness Warren Note: Sacre, Candace	Be in reference to also OMU contracts and KyMEA member contracts?

2:27:22 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace But for Nebraska contract revenues and expenses, those are reported on net basis?

2:27:34 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace Explain why Nebraska contract revenues and expenses reported on net basis but KyMEA and OMU are not?

2:28:08 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace Mentioned sometimes apply nonmember contracts to models to better understand net revenues, how determined contracts derive value for members?

2:29:09 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace Looking forward, consideration evaluating net costs of nonmember contracts?

2:29:50 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace Direct to Response to JI 1-24(d), BREC in discussions with OMU about contract renewal?

2:31:01 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace For KyMEA, BREC have discussions closer to end of contract?

2:31:15 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace Company analyzed renewal of nonmember contracts and whether provide value to members?

2:31:48 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace Not presented in IRP?

2:32:01 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace Net margin analysis of nonmember contracts not presented in IRP?

2:32:13 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace Specifically, renewal of nonmember contracts?

2:32:25 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace Provided gross margin cost basis?

2:32:56 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace Said as part of position questions related to direct serve forecast, best suited for you or someone else?

2:33:12 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace Load for direct serve contracts, had sponsored responses?

2:33:51 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace Response to JI Request 1-24(d), in discussions with OMU and plan is to have discussions with KyMEA, if not renewed BREC considered how address loss of OMU if contract not renewed?

2:35:00 PM Atty Ozaeta Joint Intervenor - witness Warren

2:35:00 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace In the model for this IRP?

2:35:09 PM Atty Ozaeta Joint Intervenor - witness Warren
Note: Sacre, Candace Same answer for KyMEA if BREC loss of contract?

2:35:28 PM Chairman Chandler
Note: Sacre, Candace Ms. Huddleston?

2:35:55 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Cross Examination. Director of Budgeting Planning and Forecasting?

2:36:07 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Hear Mathews reference regulatory requirements for IRP?

2:36:16 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Aware Kentucky law requires utilities furnish adequate efficient and reasonable service?

2:36:22 PM Atty Depp BREC
Note: Sacre, Candace Object. (Click on link for further comments.)

2:36:31 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Aware Kentucky regulation requires utilities to file IRPs and outline specifications?

2:36:40 PM Atty Depp BREC
Note: Sacre, Candace Same objection. (Click on link for further comments.)

2:36:50 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Familiar KRS 278.262 and KRS 278.264 new retirement law?

2:37:13 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Aware as to requirements what utility must show if retires fossil fuel-fired generating unit?

2:37:26 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Someone at company aware of that?

2:37:32 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Aware anyone involved in IRP process aware of requirements of new laws?

2:37:50 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Involved in conversations about IRP and planning process?

2:37:59 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace New retirement laws and impact discussed?

2:38:13 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Aware either passed when IRP filed?

2:38:20 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Not aware of conversations that involved analysis of laws?

2:38:31 PM Atty Depp BREC
Note: Sacre, Candace Object. (Click on link for further comments.)

2:38:45 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Aware conversations involving IRP planning process as to how intersected with new retirement laws?

2:39:00 PM Chairman Chandler
Note: Sacre, Candace Overrule objection. (Click on link for further comments.)

2:39:14 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Having replacement capacity requires advance planning?

2:39:35 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace How have thought about planning process, aware of requirement that BREC provide resource assessment and acquisition plan for providing adequate and reliable supply of electricity at lowest cost?

2:40:09 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Aware plan must consider potential impacts of uncertainties?

2:40:36 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Aware whether plan must describe and discuss all options considered?

2:40:40 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Aware as to whether plan must include description and discussion key assumptions and judgments?

2:40:53 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace When in middle school, teacher tell you to show your work?

2:41:05 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Familiar with instruction?

2:41:11 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace BREC IRP process involves requirement to show work?

2:41:24 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Adopted Berry Response to PSC 2-24?

2:41:32 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Turn to that response, specifically 2-24(c)?

2:41:52 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Response states, reading (click on link for further comments), correct?

2:42:03 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Response states, reading (click on link for further comments), correct?

2:42:16 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Substance of discussions reflected in IRP?

2:42:36 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Question about substance is represented in IRP?

2:43:00 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Considerations went into choice to do X, all considerations led to choice reflected in IRP?

2:44:11 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Part of discussion about moving retirement date of Wilson, shifting retirement date?

2:44:28 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Know why were not discussions about retirement date?

2:44:44 PM Atty Depp BREC
Note: Sacre, Candace Objection. (Click on link for further comments.)

2:44:50 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace No discussions are aware of?

2:44:57 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Know why no discussions other than what aware of?

2:45:06 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Aware anyone considered in IRP process modifying retirement date of Wilson?

2:45:41 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Know if IRP provides retirement date for Wilson?

2:45:57 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Turn back to response to 2-24C, response states requested additional modeling from Commission would, quote, reading (click on link for further comments), correct?

2:46:28 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Believe BREC need replace Wilson coal unit?

2:46:55 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Why is that?

2:47:01 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Why say think become part of conversation?

2:47:22 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Been discussion or any analysis of lifespan of BREC?

2:47:40 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Are Director of Budgeting Planning and Forecasting, who be better person to ask?

2:47:55 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace Of witnesses today, not sure?

2:48:17 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace And you are not aware of any such discussions or analysis?

2:48:24 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace In response, additional modeling require, 2-24C, would require, quote, reading (click on link for further comments), correct?

2:49:04 PM Atty Huddleston Sierra Club - witness Warren
Note: Sacre, Candace In response, point to two paragraphs where assumptions described?

2:49:25 PM	Atty Huddleston Sierra Club - witness Warren Note: Sacre, Candace	Nothing discusses retirement date for Wilson?
2:49:50 PM	Atty Huddleston Sierra Club - witness Warren Note: Sacre, Candace	Where in IRP describe multiple fundamental baseline assumptions with respect Wilson?
2:50:48 PM	Atty Huddleston Sierra Club - witness Warren Note: Sacre, Candace	Any more information as to how date chosen?
2:51:01 PM	Atty Huddleston Sierra Club - witness Warren Note: Sacre, Candace	Does IRP process require consideration of uncertainties?
2:51:15 PM	Atty Huddleston Sierra Club - witness Warren Note: Sacre, Candace	Who be right person?
2:51:22 PM	Atty Huddleston Sierra Club - witness Warren Note: Sacre, Candace	Who in charge finalizing IRP?
2:51:36 PM	Atty Huddleston Sierra Club - witness Warren Note: Sacre, Candace	Does IRP discuss actions BREC undertake in next 15 years to meet Clean Air Act and how affect resource assessment?
2:51:58 PM	Atty Huddleston Sierra Club - witness Warren Note: Sacre, Candace	Who be best person?
2:52:01 PM	Atty Huddleston Sierra Club - witness Warren Note: Sacre, Candace	Maybe Wright, we can give it a try?
2:52:15 PM	Atty Huddleston Sierra Club - witness Warren Note: Sacre, Candace	Generation mix, picked date for retirement or not consider multiple dates retirement of Wilson?
2:52:53 PM	Chairman Chandler Note: Sacre, Candace	Questions?
2:52:59 PM	Chairman Chandler Note: Sacre, Candace	Redirect?
2:53:07 PM	Chairman Chandler Note: Sacre, Candace	Next witness?
2:53:13 PM	Atty Depp BREC Note: Sacre, Candace	Michael Mizell.
2:53:51 PM	Chairman Chandler Note: Sacre, Candace	Witness is sworn.
2:53:58 PM	Chairman Chandler - witness Mizell Note: Sacre, Candace	Examination. Name and address?
2:54:09 PM	Atty Depp BREC - witness Mizell Note: Sacre, Candace	Direct Examination. Title?
2:54:14 PM	Atty Depp BREC - witness Mizell Note: Sacre, Candace	Sponsor responses?
2:54:17 PM	Atty Depp BREC - witness Mizell Note: Sacre, Candace	Amendments or updates?
2:54:20 PM	Atty Depp BREC - witness Mizell Note: Sacre, Candace	If asked those, answers remain same?
2:54:23 PM	Atty Depp BREC - witness Mizell Note: Sacre, Candace	Adopt as testimony?
2:54:25 PM	Atty Depp BREC - witness Mizell Note: Sacre, Candace	Have any materials?
2:54:32 PM	Chairman Chandler Note: Sacre, Candace	Questions?
2:54:40 PM	Atty Cmar Joint Intervenors - witness Mizell Note: Sacre, Candace	Cross Examination. What is position?
2:54:54 PM	Atty Cmar Joint Intervenors - witness Mizell Note: Sacre, Candace	Involve keeping track of environmental regulations?

2:55:07 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace As part of job, follow announcements from U S EPA?

2:55:17 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Familiar with announcements EPA made on April 25?

2:55:32 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Familiar with rule EPA finalized mercury and air toxic standards?

2:55:43 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Familiar with expression MATS?

2:55:48 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace MATS is mercury and air toxic standards?

2:55:51 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Reviewed final updated MATS rule?

2:55:57 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Aware EPA identified Wilson be affected by MATS rule?

2:56:15 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace BREC reviewed updated MATS rule assess whether Wilson affected?

2:56:37 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Know what specific changes EPA made to MATS rule might affect Wilson plant?

2:57:14 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Familiar change EPA made to limits Wilson need comply for filterable particulate matter?

2:57:31 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace What was change?

2:57:50 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Know what current limits are for Wilson?

2:58:00 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Have available responses to Sierra Club discovery requests?

2:58:12 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Response to SC 1-13?

2:58:27 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Was one of attachments current Title V permit for Wilson?

2:58:41 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace And that attached to response?

2:58:44 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Looking at Attachment 1, Response to SC1-13, permit, turn to page 9 of 80, emission limits for particulate matter?

2:59:14 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace See permit limit of .030 lbs per MMBtu?

3:00:17 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Familiar with limit adopted by EPA in new MATS rules?

3:00:34 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Exhibit on screen, recognize?

3:00:59 PM Via Presentation Activated

3:01:02 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Reviewed materials EPA made available when announced update to MATS rule?

3:01:11 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Aware one was technical memo how affect certain power plants?

3:01:29 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Aware Wilson mentioned in this memo?

3:01:42 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Turn to page 5, discussion of Wilson plants?

3:02:24 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Last three lines on bottom, see that sentence?

3:02:41 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Continues, reading (click on link for further comments), see that?

3:02:56 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Refresh recollection, limit adopted by EPA in final rule?

3:03:05 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Memo goes on to say, reading (click on link for further comments)?

3:03:19 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace At bottom there, continues next page, reading (click on link for further comments), see that?

3:03:44 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace EPA goes on to say, reading (click on link for further comments), see that?

3:04:02 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Reviewed before?

3:04:12 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Part of what discussing, something accessing reviewing final rule?

3:04:32 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Timeframe for evaluating final rule require at Wilson?

3:05:12 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Explanation why EPA found average rate in excess of limit?

3:06:12 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Familiar with section included in BREC IRP about environmental requirements?

3:06:24 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Involved in drafting that section?

3:06:30 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Mercury and air toxic standards update rulemaking included in section of IRP?

3:06:46 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Surprise to learn not mentioned?

3:06:50 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Why is that?

3:07:12 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Not think as part of possible future compliance costs rulemaking might require additional investment?

3:07:36 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Just discussing EPA found limit they set does require additional investment?

3:08:02 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Not think possibility this could have affected Wilson been mentioned in IRP?

3:08:28 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace One of other rules EPA announced in April new greenhouse gas regulations under Section 111?

3:08:46 PM Via Presentation Deactivated

3:08:47 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Reviewed that new rule?

3:09:00 PM Chairman Chandler
Note: Sacre, Candace Procedural discussion. (Click on link for further comments.)

3:09:18 PM Chairman Chandler
Note: Sacre, Candace Mark as JI Hearing Exhibit 2, document titled BSER At-A-Glance.

3:09:19 PM JOINT INTERVENORS HEARING EXHIBIT 2
Note: Sacre, Candace ATTY CMAR JOINT INTERVENORS - WITNESS MIZELL
Note: Sacre, Candace BSER AT-A-GLANCE

3:10:02 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Cross Examination (cont'd). Have what been marked JI Exhibit 2?

3:10:10 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Recognize this document?

3:10:18 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace What is BSER?

3:10:25 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Standard EPA implementing in new greenhouse gas rule?

3:10:40 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Reviewed table before?

3:11:04 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Table posted on EPA website time of final rule, should reflect what EPA put in final rule, useful as illustrative exhibit, on this table are four columns?

3:12:10 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Two represent standards existing steam generators, and two represent standards new sources and reconstructed stationary combustion turbines?

3:12:20 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Far left column coal-fired boilers, see that?

3:12:35 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Under column, see where says existing coal long-term subcategory for units seeking operate beyond Jan 1 2039?

3:12:45 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Familiar what new rule requires under subcategory?

3:12:52 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace What does it require?

3:13:04 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace What is date by which?

3:13:14 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Earlier discussion with Mathews BREC views on CCS?

3:13:28 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Mathews referenced technical people be involved in answering that?

3:13:30 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Why not?

3:13:37 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Are you one of those technical people?

3:13:44 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace BREC have view whether CCS with 90 percent capture feasible have installed and operating on Wilson?

3:14:25 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace BREC looked into amount of energy required to run CCS at Wilson site?

3:14:36 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Looked at it in a different context?

3:14:54 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Recall what projections be?

3:15:28 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace For IRP BREC modeled aggressive carbon reduction scenario?

3:15:43 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Involved in providing inputs?

3:15:52 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Have input into what modeled?

3:15:57 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Parasitic load included what modeled?

3:16:08 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Why not?

3:17:12 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Back to table, long-term subcategory, also discusses medium-term?

3:17:31 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Be requirements units seeking to operate beyond Jan 1 2032 but retire before Jan 1 2039?

3:17:48 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Familiar with requirements?

3:17:52 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace What are they?

3:18:12 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace BREC looked into what be required comply if were opt in to medium-term category?

3:18:28 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Why is that?

3:18:34 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace In general?

3:18:58 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Estimated those costs?

3:19:38 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Know if someone else aware?

3:19:53 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Estimate provided in response to post-hearing data request if document exists, know if it exists?

3:19:54 PM POST-HEARING DATA REQUESTS
Note: Sacre, Candace ATTY CMAR JOINT INTERVENORS - WITNESS MIZELL
Note: Sacre, Candace COST ESTIMATE FOR RUNNING GAS TO WILSON TO COMPLY IF BREC OPT IN, IF DOCUMENT EXISTS

3:21:20 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace This table, requirements for new sources, new stationary CTs, discussion about status of BREC plans to seek approval of NGCC?

3:22:00 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Have understanding whether BREC plan for NGCC constructed as baseload plant?

3:22:38 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace New EPA rule and table, familiar with requirements if NGCC required to operate new EPA rule, what be requirements operate baseload plant?

3:23:30 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Just read portion under Phase 1?

3:23:50 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Understanding under new rule for new NGCC operate at capacity greater than 40 percent comply with requirement?

3:24:24 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace If wanted comply running as intermediate generator, limiting capacity factor to less than 40 percent?

3:24:58 PM Atty Cmar Joint Intervenors
Note: Sacre, Candace Move admission of JI 2. (Click on link for further comments.)

3:26:26 PM JOINT INTERVENORS HEARING EXHIBIT 2
Note: Sacre, Candace ATTY CMAR JOINT INTERVENORS - WITNESS MIZELL

Note: Sacre, Candace BSER AT-A-GLANCE
 3:26:38 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Cross Examination (cont'd). Sponsored response to SC 1-7?
 3:27:01 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace If reading response correctly, saying for 2023 Wilson emitted 497 tons of NOx during ozone season granted allowances for 609 tons emissions?
 3:27:32 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Correct Good Neighbor plan reduce allowances granted to BREC over time?
 3:27:46 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace BREC calculated what reductions would be?
 3:28:40 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Good Neighbor Plan also has daily backstop emissions rate?
 3:28:48 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Able achieve daily backstop limit running SCR at Wilson?
 3:28:58 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Currently run SCR at Wilson 100 percent of the time?
 3:29:18 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Times where BREC runs Wilson without SCR?
 3:29:29 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace For IRP in this case, know assumptions BREC incorporated cost of running SCR at Wilson?
 3:29:47 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Provide any information like that in modeling?
 3:30:11 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace In terms of operational costs of running SCR, included in what was modeled?
 3:30:20 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Something Christensen would know?
 3:30:38 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Another recently announced rules new rule affecting CCR regulations?
 3:30:48 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Referred to as Legacy Rule?
 3:31:02 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Burden when asked about JI 2-54 referenced name, remember?
 3:31:13 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Have that response?
 3:31:16 PM Atty Cmar Joint Intervenors
 Note: Sacre, Candace Could that be provided? (Click on link for further comments.)
 3:32:00 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Reference speak to was in subpart B, reading (click on link for further comments), see that?
 3:32:24 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Can explain why BREC believes that?
 3:33:12 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Rule now been finalized?
 3:33:19 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Know what require at Coleman?
 3:34:06 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Know if Coleman has such areas?
 3:34:15 PM Atty Cmar Joint Intervenors - witness Mizell
 Note: Sacre, Candace Have legacy pond at Coleman?

3:35:41 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Know if timeframe associated with conducting analysis?

3:35:49 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace One just referenced from 2020 ECR docket?

3:35:56 PM Atty Cmar Joint Intervenors - witness Mizell
Note: Sacre, Candace Know if BREC internally has timeframe for that?

3:36:53 PM Chairman Chandler
Note: Sacre, Candace Procedural discussion. (Click on link for further comments.)

3:37:12 PM Chairman Chandler
Note: Sacre, Candace Recess until 3:50.

3:37:35 PM Session Paused

3:59:12 PM Session Resumed

3:59:49 PM Chairman Chandler
Note: Sacre, Candace Back on the record.

3:59:52 PM Chairman Chandler
Note: Sacre, Candace Counsel, questions?

3:59:54 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Cross Examination. Questions on environmental compliance, BREC stated, reading (click on link for further comments), familiar?

4:00:32 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Asked in discovery BREC evaluation of proposed Section 111(d) greenhouse gas emissions rule, correct?

4:00:42 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace In response, stated, reading (click on link for further comments), correct?

4:01:01 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Refer BREC Response to SC-5?

4:01:18 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace As confirmed, Section 111(d) rule no longer proposed but been finalized, correct?

4:01:32 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Environmental compliance costs associated with rule not speculative?

4:01:42 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace By that measure, cost complying with any regulation is unknown, right?

4:01:53 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Explain?

4:02:40 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Alternative methods of complying with rule?

4:02:48 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Have there been changes to greenhouse gas rule as relates to Wilson?

4:03:09 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Changes materially affect regulations on coal plants?

4:03:25 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Yet, BREC not incorporate planning for 111(d) into IRP?

4:03:31 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Not even as alternate scenario?

4:04:22 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Model costs due to carbon regulations but not planning for 111(d)?

4:05:19 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace When conduct studies, dealing with variables and uncertainties?

4:05:28 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Familiar with compliance time lines?

4:05:34 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace BREC analyzed cost retiring Wilson in 2032 and replacing?

4:05:42 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace BREC analyzed cost retiring Wilson in 2035 by co-firing with 20 percent gas after 2030 and replacing 2035?

4:05:55 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace BREC analyzed cost retiring Wilson in 2040 by co-firing with 40 percent gas after 2030 and replacing in 2040?

4:06:06 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace To operate Wilson past 2032, only analyzed installing CTS?

4:06:18 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Said today CCS not commercially available, not economically viable?

4:06:25 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace And quite expensive?

4:06:50 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Given that, why BREC not analyzed earlier retirement scenarios?

4:07:13 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Not all scenarios require CTS?

4:07:25 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace But BREC analyze cost of pursuing co-firing and natural gas at site?

4:07:40 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Those not analogous, are they?

4:07:55 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace BREC intends replace Wilson in 2045?

4:08:19 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Yet, BREC not modeled what replacement resources might look like?

4:08:35 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Know what levelized cost of electricity is for Wilson?

4:08:51 PM Atty Shrinath Sierra Club
Note: Sacre, Candace Project SC-3 EPA CCS cost estimates. (Click on link for further comments.)

4:09:04 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Seen this analysis before?

4:09:07 PM Via Presentation Activated

4:09:18 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace EPA spreadsheet analyzing cost of CCS?

4:09:30 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace D B Wilson, scroll over total costs, CCS estimated add \$24 per megawatt hour marginal operating cost?

4:09:46 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Cost of CCS could be even higher?

4:10:13 PM Atty Depp BREC
Note: Sacre, Candace Do not believe have a copy of this. (Click on link for further comments.)

4:11:40 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace BREC not incorporate costs into IRP analysis?

4:11:49 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Why is that?

4:12:07 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Sounds like final GHG rule would be in interest of members to see what costs retire BREC and replace?

4:13:08 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Time to do that analysis right now?

4:13:21 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Resource planning?

4:13:52 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Capacity derated, familiar?

4:14:10 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Shows 200 MW derating from retrofitting Wilson with CCS, correct?

4:14:40 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Reflects energy penalty from running CCS, lower capacity of Wilson?

4:15:04 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace CCS not enable Wilson to serve as capacity resource?

4:15:36 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace BREC intend modify IRP to incorporate GHG rule?

4:15:46 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace IRP, page 95, says, reading (click on link for future comments), what does that mean?

4:16:29 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace And finalization of rule not necessitate modification of IRP?

4:16:40 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Sierra Club also asked about BREC planning regarding EPA proposed mercury and air toxics rule?

4:16:50 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Finalized in Federal Register?

4:17:00 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Environmental costs not speculative any more?

4:17:10 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Been changes to rule as relates to Wilson?

4:17:37 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace BREC not analyzed costs complying with MATS rule?

4:17:42 PM Via Presentation Deactivated

4:18:03 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace BREC objected on grounds, reading (click on link for further comments), could answer Sierra Club data request?

4:19:45 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Respond to that in post-hearing data request, update data request?

4:19:46 PM POST-HEARING DATA REQUEST
Note: Sacre, Candace ATTY SHRINATH SIERRA CLUB - WITNESS MIZELL
Note: Sacre, Candace RESPONSE TO SIERRA CLUB DATA REQUEST 1-11 NOW THAT MATS RULE FINALIZED

4:19:53 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Know what are fine particulate matter emissions at Wilson?

4:20:04 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace In compliance with final MATS rule?

4:20:22 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Refer to SC-6, aware EPA published technical memo?

4:21:09 PM Video Conference Activated

4:21:11 PM Camera Lock Wireless Mic Cam Activated

4:21:14 PM Camera Lock Deactivated

4:21:22 PM Via Presentation Activated

4:21:25 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Published spreadsheet detailing compliance costs?

4:21:47 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace EPA estimates Wilson reduce emissions by 72 tons comply with limit?

4:22:10 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace EPA estimates cost ratepayers \$88,162 annually to comply with this rule?

4:22:30 PM Video Conference Deactivated

4:22:39 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Likely these what costs be to comply?

4:22:43 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace But said no costs associated with rule?

4:23:03 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Operated below 0.06 standard?

4:23:15 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Aware also 0.06 standard for fine particulate matter?

4:23:22 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace EPA estimates Wilson have to reduce FPM emissions by 192 tons to comply with MATS rule?

4:23:48 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace EPA estimates cost ratepayers \$10.776 million annually to comply?

4:24:06 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Explain again what is data that disputes this?

4:24:26 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Why EPA publish this data just last month?

4:24:57 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Aware EPA published in Jan 2023 tactical memo outlining compliance costs by unit for draft MATS rule?

4:25:12 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace And those not included in IRP?

4:25:16 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Aware costs actually higher than these costs?

4:25:34 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace In post-hearing data request, explain why costs not actual and why Wilson in compliance with MATS rule?

4:25:35 PM POST-HEARING DATA REQUEST
Note: Sacre, Candace ATTY SHRINATH SIERRA CLUB - WITNESS MIZELL
Note: Sacre, Candace EXPLAIN WHY COSTS NOT ACTUAL AND WHY WILSON IN COMPLIANCE WITH MATS RULE

4:26:04 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace If costs are real, be incurred by BREC members?

4:26:27 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace IRP requires resources lowest cost?

4:26:34 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Yet, BREC not projecting building into the IRP likely costs?

4:26:47 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace By actual cost, actual compliance costs with out-of-date rule?

4:27:03 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Data in IRP, shared with intervenors?

4:27:15 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Sierra Club asked about EPA effluent limitations guidelines?

4:27:29 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Been changes to rule as relates to Wilson?

4:27:37 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace BREC analyzed cost of complying with LG rule?

4:28:02 PM Via Presentation Deactivated

4:28:05 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace BREC intend modify IRP to incorporate analysis?

4:28:12 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Even if are anticipated costs?

4:28:51 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Sierra Club also asked about EPA coal ash rule?

4:28:58 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Rule has been finalized?

4:29:08 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Changes to rule as relates to Wilson?

4:30:10 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Any information in IRP cost cleaning up coal ash pond?

4:30:19 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace BREC part of efforts to challenge rule?

4:30:34 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace BREC part of efforts?

4:30:38 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace If look at IRP, page 100, it says, reading (click on link for further comments)?

4:30:51 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Challenges failed?

4:31:00 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace When said met challenges, meant ongoing challenges?

4:31:18 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace So if rule challenged, BREC not analyze cost?

4:31:36 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Projection to IRP zero cost because of challenge?

4:31:46 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace The coal ash rule?

4:31:52 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace For anybody?

4:32:44 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace For IRP, BREC not include projected costs related any of proposed rules, four rules discussed?

4:33:14 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace All four rules finalized and adopted last month?

4:33:21 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace SC-4, aware BREC website demonstrating compliance coal combustion residuals been down?

4:33:30 PM Via Presentation Activated

4:33:50 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace 2015 CCR rule requires BREC maintain site up to date?

4:34:13 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace BREC not consider cost of complying with Good Neighbor plan, implementation plan in litigation?

4:34:29 PM Via Presentation Deactivated

4:34:58 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace BREC notes Wilson emitted 497 tons of NOx emissions 2023 ozone season?

4:35:17 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Wilson received 609 NOx ozone season allowances from EPA to cover actual emissions?

4:35:20 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace But BREC not receive 609 NOx ozone season allowances under federal implementation plan if litigation concluded?

4:35:37 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Refer to SC-5, underlying data for proposed rule, seen this before?

4:36:06 PM Via Presentation Activated

4:36:45 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Aware of this spreadsheet?

4:37:08 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Shows estimated NOx allowances under FIPs under Good Neighbor plan, make sense to you?

4:37:29 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace If look illustrative 2026 NOx OS allocation, see lower allocations, if look at top name of document, Good Neighbor plan unit level allocations and underlying data?

4:37:53 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Subject to check?

4:38:43 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Wilson may have to reduce NOx emissions substantially?

4:39:03 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Is incorrect?

4:40:16 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Should not analysis be in IRP if analyzing potential costs?

4:40:35 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Published in 2022?

4:40:41 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace BREC not model core uncertainty Wilson costs in IRP?

4:40:50 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Point me to where that analysis is in IRP?

4:41:03 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Kentuckians have to take word for it instead of IRP?

4:41:23 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Not included in IRP?

4:41:33 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace IRP regulations require BREC, quote, reading (click on link for further comments), correct?

4:41:53 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Retrofitting Wilson with CCS meeting electricity requirements lowest possible cost?

4:42:02 PM Via Presentation Deactivated

4:42:08 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Compared that cost to other scenarios?

4:42:14 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Retiring Wilson and compare that to costs of CCS?

4:42:34 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Provide analysis difference in cost keep Wilson online and alternative resources?

4:43:20 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace How possibly know what lowest cost scenario is?

4:44:16 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace Not show in IRP that analysis?

4:44:24 PM Atty Shrinath Sierra Club - witness Mizell
Note: Sacre, Candace What percentage BREC capacity provided or energy provided by Wilson?

4:44:33 PM	Atty Shrinath Sierra Club - witness Mizell Note: Sacre, Candace	Say Wilson is a driver of repair costs?
4:44:46 PM	Atty Shrinath Sierra Club - witness Mizell Note: Sacre, Candace	Based on position, BREC no obligation analyze more cost-effective resource mixes?
4:44:56 PM	Atty Shrinath Sierra Club - witness Mizell Note: Sacre, Candace	Where BREC analyze cost keeping resources online against alternative resources?
4:45:13 PM	Atty Shrinath Sierra Club - witness Mizell Note: Sacre, Candace	Do analysis at all?
4:45:38 PM	Atty Shrinath Sierra Club - witness Mizell Note: Sacre, Candace	Given language in regulations, appropriate place do analysis the IRP?
4:45:56 PM	Atty Shrinath Sierra Club - witness Mizell Note: Sacre, Candace	IRP regulations require BREC include actual and projected costs in model?
4:46:12 PM	Atty Shrinath Sierra Club - witness Mizell Note: Sacre, Candace	Project costs based on EPA proposed rules?
4:46:26 PM	Atty Shrinath Sierra Club - witness Mizell Note: Sacre, Candace	All costs projected in IRP a hundred percent airtight?
4:46:55 PM	Atty Shrinath Sierra Club - witness Mizell Note: Sacre, Candace	If it was \$24 per megawatt hour?
4:47:07 PM	Atty Shrinath Sierra Club - witness Mizell Note: Sacre, Candace	Contention EPA numbers and costs so unreliable they should not be included in IRPs at all?
4:47:38 PM	Atty Shrinath Sierra Club - witness Mizell Note: Sacre, Candace	BREC could do projections, could project costs based on proposed rules?
4:48:11 PM	Atty Shrinath Sierra Club - witness Mizell Note: Sacre, Candace	None of this analysis in IRP, in IRP BREC not include any compliance costs?
4:48:33 PM	Atty Shrinath Sierra Club - witness Mizell Note: Sacre, Candace	Not specific to any of five rules discussed?
4:48:42 PM	Chairman Chandler Note: Sacre, Candace	Ms. Cohn?
4:49:00 PM	Atty Cohn KIUC - witness Mizell Note: Sacre, Candace	Cross Examination. Also talk about EPA 111 rules, as discussed, 111 rules established CCS with 90% capture as the BSER for new natural gas-fired baseload units by 2032?
4:49:15 PM	Atty Cohn KIUC - witness Mizell Note: Sacre, Candace	New natural gas-fired units defined as those with capacity factor greater than 40 percent?
4:49:22 PM	Atty Cohn KIUC - witness Mizell Note: Sacre, Candace	Testified technology not commercially available?
4:49:37 PM	Atty Cohn KIUC - witness Mizell Note: Sacre, Candace	No utility using technology now?
4:49:49 PM	Atty Cohn KIUC - witness Mizell Note: Sacre, Candace	Have estimate as to capital costs new natural gas-fired unit 90% CCS?
4:50:52 PM	Atty Cohn KIUC Note: Sacre, Candace	Mark as KIUC Hearing Exhibit 1?
4:50:53 PM	KIUC HEARING EXHIBIT 1 Note: Sacre, Candace	ATTY COHN KIUC - WITNESS MIZELL

Note: Sacre, Candace

U.S. ENERGY INFORMATION ADMINISTRATION MARCH 2023 COST AND PERFORMANCE CHARACTERISTICS OF NEW GENERATING TECHNOLOGIES

4:51:03 PM	Atty Cohn KIUC - witness Mizell Note: Sacre, Candace	Familiar with these types of reports from EIA?
4:51:13 PM	Atty Cohn KIUC - witness Mizell Note: Sacre, Candace	Snippet of Annual Energy Outlook from 2023?
4:51:20 PM	Atty Cohn KIUC - witness Mizell Note: Sacre, Candace	Turn to page 2, total overnight cost column, down list combined cycle with 90% CCS on here, see it?
4:51:50 PM	Atty Cohn KIUC - witness Mizell Note: Sacre, Candace	Reflects total overnight cost is \$3,140 per kilowatt?
4:52:08 PM	Atty Cohn KIUC - witness Mizell Note: Sacre, Candace	Above there, combined cycle with multi-shaft, says cost is \$1,176 per kilowatt?
4:52:24 PM	Atty Cohn KIUC - witness Mizell Note: Sacre, Candace	Could it be less costly option if BREC constructed two combined-cycle multi-shafts and operated below baseload threshold rather than combined cycle at 90% CCS?
4:52:53 PM	Atty Cohn KIUC - witness Mizell Note: Sacre, Candace	Heard say BREC still evaluating impact April rules, conclusions now how rules change IRP, or is too soon?
4:53:46 PM	Atty Cohn KIUC - witness Mizell Note: Sacre, Candace	Expect any rules regarding existing natural gas units be issued?
4:54:14 PM	Atty Cohn KIUC - witness Mizell Note: Sacre, Candace	Affect resource planning next IRP?
4:54:23 PM	Chairman Chandler Note: Sacre, Candace	Questions?
4:54:30 PM	Staff Atty Colyer PSC - witness Mizell Note: Sacre, Candace	Cross Examination. When it comes to use of low/medium, high carbon scenarios, decided at BREC level or decided by 1898?
4:54:50 PM	Staff Atty Colyer PSC - witness Mizell Note: Sacre, Candace	How decide on percentages?
4:55:02 PM	Staff Atty Colyer PSC - witness Mizell Note: Sacre, Candace	Dollars?
4:55:58 PM	Staff Atty Colyer PSC - witness Mizell Note: Sacre, Candace	Just for informational purposes, impact on selection of preferred portfolio?
4:56:21 PM	Staff Atty Colyer PSC - witness Mizell Note: Sacre, Candace	Outcome for base portfolio?
4:56:25 PM	Staff Atty Colyer PSC - witness Mizell Note: Sacre, Candace	Somewhere in modeling carbon pricing applied before looking at low/mid/high CO2 sensitivities?
4:56:44 PM	Staff Atty Colyer PSC - witness Mizell Note: Sacre, Candace	Turning to IRP page 162, table, unredacted version?
4:57:09 PM	Staff Atty Colyer PSC - witness Mizell Note: Sacre, Candace	For base portfolio and alternative portfolio low/mid/ high CO2 sensitivities, which way costs go, up or down?
4:57:55 PM	Staff Atty Colyer PSC - witness Mizell Note: Sacre, Candace	And for alternative scenario?
4:58:03 PM	Staff Atty Colyer PSC - witness Mizell Note: Sacre, Candace	And for aggressive carbon reduction portfolio?
4:58:32 PM	Staff Atty Colyer PSC - witness Mizell Note: Sacre, Candace	Which one more expensive?

4:58:37 PM Staff Atty Colyer PSC - witness Mizell
Note: Sacre, Candace Which one least expensive?

4:58:41 PM Staff Atty Colyer PSC - witness Mizell
Note: Sacre, Candace Explain why higher CO2 sensitivity result in lower cost?

4:59:00 PM Staff Atty Colyer PSC - witness Mizell
Note: Sacre, Candace Table, page 146, Sierra Club asked about parasitic load, not familiar with term, know why significantly different percentage for NGCC versus Wilson being coal fired?

5:00:51 PM Staff Atty Colyer PSC - witness Mizell
Note: Sacre, Candace Modeling with carbon capture include costs for disposing CO2 after carbon capture?

5:01:31 PM Staff Atty Colyer PSC - witness Mizell
Note: Sacre, Candace Part of job analyzing effect of 278.264 change to standard for retiring fossil fuel powered plants?

5:02:03 PM Staff Atty Colyer PSC - witness Mizell
Note: Sacre, Candace Give me an overview how statute affected IRP process?

5:02:18 PM Staff Atty Colyer PSC - witness Mizell
Note: Sacre, Candace Passed in March of 2023, filed in September, did all planning by then?

5:02:34 PM Staff Atty Colyer PSC - witness Mizell
Note: Sacre, Candace How think statute affect that modeling and future IRP modeling?

5:03:13 PM Staff Atty Colyer PSC - witness Mizell
Note: Sacre, Candace My understanding based on BREC response PSC 1-47(c), Christensen responded decisions regarding retirement of Wilson made at beginning of process, new statute played role in decision, accurate?

5:04:35 PM Chairman Chandler
Note: Sacre, Candace Commissioner?

5:04:37 PM Chairman Chandler - witness Mizell
Note: Sacre, Candace Examination. If Wilson modeled without environmental compliance costs post-2026, reasonable assumption to make?

5:05:25 PM Chairman Chandler - witness Mizell
Note: Sacre, Candace Agree environmental compliance cost one of most significant capital costs considered whether retire or replace generator?

5:05:38 PM Chairman Chandler - witness Mizell
Note: Sacre, Candace Talking about environmental compliance cost tens of millions of dollars per unit?

5:05:54 PM Chairman Chandler - witness Mizell
Note: Sacre, Candace Be unreasonable assume no environmental compliance costs on going forward capital basis like Wilson?

5:06:15 PM Chairman Chandler - witness Mizell
Note: Sacre, Candace What recommend to modeler, in light of know what environmental compliance schemes are, on recurring cycles of review by EPA?

5:06:56 PM Chairman Chandler - witness Mizell
Note: Sacre, Candace Not a new endangerment finding, know suite of applicable rules, just not know what allowable level is or emissions reduction?

5:07:28 PM Chairman Chandler - witness Mizell
Note: Sacre, Candace Is it reasonable assumption assume portion of past costs what incur in past proxy for future, expected but unknown?

5:12:03 PM Session Paused

5:23:49 PM Session Resumed

5:24:20 PM Chairman Chandler - witness Mizell
Note: Sacre, Candace Been asked for input how to model going forward environmental related capital costs in IRPs or other proceedings last few years?

5:24:50 PM	Chairman Chandler - witness Mizell Note: Sacre, Candace	What position been?
5:25:42 PM	Chairman Chandler - witness Mizell Note: Sacre, Candace	Either best available information or proxy expected but unknown costs?
5:25:50 PM	Chairman Chandler - witness Mizell Note: Sacre, Candace	Unreasonable to assume no costs?
5:26:00 PM	Chairman Chandler Note: Sacre, Candace	Redirect?
5:26:06 PM	Chairman Chandler Note: Sacre, Candace	Next witness?
5:26:19 PM	Atty Buckley BREC Note: Sacre, Candace	Christopher Bradley.
5:26:30 PM	Atty Cohn KIUC Note: Sacre, Candace	Move for admission now? (Click on link for further comments.)
5:27:21 PM	Atty Cohn KIUC Note: Sacre, Candace	Move for admission of KIUC 1. (Click on link for further comments.)
5:27:22 PM	KIUC HEARING EXHIBIT 1 Note: Sacre, Candace Note: Sacre, Candace	ATTY COHN KIUC - WITNESS MIZELL U.S. ENERGY INFORMATION ADMINISTRATION MARCH 2023 COST AND PERFORMANCE CHARACTERISTICS OF NEW GENERATING TECHNOLOGIES, ANNUAL ENERGY OUTLOOK 2023
5:27:32 PM	Atty Shrinath Sierra Club Note: Sacre, Candace	Move admission SC 3, 4, 5, 6. (Click on link for further comments.)
5:28:36 PM	Chairman Chandler Note: Sacre, Candace	Objections? (Click on link for further comments.)
5:28:49 PM	Chairman Chandler Note: Sacre, Candace	Grant SC 3, 4, 5, and 6.
5:28:50 PM	SIERRA CLUB HEARING EXHIBIT 3 Note: Sacre, Candace Note: Sacre, Candace	ATTY SHRINATH SIERRA CLUB - WITNESS MIZELL EPA CCS COST ESTIMATES
5:28:51 PM	SIERRA CLUB HEARING EXHIBIT 4 Note: Sacre, Candace Note: Sacre, Candace	ATTY SHRINATH SIERRA CLUB - WITNESS MIZELL BIG RIVERS CCR COMPLIANCE WEBSITE
5:28:52 PM	SIERRA CLUB HEARING EXHIBIT 5 Note: Sacre, Candace Note: Sacre, Candace	ATTY SHRINATH SIERRA CLUB - WITNESS MIZELL EPA 2022 GOOD NEIGHBOR PLAN UNIT LEVEL ALLOCATIONS
5:28:53 PM	SIERRA CLUB HEARING EXHIBIT 6 Note: Sacre, Candace Note: Sacre, Candace	ATTY SHRINATH SIERRA CLUB - WITNESS MIZELL COMPLIANCE COST DETAILS
5:29:36 PM	Chairman Chandler Note: Sacre, Candace	Witness is sworn.
5:29:44 PM	Chairman Chandler - witness Bradley Note: Sacre, Candace	Examination. Name and address?
5:29:56 PM	Atty Buckley BREC - witness Bradley Note: Sacre, Candace	Direct Examination. By whom employed?
5:30:01 PM	Atty Buckley BREC - witness Bradley Note: Sacre, Candace	Title?
5:30:05 PM	Atty Buckley BREC - witness Bradley Note: Sacre, Candace	Sponsor responses?
5:30:09 PM	Atty Buckley BREC - witness Bradley Note: Sacre, Candace	Changes or additions?
5:30:13 PM	Atty Buckley BREC - witness Bradley Note: Sacre, Candace	If asked same questions, responses be same?

5:30:17 PM Atty Buckley BREC - witness Bradley
Note: Sacre, Candace Adopt responses as testimony today?

5:30:24 PM Chairman Chandler
Note: Sacre, Candace Questions?

5:30:30 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Cross Examination. Role at BREC, title is VP system operations?

5:31:13 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Same position had whole proceeding?

5:31:18 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Responsibility same?

5:31:33 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Who report to?

5:31:39 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Explain what job entails?

5:31:54 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Planning operation maintenance of transmission system?

5:31:59 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Assist in preparation of IRP?

5:32:23 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Review comments from intervenors?

5:32:30 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Participate in preparation of response from intervenors?

5:32:37 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Review response from BREC?

5:32:42 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace All source RFP, familiar?

5:32:56 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Take part preparing bid for NGCC?

5:33:03 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace NGCC, not evaluate whether transmission costs associated with that?

5:33:35 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Recall when asked, what stage, during bid by BREC?

5:33:55 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Review RFP?

5:34:03 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Not familiar what in request for proposals?

5:34:10 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Required all bids financially settled before delivered, believe me?

5:34:22 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Being delivered into BREC system include interconnection costs?

5:34:33 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Bids required all costs included that interconnection costs be part?

5:34:46 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Said not participate in preparation of self-build here?

5:35:10 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Not evaluate what costs interconnecting self-build be?

5:35:35 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Not rigorous manner conduct study what would cost?

5:35:49 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Fair to say costs of interconnection not be included in self-build bid?

5:36:09 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Mentioned have not participated in study what system upgrades require either?

5:36:36 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Currently studying whether transmission upgrades necessary?

5:36:45 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Come to any preliminary conclusions?

5:37:03 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Fair to say would be costs?

5:37:30 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Indicated as person responded to JI Supplemental Request 2-61?

5:37:49 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace You and Berry responded different parts?

5:37:58 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Was filing prior to hearing indicating adoption of responses?

5:38:17 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Your response Part A?

5:38:22 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Question references Question 1-8 Attorney General?

5:38:38 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Review that in preparation for response to this question?

5:38:59 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Not have with you right now?

5:39:02 PM Atty Gary Joint Intervenors
Note: Sacre, Candace Be provided with copy of AG 1-8. (Click on link for further comments.)

5:39:32 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Verifying what says request from AG asked about, reading (click on link for further comments), is that right?

5:39:49 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Berry responded that, reading (click on link for further comments), is that right?

5:40:05 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Indicated in response JI 2-61 not evaluated what excess of inverter-based resources constitute?

5:40:19 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Said were following developments at FERC and NERC?

5:40:44 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Falls within your responsibility?

5:40:54 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace In footnote, cited two documents?

5:41:01 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Say what those are?

5:41:21 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Read both?

5:41:25 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Ask questions be able answer?

5:41:32 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Recall discussed or shared findings from FERC or NERC with anybody else at BREC?

5:42:12 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Had discussions at BREC reliability updates from other agencies?

5:42:15 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Borrowing from FERC order, material impact on operation bulk power system in order not have to do with intermittent nature of inverter-based resources?

5:42:46 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Has to do how respond to grid?

5:42:52 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Not have to do with intermittency?

5:43:11 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace FERC order not deal with that?

5:43:19 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Agree FERC order and NERC reports recognize potential inverter-based resources?

5:43:29 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace NERC report specifically said, reading (click on link for further comments), sound familiar?

5:43:40 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Would you agree with that?

5:43:45 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace FERC order said, reading (click on link for further comments), sound familiar?

5:43:51 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Would you agree with that, too?

5:44:04 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Potential advantage inverter-based resources, track grid down to millisecond level, right?

5:44:19 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Overall purpose of FERC order updated reliability standards?

5:44:27 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Not set limits on inverter-based resources integrated as part reliability standards?

5:44:38 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Specifically ordered data sharing model validation planning and operational study and performance requirements?

5:44:55 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace FERC order expressed concern high penetration of IBRs?

5:45:00 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Say within BREC territory high penetration of IBRs?

5:45:15 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Would say right now there is?

5:45:26 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Responded to questions about PACE project?

5:45:34 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Indicated PACE not submitted into MISO interconnection queue?

5:45:44 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Been submitted to queue now?

5:45:47 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Why is that?

5:45:53 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Not have specific site owned or within control?

5:46:06 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Pause from MISO on queue not only reason not submitted?

5:46:16 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace BREC participates in MISO transmission expansion plan or MTEP?

5:46:26 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Submit projects into plan?

5:46:32 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Submitted or contributed to transmission expansion projects within BREC territory?

5:46:42 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Say how many?

5:46:56 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Comments on projects and modeling submitted to INTEP?

5:47:06 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace But not track BREC comments?

5:47:30 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Keep log of any communication with MISO?

5:47:58 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Recall what comments on?

5:48:06 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Describe what is?

5:48:27 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace If were to ask for comments, able disclosed?

5:48:35 PM Atty Gary Joint Intervenor
Note: Sacre, Candace Post-hearing data request on tranche 2. (Click on link for further comments.)

5:48:36 PM POST-HEARING DATA REQUEST
Note: Sacre, Candace ATTY GARY JOINT INTERVENORS - WITNESS BRADLEY
Note: Sacre, Candace TRANCHE 2, MISO LONG-RANGE TRANSMISSION EXPANSION PLAN INCLUDING INITIAL SET OF TRANSMISSION PROJECTS

5:48:44 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Refer to response to JI 1-66, previous comments provided not tracked or logged, correct?

5:49:12 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Response to question, studies or analysis participation in MISO transmission planning process, stated, reading (click on link for further comments), is that right?

5:49:35 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace But not apply to comments just talking about?

5:49:50 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Participated in MISO summer coordinated seasonal assessment or CSA, is that right?

5:49:58 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Is also considered CII?

5:50:03 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Across all studies talked about found no need increase net import capability?

5:50:11 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Outline scenarios evaluated as part of that?

5:50:43 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Include new generation as well?

5:50:58 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Not a hypothetical in case of new generation?

5:51:13 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Not have included acquiring low-cost resources available outside territory as way meet load?

5:51:40 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace When say outages, temporary derates, not long-term decommissioning?

5:51:50 PM Atty Gary Joint Intervenor - witness Bradley
Note: Sacre, Candace Not studied whether that be possibility?

5:52:40 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Indicated have examined possibility of MISO PJM interconnection?

5:52:50 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Through EKPC?

5:53:08 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Not warrant further investigation?

5:53:25 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Not done deep dive since 2010?

5:53:44 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace What be referring to PJM and MISO announced collaborate on informational interregional transfer capability study?

5:54:01 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace So familiar with that?

5:54:07 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace BREC have role to play in study?

5:54:25 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Aware of timeline for that?

5:54:30 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Read announcement PJM MISO?

5:54:38 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Aware organizations stated they believe that, reading (click on link for further comments)?

5:54:50 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Familiar with the interregional planning stakeholder advisory committee?

5:54:57 PM Atty Gary Joint Intervenors - witness Bradley
Note: Sacre, Candace Something you follow?

5:55:10 PM Chairman Chandler
Note: Sacre, Candace Questions?

5:56:00 PM Staff Atty Colyer PSC - witness Bradley
Note: Sacre, Candace Cross Examination. To your knowledge, merchant solar facilities seeking interconnection in BREC territory?

5:56:20 PM Chairman Chandler
Note: Sacre, Candace Redirect?

5:56:27 PM Chairman Chandler
Note: Sacre, Candace Next witness?

5:56:30 PM Atty Buckley BREC
Note: Sacre, Candace Terry Wright, Jr.

5:56:35 PM Chairman Chandler
Note: Sacre, Candace Procedural discussion. (Click on link for further comments.)

5:57:30 PM Chairman Chandler
Note: Sacre, Candace Witness is sworn.

5:57:36 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Examination. Name and address?

5:58:04 PM Atty Buckley BREC - witness Wright
Note: Sacre, Candace Direct Examination. By whom employed?

5:58:08 PM Atty Buckley BREC - witness Wright
Note: Sacre, Candace Title?

5:58:11 PM Atty Buckley BREC - witness Wright
Note: Sacre, Candace Sponsor responses?

5:58:15 PM Atty Buckley BREC - witness Wright
Note: Sacre, Candace Are materials brought with you?

5:58:22 PM Atty Buckley BREC - witness Wright
Note: Sacre, Candace Clarifications or additions?

5:58:58 PM Atty Buckley BREC - witness Wright
Note: Sacre, Candace Any other changes or additions?

5:59:07 PM Atty Buckley BREC - witness Wright
Note: Sacre, Candace If asked same questions, give same answers?

5:59:25 PM Chairman Chandler
Note: Sacre, Candace Questions?

5:59:35 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Cross Examination. Describe role at BREC?

5:59:52 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Was role during development of IRP?

6:00:08 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Explain involvement in IRP process?

6:00:34 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Who back up?

6:00:54 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Have responses?

6:01:00 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Responses to JI 1-19C, directs to response to JI 1-19B?

6:01:47 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Believe response directed, said please see?

6:01:54 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Yeah, 19B, correct?

6:01:58 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Response to JI 1-19B sponsored by Sekeres and Fenrick of ClearSpring, familiar with it?

6:02:20 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Direct to response to JI Request 1-19B?

6:02:36 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace It states, reading (click on link for further comments), familiar with approach?

6:02:57 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Response to 1-20C, familiar also applied to direct serve class as well?

6:03:15 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Direct to response to JI Request 1-21, familiar with their response?

6:03:55 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace According to response, direct serve customer sales projected 48.1 percent native system sales by 2024?

6:04:10 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace IRP at page A-43, Appendix A, chart on this page shows BREC direct serve customer sales were 28.8 percent in 2022?

6:05:06 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Appendix A, at A-33, first paragraph, states, reading (click on link for further comments)?

6:05:50 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Fair to assume two additional direct serve customers be increasing direct serve portion native system sales 28.8 percent to 48.1 percent?

6:06:17 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Significant increase due to one if not both?

6:06:26 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Customer expected added in 2023 or the one in 2024?

6:06:45 PM Atty Ozaeta Joint Intervenor - witness Wright
Note: Sacre, Candace Statement made of addition one consumer in 2023, would be it?

6:06:58 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Came on as direct serve customer as expected?

6:07:20 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace When say bit lower than expected, explain how much lower?

6:07:48 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Examination. Clarification, mean further in sense demand be higher?

6:07:55 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Or start increasing ramp faster?

6:08:12 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Expected demand in excess what previously anticipated in this IRP?

6:08:24 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Cross Examination (cont'd). Of two new consumers, this consumer come with more significant load?

6:08:38 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Was significant delay?

6:08:49 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Did say significant delay though?

6:09:03 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Is that common?

6:09:37 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Since do contribute, contributions to overall load and demand significant?

6:09:55 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace As for customer expected added 2024, come online?

6:10:08 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Occur as expected?

6:10:22 PM Atty Buckley BREC
Note: Sacre, Candace Want to be careful about confidentiality. (Click on link for further comments.)

6:11:00 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace In 2013 and 2014, BREC experienced how significant affect and reduce overall load when lost smelters in service area?

6:11:27 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Reviewed BREC response to intervenor comments, have those?

6:12:10 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Response comments, page 9, last paragraph, states, reading, (click on link for further comments), correct?

6:13:00 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Beneficial learn from past experiences and evaluate alternative scenario when direct serve sales not remain steady?

6:13:52 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Agree still have significant impact?

6:14:10 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Confirm way direct serve forecasted remain steady 2029 through 2042?

6:14:46 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace As far as managing risk, more risk?

6:15:09 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Response intervenor comments, page 15, along same lines, states, reading (click on link for further comments), correct?

6:16:16 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace IRP page A-34, Appendix A, shows that from 2024 through 2042 18 direct serve customers?

6:17:07 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	Do direct serve customers have sales agreements with expiration terms?
6:17:40 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	Not need to renew agreement to remain in class?
6:17:55 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	Expiration of terms as direct serve customers affect load for class?
6:18:27 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	Still considered direct serve class?
6:18:43 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	Was information expiration terms factored in to forecast direct serve class?
6:19:44 PM	Chairman Chandler Note: Sacre, Candace	Recess until 6:50.
6:20:15 PM	Session Paused	
6:59:01 PM	Session Resumed	
6:59:42 PM	Chairman Chandler Note: Sacre, Candace	Back on the record.
6:59:47 PM	Chairman Chandler Note: Sacre, Candace	Counsel, continue?
6:59:55 PM	Atty Depp BREC Note: Sacre, Candace	May I make one suggestion? (Click on link for further comments.)
7:00:17 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	Cross Examination (cont'd). Terms of direct serve customer required to stay in service area until terms expire??
7:01:00 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	For customers who have specific terms, although expire stay in class, contract terms indicative when might leave service area?
7:01:29 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	BREC conduct risk analysis considers whether conditions or events occur would affect multiple customers?
7:02:05 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	Familiar with percent differences?
7:02:19 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	Outside IRP process BREC conduct risk analysis?
7:02:38 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	As part of fresh look, BREC consider conducting risk analysis direct serve class leave area/operations ending?
7:03:18 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	DSM programs, adopted a few of Berry responses?
7:03:37 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	Explain why adopted responses related to DSM?
7:04:09 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	Felt might be appropriate person to answer?
7:04:24 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	BREC have plans to develop new DSM programs?
7:05:08 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	Apply to residential customers as well?
7:06:04 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	BREC not have plans make DSM filings next few years?
7:06:27 PM	Atty Ozaeta Joint Intervenor - witness Wright Note: Sacre, Candace	BREC has DSM potential study on file?

7:06:35 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace That study shows increased spending on DSM benefit BREC customers?

7:06:50 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Agree maximizing amount cost effective energy efficiency company pursues is benefit?

7:07:20 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace IRP only modeled one-million-dollar budget?

7:07:30 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Consider other alternatives to budget?

7:07:41 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Just to confirm, no alternatives, correct?

7:07:45 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Agree important goal avoid need spend money on new generation in future?

7:07:57 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Agree avoided costs new generation in future are benefits save customers money?

7:08:14 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Something should be evaluated future IRPs?

7:08:23 PM Atty Ozaeta Joint Intervenors - witness Wright
Note: Sacre, Candace Just that one option?

7:08:31 PM Chairman Chandler
Note: Sacre, Candace Ms. Huddleston?

7:08:47 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Cross Examination. Were back-up IRP planner?

7:09:03 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace By end of IRP, primary?

7:09:21 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace When was that?

7:09:28 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Familiar with Kentucky requirements utilities furnish adequate efficient and reasonable service?

7:09:42 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Familiar with requirements that utilities provide fair just and reasonable rates?

7:09:55 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Familiar with KRS 278.262 and 278.264?

7:10:12 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Familiar with requirements what utility must show to retire fossil fuel generating unit?

7:10:26 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace State what BREC need to show to retire Wilson?

7:11:00 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Having capacity requires advance planning?

7:11:07 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace BREC begun advanced planning for Wilson?

7:11:18 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Planned retirement date?

7:11:34 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Why is that?

7:11:50 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Here for Burden questioning about GADS data?

7:11:58 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Say a plant with that profile in 2022 consistently ran every day in 2022?

7:12:24 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Would a year be sufficient to evaluate reliability?

7:12:32 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace If a plant exhibited profile saw 2022 for Wilson, say plant reliable?

7:13:08 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace What level derate make unreliable?

7:13:20 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace What equivalent availability factor make it unreliable?

7:13:44 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Post-hearing data request if asked about factor, able provide?

7:13:45 PM POST-HEARING DATA REQUEST
Note: Sacre, Candace ATTY HUDDLESTON SIERRA CLUB - WITNESS WRIGHT
Note: Sacre, Candace EQUIVALENT AVAILABILITY FACTOR

7:14:08 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace IRP stated Wilson highly reliable, know what factors used to reach determination?

7:14:25 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Know of analysis or study done by company?

7:14:36 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace In IRP process, assessment of factor determining that Wilson highly reliable?

7:14:54 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Who is they?

7:15:04 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace In IRP process, aware of regulations require BREC provide resource assessment acquisition plan?

7:15:31 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Aware before today?

7:15:40 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Guiding factor in IRP process?

7:15:49 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Aware IRP consider impacts of selected key uncertainties and include options?

7:16:06 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Was requirement guiding part of creation of IRP?

7:16:21 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Where in IRP discuss actions 15 years meet Clean Air Act amendments and how affect resource assessment?

7:16:48 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Reviewed IRP?

7:16:53 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace But not review IRP for compliance with requirements?

7:17:01 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Not identify where in IRP?

7:17:20 PM Atty Huddleston Sierra Club - witness Wright
Note: Sacre, Candace Questions?

7:17:30 PM Staff Atty Hatcher PSC - witness Wright
Note: Sacre, Candace Cross Examination. Response first request, Item 9, PSC 1-9, Table 7.4.1A, confirm member peak CP used in last column BREC CP to MISO CP factor using table in Item 9?

7:19:33 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	Confirm member peak CP used in 7.1.6A derived by subtracting BREC CP to MISO CP factor?
7:20:02 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	Explain whether base case member peak from 7.1.6A same peak used when calculating table in 7.4.1A?
7:20:28 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	Ask that a post-hearing data request?
7:20:29 PM	POST-HEARING DATA REQUEST Note: Sacre, Candace Note: Sacre, Candace	STAFF ATTY HATCHER PSC - WITNESS WRIGHT EXPLAIN WHETHER BASE CASE MEMBER PEAK FROM 7.1.6a SAME PEAK USED WHEN CALCULATING FIGURES IN 7.4.1A
7:20:40 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	Last Staff Report, Practice Manual Resource Adequacy No. 11, states, reading (click on link for further comments), how account for nonmember sales, other contracted demand, and demand and energy forecasts?
7:22:07 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	Any difference wholesale customer and nonmember customer?
7:22:25 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	What does it mean for BREC?
7:22:55 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Examination. By non-native, mean in-use customers not owner members of your owner members?
7:23:13 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	Cross Examination (cont'd). Confirm nonmember sales not included in PRMR?
7:23:27 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	Next, refer to BREC Response to Staff First, Item 47-C and will read it, reading (click on link for further comments), also refer to Staff Second, Item 27, where states, reading (click on link for further comments), how reconcile differences?
7:24:03 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	How reconcile difference between extensions not modeled as probability of extension unknown with statement nonmember contracts renewed?
7:25:10 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	But plan from BREC renew them?
7:25:32 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	BREC run hypothetical scenarios that include contract renewals?
7:25:42 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	Why not?
7:25:57 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	Explain how ZRC transfer works?
7:26:20 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	Said not model for IRP, modeled it in other situations?
7:26:46 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	BREC use same forecast in IRP as provides to MISO?
7:27:15 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	Similar analysis for each load forecast?
7:27:54 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	For what purpose MISO use forecasts?
7:28:50 PM	Staff Atty Hatcher PSC - witness Wright Note: Sacre, Candace	Where capacity for ZRC transfer come?

7:29:39 PM Staff Atty Hatcher PSC - witness Wright
Note: Sacre, Candace Confirm sack value comes from units and no MISO in general?

7:29:53 PM Staff Atty Hatcher PSC - witness Wright
Note: Sacre, Candace How often BREC file updated load forecast with RUS?

7:30:14 PM Staff Atty Hatcher PSC - witness Wright
Note: Sacre, Candace BREC know whether RUS interested in resource selections for IRP?

7:31:02 PM Staff Atty Hatcher PSC - witness Wright
Note: Sacre, Candace DSM programming, what discussions had regarding cost-effective DSM programs presented in study?

7:32:17 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Examination. Each year annual capacity auction within MISO?

7:32:39 PM Chairman Chandler - witness Wright
Note: Sacre, Candace What PRA stand for?

7:32:47 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Have residual auction, satisfy own plan, residual sell it, need some buy somebody's residual amount?

7:33:24 PM Chairman Chandler - witness Wright
Note: Sacre, Candace But tell you load forecast no good and should have done other way?

7:33:30 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Grossed up for losses and again for reserve margin?

7:33:36 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Required amount, other side resources, form of zonal resource credits?

7:33:50 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Resources have SAC values, have to meet required ZRCs?

7:34:10 PM Chairman Chandler - witness Wright
Note: Sacre, Candace What ZRC?

7:34:37 PM Chairman Chandler - witness Wright
Note: Sacre, Candace ZRC denominated megawatt basis?

7:34:48 PM Chairman Chandler - witness Wright
Note: Sacre, Candace A credit equal is to accredited megawatt?

7:34:54 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Non-derated megawatt?

7:35:07 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Megawatts assigned to unit equivalent to ZRC transferable?

7:35:28 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Basically identifying portion of units to be wheeled into SVP?

7:36:10 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Procuring capacity somewhere else why affect your capacity?

7:36:18 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Reduced amount megawatts own units, just an amount?

7:36:39 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Just for non-native wholesale customers within MISO footprint?

7:37:04 PM Chairman Chandler - witness Wright
Note: Sacre, Candace In different balancing area?

7:37:07 PM Chairman Chandler - witness Wright
Note: Sacre, Candace In LG&E/KU balancing area?

7:37:30 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Prove to them?

7:37:42 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Heard questions with Mathews about robust conversations about hedging utility conducts in buying forward energy?

7:38:08 PM Chairman Chandler - witness Wright
Note: Sacre, Candace Capacity short?

7:38:34 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	How be energy deficient if not capacity inefficient?
7:39:29 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Say energy efficient, not necessarily generating all energy market price?
7:40:05 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Have conversation with Christensen practices are when how use model?
7:40:39 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Not buying forward energy when energy deficient, buys whatever at time of delivery?
7:41:08 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Did you tell him what we do in terms of buying energy week-long or month-long strips going out in X megawatts?
7:42:02 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Whether important disconnect operating system and way model assumes operating system?
7:42:34 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Conversion of Green cheap capacity not helpful serving energy needs?
7:42:50 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Firm gas unavailable with current infrastructure?
7:43:04 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Not have firm gas for any units?
7:43:08 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Break even, how often dispatched and what heat rate make sense?
7:43:26 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Until something like NGCC make sense?
7:43:38 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	DSM includes calculations of economic and what you said earlier not choose because not least cost, who made decision use forward curves by ACES for cost data?
7:44:20 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	All I can find in entire record, know can point me?
7:44:32 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Who made decision depend on forward curves by ACES for cost data?
7:44:42 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	For DSM, avoided costs are avoided costs, who made decision?
7:45:04 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Actual costs strip of energy buying a good use of avoided energy costs for DSM programs?
7:45:30 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	If member owners implement DSM programs, does that reduce expected future purchases of energy?
7:46:38 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	What energy cost on random day buying forward?
7:46:54 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	If buy for \$30 instead of \$60, take that?
7:47:05 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	If considering costs avoiding for every dollar get two back, make sense reduce every hour reduce system costs?
7:47:42 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	All questions heard today, believe that is reasonable takeaway building CC is least cost most reasonable option?

7:49:02 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	What resource eventually build, if DSM provide two for one, real savings to utility?
7:49:31 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Talking about TRC scores for DSM getting return cost be avoided, if can avoid two three or four times costs of investment, real cost savings, agree?
7:50:17 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Have faith in this model?
7:50:20 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	This IRP, recommending build 696 MW CC based off this study?
7:50:48 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Do you know who makes determination to spend one million a year as cap on DSM programs?
7:51:08 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Not know who dictates million dollars being cap?
7:51:14 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Know who said show me model at one million dollars?
7:51:24 PM	Chairman Chandler - witness Wright Note: Sacre, Candace	Question for Parsley?
7:51:32 PM	Chairman Chandler Note: Sacre, Candace	Counsel?
7:51:43 PM	Atty Buckley BREC - witness Wright Note: Sacre, Candace	Redirect Examination. For clarity, current hedging practices BREC employs consequence of energy deficiency?
7:52:01 PM	Atty Buckley BREC - witness Wright Note: Sacre, Candace	Modeling designed reduce or eliminate energy deficiency?
7:52:12 PM	Atty Buckley BREC - witness Wright Note: Sacre, Candace	Expect continue in hedging practices if had sufficient energy in future?
7:53:01 PM	Atty Buckley BREC - witness Wright Note: Sacre, Candace	Fair statement DSM part of what being evaluated in terms of Fresh Start?
7:53:14 PM	Atty Buckley BREC - witness Wright Note: Sacre, Candace	BREC continues evaluate DSM program may be implemented in future?
7:53:55 PM	Chairman Chandler Note: Sacre, Candace	Mr. Depp, call witness?
7:53:58 PM	Atty Depp BREC Note: Sacre, Candace	John Christensen.
7:54:35 PM	Chairman Chandler Note: Sacre, Candace	Witness is sworn.
7:54:42 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Examination. Name and address?
7:54:54 PM	Atty Depp BREC - witness Christensen Note: Sacre, Candace	Direct Examination. Who employer?
7:55:04 PM	Atty Depp BREC - witness Christensen Note: Sacre, Candace	Title?
7:55:09 PM	Atty Depp BREC - witness Christensen Note: Sacre, Candace	Sponsor responses?
7:55:12 PM	Atty Depp BREC - witness Christensen Note: Sacre, Candace	Updates or amendments?
7:55:15 PM	Atty Depp BREC - witness Christensen Note: Sacre, Candace	Asked same data requests, answers remain same?

7:55:20 PM Atty Depp BREC - witness Christensen
Note: Sacre, Candace Adopt as testimony?

7:55:23 PM Atty Depp BREC - witness Christensen
Note: Sacre, Candace Have materials with you?

7:55:32 PM Chairman Chandler
Note: Sacre, Candace Questions?

7:55:49 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Cross Examination. Role was to be in charge of modeling?

7:56:12 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Who work with at BREC?

7:56:24 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Have a primary contact?

7:56:40 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Reviewed comments provided by Intervenor?

7:56:51 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Have role preparation of response to comments?

7:57:07 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Have Chapter 7 of IRP?

7:57:17 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Involved in drafting section?

7:57:24 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Also involved in 2022 all-source RFP?

7:57:47 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Somebody else at 1898 in charge?

7:57:52 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Who was that?

7:57:57 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Still at 1898?

7:58:09 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Under RFP, respondents required submit proposals by end of May 2022, right?

7:58:29 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Deadline before Inflation Reduction Act, correct?

7:58:39 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Outreach to short-listed bidders provide opportunity update bids?

7:59:20 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Only few months later, not significant inflation in three months?

7:59:55 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Cost impacts experienced by gas generators?

8:00:43 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Including gas line?

8:00:50 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Receive any updated pricing?

8:01:19 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Discussed confidential summary of bidders provided, here for that?

8:01:37 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Identified as sponsor for that?

8:02:12 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Primary question, document provides summary of bids?

8:02:29 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Reflect post-IRA pricing?

8:04:19 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Have similar summary pre-IRA?

8:04:33 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Data not compiled?

8:04:52 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace What was process for evaluating bids?

8:05:33 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Is that a written document?

8:05:51 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Process occur both original bids and updated post-IRA bids?

8:06:27 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Any other evaluation done by your firm which projects most economic or best choices?

8:07:35 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace That's what short list represents?

8:07:45 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Significant number of projects eliminated?

8:09:02 PM Atty Fisk Joint Intervenors
Note: Sacre, Candace Post-hearing data request bids received.

8:09:03 PM POST-HEARING DATA REQUEST
Note: Sacre, Candace ATTY FISK JOINT INTERVENORS - WITNESS CHRISTENSEN
Note: Sacre, Candace SCORING OF RFP BIDS RECEIVED

8:09:34 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Recall Mathews testimony?

8:09:48 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Has been discussions with you or firm working on Fresh Start?

8:10:07 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Not have any involvement on Fresh Start?

8:10:23 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Made recommendations if were to be Fresh Start another RFP process initiated?

8:10:53 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Utility doing Fresh Start in 2024 make sense do new RFP?

8:11:47 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace If do RFP first, resource planning actual data?

8:12:34 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace One of issues whether BREC should have modeled potential retirement dates for Wilson?

8:12:53 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Modeling not do that?

8:13:00 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Look at Response to Staff 2-30, sponsor of subpart B?

8:13:38 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Question EnCompass able to model BREC units cost retiring any year, see that?

8:13:51 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Response is, reading (click on link for further comments), that right?

8:14:01 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Modeling retirements, agree feasible model discrete retirement dates for generating unit?

8:14:53 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Utility do so when shift in cost of unit?

8:15:05 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Deadlines under 111 rule qualify as regulatory changes appropriate model retirement dates around?

8:16:01 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Aware of finalized 111 rule?

8:16:19 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Aware for coal units projected run past 2039, 111 rule require CTS?

8:16:42 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace If doing resource planning, date CCS required be appropriate date retire unit rather than CCS?

8:17:37 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Cannot model CCS?

8:17:51 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace Agree installation of CCS significant shift in cost profile of Wilson?

8:18:12 PM Atty Fisk Joint Intervenors - witness Christensen
Note: Sacre, Candace If had to install CCS in 2032, appropriate time to evaluate?

8:18:13 PM DUE TO TECHNICAL DIFFICULTIES, HEARING LOG IS UNAVAILABLE.



Date:	Type:	Location:	Department:
5/22/2024	Public Hearing\Public Comments	Hearing Room 1	Hearing Room 1 (HR 1)

Witness: Christopher Bradley; Jason Burden; John Christensen; Brittaney Johnson; Talina Mathews; Michael Mizell; Vicky Payne; Christopher Warren; Terry Wright Jr.
 Judge: Kent Chandler; Angie Hatton
 Clerk: Candace Sacre

Event Time	Log Event
8:48:17 PM	Session Started
8:48:18 PM	DUE TO TECHNICAL DIFFICULTIES, HEARING LOG IS UNAVAILABLE..
8:48:57 PM	Chairman Chandler Note: Sacre, Candace Back on the record.
8:49:04 PM	Chairman Chandler Note: Sacre, Candace Procedural discussion. (Click on link for further comments.)
8:49:28 PM	Chairman Chandler Note: Sacre, Candace Counsel, continue?
8:49:39 PM	Atty Fisk Joint Intervenors - witness Christensen Note: Sacre, Candace Cross Examination (cont'd). Page 138 of IRP, figure 7.2.2 (a), reflects base case conditions modeled through sensitivities?
8:50:38 PM	Atty Fisk Joint Intervenors - witness Christensen Note: Sacre, Candace And analysis led to base portfolio?
8:51:12 PM	Atty Fisk Joint Intervenors - witness Christensen Note: Sacre, Candace Recall conversation about carbon adder?
8:51:18 PM	Atty Fisk Joint Intervenors - witness Christensen Note: Sacre, Candace Carbon adder designed reflect impacts of carbon regulations?
8:51:31 PM	Atty Fisk Joint Intervenors - witness Christensen Note: Sacre, Candace Stage of modeling reflected in figure, not see reference to carbon adder?
8:51:47 PM	Atty Fisk Joint Intervenors - witness Christensen Note: Sacre, Candace Carbon adder not into play until after portfolios identified?
8:52:27 PM	Atty Fisk Joint Intervenors - witness Christensen Note: Sacre, Candace Portfolios developed and modeled without consideration of carbon adder?
8:52:49 PM	Atty Fisk Joint Intervenors - witness Christensen Note: Sacre, Candace Also discussion needing operate SCR pollution control on Wilson year round?
8:53:08 PM	Atty Fisk Joint Intervenors - witness Christensen Note: Sacre, Candace Know if cost of operating SCR reflected in modeling?
8:53:17 PM	Atty Fisk Joint Intervenors Note: Sacre, Candace Post-hearing data request? (Click on link for further comments.)
8:53:18 PM	POST-HEARING DATA REQUEST Note: Sacre, Candace ATTY FISK JOINT INTERVENORS - WITNESS CHRISTENSEN Note: Sacre, Candace COST OF OPERATING SCR AT WILSON REFLECTED IN MODELING
8:53:45 PM	Atty Fisk Joint Intervenors - witness Christensen Note: Sacre, Candace Turn to 142 and 143 of IRP, table 7.3.1, shows base portfolio and other two talking about?
8:54:10 PM	Atty Fisk Joint Intervenors - witness Christensen Note: Sacre, Candace Resource decisions reflected input into model?

8:55:13 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Aggressive carbon reduction portfolio shows 2032 adding CCS to Wilson and NGCC plan?

8:55:26 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Is input into model as opposed to model selecting that?

8:56:02 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace This aggressive carbon reduction portfolio not mean model determined CCS lowest cost option scenario?

8:56:39 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace To be clear, when said no to my question, was correct, aggressive carbon reduction portfolio not showing CCS lowest cost option?

8:57:08 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Carbon adder used in modeling these three portfolios?

8:57:38 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace But carbon adder in modeling would not have led to different resource portfolio?

8:57:57 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Scenarios not say anything about whether carbon adder have shown Wilson uneconomic?

8:58:15 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Modeling of three portfolios with adder results show cost of portfolio?

8:58:39 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Turn to page 145 and 146, section about assumptions carbon capture/sequestration, see that?

8:58:54 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Are costs that are confidential, not say on records, are various costs identified here?

8:59:06 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Summarized in 7.3.2(a) on page 146?

8:59:18 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace A few reported in text on 145?

8:59:24 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Are costs you developed?

9:00:45 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Capital cost?

9:00:53 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Wilson data in 7.3.2, all came from BREC?

9:01:06 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Page 145 reference to Wilson costs qualify for New ERA financing?

9:01:21 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Capital cost in table 7.3.2(a) for Wilson inclusive of 25 percent grant and zero interest loan under IRA?

9:02:03 PM Atty Fisk Joint Intervenor
Note: Sacre, Candace Request post-hearing data request. (Click on link for further comments.)

9:02:04 PM POST-HEARING DATA REQUEST
Note: Sacre, Candace ATTY FISK JOINT INTERVENORS - WITNESS CHRISTENSEN
Note: Sacre, Candace CAPITAL COST IN TABLE 7.3.2(a) FOR WILSON INCLUSIVE OF 25 PERCENT GRANT AND ZERO INTEREST LOAN UNDER IRA

9:02:14 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Your modeling, one of the resources evaluated battery storage?

9:02:32 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Agree battery storage important tool integrating intermittent resources into energy system?

9:02:50 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace But can help integrate?

9:03:00 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Capabilities of battery storage help intermittency of renewables?

9:03:10 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace When say within reason, percentage of renewables in system?

9:03:58 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace That does help integrate renewables if can do shift?

9:04:11 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Battery storage provide ancillary services?

9:04:32 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Modeling of storage account ancillary service benefits storage provide?

9:05:05 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace But not evaluate whether be ancillary service benefits of increasing storage?

9:05:12 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Battery storage provide black-start services?

9:05:33 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Black-start service benefits of storage not factored into analysis?

9:05:54 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Battery storage also provide energy arbitrage services?

9:06:02 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Potential benefit of storage not reflected in modeling?

9:06:08 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Is reflected?

9:06:55 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Model monetize that?

9:07:07 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Battery storage help defer need for transmission/distribution upgrades?

9:07:58 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Why that not help defer need for distribution upgrade?

9:08:56 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Which be distributed generation battery?

9:08:58 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace That not modeled here?

9:09:07 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace But not actually run analysis?

9:09:18 PM Atty Fisk Joint Intervenor - witness Christensen
Note: Sacre, Candace Unless was receive financial assistance programs under IRA?

9:09:43 PM Chairman Chandler
Note: Sacre, Candace Questions?

9:10:05 PM Atty Shrinath Sierra Club - witness Christensen
Note: Sacre, Candace Cross Examination. Lot talked about need for fresh start, ideally mean drafting and development of new IRP?

9:10:24 PM Atty Shrinath Sierra Club - witness Christensen
Note: Sacre, Candace Spoke from experience, can speak from professional experience address that?

9:11:03 PM Atty Shrinath Sierra Club - witness Christensen
Note: Sacre, Candace Deficiencies current IRP, new 2024 IRP or RFP necessary ensure lowest cost reliable resources?

9:11:35 PM Atty Shrinath Sierra Club - witness Christensen
Note: Sacre, Candace Spoke to experience laying out new IRP or RFP, remember that?

9:11:49 PM Atty Shrinath Sierra Club - witness Christensen
Note: Sacre, Candace New IRP or new RFP?

9:12:03 PM Atty Shrinath Sierra Club - witness Christensen
Note: Sacre, Candace Maximizing low cost include new IRP and RFP?

9:12:28 PM Atty Shrinath Sierra Club - witness Christensen
Note: Sacre, Candace How stagger those?

9:12:49 PM Chairman Chandler
Note: Sacre, Candace Questions?

9:13:01 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Cross Examination. Green Station retirement, how 2029 selected as retirement?

9:13:36 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Cost additional time/money run model Green Station able retired any year?

9:14:10 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Talking hours days weeks?

9:14:20 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Be true anything treated as changeable compared to hardcoded?

9:15:08 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Be difference between binary change versus dynamic change?

9:15:27 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Talking earlier about first modeling phase, expansion planning, and portfolio selection applying production costs, characterize correctly?

9:16:09 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Explain ways cost of different resources used each of stages?

9:16:43 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace In order select resources and options, for model to pick, have to have cost information?

9:17:05 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace That cost information derived where?

9:17:54 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Any of sources include all-source RFP data?

9:18:10 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace The self-build?

9:18:44 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace No what?

9:19:08 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Just matter of sample size?

9:19:25 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Back to costs been input, run model, model provides least cost reasonable alternative meet capacity?

9:20:06 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Explain how get from that to selecting base portfolio?

9:22:10 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Table on page 143, three columns include PACE program but not selected by model in table 7.2.3, correct that, under high load PACE selected, other ones not?

9:23:10 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Would have expected, taking into account up to 20 percent forgiveness PACE projecct, model pick that ahead of solar/wind every time, shoud it not?

9:23:47 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Without application of PACE, like comparing to solar PPAs, PACE always solar and storage?

9:24:12 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace PACE not as cost effective according to model except under high load sensitivity?

9:24:39 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Back to table page 143, what purpose aggressive carbon reduction portfolio in IRP, what do planning wise?

9:26:44 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Page 121 IRP, effective load-carrying capability table 7.1.4(h), why ELCC solar decrease while wind increases?

9:29:18 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Model allow BREC-built solar or purchased solar or PPAs, all three options?

9:29:55 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace When said purchased, purchased facilities not power or capacity?

9:30:54 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Self-build cost more predictable but could find somebody selling facility?

9:31:20 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Talk about capacity, page 152 IRP, table 7.4.1, seasonal capacity relative to reserve margin, sponsored response, PSC 147(C), factors how decided capacity needed, some calculation how determined capacity BREC wanted beyond reserve margin?

9:33:22 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace If wrong tell me, appears from 2030 on, bit of extra capacity beyond reserve margin?

9:34:05 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Did fine job explaining in DR why excess capacity might be needed, where actual capacity number came from, process not start with setting need capacity level?

9:39:00 PM Staff Atty Colyer PSC
Note: Sacre, Candace Think it does, ask post-hearing data request documentation solidifies that. (Click on link for further comments.)

9:39:01 PM POST-HEARING DATA REQUEST
Note: Sacre, Candace STAFF ATTY COLYER PSC - WITNESS CHRISTENSEN
Note: Sacre, Candace DOCUMENTATION OF FROM WHERE ACTUAL CAPACITY NUMBER DERIVED AND WHY EXCESS CAPACITY NEEDED

9:39:35 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Anyone from BREC talk about any planning change would occur nonmember contracts not renewed?

9:40:32 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Assume nonmember contracts not renew and BREC have significant excess capacity, anything modeled whether excess capacity be net gain to sell?

9:42:12 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Risk outliers, at end of first expansion planning portion, whatever model spit out, that stage or portfolio selection stage, anything account extreme cost outliers, model choose X plus one under base scenario, or will it not?

9:43:59 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace Expansion planning?

9:44:21 PM Staff Atty Colyer PSC - witness Christensen
Note: Sacre, Candace What was last part?

9:44:35 PM	Staff Atty Colyer PSC - witness Christensen Note: Sacre, Candace	Would it select X or X plus one under base scenario regardless cost of sensitivities, does expansion planning phase take scenarios into account, if not does portfolio selection portion consider?
9:46:55 PM	Staff Atty Colyer PSC - witness Christensen Note: Sacre, Candace	Answers my question, modeling going to give least cost reasonable alternative under each one of sensitivities including base conditions, portfolio selection, pick one best address risk outliers, qualitative and not quantitative?
9:48:25 PM	Staff Atty Colyer PSC - witness Christensen Note: Sacre, Candace	BREC tell why resources were choosing availability modeling limited to 635 MW NGCC and 230 SC, know where capacity numbers came from and why limited that way?
9:49:10 PM	Staff Atty Colyer PSC - witness Christensen Note: Sacre, Candace	Remember in IRP list, says here's the four thermal options?
9:49:27 PM	Staff Atty Colyer PSC - witness Christensen Note: Sacre, Candace	Not have to read, just tell me why told you limited using those options?
9:50:53 PM	Staff Atty Colyer PSC - witness Christensen Note: Sacre, Candace	Mathews testified in self-build situation build whatever capacity wanted, Wright also testified bigger make it the more capacity, the more efficiency, something discussed?
9:52:31 PM	Staff Atty Colyer PSC - witness Christensen Note: Sacre, Candace	Model permit use whatever capacity requested?
9:53:18 PM	Staff Atty Colyer PSC - witness Christensen Note: Sacre, Candace	Someone from BREC tell you 635 MW NGCC conditioned on obtain partnership with another utility?
9:54:43 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Examination. Staff Counsel asking about ELCC, said an extrapolation, you extrapolate MISO data, or MISO data an extrapolation?
9:55:25 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Was MISO data indicative?
9:55:42 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Trying to saying, indicative and not telling that will be the ELCC?
9:55:57 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	What wanted make clear, no way know demand look like or what resource makeup be of entire grid?
9:56:12 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Both inputs into ELCC?
9:56:33 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Nobody says projected solar be 30 percent in 2029, now give us 30 percent capacity credit?
9:56:53 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Just be lying about relative reliability of resources that year, no way of knowing that?
9:57:05 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Extrapolation, saying MISO provided outer year indicative, drew line two data points and said this what wind solar worth those years?
9:57:32 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Environmental compliance costs, how model capital environmental costs for thermal resources?
9:58:32 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Heard questioning with Mizell using proxy future environmental compliance capital costs?

9:58:43 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	So where going, what model assume as proxy future costs capital related, whatever utility gave you?
9:59:12 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Ask as post-hearing data request?
9:59:13 PM	POST-HEARING DATA REQUEST Note: Sacre, Candace Note: Sacre, Candace	CHAIRMAN CHANDLER - WITNESS CHRISTENSEN PROVIDE WHAT MODEL ASSUME AS PROXY FOR FUTURE ENVIRONMENTAL COMPLIANCE COSTS THAT ARE CAPITAL RELATED
9:59:17 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Agree with Mizell assuming as proxy zero dollars future environmental capital cost unreasonable assumption?
9:59:39 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	But, also, if model not economically picking and choosing retirements, whatever capital costs are not matter for choosing future of Wilson?
10:00:00 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	If model says Wilson not retire, not matter if incurring \$100 million incremental capital cost every year, not going to retire?
10:00:08 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Included in least cost most reasonable resource selection?
10:00:24 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Wright discussing current system today, discussion about benefit Green has as capacity resource, not square that with statement made in IRP on page 144, paragraph starting economic retirement of Green Units 1 and 2?
10:01:28 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Says, reading (click on link for further comments), read correctly?
10:02:11 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	When something determined/concluded, not for creating energy economic basis throughout year but for availability most extreme times?
10:02:32 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	If all hedges have nonfirm gas supply, impossible get gas, how good is it in those extreme times?
10:02:42 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Model take into account at all?
10:03:25 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	LMP being at whatever price cap is not mean supply constraints for commodity or transportation to gas unit?
10:03:45 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	But utility not believe has availability firm gas supply, assume CTs modeled not modeled alongside firm gas supply?
10:04:19 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Is a qualitative risk, what I am hearing here since model not envision it, clearly operational risk currently experiencing?
10:04:33 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	How taken into account when conducting IRP?
10:05:10 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Additional risk analysis reasonable step?
10:05:46 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Know why difference between 696 MW facility in queue and 635 combined cycle modeled in IRP?

10:06:56 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Not requesting number of capacitor connection rights seeking?
10:07:10 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Model 635 MW unit, or did you model 635 MW output net of station power?
10:07:30 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Same with 21 MW reciprocating engines, station power netted already?
10:07:36 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	200-plus megawatt GE Vernova that is net amount?
10:08:02 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	How many megawatts CT?
10:08:14 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Not know how big CT when was chosen?
10:08:47 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Clarified but make sure, understanding from comment would be infrastructure upgrade necessary place combined cycle at or near location and reuse infrastructure at Geen 1 and 2?
10:09:17 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	About current metering and infrastructure be used, and size of pipe right size, are other upgrades necessary accommodate combined cycle?
10:09:30 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Know whether provided necessary capital cost upgrades required put in infrastructure necessary, included in overnight kW or capital costs for combined cycle?
10:10:33 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Last issue, assume for question, Commission previously required/stated in Order the following, reading (click on link for further comments), earlier discussing taking what MISO requirement is by season and adding PRM, modeling in IRP meet entirety peak demands regardless MISO rules and separately MISO rules?
10:11:35 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Restate question, did models run seek meet utility's requirements under MISO rules?
10:11:48 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Does it also attempt serve to meet entirety BREC entire retail and wholesale obligations as if was stand-alone utility?
10:12:41 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Ignoring things like contingency reserve requirements, agree vertically integrated utility plans to meet own needs?
10:13:02 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	But, here, vertically integrated utility this IRP not seek to meet BREC needs, instead is to meet MISO rules applicable to BREC?
10:13:43 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Maybe MISO moving to seasonal capacity construct helps?
10:13:49 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Annual product, winter peaking utility and summer peaking RTO, run risk of being short for own native demands?
10:14:18 PM	Chairman Chandler - witness Christensen Note: Sacre, Candace	Mr. Depp?
10:14:23 PM	Chairman Chandler Note: Sacre, Candace	Anything else this witness?

10:14:28 PM	Chairman Chandler Note: Sacre, Candace	Procedural discussion. (Click on link for further discussion.)
10:16:00 PM	Chairman Chandler Note: Sacre, Candace	Leave it to you.
10:16:03 PM	Atty Depp BREC Note: Sacre, Candace	Marlene Parsley.
10:16:09 PM	Chairman Chandler Note: Sacre, Candace	Witness is sworn.
10:16:16 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Examination. Name and address?
10:16:27 PM	Atty Depp BREC - witness Parsley Note: Sacre, Candace	Direct Examination. Employer?
10:16:31 PM	Atty Depp BREC - witness Parsley Note: Sacre, Candace	Title?
10:16:34 PM	Atty Depp BREC - witness Parsley Note: Sacre, Candace	Sponsor data request responses?
10:16:39 PM	Atty Depp BREC - witness Parsley Note: Sacre, Candace	Updates or amendments?
10:16:43 PM	Atty Depp BREC - witness Parsley Note: Sacre, Candace	If asked questions today, answers remain same?
10:16:46 PM	Atty Depp BREC - witness Parsley Note: Sacre, Candace	Intent to adopt as testimony?
10:16:48 PM	Atty Depp BREC - witness Parsley Note: Sacre, Candace	Have materials with you?
10:16:57 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Examination. Aware of \$1 million constraint demand side management spending in IRP?
10:17:02 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Aware same constraint operationally BREC implements?
10:17:18 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	In the past that has been, at least in past been a general \$1 million threshold?
10:17:27 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Know where comes from?
10:18:09 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Is \$1 million what been told to implement in IRPs?
10:18:28 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Who told you, but also why place limit, if chose \$20 million be amount, model cannot do that when limited to a million?
10:19:00 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	If \$20 million program returned \$60 million or \$80 million of margins, make sense to borrow, at five percent discount raise make sense borrow that money?
10:19:27 PM	Chairman Chandler - witness Parsley Note: Sacre, Candace	Not know genesis of it, model as constraint because is what did, operationally what were spending?
10:19:41 PM	Chairman Chandler Note: Sacre, Candace	Anything else, Mr. Depp?
10:20:15 PM	Chairman Chandler Note: Sacre, Candace	Procedural discussion. (Click on link for further comments.)
10:20:51 PM	Chairman Chandler Note: Sacre, Candace	Recess until 10:45.
10:21:03 PM	Session Paused	
10:24:49 PM	Session Resumed	

10:25:06 PM	Chairman Chandler Note: Sacre, Candace	Back on the record.
10:25:11 PM	Chairman Chandler Note: Sacre, Candace	Witness discussion. (Click on link for further comments.)
10:26:06 PM	Chairman Chandler Note: Sacre, Candace	Mr. Buckley, next witness?
10:26:09 PM	Atty Buckley BREC Note: Sacre, Candace	Russell Pogue.
10:26:19 PM	Chairman Chandler Note: Sacre, Candace	Witness is sworn.
10:26:25 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Examination. Name and address?
10:26:38 PM	Atty Buckley BREC - witness Pogue Note: Sacre, Candace	Direct Examination. By whom employed?
10:26:42 PM	Atty Buckley BREC - witness Pogue Note: Sacre, Candace	Title?
10:26:48 PM	Atty Buckley BREC - witness Pogue Note: Sacre, Candace	Sponsor data request responses?
10:26:51 PM	Atty Buckley BREC - witness Pogue Note: Sacre, Candace	Changes or additions?
10:26:57 PM	Atty Buckley BREC - witness Pogue Note: Sacre, Candace	If asked same questions, give same answers?
10:27:02 PM	Atty Buckley BREC - witness Pogue Note: Sacre, Candace	Adopt responses as testimony?
10:27:08 PM	Chairman Chandler Note: Sacre, Candace	Questions?
10:27:17 PM	Atty Cmar Joint Intervenors - witness Pogue Note: Sacre, Candace	Cross Examination. Low-income weatherization program, BREC reported to Commission no participants last year?
10:27:40 PM	Atty Cmar Joint Intervenors - witness Pogue Note: Sacre, Candace	What BREC done to market program?
10:28:12 PM	Atty Cmar Joint Intervenors - witness Pogue Note: Sacre, Candace	Do anything beyond what described?
10:28:23 PM	Atty Cmar Joint Intervenors - witness Pogue Note: Sacre, Candace	BREC ever considered whether different DSM program designs needed to reach people outside community action process?
10:28:40 PM	Atty Cmar Joint Intervenors - witness Pogue Note: Sacre, Candace	BREC ever considered alternative program design aimed at providing assistance to other people?
10:28:51 PM	Atty Cmar Joint Intervenors - witness Pogue Note: Sacre, Candace	True part of community action agency process is participants undergo home energy audit?
10:29:03 PM	Atty Cmar Joint Intervenors - witness Pogue Note: Sacre, Candace	BREC ever considered program design aimed at people who not interested in undergoing home energy audit?
10:29:17 PM	Atty Cmar Joint Intervenors - witness Pogue Note: Sacre, Candace	Agree not everyone interested in home energy audit?
10:29:26 PM	Atty Cmar Joint Intervenors - witness Pogue Note: Sacre, Candace	BREC every considered a program designed to reach people be in that category?
10:29:50 PM	Chairman Chandler Note: Sacre, Candace	Questions?

10:29:56 PM	Staff Atty Hatcher PSC - witness Pogue Note: Sacre, Candace	Cross Examination. Speaking of low-income weatherization program, page 88 of IRP, was stated be reevaluated by BREC, explain what means by reevaluate?
10:30:26 PM	Staff Atty Hatcher PSC - witness Pogue Note: Sacre, Candace	Been conversations within BREC implementing cost-effective DSM programs in potential study?
10:31:17 PM	Staff Atty Hatcher PSC - witness Pogue Note: Sacre, Candace	If DSM program have substantial capacity savings but not shown cost effective, would BREC consider implementing?
10:31:40 PM	Staff Atty Hatcher PSC - witness Pogue Note: Sacre, Candace	Say might consider it but not mean would?
10:32:00 PM	Chairman Chandler Note: Sacre, Candace	Questions?
10:32:02 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Examination. Make decision for DSM cost benefit analysis use avoided energy and avoided futures?
10:32:26 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Why use avoided values provided by ACES when studying resources as part of IRP that had real costs for?
10:32:51 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	When say market capacity cost, what market?
10:33:07 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Avoided generation capacity costs that ACES gives you going out and looking what clearing prices are MISO residual market?
10:33:46 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Very different incremental capital cost building one resource over another?
10:33:56 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	At a magnitude of difference?
10:34:01 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Multiple times larger likely?
10:34:05 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	That materially impacts cost effectiveness of underlying programs, agree?
10:34:13 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	All else equal, if cost utility actually avoiding is twice previous assessment indicate, make programs more or less cost effective?
10:34:47 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Weatherization program discussed, is this lone DSM program that survived 2018 case?
10:35:34 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Proposal implement two new DSM programs, energy use education and low-income weatherization, expenditure of a quarter of a million dollars?
10:35:49 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	That idea of low-income weatherization program was proposed off of need identified in conjunction with community action agencies home have to walk away from?
10:36:06 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Would go out and be ready to do weatherization, have to leave because of health and safety issues or another reason?
10:36:31 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Get to HVAC, but with first one homes not comply with federal guidelines?

10:36:37 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Idea was \$1,000 from BREC customers to leverage so weatherization could occur?
10:36:45 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Not being used at all?
10:37:18 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Aware ongoing conversation with community action agencies, is understanding no longer have to walk away from homes health and safety issues?
10:37:35 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Is your understanding, none of them having to walk away any more?
10:37:44 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Are looking some other way to cost effectively use money?
10:38:17 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Had one utility community action agency saying occasionally two out of three homes going to weatherize had to walk away, been fixed, think temporary fix?
10:38:40 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	High efficiency heat pump \$1,000 per home. reading from 2018 Order?
10:38:50 PM	Chairman Chandler - witness Pogue Note: Sacre, Candace	Maybe approved \$1,500, definitely federal money available for upgrade to more energy efficient appliances, is that taken advantage of?
10:39:21 PM	Chairman Chandler Note: Sacre, Candace	Redirect?
10:39:41 PM	Chairman Chandler Note: Sacre, Candace	Mr. Buckley, Mr. Depp?
10:39:44 PM	Atty Buckley BREC Note: Sacre, Candace	Final witness, Matthew Sekeres.
10:40:05 PM	Chairman Chandler Note: Sacre, Candace	Witness is sworn.
10:40:12 PM	Chairman Chandler - witness Sekeres Note: Sacre, Candace	Examination. Name and address?
10:40:25 PM	Atty Buckley BREC - witness Sekeres Note: Sacre, Candace	Direct Examination. By whom employed?
10:40:31 PM	Atty Buckley BREC - witness Sekeres Note: Sacre, Candace	Clearspring retained by BREC in connection with IRP?
10:40:38 PM	Atty Buckley BREC - witness Sekeres Note: Sacre, Candace	Clearspring conductd load forecasting as well as DSM retention study?
10:40:44 PM	Atty Buckley BREC - witness Sekeres Note: Sacre, Candace	And are on load forecasting side?
10:40:47 PM	Atty Buckley BREC - witness Sekeres Note: Sacre, Candace	Sponsor data request responses?
10:40:50 PM	Atty Buckley BREC - witness Sekeres Note: Sacre, Candace	Changes or additions?
10:40:54 PM	Atty Buckley BREC - witness Sekeres Note: Sacre, Candace	Asked same questions, give same responses?
10:41:00 PM	Atty Buckley BREC - witness Sekeres Note: Sacre, Candace	Adopt responses as testimony?
10:41:05 PM	Chairman Chandler Note: Sacre, Candace	Questions?

10:41:12 PM	Atty Cohn KIUC - witness Sekeres Note: Sacre, Candace	Cross Examination. Work on load forecast included Appendix A of 2023 filing?
10:41:19 PM	Atty Cohn KIUC - witness Sekeres Note: Sacre, Candace	Have Appendix A in front of you?
10:41:21 PM	Atty Cohn KIUC - witness Sekeres Note: Sacre, Candace	Turn to page 91?
10:41:42 PM	Atty Cohn KIUC - witness Sekeres Note: Sacre, Candace	Bottom of 91, lines dedicated to Domtar historic and projected load?
10:41:57 PM	Atty Cohn KIUC - witness Sekeres Note: Sacre, Candace	Domtar up to tariff kilowatt line represents Domtar historic and projected peak load for IRP analysis?
10:42:24 PM	Atty Cohn KIUC - witness Sekeres Note: Sacre, Candace	In 2018, load is listed as 15 megawatts/15,000 kilowatts?
10:42:31 PM	Atty Cohn KIUC - witness Sekeres Note: Sacre, Candace	And stays that way through 2021 it goes up to 35 which represents Domtar firm load in 2021?
10:42:47 PM	Atty Cohn KIUC - witness Sekeres Note: Sacre, Candace	And then goes back down to 20 in 2023 and 2024?
10:42:54 PM	Atty Cohn KIUC - witness Sekeres Note: Sacre, Candace	But from 2025 on stays above 40 megawatts?
10:42:59 PM	Atty Cohn KIUC - witness Sekeres Note: Sacre, Candace	Reflects change in BREC peak load forecasting with respect to treatment of Domtar standby service load?
10:43:28 PM	Atty Cohn KIUC - witness Sekeres Note: Sacre, Candace	Assuming Domtar firm load remained at 35, it includes portion of standby service load beginning in 2025?
10:43:54 PM	Atty Cohn KIUC - witness Sekeres Note: Sacre, Candace	This change in 2025 increase BREC projected load needs compared to approach BREC used previously in other IRPs?
10:44:10 PM	Atty Cohn KIUC - witness Sekeres Note: Sacre, Candace	This new approach could accelerate BREC need for new capacity reflected in IRP?
10:44:21 PM	Atty Cohn KIUC - witness Sekeres Note: Sacre, Candace	Know if MISO requiring BREC make that change?
10:44:44 PM	Chairman Chandler Note: Sacre, Candace	Questions?
10:44:48 PM	Chairman Chandler Note: Sacre, Candace	Redirect?
10:45:01 PM	Chairman Chandler Note: Sacre, Candace	Post-hearing data requests. (Click on link for further comments.)
10:45:53 PM	Chairman Chandler Note: Sacre, Candace	Staff Report, Comments to Staff Report, Closing Order. (Click on link for further comments.)
10:46:25 PM	Chairman Chandler Note: Sacre, Candace	IRP process and post-hearing procedural schedule. (Click on link for further comments.)
10:46:57 PM	Chairman Chandler Note: Sacre, Candace	Order on motions for pro hac vice. (Click on link for further comments.)
10:47:08 PM	Chairman Chandler Note: Sacre, Candace	Anything else?
10:47:20 PM	Chairman Chandler Note: Sacre, Candace	Hearing adjourned.
10:47:47 PM	DUE TECHNICAL DIFFICULTIES, HEARING LOG IS UNAVAILABLE.	



Name:	Description:
JOINT INTERVENORS HEARING EXHIBIT 2	BSER AT-A-GLANCE
KIUC HEARING EXHIBIT 1	U S ENERGY INFORMATION ADMINISTRATION MARCH 2023 COST AND PERFORMANCE CHARACTERISTICS OF NEW GENERATING TECHNOLOGIES ANNUAL ENERGY OUTLOOK 2023
SIERRA CLUB HEARING EXHIBIT 2	ENERGY COMMISSION TAX CREDIT BONUS
SIERRA CLUB HEARING EXHIBIT 3	EPA CCS COST ESTIMATES
SIERRA CLUB HEARING EXHIBIT 4	BREC CCR COMPLIANCE WEBSITE
SIERRA CLUB HEARING EXHIBIT 5	EPA GOOD NEIGHBOR PLAN UNIT LEVEL ALLOCATIONS
SIERRA CLUB HEARING EXHIBIT 6	COMPLIANCE COST DETAILS

BSER At-A-Glance

FINAL CARBON POLLUTION STANDARDS FOR NEW AND EXISTING FOSSIL-FUEL FIRED ELECTRICITY GENERATORS			
Existing 111(d) Steam Generators		New Source and Reconstructed 111(b) Stationary Combustion Turbines	
Coal-Fired Boilers	Natural Gas and Oil-Fired Boilers	Phase I Date of promulgation or initial startup	Phase II Beginning in Jan 1, 2032
<p>Long-term subcategory: For units operating on or after January 1, 2039</p> <p>BSER: CCS with 90 percent capture of CO₂ (88.4% reduction in emission rate lb/MWh-gross) by January 1, 2032</p>	<p>BSER: routine methods of operation and maintenance with associated degree of emission limitation:</p> <p>Base load unit standard: (annual capacity factors greater than 45%) 1,400 lb CO₂/MWh-gross</p> <p>Intermediate load unit standard: (annual capacity factors greater than 8% and less than or equal to 45%) 1,600 lb CO₂/MWh-gross.</p> <p>Low load units: (annual capacity factors less than 8%) a uniform fuels BSER and a presumptive input-based standard of 170 lb CO₂/MMBtu for oil-fired sources and a presumptive standard of 130 lb CO₂/MMBtu for natural gas-fired sources.</p> <p>Compliance date of January 1, 2030</p>	Low Load Subcategory (Capacity Factor <20%)	
		<p>BSER: Use of lower emitting fuels (e.g., hydrogen, natural gas and distillate oil)</p> <p>Standard: less than 160 lb CO₂/MMBtu</p>	EPA is not finalizing a Phase II BSER for low load units
		Intermediate Load Subcategory (Capacity Factor 20% to 40%*) *Source-specific upper bound threshold based on EGU design efficiency	
<p>Medium-term subcategory: For units operating on or after Jan. 1, 2032, and demonstrating that they plan to permanently cease operating before January 1, 2039</p> <p>BSER: co-firing 40% (by heat input) natural gas with emission limitation of a 16% reduction in emission rate (lb CO₂/MWh-gross basis) by January 1, 2030</p>	<p>For units demonstrating that they plan to permanently cease operating before January 1, 2032</p> <p>Units are exempt from the rule. Cease operations dates finalized in state plans for exemption purposes are federally enforceable.</p>	<p>BSER: Highly efficient simple cycle technology with best operating and maintenance practices</p> <p>Standard: 1,170 lb CO₂/MWh-gross</p>	EPA is not finalizing a Phase II BSER for intermediate load units
Base Load Subcategory (Capacity Factor >40%*) *Operation above upper-bound threshold for Intermediate Subcategory			
<p>BSER: Highly efficient combined cycle generation with the best operating and maintenance practices</p> <p>Standard: 800 lb CO₂/MWh-gross (EGUs with a base load rating of 2,000 MMBtu/h or more)</p> <p>Standard: 800 to 900 lb CO₂/MWh-gross (EGUs with a base load rating of less than 2,000 MMBtu/h)</p>		<p>BSER: Continued highly efficient combined cycle generation with 90% CCS by Jan 1, 2032</p> <p>Standard: 100 lb CO₂/MWh-gross</p> <p>EPA's standard of performance is technology neutral, affected sources may comply with it by co-firing hydrogen.</p>	
<p>For new and existing units installing control technologies, a 1-year extension is available in situations in which implementation delays are due to factors beyond the EGU owner/operator's control. For existing units with cease operations dates, a 1-year extension is available in situations in which the unit is needed for reliability through a reliability assurance mechanism, provided appropriate documentation is submitted.</p>			
<p>Major Modifications 111(b) Coal-fired Steam Generators: Standards of performance for coal-fired units that undertake a large modification (i.e., increases hourly emission rate by more than 10%) mirror the emission guidelines for existing coal-fired steam generators.</p>			

Interested parties can download a copy of the final rule from EPA's website at [Greenhouse Gas Standards and Guidelines for Fossil Fuel-Fired Power Plants](#)

Cost and Performance Characteristics of New Generating Technologies, *Annual Energy Outlook 2023*

These tables are also published in the Electricity Market Module chapter in our *Annual Energy Outlook 2023* (AEO2023) Assumptions document. Table 1 includes our estimates of development and installation costs for various generating technologies used in the electric power sector. Typical generating technologies for end-use applications, such as combined heat and power or roof-top solar photovoltaics (PV), are described elsewhere in the Assumptions document. The costs in Table 1, except as noted below, are the costs for a typical facility for each generating technology before adjusting for regional cost factors. Overnight costs exclude interest accrued during plant construction and development. Technologies with limited commercial experience might include a technological optimism factor to account for the tendency to underestimate the full engineering and development costs for new technologies during technology research and development.

All technologies demonstrate some degree of cost variability, based on project size, location, and access to key infrastructure (such as grid interconnections, fuel supply, and transportation). For wind and solar PV, in particular, the cost favorability of the lowest-cost regions compound the underlying variability in regional cost and create a significant difference between the unadjusted costs and the capacity-weighted average national costs, as observed from recent market experience. To reflect this difference, we report a weighted average cost for both wind and solar PV, based on the regional cost factors assumed for these technologies in AEO2023 and the actual regional distribution of the builds that occurred in 2021 (Table 1).

Table 2 shows a full listing of the overnight costs for each technology and [electricity region](#), if the resource or technology is available to be built in the given region. The regional costs reflect the impact of locality adjustments, including one to address ambient air conditions for technologies that include a combustion turbine and one to adjust for additional costs associated with accessing remote wind resources. Temperature, humidity, and air pressure can affect the available capacity of a combustion turbine, and our modeling addresses these possible effects through an additional cost multiplier by region. Unlike most other generation technologies where fuel can be transported to the plant, wind generators must be located in areas with the best wind resources. Sites that are located near existing transmission with access to a road network or are located on lower development-cost lands are generally built up first, after which additional costs may be incurred to access sites with less favorable characteristics. We represent this trend through a multiplier applied to the wind plant capital costs that increases as the best sites in a region are developed.

Table 1. Cost and performance characteristics of new central station electricity generating technologies

Technology	First available year ^a	Size (MW)	Lead time (years)	Base overnight cost ^b (2022\$/kW)	Technological optimism factor ^c	Total overnight cost ^{d,e} (2022\$/kW)	Variable O&M ^f (2022\$/MWh)	Fixed O&M (2022\$/kWy)	Heat rate ^g (Btu/kWh)
Ultra-supercritical coal (USC)	2026	650	4	\$4,507	1.00	\$4,507	\$5.06	\$45.68	8,638
USC with 30% carbon capture and sequestration (CCS)	2026	650	4	\$5,577	1.01	\$5,633	\$7.97	\$61.11	9,751
USC with 90% CCS	2026	650	4	\$7,176	1.02	\$7,319	\$12.35	\$67.02	12,507
Combined-cycle—single-shaft	2025	418	3	\$1,330	1.00	\$1,330	\$2.87	\$15.87	6,431
Combined-cycle—multi-shaft	2025	1,083	3	\$1,176	1.00	\$1,176	\$2.10	\$13.73	6,370
Combined-cycle with 90% CCS	2025	377	3	\$3,019	1.04	\$3,140	\$6.57	\$31.06	7,124
Internal combustion engine	2024	21	2	\$2,240	1.00	\$2,240	\$6.40	\$39.57	8,295
Combustion turbine— aeroderivative ^h	2024	105	2	\$1,428	1.00	\$1,428	\$5.29	\$18.35	9,124
Combustion turbine—industrial frame	2024	237	2	\$867	1.00	\$867	\$5.06	\$7.88	9,905
Fuel cells	2025	10	3	\$6,771	1.08	\$7,291	\$0.66	\$34.65	6,469
Nuclear—light water reactor	2028	2,156	6	\$7,406	1.05	\$7,777	\$2.67	\$136.91	10,447
Nuclear—small modular reactor	2028	600	6	\$7,590	1.10	\$8,349	\$3.38	\$106.92	10,447
Distributed generation—base	2025	2	3	\$1,915	1.00	\$1,915	\$9.69	\$21.79	8,912
Distributed generation—peak	2024	1	2	\$2,300	1.00	\$2,300	\$9.69	\$21.79	9,894
Battery storage	2023	50	1	\$1,270	1.00	\$1,270	\$0.00	\$45.76	NA
Biomass	2026	50	4	\$4,996	1.00	\$4,998	\$5.44	\$141.50	13,500
Geothermal ^{l,j}	2026	50	4	\$3,403	1.00	\$3,403	\$1.31	\$153.98	8,881
Conventional hydropower ^l	2026	100	4	\$3,421	1.00	\$3,421	\$1.57	\$47.06	NA
Wind ^e	2025	200	3	\$2,098	1.00	\$2,098	\$0.00	\$29.64	NA
Wind offshore ^l	2026	400	4	\$5,338	1.25	\$6,672	\$0.00	\$123.81	NA
Solar thermal ^l	2025	115	3	\$8,732	1.00	\$8,732	\$0.00	\$96.10	NA
Solar photovoltaic (PV) with tracking ^{e, i, k}	2024	150	2	\$1,448	1.00	\$1,448	\$0.00	\$17.16	NA
Solar PV with storage ^{l, k}	2024	150	2	\$1,808	1.00	\$1,808	\$0.00	\$32.42	NA

Data source: Sargent & Lundy, Cost and Performance Estimates for New Utility-Scale Electric Power Generating Technologies, December 2019; Hydroelectric: Oak Ridge National Lab, An Assessment of Energy Potential at Non-Powered Dams in the United States, 2012, and Idaho National Engineering and Environmental Laboratory, Estimation of Economic Parameters of U.S. Hydropower Resources, 2003; Geothermal: National Renewable Energy Laboratory, Updated U.S. Geothermal Supply Curve, 2010.

Note: MW=megawatt, kW=kilowatt, MWh=megawatthour, kWy=kilowattyear, kWh=kilowatthour; Btu=British thermal unit

^a The first year that a new unit could become operational.

^b Base cost includes project contingency costs.

^c We apply the technological optimism factor to the first four units of a new, unproven design; it reflects the demonstrated tendency to underestimate actual costs for a first-of-a-kind unit.

^d Overnight capital cost includes contingency factors and excludes regional multipliers (except as noted for wind and solar PV) and learning effects. Interest charges are also excluded. The capital costs represent current costs for plants that would come online in 2023.

^e Total overnight cost for wind and solar PV technologies in the table are the average input value across all 25 electricity market regions, as weighted by the respective capacity of that type installed during 2021 in each region to account for the substantial regional variation in wind and solar costs (Table 2). The input value used for onshore wind in AEO2023 was \$1,566 per kilowatt (kW), and for solar PV with tracking, it was \$1,443/kW, which represents the cost of building a plant excluding regional factors. Region-specific factors contributing to the substantial regional variation in cost include differences in typical project size across regions, accessibility of resources, and variation in labor and other construction costs throughout the country.

^f O&M=operations and maintenance

^g The nuclear average heat rate is the weighted average tested heat rate for nuclear units as reported on the Form EIA-860, *Annual Electric Generator Report*. No heat rate is reported for battery storage because it is not a primary conversion technology; conversion losses are accounted for when the electricity is first generated, and electricity-to-storage losses are accounted for through the additional demand for electricity required to meet load. For hydropower, wind, solar, and geothermal technologies, no heat rate is reported because the power is generated without fuel combustion, and no set British thermal unit conversion factors exist. The module calculates the [average heat rate for fossil-fuel generation](#) in each year to report primary energy consumption displaced for these resources.

^h Combustion turbine aeroderivative units can be built by the module before 2024, if necessary, to meet a region's reserve margin.

ⁱ Capital costs are shown before investment tax credits are applied.

^j Because geothermal and hydropower cost and performance characteristics are specific for each site, the table entries show the cost of the least expensive plant that could be built in the Northwest region for hydro and the Great Basin region for geothermal, where most of the proposed sites are located.

^k Costs and capacities are expressed in terms of net AC (alternating current) power available to the grid for the installed capacity.

Table 2. Total overnight capital costs of new electricity generating technologies by region

2022 dollars per kilowatt

Technology	1 TRE	2 FRCC	3 MISW	4 MISC	5 MISE	6 MISS	7 ISNE	8 NYCW	9 NYUP	10 PJME	11 PJMW	12 PJMC	13 PJMD
USC	\$4,188	\$4,311	\$4,711	\$4,835	\$4,892	\$4,334	\$5,222	NA	\$5,104	\$5,269	\$4,495	\$5,664	\$4,851
USC with 30% CCS	\$5,281	\$5,421	\$5,852	\$6,011	\$6,058	\$5,456	\$6,463	NA	\$6,334	\$6,504	\$5,632	\$6,914	\$6,055
USC with 90% CCS	\$6,907	\$7,083	\$7,558	\$7,812	\$7,820	\$7,152	\$8,281	NA	\$8,068	\$8,294	\$7,292	\$8,831	\$7,750
CC—single-shaft	\$1,200	\$1,225	\$1,366	\$1,379	\$1,414	\$1,236	\$1,594	\$2,116	\$1,599	\$1,597	\$1,324	\$1,600	\$1,524
CC—multi-shaft	\$1,045	\$1,072	\$1,215	\$1,236	\$1,268	\$1,084	\$1,393	\$1,909	\$1,370	\$1,401	\$1,147	\$1,469	\$1,295
CC with 90% CCS	\$2,945	\$2,972	\$3,175	\$3,182	\$3,231	\$2,999	\$3,334	\$3,776	\$3,258	\$3,307	\$3,041	\$3,447	\$3,168
ICE	\$2,106	\$2,152	\$2,300	\$2,391	\$2,365	\$2,182	\$2,451	\$3,073	\$2,359	\$2,452	\$2,197	\$2,673	\$2,282
CT— aeroderivative	\$1,263	\$1,289	\$1,494	\$1,498	\$1,543	\$1,316	\$1,607	\$2,057	\$1,551	\$1,598	\$1,370	\$1,755	\$1,454
CT—industrial frame	\$764	\$781	\$907	\$911	\$939	\$798	\$978	\$1,262	\$942	\$973	\$830	\$1,072	\$883
Fuel cells	\$6,996	\$7,105	\$7,430	\$7,750	\$7,603	\$7,224	\$7,887	\$9,285	\$7,567	\$7,819	\$7,204	\$8,337	\$7,425
Nuclear—light water reactor	\$7,341	\$7,499	\$7,917	\$8,637	\$8,330	\$7,744	\$8,809	NA	\$8,219	\$8,608	\$7,608	\$9,465	\$7,918
Nuclear—small modular reactor	\$7,779	\$7,962	\$8,674	\$9,044	\$9,041	\$8,061	\$9,338	NA	\$8,894	\$9,357	\$8,160	\$10,440	\$8,474
Distributed generation—base	\$1,729	\$1,764	\$1,967	\$1,986	\$2,036	\$1,779	\$2,296	\$3,047	\$2,302	\$2,300	\$1,907	\$2,304	\$2,195
Distributed generation—peak	\$2,034	\$2,076	\$2,405	\$2,412	\$2,485	\$2,119	\$2,587	\$3,312	\$2,497	\$2,573	\$2,206	\$2,827	\$2,341
Battery storage	\$1,270	\$1,273	\$1,255	\$1,316	\$1,273	\$1,300	\$1,309	\$1,304	\$1,275	\$1,278	\$1,267	\$1,283	\$1,278
Biomass	\$4,637	\$4,764	\$5,157	\$5,329	\$5,340	\$4,802	\$5,933	\$8,054	\$5,952	\$6,056	\$5,093	\$6,067	\$5,804
Geothermal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Conventional hydropower	\$4,992	\$6,098	\$2,426	\$1,612	\$3,283	\$4,858	\$2,248	NA	\$4,599	\$4,777	\$4,164	NA	\$4,226
Wind	\$3,059	NA	\$1,723	\$1,566	\$1,875	\$1,566	\$2,075	NA	\$2,531	\$2,075	\$1,566	\$2,281	\$2,161
Wind offshore	\$6,517	\$7,819	\$7,714	NA	\$7,989	NA	\$7,783	\$6,714	\$8,139	\$7,461	\$6,100	\$8,834	\$6,950
Solar thermal	\$8,424	\$8,551	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Solar PV with tracking	\$1,422	\$1,395	\$1,443	\$1,497	\$1,480	\$1,407	\$1,494	\$1,758	\$1,480	\$1,524	\$1,440	\$1,571	\$1,436
Solar PV with storage	\$1,751	\$1,769	\$1,822	\$1,880	\$1,854	\$1,787	\$1,892	\$2,150	\$1,858	\$1,896	\$1,780	\$1,971	\$1,842

Technology	14 SRCA	15 SRSE	16 SRCE	17 SPPS	18 SPPC	19 SPPN	20 SRSG	21 CANO	22 CASO	23 NWPP	24 RMRG	25 BASN
USC	\$4,337	\$4,401	\$4,460	\$4,366	\$4,638	\$4,415	\$4,600	NA	NA	\$4,874	\$4,556	\$4,754
USC with 30% CCS	\$5,460	\$5,511	\$5,593	\$5,475	\$5,778	\$5,526	\$5,765	NA	NA	\$6,059	\$5,704	\$5,918
USC with 90% CCS	\$7,165	\$7,228	\$7,313	\$7,127	\$7,489	\$7,178	\$7,466	NA	NA	\$7,833	\$7,355	\$7,697
CC—single-shaft	\$1,220	\$1,235	\$1,273	\$1,234	\$1,309	\$1,222	\$1,201	\$1,759	\$1,719	\$1,399	\$1,132	\$1,224
CC—multi-shaft	\$1,071	\$1,085	\$1,124	\$1,083	\$1,163	\$1,074	\$1,034	\$1,547	\$1,504	\$1,213	\$974	\$1,092
CC with 90% CCS	\$2,962	\$2,977	\$3,044	\$2,966	\$3,065	\$2,921	\$2,702	\$3,389	\$3,351	\$3,126	\$2,541	\$2,854
ICE	\$2,194	\$2,200	\$2,238	\$2,178	\$2,295	\$2,200	\$2,221	\$2,661	\$2,613	\$2,367	\$2,192	\$2,347
CT— aeroderivative	\$1,309	\$1,320	\$1,370	\$1,318	\$1,411	\$1,327	\$1,198	\$1,687	\$1,645	\$1,480	\$1,159	\$1,322
CT— industrial frame	\$793	\$801	\$831	\$799	\$857	\$804	\$726	\$1,031	\$1,004	\$900	\$702	\$803
Fuel cells	\$7,277	\$7,271	\$7,371	\$7,144	\$7,443	\$7,209	\$7,309	\$8,375	\$8,278	\$7,655	\$7,169	\$7,636
Nuclear—light water reactor	\$7,843	\$7,782	\$8,035	\$7,530	\$7,962	\$7,527	\$7,808	NA	NA	\$8,451	\$7,563	\$8,460
Nuclear—small modular reactor	\$8,101	\$8,164	\$8,349	\$8,082	\$8,583	\$8,150	\$8,258	NA	NA	\$8,942	\$8,170	\$8,880
Distributed generation—base	\$1,757	\$1,778	\$1,833	\$1,777	\$1,886	\$1,760	\$1,729	\$2,533	\$2,475	\$2,014	\$1,630	\$1,763
Distributed generation—peak	\$2,107	\$2,126	\$2,206	\$2,123	\$2,273	\$2,137	\$1,929	\$2,716	\$2,649	\$2,383	\$1,867	\$2,128
Battery storage	\$1,311	\$1,293	\$1,309	\$1,264	\$1,272	\$1,257	\$1,286	\$1,323	\$1,325	\$1,300	\$1,259	\$1,310
Biomass	\$4,820	\$4,857	\$4,921	\$4,825	\$5,126	\$4,926	\$5,276	\$6,759	\$6,606	\$5,455	\$5,227	\$5,226
Geothermal	NA	NA	NA	NA	NA	NA	\$3,468	\$3,440	\$2,785	\$3,366	NA	\$3,403
Conventional hydropower	\$2,353	\$5,104	\$2,638	\$5,049	\$2,128	\$2,000	\$4,056	\$4,291	\$4,132	\$3,421	\$4,085	\$4,464
Wind	\$1,867	\$2,116	\$1,566	\$1,566	\$1,723	\$1,723	\$1,566	\$3,458	\$2,715	\$2,283	\$1,566	\$1,566
Wind offshore	\$6,005	NA	NA	NA	NA	NA	NA	\$10,064	\$10,558	\$7,550	NA	NA
Solar thermal	NA	NA	NA	\$8,509	\$8,838	\$8,422	\$8,826	\$10,397	\$10,266	\$9,394	\$8,481	\$9,413
Solar PV with tracking	\$1,465	\$1,392	\$1,438	\$1,394	\$1,449	\$1,404	\$1,418	\$1,579	\$1,570	\$1,453	\$1,435	\$1,448
Solar PV with storage	\$1,799	\$1,781	\$1,802	\$1,768	\$1,826	\$1,787	\$1,796	\$1,969	\$1,964	\$1,858	\$1,789	\$1,854

Data source: U.S. Energy Information Administration, Office of Electricity, Coal, Nuclear and Renewables Analysis

Notes: Costs include contingency factors, regional cost multipliers, and ambient condition multipliers. Interest charges are excluded. The costs are shown before investment tax credits are applied.

NA=not available; plant type cannot be built in the region because of a lack of resources, sites, or specific state legislation.

USC=ultra-supercritical, CCS=carbon capture and sequestration, ICE=internal combustion engine, CC=combined cycle, CT=combustion turbine, PV=photovoltaic.

[Electricity Market Module region map](#)

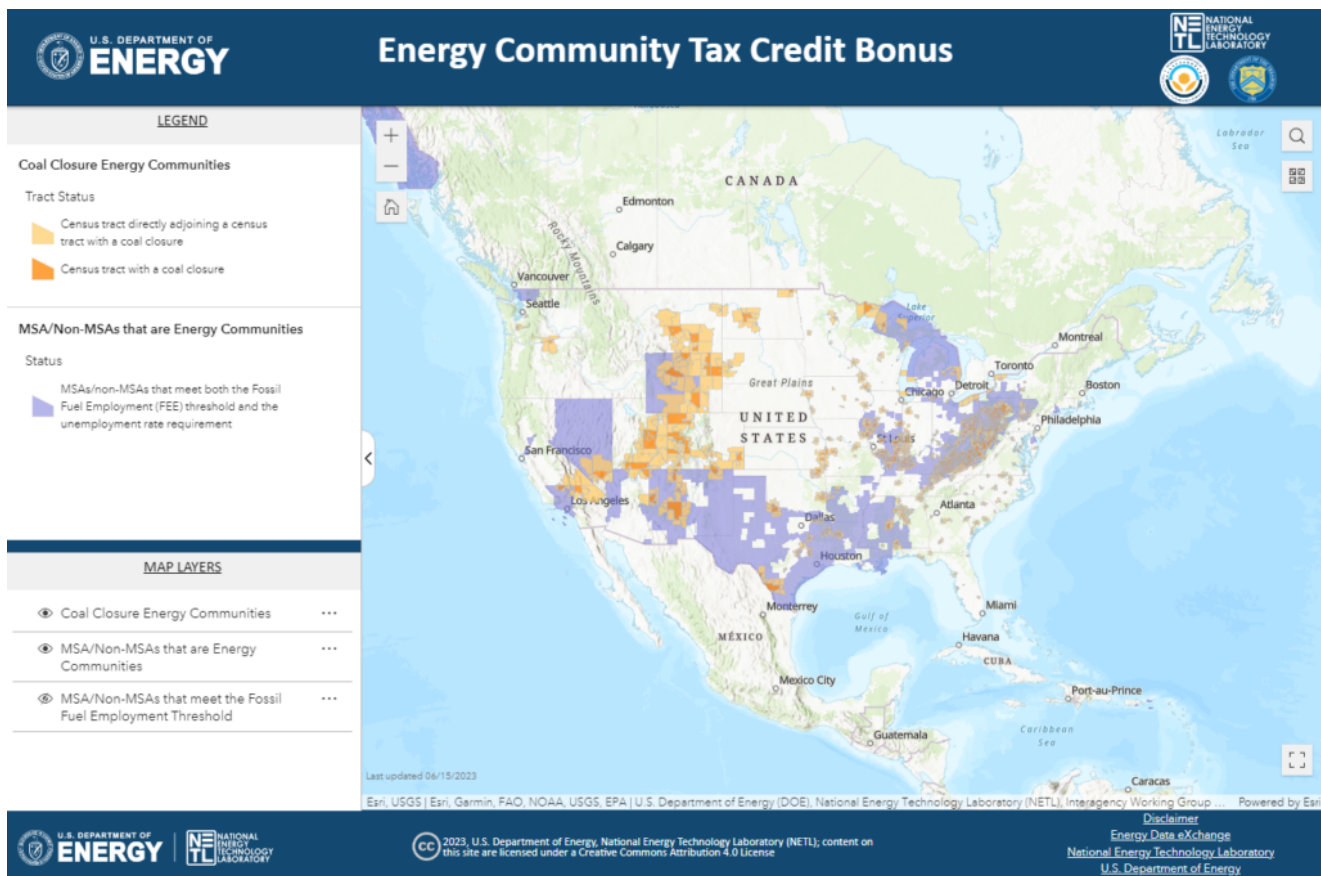
Energy Community Tax Credit Bonus

 energycommunities.gov/energy-community-tax-credit-bonus/

The Energy Community Tax Credit Bonus advances the Administration's commitments to support and revitalize the economies of coal and power plant communities.

As defined in the Inflation Reduction Act (IRA), the Energy Community Tax Credit Bonus applies a bonus of up to 10% (for production tax credits) or 10 percentage points (for investment tax credits) for projects, facilities, and technologies located in energy communities. Increased credit amounts or rates are available to taxpayers that satisfy certain energy community requirements under Section 45, 48, 45Y, or 48E of the Internal Revenue Code. The IRA defines energy communities as:

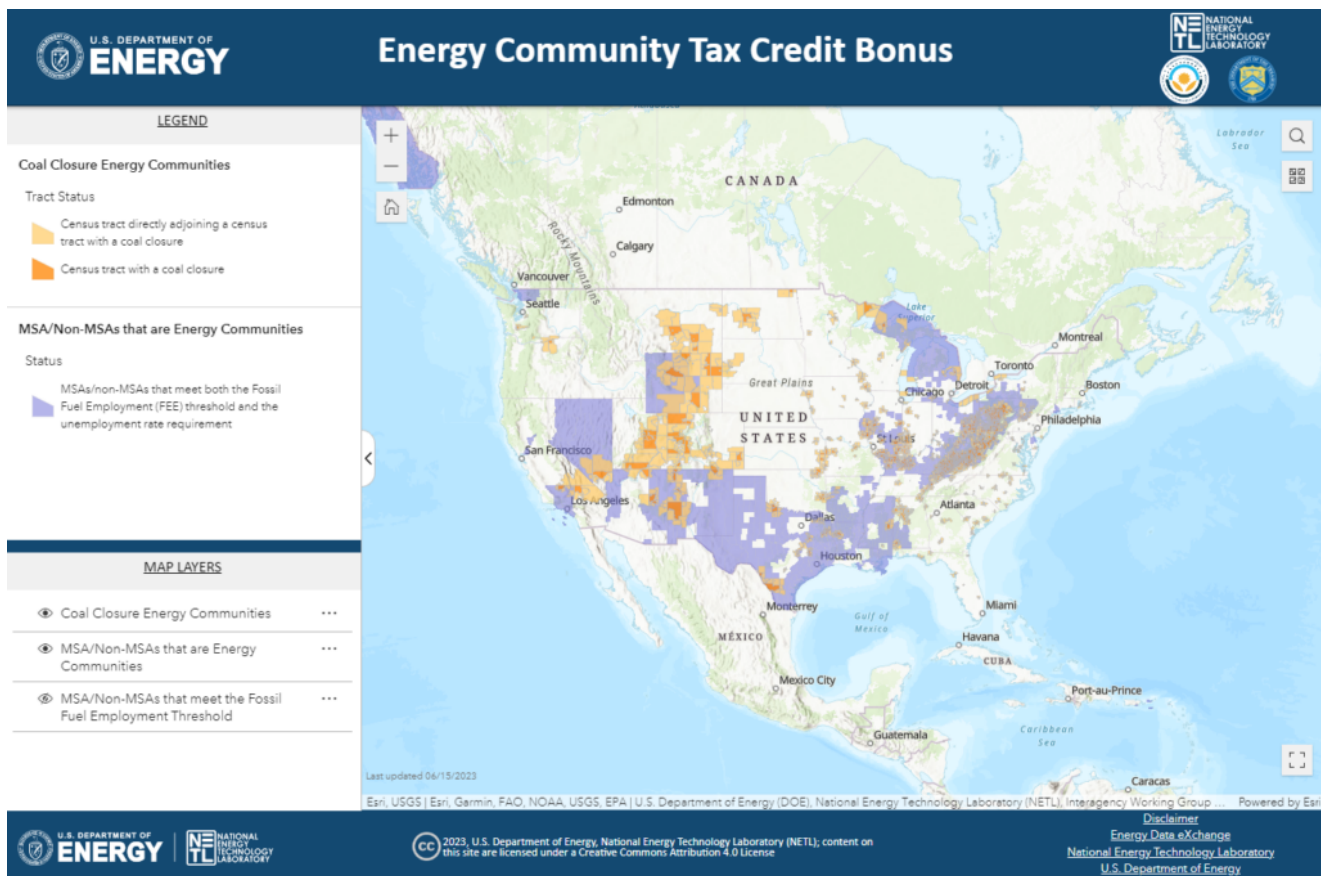
1. A "brownfield site" (as defined in certain subparagraphs of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA))
2. A "metropolitan statistical area" or "non-metropolitan statistical area" that has (or had at any time after 2009)
 - 0.17% or greater direct employment or 25% or greater local tax revenues related to the extraction, processing, transport, or storage of coal, oil, or natural gas; and
 - has an unemployment rate at or above the national average unemployment rate for the previous year
3. A census tract (or directly adjoining census tract)
 - in which a coal mine has closed after 1999; or
 - in which a coal-fired electric generating unit has been retired after 2009



Frequently Asked Questions

The mapping tool below reflects currently available data on two types of energy communities. First, the map shows energy communities that are census tracts and that have had coal mine closures after December 31, 1999 or coal-fired electric generating unit retirements after December 31, 2009, and tracts that are directly adjoining. Second, the map shows the metropolitan statistical areas (MSAs) and non-metropolitan statistical areas (non-MSAs) that are energy communities for 2023. These MSAs and non-MSAs have had for at least one year since 2009, 0.17% or greater direct employment related to extraction, processing, transport, or storage of coal, oil, or natural gas (the fossil fuel employment (FFE) threshold) and have an unemployment rate for 2022 that is equal to or greater than the national average unemployment rate for 2022. These MSAs and non-MSAs that meet the 2022 unemployment rate requirement are energy communities as of January 1, 2023 and will maintain that status until the unemployment rates for 2023 become available and a new list of energy communities is provided. The guidance that determines the MSAs and non-MSAs that are energy communities based on 2023 unemployment rates will likely be released in May 2024. In addition, the map shows MSAs and non-MSAs that only meet the FFE threshold. These MSAs and non-MSAs are not energy communities for 2023 because they do not meet the unemployment rate requirement; however, these areas could become energy communities in a future year if the unemployment requirement is also met. Note that brownfields are not shown on this map.

[Click here or on the map below to open full screen.](#)



For general questions or comments, contact Contact@EnergyCommunities.gov.

For questions on closed coal mines, see the [Mine Data Retrieval System](#) or contact the [MSHA Data Group](#).

For questions on closed power plants data, contact InfoElectric@eia.gov.

Frequently Asked Questions

Disclaimer

The mapping tool may not be relied upon by taxpayers to substantiate a tax return position or for determining whether certain penalties apply and will not be used by the IRS for examination purposes. The mapping tool does not reflect the application of the law to a specific taxpayer's situation, and the applicable Internal Revenue Code provisions ultimately control.

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

*Jody M Kyler Cohn
Boehm, Kurtz & Lowry
36 East Seventh Street
Suite 1510
Cincinnati, OHIO 45202

*Honorable Michael L Kurtz
Attorney at Law
Boehm, Kurtz & Lowry
36 East Seventh Street
Suite 1510
Cincinnati, OHIO 45202

*Ashley Wilmes
Kentucky Resources Council, Inc.
Post Office Box 1070
Frankfort, KENTUCKY 40602

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

*Nihal Shrinath
Sierra Club
2101
Webster St. , Suite 1300
Oakland, CALIFORNIA 94612

*Byron Gary
Kentucky Resources Council, Inc.
Post Office Box 1070
Frankfort, KENTUCKY 40602

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

*Patrick Woolsey
Sierra Club
2101
Webster St. , Suite 1300
Oakland, CALIFORNIA 94612

*Evan Buckley
Dinsmore & Shohl, LLP
101 South Fifth Street
Suite 2500
Louisville, KENTUCKY 40202

*John Lavanga
Dinsmore & Shohl, LLP
City Center, 100 W. Main Street
Suite 900
Lexington, KENTUCKY 40507

*Big Rivers Electric Corporation
710 West 2nd Street
P. O. Box 20015
Owensboro, KY 42304

*Tom Fitzgerald
Kentucky Resources Council, Inc.
Post Office Box 1070
Frankfort, KENTUCKY 40602

*Honorable Kerry E Ingle
Attorney at Law
Dinsmore & Shohl, LLP
1400 PNC Plaza
500 West Jefferson Street
Louisville, KENTUCKY 40202

*Senthia Santana
Big Rivers Electric Corporation
710 West 2nd Street
P. O. Box 20015
Owensboro, KY 42304

*Gregory B Ladd
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

*Edward T Depp
Dinsmore & Shohl, LLP
101 South Fifth Street
Suite 2500
Louisville, KENTUCKY 40202

*Jody Kyler Cohn
Boehm, Kurtz & Lowry
36 East Seventh Street
Suite 1510
Cincinnati, OHIO 45202

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

*Tyson Kamuf
Corporate Attorney
Big Rivers Electric Corporation
710 West 2nd Street
P. O. Box 20015
Owensboro, KY 42304