

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2021 JOINT INTEGRATED	)	
RESOURCE PLAN OF LOUISVILLE GAS AND	)	CASE NO.
ELECTRIC COMPANY AND KENTUCKY	)	2021-00393
UTILITIES COMPANY	)	

NOTICE OF FILING

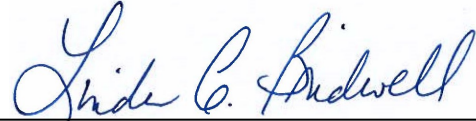
Notice is given to all parties that the following materials have been filed into the record of this proceeding:

- The digital video recording of the evidentiary hearing conducted on July 13, 2022 in this proceeding;
- Certification of the accuracy and correctness of the digital video recording;
- All exhibits introduced at the evidentiary hearing conducted on July 13, 2022 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 July 13, 2022.

A copy of this Notice, the certification of the digital video record, and hearing log have been served upon all persons listed at the end of this Notice. Parties desiring to view the digital video recording of the hearing may do so at <https://www.youtube.com/watch?v=lfy2QAdFx5I>.

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

Done at Frankfort, Kentucky, this 18<sup>th</sup> day of August 2022.



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Linda C. Bridwell

Executive Director

Public Service Commission of Kentucky

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UTILITIES COMPANY	)	

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 July 13, 2022. The Formal Hearing Log, Exhibits, and Exhibit List are included with the recording on July 13, 2022;
2. I am responsible for the preparation of the digital recording;
3. The digital recording accurately and correctly depicts the Formal Hearing of July 13, 2022; and
4. The Formal Hearing Log attached to this Certificate accurately and correctly states the events that occurred at the Formal Hearing of July 13, 2022, and the time at which each occurred.

Signed this 1st day of August, 2022.



Candace H. Sacre  
Administrative Specialist III



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



**Louisville Gas and Electric Company (LG&E) and Kentucky Utilities Company (KU)**

<b>Date:</b>	<b>Type:</b>	<b>Location:</b>	<b>Department:</b>
7/13/2022	Public Hearing\Public Comments	Hearing Room 1	Hearing Room 1 (HR 1)

Witness: Lonnie Bellar; John Bevington; Robert Conroy; Christopher Garrett; Philip Imber; Eileen Saunders; Charles Schram; Stuart Wilson  
 Judge: Kent Chandler; Mary Pat Regan  
 Clerk: Candace Sacre

<b>Event Time</b>	<b>Log Event</b>
8:12:11 AM	Session Started
8:12:16 AM	Chairman Chandler Note: Sacre, Candace H We are on the record in Case No. 2021-00393.
8:12:26 AM	Chairman Chandler Note: Sacre, Candace H Ready to proceed?
8:12:32 AM	Chairman Chandler Note: Sacre, Candace H Recall Mr. Wilson?
8:12:37 AM	Atty Crosby LG&E/KU Note: Sacre, Candace H Companies recall Mr. Wilson.
8:12:46 AM	Chairman Chandler Note: Sacre, Candace H Still under oath.
8:12:49 AM	Chairman Chandler Note: Sacre, Candace H Mr. Bellamy?
8:12:56 AM	Chairman Chandler Note: Sacre, Candace H Procedural discussions. (Click on link for further comments.)
8:13:37 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H Cross Examination. Page 8.1, Volume 1, IRP, Table 8.1, shows using summer reserve margin and availability of generation resources, shows plan model produced at base load and base fuel?
8:14:14 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H Mentioned when ran model, only did last year 2035 and used that to determine when resources be added throughout planning period?
8:14:49 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H Based on inputs into model, came up with optimum plan for base energy requirements and base fuel, when knew certain retirements add resources in optimum plan for 2035?
8:15:42 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H Retirements and additions for 2022 through 2025, negative 300 represents Mill Creek 1, because of ozone standards not running Mill Creek in summer, reflected as not operating at summer peak?
8:16:16 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H Have same chart for winter, shows retirement in 2025, now not operating, retired?
8:16:34 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H 2028 additional 700 megawatts available capacity in summer is retired in coal in 2028, Mill Creek 2 and Brown 3?
8:16:55 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H Mill Creek 2 projecting retirement based on good neighbor standards?

8:17:14 AM Staff Atty Bellamy PSC - witness Wilson  
Note: Sacre, Candace H Based on economics?

8:17:38 AM Staff Atty Bellamy PSC - witness Wilson  
Note: Sacre, Candace H Based on good neighbor standard, SCR required by 2028?

8:18:05 AM Staff Atty Bellamy PSC - witness Wilson  
Note: Sacre, Candace H Brown 3 economic retirement for 2028?

8:18:13 AM Staff Atty Bellamy PSC - witness Wilson  
Note: Sacre, Candace H Analysis do to determine that year retiring Brown 3?

8:19:01 AM Staff Atty Bellamy PSC - witness Wilson  
Note: Sacre, Candace H 2034 shows additional 900 megawatts coal being retired?

8:19:11 AM Staff Atty Bellamy PSC - witness Wilson  
Note: Sacre, Candace H What units those reflecting?

8:19:17 AM Staff Atty Bellamy PSC - witness Wilson  
Note: Sacre, Candace H When did IRP, why projecting those units be closed in 2034?

8:19:38 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Examination. Clarifying questions, at book depreciation date or date Bellar updated retirement analysis?

8:20:22 AM Staff Atty Bellamy PSC - witness Wilson  
Note: Sacre, Candace H Cross Examination (cont'd). Those retirements, model not actually retire units, determined through external analyses determined those be dates when units retired, when ran model for 2035 those units not projecting retired, model that year filling in that generation capacity?

8:21:54 AM Staff Atty Bellamy PSC - witness Wilson  
Note: Sacre, Candace H What talking about Response, Staff Second, Item 1?

8:22:02 AM Staff Atty Bellamy PSC - witness Wilson  
Note: Sacre, Candace H When ran model this time, allowed model to choose economic retirements various units based on carbon prices Staff asked to run?

8:23:24 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Examination. Why bifurcated those analyses, determination retirements verse model choosing, if know model can make appropriate economic choices, why not have it make decisions in 2024 and 2028 and any year between to see if change since Bellar analysis, why not see what analysis puts out?

8:25:00 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Get say could have run it, curious why, significant amount more computing be done, extra analyses, not hard code retirements of Ghent 1-2, Mill Creek 1 and 2, and Brown 3?

8:26:00 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Reason ask, make sure understand planning, not hard coded retirements, could have in model hard coded operating parameters Mill Creek 1 and 2, around ozone season?

8:26:36 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Let models pick optimum portfolio for energy and capacity?

8:26:45 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H During day, model pick energy from solar and wind zero marginal cost, during day for solar or whatever producing, show up amount of production from each resource expect of optimal portfolio to reduce energy costs?

8:27:27 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Not take or pay, whenever receive megawatt solar, model says cost \$28?

8:27:44 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Like radiance given in state?

8:27:47 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Those track around Brown solar facility but with greater efficiency?
8:28:34 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Happy hear that, service territory runs from Wickliffe to Harlan, going to take that energy from solar which reduce amount of demand from thermal generators?
8:29:17 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Take into account operating characteristics of different thermal generators?
8:29:34 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Increase number of starts for companies' CTs?
8:30:01 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Starts of CTs most obvious change in operations, are overhauls required for CTs based on number of starts?
8:30:26 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Does input have feedback loop, fixed O&M also double?
8:31:14 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Not start boiler or steam generator as quickly as CT?
8:31:25 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Also wear and tear occurs?
8:31:41 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Change in operating characteristics of steam generators taken into account?
8:32:27 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Not know talking about portfolio struggling, energy resources, change in operating characteristics, taken into understanding of actual cost of generation?
8:33:40 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	If are operating characteristics, intuitive thought process take into account change in operation from addition of resources that model picking up?
8:35:08 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Flip side is if addition of resources cause portfolio drive costs not add?
8:35:23 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Making up scenario, (click on link for further comments), drive more costs than benefits derived from addition 100 megawatts solar, not add 100 megawatts of solar?
8:36:24 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Cross Examination (cont'd). Table 1, when ran model 2035, model not select retirement of any units?
8:36:54 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Basically filling in gaps retirements inputted earlier years?
8:37:03 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Mentioned when ran this for Staff did allow retirements, clarify allow retirements any coal unit or specific units?
8:37:38 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Allow for future retirements?
8:38:35 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	How much extra time take let model select retirement economically and see if matches, computer run time, as far as inputting date, difference in data or just a matter of running model?
8:39:16 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Difference in computer run time, data in there?

8:39:41 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Study done anything above 1,000 megawatt solar give system issues, selecting more units dispatchable comfortable with higher levels of solar?
8:40:20 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Model include cost for transition upgrades required for addition of intermittent resources?
8:40:58 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Aware models look at transmission upgrades, look at it in general terms?
8:41:37 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Examination. Let me ask, able to get information from independent transmission operator interconnection costs for solar?
8:42:16 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	At least understanding of facilities study or system impact study what impacts would be, idea of what transmission upgrades are?
8:42:57 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Cross Examination (cont'd). When modeled effects distributed energy resources, did based on effect on load?
8:44:09 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Page 529 IRP report, graph shows base low and high, with base assumes one percent limit on net metering?
8:45:22 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	High not change any assumption base except assumes one percent limit eliminated?
8:45:35 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Is this effect at summer peak?
8:46:09 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Would be nameplate of capacity?
8:46:26 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	When reflected this on load, took information and reflected effect on load at summer peak to determine capacity requirements?
8:46:49 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Recall if in record, shows effect low base and high on summer peak?
8:47:26 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	If I not find it, might do post-hearing data request, Figure 5-13, limit to one percent in base, based on statute limit net metering to one percent, any consideration given consumers adding solar beyond one percent without net metering?
8:48:18 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	What mean by qualifying facilities?
8:48:43 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	How project amount of those facilities?
8:49:12 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	If business had certain load and rooftop solar and use power without net metering, would amount forecast for qualifying facilities include customers add solar under those circumstances?
8:49:53 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	If remove one percent limit, solar be cheap in future years, certain customers add solar no net metering, be customers add solar without net metering?
8:50:53 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Examination. Your rates?

8:51:18 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Committing to rates not changing over next 15-year planning horizon?
8:52:18 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Cross Examination (cont'd). Distributed generation forecasts include projections regarding addition of EV vehicles in addition to solar?
8:52:48 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Think change adoption of distributed energy resources?
8:54:30 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Response, Staff First, Item 51, asking about low price cost of energy 2022 to 2031, are these small nuclear units or traditional nuclear units?
8:55:33 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Possible get levelized cost of energy for 2022 and 2031 for natural gas combined cycle with carbon capture and sequestration?
8:55:55 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Going to ask for post-hearing data request?
8:55:56 AM	POST-HEARING DATA REQUEST Note: Sacre, Candace H Note: Sacre, Candace H	STAFF ATTY BELLAMY PSC - WITNESS WILSON LEVELIZED COST OF ENERGY FOR 2022 AND 2031 FOR NATURAL GAS COMBINED CYCLE WITH CARBON CAPTURE AND SEQUESTRATION.
8:56:37 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	With respect summer reserve margin, used range of 17 percent to 24 percent?
8:56:38 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	With 24 percent being one loss of load event every ten years?
8:56:45 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	When did economic reserve margin, the 17 percent, constraint lower bound allow reserve margin get to even if economics allowed it?
8:57:44 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	And is justified, confused how get to economic reserve margin adding load until adding something is justified?
8:59:11 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	How determine reliability costs?
9:01:17 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Cost of unserved energy, like market cost, not have energy serve customers, able get that somewhere or assume actually lose load, customers not served, calculating economic effects?
9:02:43 AM	Staff Atty Bellamy PSC - witness Wilson Note: Sacre, Candace H	Staff Second, Item 2, basically asking why included carbon capture and sequestration for natural gas combined cycle only, why not simple cycle, all new generation units subject to performance standards (click on link for further comments), what are discussions referring to?
9:03:58 AM	Chairman Chandler Note: Sacre, Candace H	Commissioner Regan?
9:03:59 AM	Commissioner Regan - witness Wilson Note: Sacre, Candace H	Examination. When talking about unserved energy, when base costs, separate residential from industrial or calculate as whole?
9:05:54 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Examination. Scarcity pricing, value loss load, and operating reserve demand curve, page 46 of 140, Volume 3, labeled Figure 9, scarcity price curve?



9:06:50 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Operating reserve demand curve, looks at scarcity pricing as excess reserves dwindle?

9:07:06 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Starts at zero on far right when reliability not concern or reserves adequate?

9:07:18 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Moves to left as reserves are reduced moves closer to zero in which not have a reserve right, end of that axis?

9:07:43 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Then moves in curvilinear nature and moves in stepwise manner?

9:08:00 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Concept used in other places, where get this specific curve from?

9:10:15 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Goes down toward zero, ever reach zero?

9:10:40 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H This shape, shape co-opted, is shape co-opted from other literature on scarcity price curves applied to value of loss load?

9:11:09 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H They work for PUC there?

9:11:27 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Operating reserve demand curve, your number for value of lost load when reserve gets to zero, 3.75 percent run out of operating reserves?

9:11:48 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H When say operating reserves, amounts of reserves necessary to replace loss of largest unit?

9:12:22 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H When say agreement, NERC requirements or SERF or whatever may be?

9:12:44 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Is one in ten right loss of load expectation going forward?

9:13:09 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H One in ten reflective of what?

9:14:24 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H One hour or 24-hour period within 87,600?

9:14:37 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Could be 15 minutes?

9:14:50 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Expectation but not planning on having a day every ten years in which not have enough generation meet demand, calculating probability only one day out of ten years?

9:15:46 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Not plan perfect system in which no expectation loss of load?

9:16:02 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Aware of loss of load event since been at company?

9:16:12 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Industry standard across United States?

9:16:20 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Expand to one in fifteen, one in twenty, really just surrounding customer expectation of perfect power?

9:16:52 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Reserve margin, talking about LOLE at lowest end of reserve margin is one in ten, as reserve margin increases probability of loss of load event decreases?

9:17:33 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Know what loss of load expectation is?

9:17:41 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H What range of loss of load expectation is, post-hearing data request?

9:17:42 AM POST-HEARING DATA REQUEST  
Note: Sacre, Candace H CHAIRMAN CHANDLER - WITNESS WILSON  
Note: Sacre, Candace H RANGE OF LOSS OF LOAD EXPECTATION

9:18:01 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Loss of load expectation and reserve margin intertwined?

9:18:17 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H What capacity value are resources ascribed in calculation one in ten loss of load expectation and reserve margin?

9:19:36 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Moving towards natural gas, replacement capacity, single contingency events lead to multiple outages?

9:20:37 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Looking at installed capacity or net capacity?

9:20:51 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Brown 3 is back house, takes some sort of power run back house?

9:21:05 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Installed capacity Brown III, look at amount that can go out or look at unit amount?

9:21:32 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Not use UCAP because model outages after fact, multiple outages after fact, be redundant to model both UCAP and outages?

9:22:24 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Limited duration resources, how model output loss of load expectation and reserve margin, use same values?

9:23:08 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Megawatt capacity or capacity including losses?

9:23:30 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Can it?

9:24:20 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Model performance, 300 megawatt battery or 400 megawatt battery being able produce 400 megawatts or built at 400 megawatts and only able produce 300?

9:25:24 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Discounting something already been discounted?

9:25:35 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Somebody says give you one megawatt four- hour battery, not putting into PLEXOS one-hour four megawatt battery and PLEXOS then discounting that and saying actually 850 KW?

9:26:10 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Losses from higher megawatt amount but not starting at one?

9:26:34 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H On energy side, not capacity side?

9:26:52 AM Chairman Chandler  
Note: Sacre, Candace H Short recess, back at 9:40.

9:27:04 AM Session Paused

9:43:05 AM Session Resumed

9:43:37 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Examination (cont'd). When ECR case came in, 2020-00060 and - 00061, Mill Creek 2 retirement date other than 2028?

9:44:06 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	In ECR when CPCN was sought, 2030, 2032, something beyond 2028?
9:44:17 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Looked at stay-open costs verse marginal cost expanding ELG compliance from three to four to two, expectation operate for number of year, did a calculation made sense do upgrade Mill Creek 2?
9:44:45 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Got CPCN in 2020 to comply, include ELG for Mill Creek 2, later that year analysis indicated retirement date be 2028?
9:45:04 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Remember ELG compliance had to comply by certain date, but could choose not comply, commit to retirement date 2028, remember that?
9:45:32 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Why Mill Creek 1 retiring in 2024 because of entire station?
9:45:40 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	When Bellar changed companies' internal expectations useful life Mill Creek 2, rerun analysis determine made sense do ELG compliance with Mill Creek 2 regardless received CPCN?
9:47:24 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	That was back then when no expectation additional generation, not had IRP since last one and this one?
9:47:43 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	This one does indicate need for generation over planning horizon?
9:47:47 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Reason remember last one did not subsequent filed DSM application for five-year plan indicated zero-dollar avoided capacity fixed capacity?
9:48:11 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Know capacity condition changed, know when reran analysis or prepare analysis Bellar provided, know then capacity position changed?
9:50:21 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Presented to Commission in late 2020 and Jan 7 RFP went out?
9:50:34 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Early 2021 or late 2020 RFP went out for new resources middle rate case?
9:50:46 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Had idea when filed rate case companies' position on capacity changed from previous IRP?
9:51:11 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	For internal analysis, risk surrounding SCR, changing economics, internally avoided capacity value not be zero?
9:51:48 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	When change internally things like avoided capacity value?
9:52:32 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Avoided capacity value function of stay-open cost, in event avoid stay-open costs in forward years plays into what avoided capacity value is?
9:53:16 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	But analysis run, when say can't install scrubber, saying qualitatively can't install SCR or saying not make economic sense to run it?

9:53:29 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Initial analysis determining what compliance cost is for building SCR and comparing to alternatives?
9:53:46 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	That compliance cost is avoidable cost that whatever other option is cheaper, assumed remaining book value as subcost, is whether compliance or replacement cheaper?
9:54:31 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Easier to see, big number, comparing replacement generation to current generation have initial analysis compares marginal cost of generation plus fixed cost on KWh basis?
9:55:16 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Screening analysis, did initial analysis, page 43 of 140, Volume 3, IRP, looked at marginal resource cost, dollar per kW year stay-open cost, Table 10, bottom of page, stay-open costs?
9:56:55 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Marginal units code for most expensive?
9:57:04 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Reading, (click on link for further comments), excluding capital costs?
9:57:38 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Looked at what most expensive units were, combining stay-open and cost of producing electricity?
9:58:04 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	In terms of screening units, this where start by running economics units most expensive far right column, ones have highest stay-open costs highest energy costs, looking at both as function of production of energy?
9:58:35 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Trying to follow a mismatch here, Ghent 2, really low amount in last column relative to other amounts?
9:58:59 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	One of lowest amounts, would think one of last units study for economic retirement low stay-open costs and low cost of producing energy?
9:59:20 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Where comes into play looking at economic efficiency and need, start with Brown 3, started marginal cost looking at reserve margin looked at most expensive units, why is Ghent 2 one of marginal resources, where cost of SCR compliance come in or does it?
10:01:08 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Stay-open cost of a dollar per KW year average, or is it specific year?
10:01:43 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	When do 15-year planning horizon, only take into account stay-open costs for eight-year cycles or take into account end of cycles be significant maintenance, does analysis take into account increased stay-open cost in years maintenance cycle occurs?
10:02:23 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Take into account higher level of expected cost maintenance cycle, had not hard coded retirements Mill Creek 1 and 2 and Ghent 1 and 2, and Brown 3, would have picked up input of SCR costs in 2025 for 2026 compliance?
10:03:04 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	As opposed to wasteful duplication analysis, don't see need analysis run, running independently of proceedings like IRPs?

10:04:07 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Plans doing retirements Mill Creek 1 and 2, Ghent 1 and 2, and Brown 3 hard coded for retirement or reassessed every year in net analysis?
10:04:52 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Next still 2024 retirement of Mill Creek 1?
10:05:24 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	In this analysis, Mill Creek 1 fixed retiring 2024, Ghent 1 and 1 2034 fixed, everything else floating, everything between Ghent 1 and 2 and Mill Creek 1 up for whatever output economic analysis provides?
10:06:38 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Any given year update 30-year plan new economic data, how many retirements generation fixed and how many left to be solved for economically?
10:07:28 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	For 30-year economic analysis, fixing retirements next three-five years, solving eight years out, IRPs fixing all retirements next seven years?
10:08:31 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Extremely complicated economic analysis puts out preferred plan resources predetermined prior to run of analysis?
10:09:35 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Said prior analyses but separate analyses?
10:09:42 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Separate analyses could not take into account information provided in IRP that reflects cost of replacement energy pursuant to resources using IRP?
10:10:05 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	When information available pursuant to 2021 RFP, input into 30-year plan?
10:10:35 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Last year's plan run with information contained in 2021 RFP responses?
10:11:03 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Heard Sinclair assuming four to five years build natural gas combined cycle, wait and then constrained outcomes, filed CPCN today at best ruled on end of year?
10:11:28 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	In 2023 start planning, assume natural gas combined cycle, starting in 2023 to build unit takes five years be on line in 2028 when capacity needed?
10:11:57 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Is not purpose of IRP, 15-year planning horizon?
10:13:23 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	What capacity contribution to reliability ascribe limited duration resources in this case?
10:13:34 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Limited duration be wind, hybrid resources, hydro, solar, by hybrid combination of anything, and battery technology, for any limited duration resources how determine capacity value or capacity contribution?
10:14:38 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	For wind and solar, used 2 CT process to determine capacity value is?

10:15:20 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H When talking about peak, hours in seasons loss of load probability more than zero?

10:15:35 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Four CT summer and average in winter?

10:15:55 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H How line up with loss of load probability for what hours more than zero?

10:16:35 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Not just peak demand, not have any single hour in winter loss of load probability more than zero when light outside?

10:17:16 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H And that a solar facility would contribute to meeting reliability?

10:17:29 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Four a.m.?

10:17:42 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Does IRP use same models as previous used, any new models used in this IRP?

10:17:58 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Happy with PLEXOS experience, intend on using moving forward?

10:18:23 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Have access to SERVIM or contract with Astrape?

10:18:34 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Also have software?

10:18:42 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Leader when comes to ELCC, them and E3 just are, primary two in nation do effective load carrying capability calculations, had conversations with them for termination of capacity contributions for limited duration resources?

10:19:30 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Product?

10:20:16 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Been using LLOP in doing resource planning?

10:21:00 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Bases in rate cases for using LLOP for cost of service was same calculation used in resource planning, not taking into account expectation loss of load in excess of zero when doing resource planning?

10:22:50 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Loss of load probability cited in this case, heat map, agree getting/receiving megawatt capacity given to company hours LLOP more than zero more valuable than megawatt provided to company those hours LLOP zero?

10:23:32 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Intertwined or just correlated with scarcity prizing demand curve saw earlier?

10:23:53 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H But value of receiving additional reserves higher in hours in which reserve margin percentage gets lower?

10:24:08 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Value of loss load and receive capacity serve load greater value ours to left than on right?

10:25:18 AM Chairman Chandler - witness Wilson  
Note: Sacre, Candace H Did present value revenue requirement determinations different portfolios and resources this case?

10:26:10 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Base base part of determination optimal portfolio, revenue requirement impact?
10:26:32 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Optimal portfolio solved for certain generators and others were fixed?
10:27:12 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Base base outcome, plan solve for other units economic retirements?
10:27:38 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Present value revenue requirement calculation took into account remaining expected lives of units through fixed terms?
10:28:10 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	At current depreciation rates, take net book value of unit and divide by remaining years, or take current stay-open costs as depreciation rates, anything like that?
10:28:44 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Those included in present value revenue requirement determination, rate base earns weighted average cost of capital, longer goes more impact carrying charge has?
10:29:14 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Simplifying assumption not allow going back, retirement dates set then same in every scenario?
10:29:44 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Weighted average cost of capital, debt amount companies current imbedded cost of debt or marginal cost of debt moving forward?
10:30:07 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Analysis looking and assuming capital previously invested some cost in analysis, looking at stay-open capital, agree future capital be received at different rate than imbedded cost of capital?
10:30:45 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Past is prolonged?
10:31:11 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	ELCC, way calculate contribution limited duration resources, 79 percent summer, if were planner, reasonable continue stride of 79 percent capacity value for summer contribution 2,100 megawatts solar?
10:33:42 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Not benefit of ELLC, not need megawatts hours solar producing?
10:35:03 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Separation not necessarily limitation on entry additional resources, 79 percent solar coming in, additional megawatt solar very little value but moves reliability concern to winter increasing value generation during winter peaks?
10:35:39 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	If going to be producing energy hours which demand, all that matters, serving demand?
10:35:50 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Shifts planning demand where loss of load probability increases in nonsummer months in which generation during winter months now becoming more valuable?
10:36:21 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	LLC not diminish particular resource, almost balancing?
10:36:50 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Load can move and change loss of load probability any given hour?

10:37:05 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	If start using more electricity in summer at night, reduces loss of load probability during day in summer?
10:37:38 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	That is bifurcation of issues going forward, amount of load discretionary and what nondiscretionary, summer cooling, time of day program shift load?
10:38:23 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	You know how trying to solve with supply side resources, changes come in actually looks at demand side changes to load curve?
10:40:46 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Is not too late do any DSM?
10:41:35 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Generation, Bellar, come in and ask for CPCN, figure out how come up with next three years impact of DSM, when companies need to know when to stop building, deferring, downgrading generation facility?
10:42:15 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Internally, how long identified avoided capacity value something more than zero for purposes of planning?
10:43:09 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	That rate case, 00249 and 00250, when working on analysis for Bellar, Aug Sept Oct 2020?
10:43:24 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Concluded in 2020 changing internal planning date retirement Mill Creek 2 to 2028?
10:43:36 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	If wanted to ask, knowing in 2020, who person ask why taken two years update DSM and EE side profile portfolio?
10:44:53 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Is current prevailing natural gas price higher than high gas price used in IRP?
10:45:14 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Is it higher than forecasted gas price through end of planning horizon?
10:45:57 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Agree characterized as significant increase in gas prices compared to presumed in IRP?
10:46:25 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Depend on others for expectations in risk and volatility gas prices?
10:46:34 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Think going to go up or depend on other professionals?
10:47:28 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Volume 1, page 8-13, cause of degradation in capacity factor of Trimble County 2?
10:48:31 AM	Chairman Chandler - witness Wilson Note: Sacre, Candace H	Expectation input cost increase to point reduce capacity factor of Trimble County 2?
10:49:14 AM	Chairman Chandler Note: Sacre, Candace H	Recess until 12 o'clock.
10:49:35 AM	Session Paused	
12:03:31 PM	Session Resumed	
12:03:53 PM	Chairman Chandler Note: Sacre, Candace H	Back on the record in Case No. 2021-00393.



12:04:01 PM	Chairman Chandler Note: Sacre, Candace H	Redirect?
12:04:08 PM	Atty Fitzgerald Joint Intervenors Note: Sacre, Candace H	Have a couple of follow-up questions, possible? (Click on link for further comments.)
12:04:47 PM	Chairman Chandler Note: Sacre, Candace H	Witness asked to stay until Bellar done. (Click on link for further comments.)
12:05:00 PM	Chairman Chandler Note: Sacre, Candace H	Procedural discussions. (Click on link for further comments.)
12:05:40 PM	Chairman Chandler Note: Sacre, Candace H	Sinclair excused. (Click on link for further comments.)
12:06:07 PM	Chairman Chandler Note: Sacre, Candace H	Call next witness.
12:06:10 PM	Atty Riggs LG&E/KU Note: Sacre, Candace H	Philip Imber.
12:06:50 PM	Chairman Chandler Note: Sacre, Candace H	Witness is sworn.
12:06:55 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Examination. Name and address?
12:07:10 PM	Atty Riggs LG&E/KU - witness Imber Note: Sacre, Candace H	Direct Examination. Business title?
12:07:19 PM	Atty Riggs LG&E/KU - witness Imber Note: Sacre, Candace H	Cause filed certain responses?
12:07:25 PM	Atty Riggs LG&E/KU - witness Imber Note: Sacre, Candace H	Adopt as testimony?
12:07:37 PM	Atty Riggs LG&E/KU - witness Imber Note: Sacre, Candace H	Materials with you?
12:08:22 PM	Chairman Chandler Note: Sacre, Candace H	Questions?
12:08:36 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	Cross Examination. Remember Table 8-4?
12:09:16 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	Mill Creek 2 in 2025 2026 and 2027 shows 79 76 and 80 percent projected capacity factors?
12:09:32 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	Take into account NOx emissions?
12:10:11 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	Have input on capacity factor forecast?
12:10:22 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	For CO2 emissions any plant particularly coal, rate of emissions monitored by companies?
12:10:45 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	How?
12:10:48 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	Specific monitor in place measure rate of CO2 by particular plant?
12:11:01 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	On coal units and natural gas-fired units?
12:11:21 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	Is CO2 emissions rates from natural gas unit 60 percent less than coal?
12:11:43 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	What be comparison then for CO2 emissions?

12:11:57 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	Difference between how natural gas combined unit CO2 emissions rate as compared to simple cycle combustion?
12:12:15 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	What is that difference?
12:12:33 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	What is that function of?
12:12:47 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	Purely efficiency, not relate to amount run time for combined cycle versus CT?
12:13:12 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	With respect to coal unit, type of coal burned impact CO2 emissions rate?
12:13:47 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	Efficiency of coal unit impacts as well as compared another coal unit impact rate CO2 emissions?
12:14:25 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	Discuss net zero concept, what mean in terms of CO2 emissions?
12:15:07 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	If have fossil fuel plant still being generated within company portfolio emitting CO2, in order reach net zero reduction in another source to offset fossil fuel?
12:15:41 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	In calculation of reduction in emissions, 500 MW coal plant and have 1000 MW solar resource, how reduction be calculated in terms of the CO2 emissions being reduced by solar?
12:16:23 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	How arrive at net zero?
12:16:35 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	From companies' perspective how achieve net zero if fossil fuel being used generation resource?
12:17:07 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	Aspirational goal with no set parameters in place?
12:17:23 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	Even if aspirational goal, how achieved without knowing technology offset carbon dioxide produced?
12:18:37 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	What are technologies companies trying to advance?
12:19:09 PM	Atty Nguyen Louisville Metro - witness Imber Note: Sacre, Candace H	Saying solar or any renewable generation offset any CO2 emitted by fossil fuel?
12:19:43 PM	Chairman Chandler Note: Sacre, Candace H	Questions?
12:19:58 PM	Atty Childers Sierra Club - witness Imber Note: Sacre, Candace H	Cross Examination. Is company proposing offset carbon emissions with carbon credit market?
12:20:19 PM	Atty Childers Sierra Club - witness Imber Note: Sacre, Candace H	Is not true KU out of compliance groundwater protection standards at Ghent and Brown plants?
12:20:36 PM	Atty Riggs LG&E/KU Note: Sacre, Candace H	Objection, relevancy. (Click on link for further comments.)
12:21:24 PM	Atty Childers Sierra Club - witness Imber Note: Sacre, Candace H	Not true KU out of compliance groundwater protection standards at Ghent and Brown plants?

12:21:47 PM Atty Childers Sierra Club - witness Imber  
Note: Sacre, Candace H But out of compliance groundwater protection standards?

12:22:48 PM Atty Childers Sierra Club - witness Imber  
Note: Sacre, Candace H Recall responding Data Request 6?

12:23:01 PM Atty Childers Sierra Club - witness Imber  
Note: Sacre, Candace H Reading (click on link for further comments), correct?

12:23:33 PM Atty Childers Sierra Club - witness Imber  
Note: Sacre, Candace H Describe plans bringing coal ash disposal facilities into compliance?

12:23:45 PM Atty Childers Sierra Club - witness Imber  
Note: Sacre, Candace H All five of those?

12:24:23 PM Atty Childers Sierra Club - witness Imber  
Note: Sacre, Candace H What is time line for that?

12:24:34 PM Atty Childers Sierra Club - witness Imber  
Note: Sacre, Candace H What total cost be for closure of those?

12:24:44 PM Chairman Chandler  
Note: Sacre, Candace H Mr. Fitzgerald?

12:25:07 PM Atty Fitzgerald Joint Intervenors - witness Imber  
Note: Sacre, Candace H Cross Examination. Fair assume familiar with endangered finding was on CO2 that EPA made?

12:25:47 PM Atty Fitzgerald Joint Intervenors - witness Imber  
Note: Sacre, Candace H Made finding CO2 causes/contributes to endangerment first step to regulating?

12:26:01 PM Atty Fitzgerald Joint Intervenors - witness Imber  
Note: Sacre, Candace H Familiar endangerment finding upheld?

12:26:10 PM Atty Fitzgerald Joint Intervenors - witness Imber  
Note: Sacre, Candace H Familiar with fact until Commission asked other assumptions be made, planning cost for carbon in IRP was zero?

12:26:44 PM Atty Fitzgerald Joint Intervenors - witness Imber  
Note: Sacre, Candace H Carbon costs considered in IRP?

12:26:57 PM Atty Fitzgerald Joint Intervenors - witness Imber  
Note: Sacre, Candace H Carbon capture and sequestration?

12:27:19 PM Atty Fitzgerald Joint Intervenors - witness Imber  
Note: Sacre, Candace H Compliance with future constraints on carbon modeled?

12:27:36 PM Atty Fitzgerald Joint Intervenors - witness Imber  
Note: Sacre, Candace H What about coal-fired units?

12:27:47 PM Atty Fitzgerald Joint Intervenors - witness Imber  
Note: Sacre, Candace H Been determination by EPA or by Commonwealth will be no compliance obligations imposed on existing coal-fired power plants with respect to CO2?

12:28:13 PM Atty Fitzgerald Joint Intervenors - witness Imber  
Note: Sacre, Candace H Some empirical basis for concluded not be control on existing sources?

12:29:13 PM Atty Fitzgerald Joint Intervenors - witness Imber  
Note: Sacre, Candace H Assumption baked into numbers existing energy efficiency and demand management measures imposed resulted in six percent reduction in load, testimony Wilson, know whether consideration given to adding more robust conservation or DSM as part of future portfolio?

12:31:17 PM Chairman Chandler  
Note: Sacre, Candace H Mr. Spinard, Mr. Strobo? (Click on link for further comments.)

12:31:23 PM Chairman Chandler  
Note: Sacre, Candace H Mr. Kurtz?

12:31:28 PM Atty Kurtz KIUC - witness Imber  
Note: Sacre, Candace H Cross Examination. Coal highest CO2 emitter per megawatt hour of generation?

12:31:49 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	Next would be natural gas combustion turbines?
12:31:58 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	Then be Cane Run 7 natural gas combined cycle?
12:32:03 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	Natural gas combined cycle with carbon capture/sequestration, would CCS take it to zero, capture all carbon under modeling?
12:32:45 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Examination. Where do aeroderivatives sit in that?
12:32:52 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Similar emissions to simple cycle CTs?
12:33:14 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	Cross Examination (cont'd). When get clarification from EPA on whether CCS best available control technology for combined cycle?
12:35:11 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	By March next year, know for new combined cycle plants CCs is requirement?
12:36:03 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	Technically feasible technology for combined cycle plants?
12:36:21 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	If were considered be required for new combined cycles, difficult to meet?
12:36:49 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	Suppose in 2023 CCS not required but eight years later, existing combined cycle power plants whether or not retrofit with CCS?
12:37:34 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	If CCS required in March 2023, prohibit combined cycle construction?
12:38:41 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	If started building combined cycle plant tomorrow, grandfathered whatever new rules implemented?
12:39:36 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	Just like Cane Run 7?
12:39:44 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	Incentive get going sooner than later?
12:39:55 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	When get additional clarification on Good Neighbor, amendment to CASPR rule?
12:40:24 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Examination. CASPR is same thing as Good Neighbor or different?
12:40:52 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Are/have been other cross-state air pollution control rules?
12:41:06 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	About cross-state SOx and NOx?
12:41:26 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	NOx with Good Neighbor rule revision?
12:41:31 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	Cross Examination (cont'd). When say be clarification?
12:41:38 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	What are range of clarifications?
12:43:08 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	Any entities commenting about reliability be familiar with?
12:43:39 PM	Atty Kurtz KIUC - witness Imber Note: Sacre, Candace H	Concerned reliability?

12:44:02 PM	Chairman Chandler	
	Note: Sacre, Candace H	Mr. Bellamy?
12:44:11 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	Cross Examination. When asked why CCS applied to natural gas combined cycle and not simple cycle, explanation new source performance standards and being applied to NGCC, what were discussions regarding application of CCS to natural gas combined cycle in led to only including natural gas combined cycle?
12:46:49 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	Basis for decision to model simple cycle without carbon capture sequestration to model natural gas combined cycle with carbon capturing sequestration?
12:47:09 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	Mentioned publications discussing potential standards, any discuss standards, not requirement do CCS, set limit, any limits discussed require CCS for natural gas combined cycle unit?
12:47:56 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	When EPA set rate for new source performance standard, be specific to fuel source or distinguish simple cycle and natural gas combined cycle?
12:48:23 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	As of today, based on fuel source only?
12:48:36 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	Continue be based on fuel source, same limitation whether simple cycle or natural gas combined?
12:48:49 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	Things changed new source performance standard, white paper released since IRP, discussed technology used to limit carbon emissions?
12:49:31 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	Mentioned when set standard be based on available technologies, draft white paper?
12:49:51 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	Draft white paper, give indication where EPA thoughts were on carbon capture and storage viable at this point?
12:50:38 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	Released in April this year, when looking at standard next year white paper be source might rely on?
12:51:02 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	When say indicated be used when establishing standard, not enough details, impression they recognized not enough for standard or just your impression potentially heading for standard but not support it?
12:51:58 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	What be time frame for final white paper?
12:52:18 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	Say LG&E submitted comments on white paper?
12:52:30 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	Did PPL?
12:52:37 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	All comments thought be in docket on line?
12:52:51 PM	Staff Atty Bellamy PSC - witness Imber	
	Note: Sacre, Candace H	Supreme Court case indicated carbon regulation based on specific units, impression that case not affect EPA enforcement new source performance standard?

12:53:36 PM	Chairman Chandler Note: Sacre, Candace H	Commissioner Regan?
12:53:54 PM	Commissioner Regan - witness Imber Note: Sacre, Candace H	Examination. Carbon neutral using fossil fuels just a buzz word because wind and solar not offset?
12:54:36 PM	Commissioner Regan - witness Imber Note: Sacre, Candace H	Terms not really mean same thing?
12:54:52 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Examination. Have June 9 investor presentation?
12:55:32 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Page 4, first time saw written down from PPL, fifth line down entitled New PPL Delivering Top-Tier Sustainable Growth, reading, (click on link for further comments, read that correctly?)
12:56:06 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Footnote?
12:56:10 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	What footnote say?
12:56:33 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	When talking net zero, not option for coal post 2050, has to be carbon dioxide removal technology, what shareholder presentation indicate?
12:57:05 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Economically transitioning, in room when asking Wilson?
12:57:18 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Hard coded retirement dates as opposed let model select it, remember questions?
12:57:41 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Your understanding for purposes of compliance like making statements to shareholders, cautionary factors, have retirement dates set for certain generation?
12:58:20 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Set in sense expectations, or still actual decision based on economics?
12:59:06 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Asked to rule on certificates things built/in service 50, 60, 70 years, only certainty uncertainty?
12:59:35 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Words in conflict aspirational goals and commitments, transitioning of coal generation going to be economically transitioning to coal generation, if make a commitment committed to something, commitment is to specific retirements or retiring things as becomes economical?
1:01:05 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Commitment to not burn coal past 2050 unabated?
1:01:36 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	The concern about abatement around carbon dioxide?
1:01:47 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Missed economic analysis shows cost of emissions are that lead to commit to abatement in 2050?
1:02:36 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	In 2050, concern around carbon?
1:02:50 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	No other factor that drives commitment in 2050 other than carbon dioxide?

1:03:11 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Something bad about carbon dioxide burn causing commit and not burning coal unabated in 2050?
1:03:47 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Trying to figure out why if unabated burning of coal past 2050, committed to not doing it because of carbon dioxide emissions, if such concern, why any risk around carbon emissions not taken into account in IRP?
1:04:42 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	What is it that rest of IRP took into account out of same concern CO2, where in IRP same concern other emissions other than burning coal past 2050?
1:05:47 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Retirement of generation facilities had nothing to do with CO2 emissions?
1:06:00 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Cause for concern around CO2 emissions in 2050, also concern in 2025?
1:06:42 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	2050 is goal not a commitment, no burning of unabated coal after 2050 is commitment or goal?
1:07:15 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	One saying going to do something, other hope to do something, aspirational goal words using, distinction?
1:07:43 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Not being critical of goals or commitments, wondering why if such a concern for 2050 date or interim dates, where apparent risk or concern emanates from, until yesterday, new source issue, not understand requiring CCS, curious why things lead you to have goals and aspirates emanate through rest of planning?
1:09:01 PM	Atty Riggs LG&E/KU Note: Sacre, Candace H	Suggest ask Bellar. (Click on link for further comments.)
1:09:48 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Methane, not a lot of discussion in IRP?
1:10:04 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Methane and CO2 both greenhouse gases?
1:10:16 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Had conversations or heard concerns similar risk of being additional emissions requirements or reductions or emissions costs around methane?
1:11:19 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Upstream and downstream regulation?
1:11:28 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Mostly downstream uses of natural gas?
1:11:48 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Possible methane emissions at stack and before stack for combined cycle or simple cycle CTs?
1:12:08 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Stack is unburned natural gas?
1:12:20 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Looked at risk current fleet verse optimal fleet be?
1:12:30 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Something heard talk about doing?
1:12:42 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Expected conversation be louder or stay same?

1:13:05 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Actively engaged with groups?
1:13:32 PM	Chairman Chandler - witness Imber Note: Sacre, Candace H	Risk twofold, had own emissions have cost but also are emissions have to abate upstream that affect cost of commodity, any other risks drive uncertainty around methane emissions?
1:14:33 PM	Chairman Chandler Note: Sacre, Candace H	Take 15-minute recess, back at 1:30.
1:14:54 PM	Session Paused	
1:36:52 PM	Session Resumed	
1:37:10 PM	Chairman Chandler Note: Sacre, Candace H	Mr. Riggs, redirect?
1:37:15 PM	Chairman Chandler Note: Sacre, Candace H	Witness excused.
1:37:41 PM	Chairman Chandler Note: Sacre, Candace H	Call somebody out of order?
1:37:44 PM	Atty Riggs LG&E/KU Note: Sacre, Candace H	Propose call Schram.
1:37:55 PM	Chairman Chandler Note: Sacre, Candace H	Mr. Crosby, next witness?
1:38:00 PM	Atty Crosby LG&E/KU Note: Sacre, Candace H	Chuck Schram.
1:38:10 PM	Chairman Chandler Note: Sacre, Candace H	Witness is sworn.
1:38:17 PM	Chairman Chandler Note: Sacre, Candace H	Examination. Name and address?
1:38:34 PM	Atty Crosby LG&E - witness Schram Note: Sacre, Candace H	Direct Examination. Title and by whom employed?
1:38:44 PM	Atty Crosby LG&E - witness Schram Note: Sacre, Candace H	Cause be prepared and filed responses?
1:38:50 PM	Atty Crosby LG&E - witness Schram Note: Sacre, Candace H	Adopt as testimony today?
1:38:53 PM	Atty Crosby LG&E - witness Schram Note: Sacre, Candace H	Have materials with you?
1:39:05 PM	Chairman Chandler Note: Sacre, Candace H	Questions?
1:39:45 PM	Atty Childers Sierra Club - witness Schram Note: Sacre, Candace H	Cross Examination. With PPL zero emissions aspirational goal by 2050, possible consider offsetting carbon emissions with carbon credits in carbon credit market?
1:40:33 PM	Atty Childers Sierra Club - witness Schram Note: Sacre, Candace H	Chairman asked be no coal after 2050 or all coal burned sequestered, answer was yes?
1:41:22 PM	Atty Childers Sierra Club - witness Schram Note: Sacre, Candace H	Been discussions doing that as means of offsetting carbon emissions?
1:41:33 PM	Atty Childers Sierra Club - witness Schram Note: Sacre, Candace H	Familiar report attached Southern Renewable Energy Assn comments from Mariam Makhyoun?
1:41:46 PM	Atty Childers Sierra Club - witness Schram Note: Sacre, Candace H	One statement companies' IRP failed to consider solar resources paired with battery storage, chose address separately, address why companies chose to do that?



1:42:14 PM Atty Childers Sierra Club - witness Schram  
Note: Sacre, Candace H Familiar with solar plus battery storage technologies?

1:42:20 PM Atty Childers Sierra Club - witness Schram  
Note: Sacre, Candace H Opinion whether cost competitive now?

1:42:38 PM Atty Childers Sierra Club - witness Schram  
Note: Sacre, Candace H Would take issue with report that says it is competitive?

1:43:01 PM Atty Childers Sierra Club - witness Schram  
Note: Sacre, Candace H Be competitive if had to add carbon pricing into natural gas side of it?

1:43:22 PM Atty Childers Sierra Club - witness Schram  
Note: Sacre, Candace H Aware solar plus battery eligible for federal tax credit?

1:43:43 PM Atty Childers Sierra Club - witness Schram  
Note: Sacre, Candace H 26 percent credit of installed cost?

1:43:51 PM Atty Childers Sierra Club - witness Schram  
Note: Sacre, Candace H Aware batteries alone not eligible?

1:44:11 PM Chairman Chandler  
Note: Sacre, Candace H Mr. Fitzgerald?

1:44:30 PM Atty Fitzgerald Joint Intervenor - witness Schram  
Note: Sacre, Candace H Cross Examination. Correct IRP not contemplate changes or additions to generating resources next three years other than Rhudes Creek Solar and retirement of Mill Creek 1 and Zorn 1?

1:44:58 PM Atty Fitzgerald Joint Intervenor - witness Schram  
Note: Sacre, Candace H Appreciate understanding relationship between IRP and June 22 2022 RFPs, exploring additions no earlier than 2025 enable companies address, reading, (click on link for further comments), relationship looking now lag time between RFP and what add in 2028?

1:46:20 PM Atty Fitzgerald Joint Intervenor - witness Schram  
Note: Sacre, Candace H No earlier than 2025, and last RFP said 2028 and IRP said not need anything else until 2028, reason why?

1:46:57 PM Atty Fitzgerald Joint Intervenor - witness Schram  
Note: Sacre, Candace H In terms of making broad as possible, language in here said companies exploring additions, could additions include an RFP suggest more robust array of efficiency managers or DSM programs?

1:47:34 PM Atty Fitzgerald Joint Intervenor - witness Schram  
Note: Sacre, Candace H Have separate one that will be let look at ways capture as megawatts, efficiencies that could be extracted from end use or load management on other side of meter?

1:48:06 PM Atty Fitzgerald Joint Intervenor - witness Schram  
Note: Sacre, Candace H In terms of modeling, your input or input of Bevington and Saunders regarding models considered improvements in efficiency by utility or customers meet future load, IRP?

1:48:52 PM Atty Fitzgerald Joint Intervenor - witness Schram  
Note: Sacre, Candace H RFP in requirements section, reading, (click on link for further comments), what view as being optimal generation portfolio?

1:49:29 PM Atty Fitzgerald Joint Intervenor - witness Schram  
Note: Sacre, Candace H Might get proposal renewables or combination renewables and storage or new solar merchant plant say earlier retirement coal-fired units justified?

1:50:13 PM Atty Fitzgerald Joint Intervenor - witness Schram  
Note: Sacre, Candace H Feasibility or competitiveness solar plus batteries, indicated RFP responses not reflect that, look beyond responses RFP or RFP only source?

1:51:05 PM	Atty Fitzgerald Joint Intervenor - witness Schram Note: Sacre, Candace H	Would include projects done by other utilities but not bid on in response RFP?
1:51:48 PM	Chairman Chandler Note: Sacre, Candace H	Mr. Spenard?
1:52:01 PM	Atty Spenard SREA - witness Schram Note: Sacre, Candace H	Cross Examination. Discussing requests for proposals and responses to Fitzgerald?
1:52:14 PM	Atty Spenard SREA - witness Schram Note: Sacre, Candace H	RFP issued June 22 2022, restricted to RFPs seeking over 100 megawatts?
1:52:42 PM	Atty Spenard SREA - witness Schram Note: Sacre, Candace H	In terms of RFP, rationale for selecting 100 megawatts, somebody had proposal 95 megawatts, how come up with dividing line?
1:53:55 PM	Chairman Chandler Note: Sacre, Candace H	Mr. Kurtz?
1:53:59 PM	Atty Kurtz KIUC - witness Schram Note: Sacre, Candace H	Cross Examination. Familiar with May 20 2022 responsive comments of companies filed in this case?
1:54:07 PM	Atty Kurtz KIUC - witness Schram Note: Sacre, Candace H	Page 53, reading (click on link for further comments), agree with that?
1:54:50 PM	Atty Kurtz KIUC - witness Schram Note: Sacre, Candace H	Production costs lower than market energy prices?
1:55:04 PM	Atty Kurtz KIUC - witness Schram Note: Sacre, Candace H	Maintain power plants in good condition?
1:55:23 PM	Atty Kurtz KIUC - witness Schram Note: Sacre, Candace H	Good maintenance, what be indication doing good job?
1:55:44 PM	Atty Kurtz KIUC - witness Schram Note: Sacre, Candace H	Maintain adequate coal supplies?
1:55:54 PM	Atty Kurtz KIUC - witness Schram Note: Sacre, Candace H	Page 23 of comments, chart, reading (click on link for further comments), see that?
1:56:42 PM	Atty Kurtz KIUC - witness Schram Note: Sacre, Candace H	What are start-up costs with regard to peaking units?
1:57:39 PM	Atty Kurtz KIUC - witness Schram Note: Sacre, Candace H	Practical matter run units 71 percent of time greater eight hours, once up and running incurred start-up costs?
1:58:08 PM	Atty Kurtz KIUC - witness Schram Note: Sacre, Candace H	Unusual run peaking unit for one hour?
1:58:25 PM	Chairman Chandler Note: Sacre, Candace H	Mr. Bellamy?
1:58:33 PM	Staff Atty Bellamy PSC - witness Schram Note: Sacre, Candace H	Cross Examination. 2022 RFP, bidders bid at least 100 megawatts in proposal, any upper limit/explanation says that so know how big size them?
1:59:39 PM	Staff Atty Bellamy PSC - witness Schram Note: Sacre, Candace H	Not necessarily capping them, explanation in RFP amount looking for, if bidders not know size looking for, potentially affect results?
2:00:53 PM	Staff Atty Bellamy PSC - witness Schram Note: Sacre, Candace H	Do RFP every year?
2:01:14 PM	Staff Atty Bellamy PSC - witness Schram Note: Sacre, Candace H	Circumstances driving when doing those, responding to RFP not free, might dissuade people from responding, or getting good response?

2:01:59 PM Staff Atty Bellamy PSC - witness Schram  
Note: Sacre, Candace H Be anything in 2022 RFP generation source neutral, anything prevent another utility from responding, proposing share generation capacity?

2:02:33 PM Staff Atty Bellamy PSC - witness Schram  
Note: Sacre, Candace H If looking for 300 megawatts, review that against other RFPs?

2:02:49 PM Staff Atty Bellamy PSC - witness Schram  
Note: Sacre, Candace H Jan 21 2021 RFP, mention in IRP agreement occurred Oct 13 2021 for 125-megawatts serve Green Tariff Option 3, unit talking about resulted from 2021 IRP?

2:03:12 PM Staff Atty Bellamy PSC - witness Schram  
Note: Sacre, Candace H Any other contracts been signed arising from 2021 IRP?

2:03:21 PM Staff Atty Bellamy PSC - witness Schram  
Note: Sacre, Candace H Is that 2021 RFP now closed?

2:03:54 PM Staff Atty Bellamy PSC - witness Schram  
Note: Sacre, Candace H 125-megawatts Green Tariff Option 3 constructed for specific customers?

2:04:15 PM Staff Atty Bellamy PSC - witness Schram  
Note: Sacre, Candace H Been other large customers looking take service under Green Tariff Option 3 that would necessitate additional solar capacity?

2:04:44 PM Staff Atty Bellamy PSC - witness Schram  
Note: Sacre, Candace H Critical mass be 100 megawatts?

2:04:52 PM Staff Atty Bellamy PSC - witness Schram  
Note: Sacre, Candace H What at now, not firm or anything?

2:05:04 PM Chairman Chandler  
Note: Sacre, Candace H Commissioner Regan?

2:05:07 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Examination. Aware generally generation interconnection queue of LG&E?

2:05:26 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Aware are two new generation interconnection requests from LG&E/KU affiliate received in June for 660 megawatt combined cycle plants in Jefferson or Mercer county?

2:05:54 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H In hearing room whole time?

2:05:56 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Related to CPCN proceeding Sinclair indicated was eventual?

2:06:10 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Know if those two responsive to RFP?

2:06:25 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Have bifurcation, generation planning group can respond internal respond to RFPs?

2:06:46 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Project engineering group but group, are walled off from your group?

2:07:10 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Not walking response down hallway and talking?

2:07:20 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Not new, not necessarily rare for generation interconnection queue explode following RFP from company?

2:07:58 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Lots of responses in Jan and March 2021, lots in 2019, seems to line up with companies' previous RFPs?

2:08:21 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Is there benefit being first in queue, does position in queue make difference when group looking at whether generation facility move forward with it?
2:09:32 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Having ground under control, leases, taken into determination, two projects identical?
2:09:45 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Look at other permitting requirements and make qualitative determination?
2:10:16 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Does type of service whether connect using NRIS or ERIS make any determination when looking at different alternatives?
2:10:46 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Think those related to transmission interconnection, will hold those.
2:11:32 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	NITS service within NITS territory or firm transmission?
2:11:44 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Existence of TVA and not require open access limit geographically out-of-state respondents provide responses?
2:12:15 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Talk about TVA, minimum reserves, agreement with TVA around reserve compliance, stand-alone not big enough, combine with somebody else?
2:13:39 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Like Watts Bar or large nuclear unit?
2:13:45 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	1300 have load share ratio, not change year to year from that amount?
2:14:03 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Only two?
2:14:06 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	East Kentucky part of that before joining PJM?
2:14:17 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Taken into account given position from RTO study, reduction in load share ratio, talked to anybody about that being included in RTO study?
2:14:51 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Regardless how big or small entity is, requirement is largest unit single contingency outage, carry enough operating reserves that unit go off?
2:15:05 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	UCAP or ICAP, nameplate have to keep that in reserves?
2:15:27 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	2021 RFP responses in rate case super secret, parties in this case privy what responses are, released to outside company?
2:15:52 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Anybody request data request responses?
2:16:08 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	As general matter, RFP stale?
2:16:17 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Not active RFP, last year's prices?
2:16:36 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	At least not for solar or wind?

2:16:48 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H If received battery responses and what looked like, any distinctions in bids, any bids for batteries made distinctions in those characteristics?

2:18:20 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Difference way things been playing last 80 to 100 years?

2:18:25 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Agree capacity more scarce than in past?

2:18:40 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Ever entered into tolling agreements?

2:18:45 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Most recent being Bluegrass?

2:18:55 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Just energy with chemical battery?

2:19:11 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Concerns about proposals, giving somewhere to put it, concerns about tolling arrangements related to batteries in terms of operating characteristics, time to produce electricity?

2:20:20 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Total or by year or by month?

2:21:06 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Other places installed bigger batteries, difference in economics?

2:21:43 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H RFP responses, locational requirements, expected retirements, have preconceived idea where most likely need generation on transmission system?

2:22:37 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Operations people know if going to be concerns, how taken into account?

2:22:59 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Go back to FERC-required bifurcation of operation?

2:23:08 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Have operational bias replacing generation at site previously located so not drive operational issues?

2:23:42 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Cane Run 7 infrastructure could be used, not act on CPCN Green River facility, is it bifurcation from consideration when looking at RFP requirements?

2:24:40 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H If those enter queue or through queue significantly, would indicate costs zero dollars or hundred million dollars, at that point may say never mind can't do it here for price give you?

2:25:46 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H 100 megawatt, threshold fair characterization given response to Spenard?

2:26:10 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H 100 megawatts arbitrary amount not based on particular assessment or analysis?

2:26:42 PM Chairman Chandler - witness Schram  
Note: Sacre, Candace H Based on experience, two RFPs open to types of wind and solar, economies of scale, been case for decades, is 100 megawatt threshold have found distinction between cheaper and more expensive projects, what harm leaving open if smaller projects cost competitive?

2:29:03 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	To be automatically reviewed?
2:29:21 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Be honest, getting 300-500 responses, comes in RFP response not at 100, deemed nonconforming and dismissed?
2:29:58 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Make sure looks beneficial to customers being reviewed by companies, sounds like your commitment?
2:30:24 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Asked about cost effectiveness of co-locating storage with renewables verse peaking gas plants, said not see responses that co-location was cheaper, hear responses wrong?
2:31:08 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Find solar and storage co-located hybrid resource cost competitive with natural gas generators in 2021 RFP responses?
2:31:36 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	For energy purposes?
2:31:39 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Why want to ask questions about it, energy purchases energy only qualifier, distinction between those responses and gas turbine?
2:32:02 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	If looking at them this unit only for energy and this unit be for capacity, qualitative determination made as a distinction?
2:32:18 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	If said peaking resource had to last six hours, solar plus four-hour duration resource not be peaking resource?
2:32:36 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Around capacity resources, discount ability of generation plus storage be used to be capacity resource?
2:33:27 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	As capacity resource or just as energy resource?
2:33:41 PM	Chairman Chandler - witness Schram Note: Sacre, Candace H	Energy has to come from somewhere, batteries are not a generator?
2:34:06 PM	Chairman Chandler Note: Sacre, Candace H	Redirect?
2:34:10 PM	Chairman Chandler Note: Sacre, Candace H	Can be excused for remainder of hearing.
2:34:13 PM	Chairman Chandler Note: Sacre, Candace H	Mr. Riggs?
2:34:16 PM	Atty Riggs LG&E/KU Note: Sacre, Candace H	Lonnie Bellar.
2:34:27 PM	Chairman Chandler Note: Sacre, Candace H	Witness is sworn.
2:34:35 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Examination. Name and address?
2:34:53 PM	Atty Riggs LG&E/KU - witness Bellar Note: Sacre, Candace H	Direct Examination. Title?
2:35:03 PM	Atty Riggs LG&E/KU - witness Bellar Note: Sacre, Candace H	Adopting responses of Drake, Almer, and Wolfe as your testimony?
2:35:15 PM	Atty Riggs LG&E/KU - witness Bellar Note: Sacre, Candace H	Adopting responses of Arbo as concern OVEC?
2:35:20 PM	Atty Riggs LG&E/KU - witness Bellar Note: Sacre, Candace H	Adopt those as testimony today?

2:35:26 PM Atty Riggs LG&E/KU - witness Bellar  
Note: Sacre, Candace H Have materials with you?

2:35:52 PM Chairman Chandler  
Note: Sacre, Candace H Mr. Cook?

2:36:00 PM Asst Atty General Cook - witness Bellar  
Note: Sacre, Candace H Cross Examination. Agree fuel prices coming winter looking bleak?

2:37:08 PM Asst Atty General Cook - witness Bellar  
Note: Sacre, Candace H Curious if company filing any application to amend DSM programs?

2:37:38 PM Asst Atty General Cook - witness Bellar  
Note: Sacre, Candace H Simultaneous or as separate filing or part of same filing?

2:38:03 PM Asst Atty General Cook - witness Bellar  
Note: Sacre, Candace H This coming winter, anything anybody come up with to help people with prices?

2:39:13 PM Chairman Chandler  
Note: Sacre, Candace H Mr. Nguyen?

2:39:25 PM Atty Nguyen Louisville Metro - witness Bellar  
Note: Sacre, Candace H Cross Examination. Current suite of DSM portfolio set expired 2025?

2:39:34 PM Atty Nguyen Louisville Metro - witness Bellar  
Note: Sacre, Candace H Anticipate filing new before 2025?

2:39:44 PM Atty Nguyen Louisville Metro - witness Bellar  
Note: Sacre, Candace H For that filing, CPCN filing around same timeframe?

2:39:55 PM Atty Nguyen Louisville Metro - witness Bellar  
Note: Sacre, Candace H Approximately when in 2024?

2:40:36 PM Chairman Chandler  
Note: Sacre, Candace H Mr. Childers?

2:40:45 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Cross Examination. Question asked by Cook, natural gas prices up significantly as well, coal as well, but not as impacted by that?

2:41:48 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H With coal long-term contracts prices locked in, with gas up to 50 percent subject to spot market?

2:42:05 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Agree with statement, reading (click on link for further comments)?

2:42:20 PM Atty Riggs LG&E/KU  
Note: Sacre, Candace H Is there a citation? (Click on link for further comments.)

2:42:57 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Agree solar wind generation, battery storage, and energy efficiency measures represent healthier, more climate protecting measures than relying on coal and gas?

2:43:14 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Agree relying on coal-fired power plants to meet energy needs of customers becoming less economical and necessary serve reliability needs of customers?

2:43:52 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Heard mention solar considered as cost-saving measure?

2:44:39 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H LG&E and KU commit to comparing all-in cost of alternative portfolio to prospective cost of operate least economic coal-fired assets?

2:45:16 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Familiar with testimony of Jeremy Fisher 2018 rate case scrutinized company's contract with OVEC?

2:45:29 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Reviewed recently?

2:45:34 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Recall Commission directed Sierra Club address contract with OVEC in next IRP case?
2:45:48 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Yet, companies response intervenors comments, stated discussion OVEC irrelevant, comments irrelevant, explain?
2:46:22 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Believe since 2018 rate case OVEC two coal-fired power plants more economically unattractive?
2:47:02 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Two coal-fired units in long-term supply contracts?
2:47:29 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Aware OVEC board decided to authorize expensive capital projects without approval from any state public service commission?
2:47:46 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Familiar have directed/authorized expensive capital projects?
2:47:57 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Authorized major projects paid for by sponsoring companies including LG&E/KU ratepayers become compliant federal environmental regulations?
2:48:12 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	LG&E/KU have member on OVEC board?
2:48:33 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	As board member, vote approve incurring additional capital costs?
2:48:44 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Did you and/or Arbough vote approve incurring capital costs comply ELG regulations?
2:49:00 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	OVEC and/or IKEC present board with major investment prudence analysis whether lower cost retrofit coal-fired power plants?
2:49:51 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Considered as opposed to alternative sources?
2:50:14 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Is analysis available, have copy?
2:50:26 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Saying in record in board minutes?
2:50:30 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Attachment to board minutes?
2:50:49 PM	Atty Childers Sierra Club Note: Sacre, Candace H	Confidential session. (Click on link for further comments.)
2:51:01 PM	Private Mode Activated	
2:51:01 PM	Private Recording Activated	
3:00:20 PM	SIERRA CLUB HEARING EXHIBIT 1 Note: Sacre, Candace H Note: Sacre, Candace H	ATTORNEY CHILDERS SIERRA CLUB - WITNESS BELLAR INDY STAR 01/11/2020 INDIANA HAS THE MOST TOXIC COAL ASH PITS. THE EPA SAYS IT'S TIME TO CLEAN THEM UP
3:05:00 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Both ELG and CCR?
3:05:22 PM	Chairman Chandler Note: Sacre, Candace H	General discussion. (Click on link for further comments.)
3:17:43 PM	Normal Mode Activated	
3:17:43 PM	Public Recording Activated	
3:17:52 PM	Chairman Chandler Note: Sacre, Candace H	Before move on, not know if moved to introduce.



3:17:56 PM	Atty Childers Sierra Club Note: Sacre, Candace H	Move introduce Sierra Club Confidential 3 and Public 2.
3:17:58 PM	SIERRA CLUB HEARING EXHIBIT 2 Note: Sacre, Candace H Note: Sacre, Candace H	ATTY CHILDERS SIERRA CLUB - WITNESS BELLAR EMAIL FROM JUSTIN J. COOPER DATED JAN 12 2022 REGARDING CLIFTY CREEK - CCR COMPLIANCE
3:18:14 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Familiar with Michigan PSC order state OVEC arrangement and contract imprudent and unfair to ratepayers?
3:18:28 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Not read that order?
3:19:15 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Refer you to page 20 of this document, top of page, first sentence reading (click on link for further comments), see that?
3:20:00 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Read correctly?
3:20:03 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Agree with statement?
3:20:51 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Line 7, sentence starts with economic assessments, see that?
3:20:59 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Reading, click on link for further comments), read correctly?
3:21:28 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	LG&E done any analysis forward-looking losses projected for OVEC units?
3:21:42 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Next paragraph, second sentence, reading (click on link for further comments), read correctly?
3:22:18 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	LG&E/KU locked into contract with OVEC coal-fired unit runs through 2040?
3:22:46 PM	Atty Childers Sierra Club Note: Sacre, Candace H	Move into evidence as Public 3.
3:22:48 PM	Chairman Chandler Note: Sacre, Candace H	Entered as Sierra Club Public Exhibit 3.
3:22:49 PM	SIERRA CLUB HEARING EXHIBIT 3 Note: Sacre, Candace H Note: Sacre, Candace H	ATTY CHILDERS SIERRA CLUB - WITNESS BELLAR BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION CASE NO. U-20804 IN THE MATTER OF THE APPLICATION OF INDIANA MICHIGAN POWER COMPANY POWER SUPPLY COST RECOVERY 12 MONTHS ENDING DECEMBER 31 2021
3:23:13 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Cross Examination (cont'd). Refer to company's Response to Sierra Club First, Question 10, in answer Arbough stated Michigan PSC not regulate companies and language cited not apply, reading, (click on link for further comments?
3:24:33 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	How anticipate doing that?
3:24:45 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	LG&E/KU have 8.13 percent interest in OVEC?
3:24:52 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Minority on board?
3:24:54 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Two members out of how many?

3:25:00 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	More than ten, I think?
3:25:05 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	Know if Ohio Public Utility System considering similar warnings sponsoring companies as Michigan warning?
3:25:20 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	Believe Commission 2011 authorization of LG&E/KU contract with OVEC based on conditions and predictions stale and untrue today?
3:25:45 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	Think those be stale and untrue predictions and conditions going forward to 2040?
3:26:07 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	Not true approval of Commission based on finding OVEC power low cost and likely continue be?
3:26:22 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	Not true Commission relied upon factual findings and assumptions OVEC unit operating levels proved untrue?
3:26:45 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	Been environmental compliance issues arisen since 2011?
3:27:02 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	In 2011 Commission found because OVEC units only operated baseload modes expected be at or near historic operating levels through mid-2040, true today?
3:27:44 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	Reliability characteristics gone down since 2011?
3:27:57 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	Typical life of coal-fired power plant?
3:28:04 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	Can give me a range?
3:28:20 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	Aware both OVEC plants built in 1950s?
3:28:26 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	By the time contract signed with OVEC expires in 2040, will be almost 90 years old?
3:28:42 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	Same read Fischer testimony previous rate case, aware pointed out OVEC generation costs not cost competitive?
3:29:00 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	Opined OVEC coal units not operating at historic level?
3:29:16 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	Agree with Fisher testimony stated companies be paying higher cost power from OVEC due to debt repayment obligations?
3:29:37 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	Know what OVEC debt repayment obligations are on coal units?
3:30:20 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	What is amount of debt obligation?
3:30:32 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	If OVEC defaults or no longer operate, owe billion dollars to lenders?
3:30:48 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	LG&E/KU ratepayers on hook for portion of that?
3:31:15 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	If Indiana Michigan Power Company or Ohio power companies able escape their obligations, increase burden on LG&E/KU?
3:31:55 PM	Atty Childers Sierra Club - witness	Bellar
	Note: Sacre, Candace H	FirstEnergy went through bankruptcy?

3:32:00 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Settlement in bankruptcy?
3:32:04 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Support Commission investigation whether OVEC payments and other obligations long-term contract fair, just, and reasonable now and in future to ratepayers?
3:32:19 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Why?
3:32:30 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	As board member, request OVEC conduct investigation into continued liability of two coal-fired power plants?
3:32:57 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Major decisions made by OVEC investment and maintenance of two coal-fired power plant made with little/no control by LG&E/KU?
3:33:30 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Companies' last rate case, testified due to companies' minority interest neither companies nor Commission has chance review decisions made by OVEC before money allocated?
3:34:00 PM	Chairman Chandler Note: Sacre, Candace H	Recess until 3:40.
3:34:22 PM	Session Paused	
3:50:27 PM	Session Resumed	
3:51:13 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Cross Examination (cont'd). Agree Commission has power indeed duty revisit companies' participation in 2011 ICPA reasonable and in customers' best interest?
3:51:52 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	True today power generation sources exist and are available to companies at lower cost than power purchased from OVEC?
3:52:30 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Question was not true power generation sources today available to companies are lower cost than power purchased from OVEC?
3:53:05 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Since Commission approved ICPPA in 2011, companies not investigated purchasing from OVEV remains in ratepayers best interest?
3:53:28 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Are aware other sponsoring companies as well as OVEC and rating analysts conducted investigations reveal OVEC plants are high cost and high risk both short term and long term?
3:53:54 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Aware that Ohio Public Utilities docket initiated by Duke Energy demonstrated value of long-term contract known as ICPA declined to liability, negative value \$68 million through 2026?
3:54:22 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	In bankruptcy proceedings of FirstEnergy Solutions demonstrated value of ICPA declined to liability/negative value \$277 million through 2040?
3:54:48 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Have explanation for high forced outage rate at OVEC units?
3:55:37 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Come back to bite them?
3:56:09 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Not measure up to maintenance schedule your units do?

3:56:25 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H OVEC units have poor operating performance history?

3:56:42 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Energy and capacity offered by companies' purchase of power from OVEC are not necessary for reliable operations?

3:57:10 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Not true that OVEC participation in PJM proven imprudent and resulted in millions of dollars operational losses?

3:57:34 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H But OVEC does participate in PJM?

3:57:46 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Refer you to Response, Sierra Club First, Question 11, page 312 of 341, third bullet MTDS permit for Clifty Creek summer 2022 establish new ELG compliance dates, established?

3:58:58 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Page 313, OVEC intended to initiate pond closure by Oct 2023, date rejected by EPA, not know what new date is for pond closure, not issued final decision?

3:59:34 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H If stick with conditional denial, be much sooner than 2023?

4:00:42 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H What handed you four separate emails, first email from Michael Sebourn dated April 2nd, see that?

4:01:04 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Turn to page two?

4:01:27 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Highlighted sections speak about corruption involving passage of bill in Ohio provide subsidies to OVEC coal-fired units, familiar with that?

4:01:30 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Know if subsidies removed by Ohio legislature?

4:01:41 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Not know whether affect cost of power from OVEC units?

4:01:58 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Know if anyone prosecuted as a result of corruption?

4:02:08 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H It has or has not?

4:02:17 PM Atty Childers Sierra Club  
Note: Sacre, Candace H Move first email as Public No. 4. (Click on link for further comments.)

4:02:18 PM SIERRA CLUB HEARING EXHIBIT 4  
Note: Sacre, Candace H ATTY CHILDERS SIERRA CLUB - WITNESS BELLAR  
Note: Sacre, Candace H EMAIL OF APRIL 2 2021 FROM MICHAEL SEBOURN REGARDING OHIO REPEAL

4:02:35 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Next email dated Jan 5 2021 from John Fendig, see that one?

4:02:47 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H At bottom, email from you to Fending, see that?

4:02:50 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Your email speaks about repeal of Ohio House bill and impact on subsidies to OVEC, state might get questions at rate case, not know how that turned out whether subsidies been removed?

4:03:12 PM Atty Childers Sierra Club - witness Bellar  
Note: Sacre, Candace H Information could obtain as board member of OVEC?

4:03:28 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Ask as post-hearing data request provide information whether subsidies in place or repealed?
4:03:29 PM	POST-HEARING DATA REQUEST Note: Sacre, Candace H	ATTY CHILDERS SIERRA CLUB - WITNESS BELLAR SUBSIDIES TO OVEC REPEALED OR REMAIN IN PLACE
4:03:51 PM	Atty Childers Sierra Club Note: Sacre, Candace H	Move email as Public No. 5. (Click on link for further comments.)
4:04:53 PM	SIERRA CLUB HEARING EXHIBIT 5 Note: Sacre, Candace H	ATTY CHILDERS SIERRA CLUB - WITNESS BELLAR EMAIL FROM LONNIE BELLAR DATED JAN 5 2021 REGARDING HB 6
4:04:54 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Next email Jan 26 attachment to Response, Sierra Club First, Question 15, page 6 of 14, Arbough, see that one?
4:05:10 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	This is email from Paul Thompson at LG&E/KU?
4:05:15 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Responds to email from Vincent Sorgi concerning Ohio House bill, who is Mr. Sorgi?
4:05:28 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Thompson indicates plants close before end of decade, explain that?
4:05:50 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Discussion at board level closing plant before 2030?
4:06:06 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	No discussion closing plants any earlier than 2040?
4:06:35 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Know what collateral is in obligation, \$1.1 billion in debt, collateral associated with debt?
4:06:52 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	OVEC stand-alone company?
4:06:59 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	If were to take bankruptcy, could shed itself of debt?
4:07:12 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Move into evidence as Public No. 6. (Click on link for further comments.)
4:07:13 PM	SIERRA CLUB HEARING EXHIBIT 6 Note: Sacre, Candace H	ATTY CHILDERS SIERRA CLUB - WITNESS BELLAR EMAIL FROM PAUL THOMPSON WITH RESPONSE BY VINCENT SORGI DATED AUGUST 8 2020 REGARDING OVEC Q&A
4:07:25 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Final email in stack dated Mar 25 2021 from Dan Arbough?
4:07:36 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	To you and Paul Thompson?
4:07:39 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Email indicates with lost subsidies OVEC less attractive, owners may push for earlier plant shutdown?
4:07:53 PM	Atty Childers Sierra Club - witness Bellar Note: Sacre, Candace H	Is LG&E/KU pushing for early shutdown for OVEC units?
4:08:07 PM	Atty Childers Sierra Club Note: Sacre, Candace H	Move into evidence Public No. 7. (Click on link for further comments.)
4:08:20 PM	Chairman Chandler Note: Sacre, Candace H	Entered as Sierra Club Public No. 4, 5, 6, and 7.

4:08:21 PM SIERRA CLUB HEARING EXHIBIT 7  
Note: Sacre, Candace H ATTY CHILDERS SIERRA CLUB - WITNESS BELLAR  
Note: Sacre, Candace H EMAIL DATED MAR 25 2021 FROM PAUL THOMPSON TO DAN ARBOUGH AND LONNIE BELLAR REGARDING OVEC

4:08:31 PM Chairman Chandler  
Note: Sacre, Candace H Mr. Fitzgerald?

4:08:43 PM Atty Fitzgerald Joint Intervenors - witness Bellar  
Note: Sacre, Candace H Cross Examination. IRP, page 5-44, steps be taken next three years, stated aside from planned addition Rhudes Creek Solar and return of Mill Creek 1 and Zorn 1 no additions planned, still accurate?

4:10:02 PM Atty Fitzgerald Joint Intervenors - witness Bellar  
Note: Sacre, Candace H Those are for specific customers?

4:10:08 PM Atty Fitzgerald Joint Intervenors - witness Bellar  
Note: Sacre, Candace H How all pieces together, RFP, on 21st of June, this year, listed on Transerve Transmission Management Services web site, what is Transerve, independent transmission operator?

4:10:46 PM Atty Fitzgerald Joint Intervenors - witness Bellar  
Note: Sacre, Candace H How related to LG&E/KU, affiliated company or company independently manages transmission?

4:11:14 PM Atty Fitzgerald Joint Intervenors - witness Bellar  
Note: Sacre, Candace H Two generation interconnection postings on that queue, 2022-003 Mill Creek Jefferson County 660 MW combined cycle gas plant?

4:11:51 PM Atty Fitzgerald Joint Intervenors - witness Bellar  
Note: Sacre, Candace H Listed under column affiliate, what affiliate is proposing 660 MW combined cycle plant and how related to your generating assets?

4:13:01 PM Atty Fitzgerald Joint Intervenors - witness Bellar  
Note: Sacre, Candace H 004 listed in Mercer County at Brown?

4:13:07 PM Atty Fitzgerald Joint Intervenors - witness Bellar  
Note: Sacre, Candace H Not two 660 MG plants proposing, it's one that could be in either place?

4:14:03 PM Atty Fitzgerald Joint Intervenors - witness Bellar  
Note: Sacre, Candace H LG&E is proposing to respond to RFP self-build?

4:14:19 PM Atty Fitzgerald Joint Intervenors - witness Bellar  
Note: Sacre, Candace H So this is self-build?

4:14:56 PM Atty Fitzgerald Joint Intervenors - witness Bellar  
Note: Sacre, Candace H Why choice of 660 MW, RFP says 100 as base, some separate planning process produced potential need 660 MW or best economy of scale?

4:16:39 PM Atty Fitzgerald Joint Intervenors - witness Bellar  
Note: Sacre, Candace H Have proposals completed as of this date?

4:16:53 PM Atty Fitzgerald Joint Intervenors - witness Bellar  
Note: Sacre, Candace H Know whether proposal developed includes carbon capture as part of design?

4:17:36 PM Atty Fitzgerald Joint Intervenors - witness Bellar  
Note: Sacre, Candace H Know whether designs looking at capable of having that slipstream added on to allow carbon capture?

4:18:12 PM Chairman Chandler  
Note: Sacre, Candace H Mr. Spenard?

4:18:25 PM Atty Spenard SREA - witness Bellar  
Note: Sacre, Candace H Cross Examination. In companies' responsive comments, bottom page 44, ICPA, intercompany power agreement?

4:19:30 PM Atty Spenard SREA - witness Bellar  
Note: Sacre, Candace H Reading, (click on link for further comments), see that?

4:20:06 PM	Atty Spenard SREA - witness Bellar Note: Sacre, Candace H	During response to Childers, indicate that even if companies not take energy from OVEC, companies still responsible paying fixed cost?
4:20:34 PM	Atty Spenard SREA - witness Bellar Note: Sacre, Candace H	How frequently companies settle with OVEC, monthly basis?
4:20:45 PM	Atty Spenard SREA - witness Bellar Note: Sacre, Candace H	For billing period no energy used still get bill for fixed costs?
4:21:10 PM	Atty Spenard SREA - witness Bellar Note: Sacre, Candace H	In a month where do receive energy, get billed for that for fixed cost portion and energy pay under contract?
4:21:32 PM	Atty Spenard SREA - witness Bellar Note: Sacre, Candace H	Once receive bill, how recover cost from ratepayers?
4:22:10 PM	Atty Spenard SREA - witness Bellar Note: Sacre, Candace H	Contractual commitments, any feature through which OVEC make a capital call occurs outside normal building cycle?
4:22:40 PM	Atty Riggs LG&E/KU Note: Sacre, Candace H	Object, calls for legal conclusion. (Click on link for further comments.)
4:24:45 PM	Chairman Chandler Note: Sacre, Candace H	Overrule objection. (Click on link for further comments.)
4:24:53 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Examination. Are you aware?
4:25:18 PM	Atty Spenard SREA - witness Bellar Note: Sacre, Candace H	Cross Examination (cont'd). If capital costs OVEC incurs, those run through call general rate case or fuel charge or some combination?
4:26:30 PM	Atty Spenard SREA - witness Bellar Note: Sacre, Candace H	Have companies requested establishment of regulatory asset for cost associated with OVEC?
4:27:00 PM	Chairman Chandler Note: Sacre, Candace H	Mr. Kurtz? (Click on link for further comments.)
4:27:28 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Cross Examination. Aware Ohio deregulated generation component of bills?
4:27:34 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Aware Ohio electric utilities investor owned divested all generation assets except OVEC?
4:27:47 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Aware 2015-16 Ohio approved AEP and Duke ability use OVEC as cost-based hedge offset risk of full-market pricing sell energy/capacity of OVEC into PJM market, customers get profit?
4:28:33 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Aware Ohio Supreme Court approved decision?
4:28:42 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Aware PUCO staff commissioned two audits AEP/Duke OVEC participation found both prudent?
4:28:58 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	House Bill 6 bribery scandal extended OVEC participation for AEP/Duke and think Dayton Power and Light through 2030?
4:29:21 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Aware Ohio repealed nuclear bailout provisions but left OVEC extension through 2030 in place?

4:29:36 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Ohio commission, Ohio Supreme Court, Ohio legislature all weighed in on OVEC question and found no imprudence, no reason force utilities out of hedging situation?
4:29:59 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Hedges out of money when PJM market prices low, aware effect of that on market?
4:30:10 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Now, real time LMP in PJM \$170 MWh, OVEC hedges in money three-four months elevated market prices?
4:30:33 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Illinois did same thing, same kind of hedging, bill credit \$30 per MWh, FirstEnergy been in bankruptcy?
4:31:09 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	FirstEnergy Solutions unregulated generation affiliate FirstEnergy went through bankruptcy?
4:31:20 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Not FirstEnergy Corp or any of utilities?
4:31:27 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	In bankruptcy, when have executory contract yet satisfied, ask be discharged, counterpart unsecured creditor?
4:31:46 PM	Atty Riggs LG&E/KU Note: Sacre, Candace H	Do have an objection, legal conclusion. (Click on link for further comments.)
4:32:07 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Ohio has own long history with OVEC?
4:32:19 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Sierra Club financial information about OVEC?
4:32:27 PM	Chairman Chandler Note: Sacre, Candace H	Move to confidential session? (Click on link for further comments.)
4:33:12 PM	Private Mode Activated	
4:33:12 PM	Private Recording Activated	
4:36:06 PM	Atty Riggs LG&E Note: Sacre, Candace H	Objection. (Click on link for further comments.)
4:36:08 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	But would be a legal question?
4:36:18 PM	Chairman Chandler Note: Sacre, Candace H	Withdraw objection? (Click on link for further comments.)
4:36:44 PM	Atty Kurtz KIUC Note: Sacre, Candace H	Done with confidential.
4:36:45 PM	Normal Mode Activated	
4:36:45 PM	Public Recording Activated	
4:37:04 PM	Chairman Chandler Note: Sacre, Candace H	Mr. Kurtz?
4:37:06 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	In 2028, IRP analysis least cost plan 500 MW solar and two simple cycle combustion turbines 220 each MW?
4:37:57 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Solar projected operate 25 percent capacity factor?
4:38:05 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	New peaking units 20 percent capacity factor?
4:38:26 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Staff asked run scenario combined cycle plant without carbon capture sequestration?



4:38:39 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	When did that, showed NGCC least cost option under number of scenarios?
4:38:48 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Ask compare two scenarios, 440 MW gas peaking and 500 MW solar versus 440 MW combined and 500 MW solar, compare financially and on CO2 basis, solar same in each portfolio would be wash?
4:39:28 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	440 MW of peaking capacity combustion turbines 20 percent capacity factor and be in mid-range CO2 emission, lower than coal, higher than combined cycle?
4:39:51 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Under 500 MW solar, 440 MW combined cycle, solar a wash, combined cycle first 20 percent dispatch less CO2 combustion turbine?
4:40:11 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	And combined cycles dispatch and displace coal generation if Cane Run 7 any indicator?
4:40:38 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	If solar wash and combined cycle lower CO2 emissions than CT and displaced coal, could turn out lower cost and reduce CO2 more than plan recommended in base case IRP?
4:41:26 PM	Atty Kurtz KIUC - witness Bellar Note: Sacre, Candace H	Type of things explored in CPCN case?
4:41:37 PM	Chairman Chandler Note: Sacre, Candace H	Mr. Bellamy?
4:41:40 PM	Staff Atty Bellamy PSC - witness Bellar Note: Sacre, Candace H	Cross Examination. When submit potential resource to transfer for violation interconnection cost, submit a projected in-service date for unit?
4:42:13 PM	Staff Atty Bellamy PSC - witness Bellar Note: Sacre, Candace H	Know two 660 MW units what projected in-service date was for units?
4:42:43 PM	Staff Atty Bellamy PSC - witness Bellar Note: Sacre, Candace H	Wolfe answered question and think you adopted response?
4:43:04 PM	Staff Atty Bellamy PSC - witness Bellar Note: Sacre, Candace H	About distributed energy resource portal?
4:43:15 PM	Staff Atty Bellamy PSC - witness Bellar Note: Sacre, Candace H	Explain what is portal, what consist of, how that work?
4:44:28 PM	Staff Atty Bellamy PSC - witness Bellar Note: Sacre, Candace H	Mechanism submit application for distributed energy resource be interconnected for net metering?
4:44:51 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Examination. Page 44, companies' response comments, line says, reading (click on link for further comments), provided to imply both as owner and board member of OVEC take actions for customer benefit?
4:45:58 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Even under your analysis, uneconomic continue status quo OVEC, anything can do without any significant number additional owners supporting you?
4:46:52 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Economics as view it, major distinction economic and uneconomic what cost of power is, that megawatt hour cost of power?

4:47:35 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Fixed costs regardless, pivot point when marginal cost of energy becomes economic compared to own generation or market generation?
4:47:59 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	If production costs, cost of power 100 MW hour out of OVEC and LMP \$50, out of money, allowed PJM dispatch, not economically dispatch?
4:48:38 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Had units available not being run at \$35 MWh, conditions existed a month, point when stop taking energy from OVEC and pay fixed costs?
4:49:28 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Think get mass other board members join and making change scenario played out over longer period of time?
4:49:50 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Even those financially indifferent?
4:50:12 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	June 9 PPL presentation, page 32, slide entitled pursuing full transition of coal fleet by 2050, PPL slides but when talks about coal fleet that is LG&E/KU?
4:51:02 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Narragansett or whatever called today, Rhode Island Energy has no generation?
4:51:08 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Same for PPL?
4:51:11 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Here shows 2021A, 2021 actuals, left-hand side?
4:51:18 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Then has a bar that's 2028 3706?
4:51:23 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	And then 2035 2746?
4:51:27 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	And then 2040 919?
4:51:29 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	And then zero at 2050?
4:51:32 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	And numbers represent from 4715 to zero megawatts of coal-fired generation capacity?
4:51:40 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Footnote for 2050 same footnote Imber discussing earlier economically transitioning coal unabated and ends in carbon dioxide removal technology similar or same footnote?
4:51:56 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Is coincidence in IRP many retirements reflected between 2021 actuals and 2035 date many retirements hard-coded and fixed in IRP instead of economically determined?
4:53:09 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Anything changed replacement value, avoided capacity values, anything else would change results of analysis provided in 2020 around retirement and generation units?
4:54:29 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Difference between first bar and second bar, second bar and third bar, third bar and fourth bar merely result of analysis to determine usual life of generating assets?

4:54:48 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Difference between fourth bar and no bar the zero in 2050 not result of economic analysis?
4:54:58 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Based on expectation company unable economically run coal 2050 and after without carbon abatement?
4:57:03 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Not understand commitment to economics, goal of 2050, those inputs otherwise not taken into account any years prior, why 2050 year said that, real risks, why not taken into account 2049, 2040, 2035, or 2022, what missing explains distinction risks lead to decision in 2050 and every year prior?
4:59:53 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Worried enough about risk CO2 policy/regulation poses, not just 2050 risk took into account, is risk took into account over 15-year planning horizon?
5:01:29 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Was use of natural gas combined cycle CCS unit in lieu of some other constraint, result of Commission use of expected carbon taxes or risk calculating net metering successor rates?
5:02:47 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	May not be part of discussions, aware of discussions happening?
5:02:59 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Move to page 44 of document, top says while reducing coal-fired generation rate base?
5:03:27 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Goes on how noncoal-generation rate base increased to more than 85 total rate base by 2026?
5:03:50 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Inverse of that mean coal generation rate base be less than 15 percent?
5:04:03 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	PPL wide?
5:04:07 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Average rate base dollars in billions what chart represents?
5:04:13 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	2021 actuals rate base of LG&E/KU coal fleet \$5 billion dollars?
5:04:52 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Does not?
5:04:55 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Perfect example Brown where remaining undepreciated value of Brown 1 and 2 when retire \$1-2 million and Brown 3 not \$1 or 2 million, everything left not retired with first two?
5:05:13 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	\$5 billion, goes down about \$200 million to 2022?
5:05:26 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	\$100 million down to 2023, just function of rounding?
5:05:35 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Same amount of annual depreciation for these units, similar between 2021 and 2022 and '22 and '23?
5:05:49 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Drops \$100 million and then drops \$200 million and drops \$300 million?
5:05:59 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Companies under commitment have a rate case stay out?

5:06:07 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Does jump between 2024 and 2025 represent expectation amend its useful life or request change in depreciation rates in next rate case?
5:06:37 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Retirement includes undepreciated net book value, know whether regulatory asset included in rate base for purposes of calculation?
5:07:14 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	2050 not burn unabated coal, internal commitment burning fossil fuels after 2050 or just limited to coal?
5:07:42 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Planning internally to burn no fossil fuels after 2050, conversations not past 2050?
5:08:09 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Separate from IRP, conducted analysis new expected lives of generation fleet not filed with Commission?
5:08:31 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Heard questions to Wilson about when knew economics changed avoided capacity values for planning purposes?
5:08:55 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Knew things had changed from last DSM application, understood time frame to be?
5:09:08 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Sometime 2018-'19 and mid-year 2020 economics changed because expected retirement date certain generation changed?
5:09:30 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	'25 or '28 depending on variables?
5:09:42 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Why taken more than two years come in and change DSM and energy efficiency plan?
5:12:17 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Generally aware of DSM filings?
5:12:24 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Avoided capacity values specific input in DSM applications to determine cost effectiveness?
5:12:39 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	No longer case?
5:13:01 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	How discount that today, know exist, not be that amount that year, but not mean zero today, some value avoiding costs?
5:15:14 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	With AFUDC and QIP customers paying ahead of getting generation if way to meet capacity need, not spending money early years have capacity?
5:15:50 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Other use of avoided capacity in addition DSM are QF rates, under Commission regulations?
5:16:06 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Ever review original case when Commission looked at creating regulation around QFs and avoided capacity costs?
5:16:18 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Made QF filings when in previous position?
5:16:22 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Section 5(5), 807 KAR 5:054, QF regulation, factors affecting rates for purchase, reading (click on link for further comments), generation comes in chunks, 660 megawatt unit?

5:17:39 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Talking about 330 MW capacity need, build 660, grow into and not have to do anything else, not just build 300?
5:18:02 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	With DSM, not come in 660 MW blocks?
5:18:19 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	If providing update to DSM at same time providing Commission CPCN for generation meet demand, how DSM defer, cancel, or downsize generation requesting?
5:20:15 PM	Chairman Chandler - witness Bellar Note: Sacre, Candace H	Not downsizing or deferring planned generation, just proposing DSM beside planned generation?
5:20:59 PM	Chairman Chandler Note: Sacre, Candace H	Redirect?
5:21:08 PM	Chairman Chandler Note: Sacre, Candace H	Witness excused.
5:21:20 PM	Chairman Chandler Note: Sacre, Candace H	Recess until 5:25.
5:21:39 PM	Session Paused	
5:30:30 PM	Session Resumed	
5:31:59 PM	Session Paused	
5:32:26 PM	Session Resumed	
5:33:01 PM	Chairman Chandler Note: Sacre, Candace H	Back on the record in Case No 2021-00393.
5:33:06 PM	Chairman Chandler Note: Sacre, Candace H	Witness is sworn.
5:33:14 PM	Chairman Chandler - witness Garrett Note: Sacre, Candace H	Examination. Name and address?
5:33:29 PM	Atty Riggs LG&E/KU- witness Garrett Note: Sacre, Candace H	Direct Examination. Title?
5:33:37 PM	Atty Riggs LG&E/KU- witness Garrett Note: Sacre, Candace H	Cause be filed responses under your name?
5:33:47 PM	Atty Riggs LG&E/KU- witness Garrett Note: Sacre, Candace H	Today adopting responses prepared by Arbough not relate to OVEC?
5:33:59 PM	Atty Riggs LG&E/KU- witness Garrett Note: Sacre, Candace H	Adopt those and your responses as testimony?
5:34:06 PM	Atty Riggs LG&E/KU- witness Garrett Note: Sacre, Candace H	Materials with you taken to witness stand?
5:34:24 PM	Chairman Chandler Note: Sacre, Candace H	Questions?
5:35:07 PM	Chairman Chandler Note: Sacre, Candace H	Witness excused.
5:35:10 PM	Chairman Chandler Note: Sacre, Candace H	Mr. Crosby, next witness?
5:35:13 PM	Atty Crosby LG&E Note: Sacre, Candace H	John Bevington.
5:35:24 PM	Chairman Chandler Note: Sacre, Candace H	Witness is sworn.
5:35:29 PM	Chairman Chandler Note: Sacre, Candace H	Examination. Name and address?
5:35:47 PM	Atty Crosby LG&E/KU - witness Bevington Note: Sacre, Candace H	Direct Examination. By whom employed and in what capacity?
5:35:52 PM	Atty Crosby LG&E/KU - witness Bevington Note: Sacre, Candace H	Cause be filed responses?

5:35:57 PM	Atty Crosby LG&E/KU - witness Bevington Note: Sacre, Candace H	Adopt responses as testimony?
5:36:00 PM	Atty Crosby LG&E/KU - witness Bevington Note: Sacre, Candace H	Materials with you at witness stand?
5:36:08 PM	Chairman Chandler Note: Sacre, Candace H	Questions?
5:36:31 PM	Atty Childers Sierra Club - witness Bevington Note: Sacre, Candace H	Cross Examination. Companies not directly evaluate new DSM programs for IRP proceeding?
5:36:43 PM	Atty Childers Sierra Club - witness Bevington Note: Sacre, Candace H	Even though Commission regulations require utilities, reading (click on link for further comments), companies chose not include analysis of new DSM programs?
5:37:10 PM	Atty Crosby LG&E/KU Note: Sacre, Candace H	Object, calls for legal conclusion. (Click on link for further comments.)
5:38:13 PM	Atty Childers Sierra Club - witness Bevington Note: Sacre, Candace H	Refer to Table 812, page 8-21, Volume 1 of IRP, appears no demand side management forecast after 2025, explain that?
5:39:14 PM	Atty Childers Sierra Club - witness Bevington Note: Sacre, Candace H	Not know what happen after 2025?
5:39:55 PM	Chairman Chandler Note: Sacre, Candace H	Mr. Fitzgerald?
5:40:07 PM	Atty Fitzgerald Joint Intervenors - witness Bevington Note: Sacre, Candace H	Cross Examination. Say head of business economic development?
5:40:34 PM	Atty Fitzgerald Joint Intervenors - witness Bevington Note: Sacre, Candace H	In experience, value to energy efficiency for customers where no new capacity needed for generation?
5:41:17 PM	Atty Fitzgerald Joint Intervenors - witness Bevington Note: Sacre, Candace H	Why offer energy efficiency programs during time not need new generation capacity?
5:41:57 PM	Atty Fitzgerald Joint Intervenors - witness Bevington Note: Sacre, Candace H	DSM programs, asking about energy efficiency, why blurbs in inserts how to save energy if no intrinsic value to savings because not need capacity?
5:42:44 PM	Atty Fitzgerald Joint Intervenors - witness Bevington Note: Sacre, Candace H	Assumption being more efficient benefit to customers?
5:42:56 PM	Atty Fitzgerald Joint Intervenors - witness Bevington Note: Sacre, Candace H	If customer taking power on time-of-day schedule control load be a benefit to them?
5:43:23 PM	Atty Fitzgerald Joint Intervenors - witness Bevington Note: Sacre, Candace H	Troubled by disconnect between understanding what energy efficiency and DSM for, avoid further need new capacity, no value to DSM and EE until new construction eminent, thought whole idea avoid having to do new construction, wondering whether LG&E/KU really capturing value waiting until last minute propose changes to programs?
5:44:40 PM	Atty Fitzgerald Joint Intervenors - witness Bevington Note: Sacre, Candace H	Schram indicated RFP let on Jun 22 2022 just for new additions on supply side, either in 2021 or this year or ever let RFP asking for proposals for energy efficiency of DSM programs help address capacity needs?
5:45:55 PM	Atty Fitzgerald Joint Intervenors - witness Bevington Note: Sacre, Candace H	Fair in light of DSM/EE cases that been ongoing process paring back DSMs offerings available to customers?

5:47:11 PM	Atty Fitzgerald Joint Intervenor - witness Bevington Note: Sacre, Candace H	How square DSM programs with proposal, nothing after 2025, did modeling that was done include as variable increasing utility investment in end-use energy efficiency in any of scenarios?
5:47:59 PM	Atty Fitzgerald Joint Intervenor - witness Bevington Note: Sacre, Candace H	Was any modeling of DSM done, any scenarios look at increasing end-use demand management as way of meeting anticipated needs over planning period?
5:48:54 PM	Atty Fitzgerald Joint Intervenor - witness Bevington Note: Sacre, Candace H	Have a planning process baked in and assumes no units retired before depreciation date, no DSM, no value to carbon cost, not know how planning process lead anywhere other than need build more natural gas capacity, wrong in that or in planning process?
5:50:31 PM	Atty Fitzgerald Joint Intervenor - witness Bevington Note: Sacre, Candace H	That assumption of energy efficiency base line of continued savings over time?
5:50:51 PM	Atty Fitzgerald Joint Intervenor - witness Bevington Note: Sacre, Candace H	Six percent assumed what saving through energy efficiency, suggesting increasing because assumed additions to energy efficiency programs, just not spelled out?
5:51:27 PM	Atty Fitzgerald Joint Intervenor - witness Bevington Note: Sacre, Candace H	Because of customer investments in energy efficiency or utility-sponsored investments?
5:51:51 PM	Atty Fitzgerald Joint Intervenor - witness Bevington Note: Sacre, Candace H	Know whether high assumption, low assumption?
5:51:57 PM	Atty Fitzgerald Joint Intervenor - witness Bevington Note: Sacre, Candace H	Know basis for that assumption, where number came from?
5:51:58 PM	Atty Fitzgerald Joint Intervenor - witness Bevington Note: Sacre, Candace H	Will make it a post-hearing data request?
5:51:59 PM	POST-HEARING DATA REQUEST Note: Sacre, Candace H Note: Sacre, Candace H	ATTY FITZGERALD JOINT INTERVENORS - WITNESS BEVINGTON BASIS FOR SIX PERCENT ASSUMPTION THROUGH ENERGY EFFICIENCY
5:52:12 PM	Chairman Chandler Note: Sacre, Candace H	Questions?
5:52:23 PM	Chairman Chandler Note: Sacre, Candace H	Redirect?
5:52:26 PM	Chairman Chandler Note: Sacre, Candace H	Witness excused.
5:52:33 PM	Chairman Chandler Note: Sacre, Candace H	Questions for Saunders or Conroy? (Click on link for further comments.)
5:54:34 PM	Chairman Chandler Note: Sacre, Candace H	Saunders and Conroy excused.
5:56:05 PM	Chairman Chandler Note: Sacre, Candace H	Procedural discussions. (Click on link for further comments.)
5:56:25 PM	Chairman Chandler Note: Sacre, Candace H	Post-hearing data requests and responses. (Click on link for further comments.)
5:57:13 PM	Chairman Chandler Note: Sacre, Candace H	Staff Report and responses. (Click on link for further comments.)
6:04:15 PM	Chairman Chandler Note: Sacre, Candace H	Anything else to take under consideration? (Click on link for further comments.)

6:04:52 PM

Chairman Chandler

Note: Sacre, Candace H

Hearing adjourned.

6:05:04 PM

Session Ended





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<b>Name:</b>	<b>Description:</b>
SIERRA CLUB CONFIDENTIAL HEARING EXHIBIT 2	CCR/ELG - ENVIRONMENTAL PROJECTS UPDATE, OVERALL PROJECT ASSESSMENT
SIERRA CLUB CONFIDENTIAL HEARING EXHIBIT 3	OVEC PROJECTED INTER-COMPANY POWER AGREEMENT BILLABLE COST SUMMARY 2022-2040
SIERRA CLUB HEARING EXHIBIT 1	INDY STAR 01/11/2020 INDIANA HAS THE MOST TOXIC COAL ASH PITS. THE EPA SAYS IT'S TIME TO CLEAN THEM UP
SIERRA CLUB HEARING EXHIBIT 2	EMAIL FROM JUSTIN J. COOPER DATED JAN 12 2022 REGARDING CLIFTY CREEK - CCR COMPLIANCE
SIERRA CLUB HEARING EXHIBIT 3	BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSON CASE NO. U-20804 IN THE MATTER OF THE APPLICATION OF INDIANA MICHIGAN POWER COMPANY POWER SUPPLY COST RECOVERY 12 MONTHS ENDING DECEMBER 31 2021
SIERRA CLUB HEARING EXHIBIT 4	EMAIL OF APRIL 2 2021 FROM MICHAEL SEBOURN REGARDING OHIO REPEAL
SIERRA CLUB HEARING EXHIBIT 5	EMAIL FROM LONNIE BELLAR DATED JAN 5 2021 REGARDING HB 6
SIERRA CLUB HEARING EXHIBIT 6	EMAIL FROM PAUL THOMPSON WITH RESPONSE BY VINCENT SORGI DATED AUGUST 8 2020 REGARDING OVEC Q&A
SIERRA CLUB HEARING EXHIBIT 7	EMAIL DATED MAR 25 2021 FROM PAUL THOMPSON TO DAN ARBOUGH AND LONNIE BELLAR REGARDING OVEC

SIERRA CLUB CONFIDENTIAL  
EXHIBIT 2  
CONFIDENTIAL SESSION OF  
CASE NO. 2021-00393 FORMAL HEARING  
HELD ON  
July 13, 2022

SIERRA CLUB CONFIDENTIAL  
EXHIBIT 3  
CONFIDENTIAL SESSION OF  
CASE NO. 2021-00393 FORMAL HEARING  
HELD ON  
July 13, 2022

# IndyStar.

## ENVIRONMENT

# Indiana has the most toxic coal ash pits. The EPA says it's time to clean them up



**Sarah Bowman**  
Indianapolis Star

Published 6:03 p.m. ET Jan. 11, 2022 | Updated 7:12 p.m. ET Jan. 11, 2022

The U.S. Environmental Protection Agency is cracking down on coal ash, finally — at least that's the feeling from environmental advocates and many residents living near coal plants across the state.

Indiana has more than 80 pits holding the cancer-causing byproduct, which is more than any other state in America. That ash is contaminating groundwater across the state, rendering it unsafe to drink. And yet, utilities have continued to not only leave much of that toxic waste sitting in groundwater in unlined ponds, but they have been able to add to it.

Now the EPA says it is going to hold these facilities accountable.

"EPA's action will mean more in Indiana than any other state, because Indiana hosts the greatest number of toxic ash ponds and because state regulators have failed to protect Indiana residents from these leaking basins," said Lisa Evans, a senior attorney for the environmental group Earthjustice.

The federal agency announced Tuesday that it is taking its first major action to address this waste, which is what remains when coal is burned to generate electricity. The EPA is ordering utilities to stop dumping ash in unlined pits and to speed up their plans to close those coal ash sites that are leaking or at risk of spilling.

Plants in four states will have to close their coal ash ponds earlier than expected, the EPA said Tuesday, citing deficiencies with groundwater monitoring, cleanup or other problems. One of those plants is in Indiana: the Clifty Creek power plant in Madison along the banks of the Ohio River.

In separate letters sent Tuesday, the EPA denied requests for extensions of coal ash permits at the Clifty Creek plant as well as facilities in Ohio and Iowa. It ruled another plant in New

York ineligible.

Attempts to reach the Indiana-Kentucky Electric Corporation, which runs Clifty Creek, were unsuccessful.

**White River:** Smaller streams are causing pollution problems, you can help fix it

The EPA also issued a compliance letter for Duke Energy's Gallagher Generating Station in New Albany. That letter pointed out that the site's largest pond, which is no longer active, fails to comply with regulations. That means millions of tons of coal ash can no longer be left sitting in groundwater, according to environmental advocates.

Duke Energy said that it believes its current work to close its pond was done in full compliance with regulations and industry standards. Still, "we have a shared interest with federal and state regulators to ensure customers and communities continue to remain protected in the future," said utility spokeswoman Angeline Protogere. "We welcome the opportunity to work with the EPA to determine our next steps."

These actions mark the first time that the EPA has enforced a 2015 rule that was implemented to reduce groundwater pollution from coal-fired power plants across the country. The Obama administration passed that rule, the first to regulate the storage and disposal of coal ash.

"EPA holds that closure in groundwater is contrary to law, that dishonest and inadequate monitoring will not be tolerated, and toxic contamination of groundwater requires active cleanup," Evans said. "If the law is enforced, it will bring huge health and environmental benefits to the state, at long last."

Coal ash contains an alphabet soup of toxic chemicals including mercury, cadmium, arsenic and other heavy metals. Not only does it pollute waterways, but it can poison wildlife and cause respiratory illnesses among people who live near these ponds.

The 2015 Coal Combustion Residuals regulation, also known as the CCR rule, included a requirement to close ash ponds that were unstable or contaminating groundwater. That meant that most of the approximately 500 unlined ponds nationwide would have to stop receiving waste and begin closure by April 2021, according to the EPA.

But then the Trump administration weakened the Obama-era rule in 2020, allowing utilities to take longer to comply with pollution reduction guidelines and making those guidelines less stringent.

Fendig, John

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**From:** [REDACTED]  
**Sent:** Wednesday, January 12, 2022 5:57 PM  
**To:** [REDACTED] Arbough, Dan; [REDACTED]  
[REDACTED] Bellar, Lonnie; [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
**Cc:** David J Crusey; [REDACTED] [REDACTED]  
[REDACTED] N. Trevor Alexander [REDACTED] Steven T  
Nourse  
**Subject:** Clifty Creek - CCR Compliance  
**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

EXTERNAL email. STOP and THINK before responding, clicking on links, or opening attachments.

Ladies and Gentlemen,

On January 11th, US EPA notified the Clifty Creek plant of its **conditional denial** of the plant's CCR demonstration application for alternative (extended) closure dates for CCR surface impoundments (unlined ponds). However, it is not a final agency action. The proposed decision will undergo a 30-day public notice and comment period that will begin January 25 and end February 23, 2022. Once the comment period has ended and all comments and data have been analyzed, EPA will issue a final decision.

Over the next 6-8 weeks OVEC will be working with our independent engineers and US EPA to try to address issues or concerns that has led to the conditional denial. Potential re-engineering or design changes to current construction may be necessary, although we currently do not know to what extent, or if other actions or commitments may be required. If the decision would ultimately become final, it would shorten the time Clifty has to continue placing ash in the current ponds. Clifty was requesting April 2023 in the application, the conditional denial requires ceasing placement 135 days after the final denial decision is issued (if issued, could be sometime later this year). After the 135 days, Clifty will be in temporary outage until the new treatment systems are operational.

Along with working to provide comments to address issues in the US EPA's assessment of our CCR compliance strategy and potential re-engineering, OVEC will also be working on legal strategies. We believe the US EPA is overreaching or misinterpreting the CCR Rule and this will be an industry issue, not only impacting the Clifty Creek Plant.

At this time, we anticipate scheduling a Board meeting in late February/early March, by which time we should be able to provide our updated compliance, construction, and legal strategies. If any material events occur prior, we will provide updates as they occur. Please reach out to me directly if you have any questions.

Justin J. Cooper MAcc, CPA  
Vice President - COO & CFO

Ohio Valley Electric Corporation  
Desk: [REDACTED]  
Cell: [REDACTED]  
Fax: [REDACTED]  
Email: [REDACTED]

STATE OF MICHIGAN  
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

\*\*\*\*\*

In the matter of the application of	)	
<b>INDIANA MICHIGAN POWER COMPANY</b>	)	
for approval to implement a power supply	)	Case No. U-20804
cost recovery plan for the 12 months	)	
ending December 31, 2021.	)	
_____	)	

At the November 18, 2021 meeting of the Michigan Public Service Commission in Lansing, Michigan.

PRESENT: Hon. Daniel C. Scripps, Chair  
Hon. Tremaine L. Phillips, Commissioner  
Hon. Katherine L. Peretick, Commissioner

**ORDER**

History of Proceedings

On September 30, 2020, Indiana Michigan Power Company (I&M) filed an application, with supporting testimony and exhibits, pursuant to Section 6j of Public Act 304 of 1982 (Act 304) as amended, MCL 460.6j, requesting approval of its proposed 2021 power supply cost recovery (PSCR) plan and proposed PSCR factor.

A prehearing conference was held on November 19, 2020, before Administrative Law Judge Sharon L. Feldman (ALJ)<sup>1</sup>, at which Sierra Club and the Michigan Department of Attorney

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<sup>1</sup> Administrative Law Judge Sharon L. Feldman presided over the pre-hearing conference in this proceeding in place of Administrative Law Judge Kandra K. Robbins who presided over the remainder of the proceeding. The abbreviation of Administrative Law Judge (ALJ) in this order refers to Kandra K. Robbins from this point forward.

General (Attorney General) were granted intervention. I&M and the Commission Staff (Staff) also participated in the proceeding. On December 22, 2020, the ALJ entered a protective order.

On March 12, 2021, the Staff and Sierra Club filed testimony and exhibits, and on April 9, 2021, I&M filed rebuttal testimony and exhibits. An evidentiary hearing was held on April 28, 2021. I&M, Sierra Club, and the Staff filed initial briefs on May 27, 2021. The same parties filed reply briefs on June 24, 2021.

On August 2, 2021, the ALJ issued a Proposal for Decision (PFD). On August 23, 2021, I&M filed exceptions to the PFD. On September 7, 2021, the Staff and Sierra Club filed replies to exceptions. The record in this case is comprised of 387 pages of transcript and 57 exhibits admitted into evidence.

#### Applicable Law

A PSCR proceeding concerns the recovery of a utility's power supply costs on an annual basis. A power supply cost recovery clause is:

a clause in the electric rates or rate schedule of an electric utility that permits the monthly adjustment of rates for power supply to allow the utility to recover the booked costs . . . of fuel burned by the utility for electric generation and the booked costs of purchased and net interchanged power transactions by the utility incurred under reasonable and prudent policies and practices.

MCL 460.6j(1)(b). A power supply cost recovery factor is "that element of the rates to be charged for electric service to reflect power supply costs incurred by an electric utility and made pursuant to a power supply cost recovery clause incorporated into the rates or rate schedule of an electric utility." MCL 460.6j(1)(c). Subsection 6j(3) of Act 304 requires a utility with a PSCR clause to annually file a PSCR plan describing the expected sources of electric power supply and changes in the cost of power supply anticipated over the 12-month period following the filing of the plan.

The PSCR plan must also describe all major contract and power supply agreements for the 12-



month period. A utility must contemporaneously file “a 5-year forecast of the power supply requirements of its customers, its anticipated sources of supply, and projections of power supply costs, in light of its existing sources of electrical generation and sources of electrical generation under construction.” MCL 460.6j(4).

Subsection 6j(5) of Act 304 provides that, after a utility files its PSCR plan and five-year forecast, the Commission shall conduct a proceeding to evaluate the reasonableness and prudence of the PSCR plan and to establish PSCR factors for the period covered by the plan. In its final order in a PSCR plan case, the Commission must “evaluate the reasonableness and prudence of the decisions underlying the [PSCR] plan” and must “approve, disapprove, or amend the plan accordingly.” MCL 460.6j(6).

In evaluating the decisions underlying the PSCR plan, Subsection 6j(6) of Act 304 states that “the commission shall consider the cost and availability of the electrical generation available to the utility; the cost of short-term firm purchases available to the utility; the availability of interruptible service; . . . whether the utility has taken all appropriate actions to minimize the cost of fuel; and other relevant factors.” This subsection also requires the Commission to approve, reject, or amend the 12 monthly power supply cost recovery factors requested by the utility in its PSCR plan. The finalized PSCR factors shall not reflect items the Commission could reasonably anticipate would be disallowed in a PSCR reconciliation proceeding. MCL 460.6j(6).

In its final order the Commission shall also evaluate the decisions underlying the five-year forecast filed by a utility and may indicate any cost items in the five-year forecast that the Commission would be unlikely to permit the utility to recover from its customers in rates, rate schedules, or PSCR factors established in the future. MCL 460.6j(7). This is known as a Section 7 warning.

### Positions of the Parties

I&M requested that the Commission enter an order approving implementation of the company's proposed PSCR plan and PSCR factor in rates for 2021 jurisdictional sales of electricity that are subject to the PSCR clause. I&M requested that the Commission approve the company's request for a 2021 PSCR factor of 18.92 mills per kilowatt-hour (kWh), resulting in a proposed Michigan jurisdictional PSCR factor of 2.85 mills per kWh applicable to the billing months of January 2021 through December 2021. I&M requested that the Commission accept the company's five-year forecast and reject the request to issue a Section 7 warning pursuant to MCL 460.6j(7). I&M's initial brief, pp. 21-22.

I&M argued that, in accordance with Act 304, its proposed 2021 PSCR plan contains all the elements which are required to be included and described in a PSCR plan. I&M contended that the proposed 2021 PSCR plan is reasonable and prudent. I&M argued that it has taken all appropriate actions to minimize the cost of fuel. The company argued that the proposed 2021 PSCR factors do not reflect items that the Commission could reasonably anticipate would be disallowed under Section 6j(13) of Act 304. *Id.*

The Staff recommended that the company's 2021 PSCR factor be approved as reasonable given that it will be reconciled and reviewed in the company's future 2021 PSCR reconciliation case. Staff's initial brief, pp. 4-5. The Staff contended that the Inter-Company Power Agreement (ICPA) costs included in the company's 2021 PSCR plan case fall within a range of reasonableness and should be approved subject to reconciliation and further review for reasonableness and prudence in a reconciliation case. *Id.*, pp. 5-6.

The Staff agreed with Sierra Club that the dispatch of the Rockport units is uneconomic as "must run." However, the Staff maintained its position that the company's application in this case

is acceptable for the purposes of setting a reasonable and prudent PSCR factor in 2021. Although, considering the uneconomic must run, the Staff recommended that the Commission order the company to provide an analysis of the Rockport units' actual dispatch in the reconciliation proceeding of this case. Staff's reply brief, p. 2. The Staff recommended that if I&M fails to provide this information or provides information that does not adequately support its position to commit the Rockport units as must run, the Commission should warn the company that it may disallow fuel costs associated with uneconomic must run decisions in future reconciliation cases. *Id.*

Sierra Club recommended that the Commission determine that the ICPA is substantially higher cost than the value of the products and services provided by the Ohio Valley Electric Corporation (OVEC) to I&M and therefore, the OVEC contract is not reasonable or prudent under current market conditions for the 2021 plan year. Sierra Club's initial brief, p. 3. In addition, Sierra Club asked that the Commission find that the ICPA is projected to cost significantly more than equivalent market products and services during the forecast period of 2022 to 2025 such that it is outside the range of reasonable and prudent costs. *Id.* Sierra Club recommended that the Commission amend the PSCR plan by removing the costs of the ICPA from the maximum PSCR factor and reduce I&M's forecast costs by the difference between OVEC's expected costs and the expected cost of market purchases for energy and capacity during that time period. *Id.*, p. 4. Sierra Club requested the Commission issue a Section 7 warning to I&M that based on present evidence it will likely disallow I&M's recovery of the Michigan jurisdictional share of compensation for the ICPA in 2022-2025. *Id.* Sierra Club argued that the Commission should reaffirm that OVEC is an affiliate of I&M under the Michigan Code of Conduct (Mich Admin Code, R 460.10101 *et seq.*), and the Commission should apply the Code of Conduct's affiliate

the PFD substantively misapplied the requirements set forth in Rule 8(4) by concluding, without sufficient legal analysis or evidentiary support, that, if OVEC is an affiliate, then the Code of Conduct's price cap mandates a direct disallowance equal to the difference between I&M's payments under the ICPA and the costs I&M customers would pay for the same amount of energy and capacity at market prices.

I&M's exceptions, p. 36. Sierra Club replies that the proper application of Rule 8(4) would not be to apply the pricing provision that governs utilities providing services to affiliates, which bases compensation on the higher of fully allocated embedded costs or fair market price, but to apply the provision that governs purchases of services or products from an affiliate, which states:

If an affiliate or other entity within the corporate structure provides services or products to a utility, and the cost of the service or product is not governed by section 10ee(8) of 2016 PA 341, MCL 460.10ee(8), compensation is at the lower of market price or 10% over fully allocated embedded cost.

Sierra Club's replies to exceptions, p. 42 (citing Rule 8(4)).

Sierra Club replies to I&M's exception that the ALJ erred in recommending that the PSCR plan be amended to include the impact of the company's planned purchase of Rockport Unit 2 in the forecasting of costs. Sierra Club argues that because I&M has agreed to purchase Rockport Unit 2, the output will be paid for by Michigan customers, and because the purchase cost has been included in the record for this case, the inclusion of the Rockport Unit 2 purchase cost in the analysis of this case is reasonable. Sierra Club's replies to exceptions, p. 43. Additionally, Sierra Club replies that the ALJ is correct to warn I&M about imprudent self-scheduling of the Rockport units. *Id.*, pp. 43-44.

The Staff filed replies to exceptions on three points. The Staff concurs with I&M that the ALJ improperly failed to address whether the projected 2021 ICPA costs fall within an acceptable range of reasonableness. Staff's replies to exceptions, p. 2. The Staff concurs with I&M that Commission precedent dictates that cost recovery related to ICPA/OVEC should occur after the

application to the commission seeking a certificate of necessity for that construction, investment, or purchase if that construction, investment, or purchase costs \$500,000,000.00 or more and a portion of the cost would be allocable to retail customers in this state.

MCL 460.6s(1). The statute then provides that “the commission shall include in an electric utility’s retail rates all reasonable and prudent costs for an electric generation facility or power purchase agreement for which a certificate of necessity has been granted.” MCL 460.6s(9). The statute further states “[t]he commission shall not disallow recovery of costs an electric utility incurs in . . . purchasing power pursuant to a power purchase agreement for which a certificate of necessity has been granted.” *Id.* As shown in the OVEC benchmark study conducted after the contract was submitted to FERC, “the ICPA was expected to have a cost of \$7.51 billion on a present value basis between the years 2011 and 2040. This means I&M’s share of the contract was expected to cost \$589.4 million on a present value basis in 2011.” 2 Tr 310; Exhibit SC-7. I&M had the opportunity to apply for a certificate of necessity in 2010 before the contract was amended to extend its term until 2040, which would assure recovery of the contracts associated costs, and the company failed to do so.

The ICPA also remains unapproved by FERC. On March 23, 2011, OVEC filed revisions to the ICPA among OVEC and the Sponsoring Companies, and the power agreement between OVEC and Indiana Kentucky Electric Corporation. The filing was canceled and refiled on April 27, 2011, to correct the file type. The agreements reflected the extension of the terms and agreements of the ICPA from March 13, 2026, to June 30, 2040. The filing was accepted by FERC and notice was published in the Federal Register with interventions and protests due on or before May 18, 2011. No protests or adverse comments were received. According to FERC, the acceptance of this filing “does not constitute approval of any service, rate, charge, classification, or any rule, regulation, contract, or practice affecting such rate or service provided for in the filed

documents.” *In re Amended and Restated Inter-Company Power Agreement and Amended and Restated OVEC-IKEK Power Agreement*, order of the Federal Energy Regulatory Commission, entered May 23, 2021 (Docket No. ER11-3181-000, *et al*). The ICPA has thus not been approved at the state level by the Commission nor at the federal level by FERC.

As the Commission stated in its December 9, 2020 order in Case No. U-20203; April 8 order; May 13 order; and June 23 order, while long-term contracts are encouraged, this does not absolve a utility from monitoring and responding to market conditions and system needs and making good faith efforts to manage existing contracts. As these orders state, such efforts may include meaningful attempts to renegotiate contract provisions to ensure continued value for ratepayers as market conditions change. As the Commission has repeatedly stated, the Commission will expect to see evidence that utilities have taken steps to minimize costs, including efforts to renegotiate contracts, and will look to comparisons with other long-term supply options as informative as to whether this particular contract adheres to the requirements of the Code of Conduct.

The Commission does not control the business judgment or decisions of utilities, but the Commission has a duty to customers to assure utilities are not subsidizing uneconomic, unreasonable, and imprudent decisions through customer rates. The Commission’s decision does not prevent the company from fulfilling their contractual duties under the ICPA, but establishes what costs are appropriate to recover from ratepayers.

## 2. Section 7 Warning

Subsection 6j(7) of Act 304 states that in its final order in a power supply and cost review, “[t]he commission may also indicate any cost items in the 5-year forecast that, on the basis of present evidence, the commission would be unlikely to permit the utility to recover from its customers in rates, rate schedules, or power supply cost recovery factors established in the future.”

The record shows that independent analyses and those conducted by OVEC Sponsors demonstrate that on a forward-looking basis the operation of the OVEC units is uneconomical. The record shows a March 2017 analysis of the ICPA by Duke Energy Ohio projected substantial net losses associated with holding a position in the ICPA. This analysis, scaled to I&M's share, suggests losses of \$67 million relative to market alternatives between 2020 and 2025.

2 Tr 319-320. Moody's Analytics' December 2018 assessment of the ICPA, scaled to I&M's share, found annual losses of \$16-\$20 million. 2 Tr 320. Economic assessments done by Sponsoring Companies to the ICPA also demonstrate the long-term negative economics of the OVEC units. In April 2019, FirstEnergy Solutions, another ICPA Sponsor, conducted a forward-looking analysis through 2040 and found projected losses, scaled to I&M's share, of \$267 million relative to market alternatives. *Id.* I&M's AEP affiliate AEP Service Corporation performed a forward-looking analysis of the ICPA in 2015 and 2016, the results of which were confidential, but were presented to OVEC's board. *Id.*

Based on the above analyses, the Commission finds that a Section 7 warning is appropriate in this case. The company is put on notice that the Commission is unlikely to permit the utility to recover these uneconomic costs from its customers in rates, rate schedules, or PSCR factors established in the future without good faith efforts to manage existing contracts such as meaningful attempts to renegotiate contract provisions to ensure continued value for ratepayers. The Commission issues a Section 7 warning that I&M may not be able to recover its full costs under the ICPA as part of the reconciliation of its 2021 PSCR plan.

### 3. Affiliate Price Cap

Sierra Club filed testimony and exhibits to support the position that I&M customers are paying unreasonable prices to OVEC under the ICPA. Sierra Club's Testimony, p. 3. Sierra Club

testified that “[i]f I&M can purchase the energy, capacity, or ancillary services it needs from the PJM market at a lower cost than it would pay to purchase power from OVEC under the ICPA, then it is paying above market price for the OVEC power.” 2 Tr 303. Sierra Club testified that it “compared the total energy charges billed to Sponsoring Companies under the ICPA and the revenue that I&M earned selling that energy into the PJM energy market” and found that

I&M’s own data shows that in 2020 OVEC billed I&M \$18,487,826 in energy charges for 721,476 MWh [megawatt hours] of electricity. That works out to an energy cost of \$25.63/MWh. But I&M only earned \$15,960,650 in energy and ancillary market revenue selling that energy, which works out to a value of \$22.12/MWh. That means that on a marginal cost basis alone, in 2020 I&M lost \$2.5 million for its ratepayers (excluding demand charge and capacity value).

2 Tr 304; PFD, pp. 20-21. Sierra Club testified that the ICPA is not delivering value to the I&M ratepayers and that “[t]he cost for power under the ICPA has been significantly above market value since at least 2017.” 2 Tr 307.

Sierra Club argues that the Code of Conduct establishes requirements for transactions with affiliates, including a price cap. Sierra Club argues that the Commission should disallow excess OVEC costs in this case because I&M’s payments to OVEC run afoul of the Code of Conduct’s affiliate price cap. Sierra Club’s reply brief, p. 6. Sierra Club contends that OVEC costs are excessive from 2017 through 2025 based on data from AEP’s own PJM capacity market forecast, the price the company recently paid for Rockport Unit 2, and the CONE as calculated by PJM. *Id.*, p. 11.

In concluding that I&M and OVEC are affiliates, and that a Section 7 warning is appropriate in this case, the Commission must also address the issue of compensation. Under Section 1 of Rule 8, “[a] utility shall not discriminate in favor of or against any person, including its affiliates.” Section 4 of Rule 8 further provides:



If an affiliate or other entity within the corporate structure provides services or products to a utility, and the cost of the service or product is not governed by section 10ee(8) of 2016 PA 341, MCL 460.1033(8), compensation is at the lower of market price or 10% over fully allocated embedded cost.

Mich Admin Code, R 460.10108(4).

As a result, I&M's recovery is capped at the lesser of the market price or 10% over the fully allocated embedded cost. As previously noted, based on the record in this case the embedded cost of the ICPA is higher than the PJM market price. However, in the May 13 order, the Commission found that reviewing costs associated with a long-term contract as they relate to short-term market purchases is not an appropriate basis for comparison and a comparison to the PJM capacity market, on its own, was insufficient to warrant a disallowance of funds. May 13 order, p. 18. The Commission stated that it would look to comparisons with other long-term supply options as informative as to whether this particular contract adheres to the requirements of the Code of Conduct. Sierra Club provided three alternatives with which to compare the ICPA costs on the record in this case. While there may be other available comparisons, the Commission finds that the Rockport sale capacity value and net CONE may be appropriate proxies for calculating market price and I&M's resulting PSCR factor. There may also be legitimacy in valuing the attributes of price stability, supply certainty, and resilience afforded by a utility's Fixed Resource Requirement (FRR) alternatives to the PJM capacity market.

The Commission will look to the upcoming IRP and reconciliation filings for greater evidence on whether the market price of net CONE is the appropriate proxy, or how best to price these incremental attributes associated with FRR resources for application of the affiliate price cap. In addition, should I&M seek to use a proxy other than the capacity value of the recent sale of Rockport Unit 2, it should prefile testimony in the reconciliation addressing why the OVEC market value differs from the Rockport unit's capacity value.

The Commission recognizes that, while never approved at either the state or federal level, the OVEC ICPA is a long-term supply option, and as such, the Commission expects that it will be considered in long-term planning. The Commission agrees with the Staff's recommendation that any renegotiation efforts the company undertakes with ICPA members should be described in future IRP cases. The Commission reiterates the directive from the May 13 order that I&M shall file a comprehensive analysis regarding the ICPA with its 2021 IRP. As directed, the company shall file a net present value of the revenue requirement and model a sensitivity to its preferred course of action. The sensitivity model shall include the company's preferred course of action with and without energy and capacity purchased under the ICPA, along with a model of optimized resources to replace the ICPA resources.

#### B. Rockport Units 1 and 2

I&M's PSCR plan also includes the capacity of the Rockport Plant generating units. Exhibits IM-5, IM-6. The Rockport Generating Station is a two-unit coal-fired power station located in Spencer County, Indiana. Rockport Unit 1 has an expected capacity of 1,072 MW and Rockport Unit 2 has an expected capacity of 1,051 MW for the present plan year. *Id.* Rockport Unit 1 is owned in 50% shares by I&M and AEP Generating Company (AEG), and Unit 2 is leased on the same percentage basis as I&M and AEG. AEG sells 70% of its share of the power from each Rockport unit back to I&M and 30% to Kentucky Power under a Unit Power sales agreement. 2 Tr 328. I&M pays AEG under a FERC-approved power agreement that includes both energy charges and demand charges. I&M pays AEG demand charges associated with 35% of the capacity of the Rockport plant and recovers its share of demand charges from its Michigan customers in the PSCR. 2 Tr 260.

I&M's and AEG's leases of Rockport Unit 2 were set to expire in December 2022. On April 22, 2021, I&M announced its purchase of Rockport Unit 2. During cross-examination, I&M indicated that the impact of the purchase of Rockport Unit 2 by I&M and AEG was not included in any of the forecasting completed for this filing in September 2020. 2 Tr 254.

Sierra Club testifies that I&M has operated, and continues to operate, the two Rockport units uneconomically. Sierra Club argues that I&M incurred net losses relative to market energy prices of \$25.1 million in 2020 on a variable cost basis. Sierra Club presents testimony that these losses could have been mitigated with more prudent unit commitment practices. Additionally, Sierra Club argues that I&M's latest PSCR plan indicates that I&M intends to continue its uneconomic operation and commitment practices at the Rockport units. 2 Tr 332. Sierra Club posits that I&M plans to pass on the costs incurred from (1) generation fuel costs (for the portion I&M owns and leases), and (2) power purchased from AEG (for the portion it purchases under PPA), which combined, exceed market revenues over the next five years. 2 Tr 300.

As such, Sierra Club recommends that the Commission caution I&M that if the company extends its lease or enters into a new purchase agreement with current or future Rockport Unit 2 owners to continue to lease or purchase power from Rockport Unit 2 without contemporaneous Commission approval of the lease or purchase agreement decision, the Commission may disallow recovery of all or part of those costs in future proceedings. 2 Tr 336. Sierra Club also recommends the Commission indicate that it will disallow recovery in future fuel cost reconciliation dockets of the fuel portion of all net revenue losses incurred as a result of imprudent unit commitment decisions. 2 Tr 301.

In rebuttal, I&M's witness, Jason Stegall, testifies that I&M's use of energy generated from its Rockport units to satisfy Michigan customers' energy requirements is reasonable and thus, the

Commission should continue to allow the company to include these resources in its PSCR plan. 2 Tr 103. Witness Stegall also testified on cross-examination that I&M and AEG are going to acquire a 100% interest in Rockport Unit 2. 2 Tr 111. In rebuttal, I&M witness Heimberger testified that Sierra Club's calculations were flawed. Witness Heimberger testified that I&M's generating units are operated, along with the units of other PJM members, to meet the total PJM load requirements on the most economical basis, based on price offers, subject to transmission limitations. Witness Heimberger argues that this operation was simulated in the development of the generation forecast by means of the PLEXOS simulation model, a production-costing computer program that AEP uses to simulate a market-price dispatch of its generation units. *Id.* Witness Heimberger states that PLEXOS commits units in PJM based on variable energy costs (fuel and variable O&M), which is the same basis with which the PJM market-price is determined. Witness Heimberger testifies that the PLEXOS forecasting model will not dispatch or run the Rockport units uneconomically. 2 Tr 243-244. I&M argues that the company's updated analysis demonstrates the errors in Sierra Club's conclusions and recommendations. 2 Tr 246.

The Commission agrees with the Staff's assertion that I&M's decision to commit the Rockport units as must run is uneconomic and warrants additional review in the reconciliation of this plan case. The Commission finds that I&M shall document, and make available to the Staff upon request, the basis for the company's decision to designate a generating unit as must run when the company's forecast demonstrates that the decision to do so will result in marginal costs to operate the generating unit that would exceed the revenue attributed to supplying that power to the PJM market. The Commission may disallow fuel portions of all net revenue losses incurred as a result of imprudent unit commitment decisions at the Rockport units.

I&M's purchase of Rockport Unit 2 was announced just prior to the evidentiary hearing in this case, and no forecasts included the purchase in the evaluation of the PSCR plan and costs. The Commission does not believe it is necessary for the company to refile its PSCR plan as the forecast was accurate at the time the case was filed and the PSCR factor for this year is accurate. The Commission finds that I&M shall include the impact of the purchase of Rockport Unit 2 in its 2021 PSCR reconciliation proceeding.

THEREFORE, IT IS ORDERED that:

A. Indiana Michigan Power Company's application to implement a power supply cost recovery plan for the 2021 plan year is approved as amended by this order.

B. Indiana Michigan Power Company's proposed power supply cost recovery factor is approved.

C. The Commission issues a warning under MCL 460.6j(7) and the Commission's Code of Conduct, Mich Admin Code, R 460.10101 *et seq.*, that Indiana Michigan Power Company may not be able to recover its full costs under the Ohio Valley Electric Corporation's Inter-Company Power Agreement nor the fuel portions of all net revenue losses incurred because of imprudent unit commitment decisions at the Rockport units unless justified as part of the annual reconciliation of its 2021 power supply cost recovery plan.

D. Indiana Michigan Power Company shall, as part of its 2021 integrated resource plan filing, provide a comprehensive review and analysis of the Inter-Company Power Agreement as described in the May 13, 2021 order in Case No. U-20529.

E. Indiana Michigan Power Company shall document, and make available to the Commission Staff upon request, the basis for the company's decision to designate a generating unit as must run

when the company's forecast demonstrates that the decision to do so will result in excess costs as described in this order.

F. Indiana Michigan Power Company shall include the impact of the purchase of Rockport Unit 2 in its 2021 power supply cost recovery reconciliation proceeding.

The Commission reserves jurisdiction and may issue further orders as necessary.

Any party desiring to appeal this order must do so in the appropriate court within 30 days after issuance and notice of this order, pursuant to MCL 462.26. To comply with the Michigan Rules of Court's requirement to notify the Commission of an appeal, appellants shall send required notices to both the Commission's Executive Secretary and to the Commission's Legal Counsel. Electronic notifications should be sent to the Executive Secretary at [mpscdockets@michigan.gov](mailto:mpscdockets@michigan.gov) and to the Michigan Department of the Attorney General - Public Service Division at [pungpl@michigan.gov](mailto:pungpl@michigan.gov). In lieu of electronic submissions, paper copies of such notifications may be sent to the Executive Secretary and the Attorney General - Public Service Division at 7109 W. Saginaw Hwy., Lansing, MI 48917.

MICHIGAN PUBLIC SERVICE COMMISSION

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Daniel C. Scripps, Chair

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Tremaine L. Phillips, Commissioner

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Katherine L. Peretick, Commissioner

By its action of November 18, 2021.

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Lisa Felice, Executive Secretary

# PROOF OF SERVICE

STATE OF MICHIGAN )

Case No. U-20804

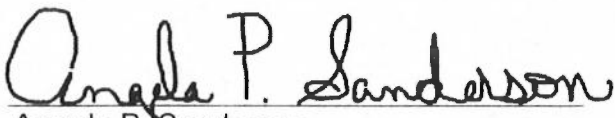
County of Ingham )

Brianna Brown being duly sworn, deposes and says that on November 18, 2021 A.D. she electronically notified the attached list of this **Commission Order via e-mail transmission**, to the persons as shown on the attached service list (Listserv Distribution List).



Brianna Brown

Subscribed and sworn to before me  
this 18<sup>th</sup> day of November 2021.



Angela P. Sanderson  
Notary Public, Shiawassee County, Michigan  
As acting in Eaton County  
My Commission Expires: May 21, 2024



**Service List for Case: U-20804**

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<b>Name</b>	<b>Email Address</b>
Andrew J. Williamson	ajwilliamson@aep.com
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**Fendig, John**

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**From:** Sebourn, Michael  
**Sent:** Friday, April 02, 2021 9:29 AM  
**To:** Arbough, Dan; Bellar, Lonnie; Sinclair, David; Fendig, John; Wilson, Stuart  
**Subject:** RE: Ohio repeal

Dan,

S&P's article from yesterday (below) says that the OVEC subsidies are still being debated by the OH legislature, but were not addressed in newly enacted HB 128. So they are still currently in effect, but may be subject to future legislation.

Mike

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### **Repealing subsidies to 2,176 MW of Ohio nuclear power leaves uncertainty**

New York — Ohio Governor Mike DeWine has signed House Bill 128, ending the customer-funded subsidies for two of Energy Harbor's nuclear power plants, and leaving questions about the future of the 2,176 MW of carbon-free resources. Analysts and experts are mixed on whether replacement legislation to support the nuclear plants could emerge.

Register Now DeWine signed HB 128 on March 31, which repealed key pieces of the highly controversial House Bill 6 that was tied to an alleged bribery scheme promoted by FirstEnergy and subsidiary FirstEnergy Solutions. The US Attorney's Office for the Southern District of Ohio and the Federal Bureau of Investigation in July 2020 announced charges related to a more than \$60 million bribe paid to Ohio House Speaker Larry Householder and his associates. Householder pleaded not guilty in the case and a trial is pending.

Following a bankruptcy proceeding, FirstEnergy Solutions was renamed Energy Harbor, now a private company which owns the Davis-Besse and Perry nuclear plants that received the subsidies, as well as three other nuclear power plants located in Ohio, Pennsylvania and West Virginia.

Former owner FirstEnergy Solutions argued financial support was required to keep Davis-Besse and Perry from retiring due to revenue shortfalls resulting from declining wholesale energy, capacity, and ancillary service market prices in the PJM Interconnection markets where the plants are located.

The subsidy debate was heated, with opponents claiming the nuclear power plants did not require a financial boost. Ultimately, a referendum push to overturn the HB 6 legislation failed.

"The nuclear subsidies included in HB 6 were unnecessary and unjustified, and only passed due to the alleged unprecedented corruption in the legislative process and referendum effort," Todd Snitchler, president and CEO of merchant generator trade group Electric Power Supply Association, said in an emailed statement.

### **Replacement legislation**

It is unclear if a new effort to support the nuclear plants will emerge from the Ohio Legislature.

The definition of power generation units at risk of retirement is that they are not expected to recover their avoidable costs from market revenues, which are a combination of energy and ancillary service revenues and capacity market revenues, according to Monitoring Analytics, PJM's independent market monitor.

Based on the IMM's analysis in its 2020 State of the Market Report for PJM, no nuclear plants are considered to be at risk of retirement. "The single site nuclear plants, Davis Besse and Perry, receive a subsidy and are not expected to retire," the IMM said in the report which was published before the subsidy was repealed.

"We believe that nuclear subsidies will come back in some form," Matt Williams, power market analyst with S&P Global Platts Analytics, said in an April 1 email.

"Though with how slow the legislature has been moving on this issue, specifics and timing remain uncertain," Williams added.

However, EPSA's Snitchler is less optimistic about Ohio policymakers reinstating a financial support mechanism.

"It is unlikely that new legislation to support the plants will come forward," he said in an April 1 email.

"First, the new owners have said they don't want the subsidies," Snitchler said. And after having passed and now repealed the plant bailouts, in addition to the widespread public outcry surrounding the issue, it's highly unlikely lawmakers will have the appetite to revisit this unpopular policy AGAIN for the third year in a row."

Just over 8 GW of nuclear capacity across the US is currently slated for retirement, with Platts Analytics assessing roughly 5 GW of nuclear capacity at high risk of retirement before license expiration, according to a recent research note.

The alleged corruption involving passage of HB 6 has clouded other aspects of Ohio energy policy because the law significantly walked back support for energy efficiency and the state's renewable portfolio standard. The law also provided subsidies to two Ohio Valley Electric Corporation coal-fired power plants.

"HB 128 does not address the modifications made to energy efficiency and renewable portfolio standards by HB 6. With that, we are not expecting these measures to revert to their pre-HB 6 levels," Platts Analytics' Williams said.

Other elements of the HB 6 legislation, including the repeal of subsidies for OVEC coal generation, are still being debated in the Ohio Legislature, Snitchler said.

"We are watching this closely, and hope to see more good news for Ohio consumers and competition," he said. "Subsidies for existing resources are unnecessary and damaging at a time when PJM markets are delivering the energy resources to reliably meet consumer demand and reduce carbon emissions at historically low costs."

Energy Harbor did not return a request for comment.

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**Michael Sebourn**

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O: [REDACTED] | M: [REDACTED] | F: [REDACTED]  
[REDACTED]

---

I haven't seen anything specific to OVEC on this. Would you like me to reach out to Justin? Or prefer to go through Brian Chisling first?

Mike

---

**Michael Sebourn**

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**From:** Fendig, John [REDACTED]  
**Sent:** Tuesday, January 05, 2021 8:38 AM  
**To:** Arbough, Dan [REDACTED]; Bellar, Lonnie [REDACTED] Sebourn, Michael [REDACTED]  
**Subject:** RE: ed010521.pdf (HB 6, OVEC)

I haven't generally seen anything on the various scenarios either; but can research more specifically and also check-in with Brian Chisling (OVEC's outside counsel).

**From:** Arbough, Dan [REDACTED]  
**Sent:** Tuesday, January 05, 2021 8:13 AM  
**To:** Bellar, Lonnie [REDACTED] Fendig, John [REDACTED] Sebourn, Michael [REDACTED]  
**Subject:** RE: ed010521.pdf

I haven't seen anything on the impact of the court stays. Justin Cooper ought to be able to provide us with some information on this issue.

Dan

**From:** Bellar, Lonnie [REDACTED]  
**Sent:** Tuesday, January 05, 2021 8:11 AM  
**To:** Fendig, John [REDACTED] Arbough, Dan [REDACTED] Sebourn, Michael [REDACTED]  
**Subject:** ed010521.pdf

John,

Some quick research I did on HB6 notes impact to the OVEC related portions of the bill are uncertain even if HB6 is repealed or as noted in this article, as related to nuclear collections, blocked. The reference questions if the PUCO could retain the OVEC collections even if HB6 is repealed.

Do we have any other information on this topic? Likely to get questions on this in the rate case.

**Fendig, John**

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**From:** Quinn, Julie  
**Sent:** Wednesday, January 26, 2022 8:53 AM  
**To:** Gregor, Christy  
**Subject:** FW: OVEC Q&A

**From:** Thompson, Paul [REDACTED]  
**Sent:** Saturday, August 08, 2020 11:10 PM  
**To:** Sorgi, Vincent [PPL] [REDACTED]  
**Cc:** Ludwig, Andrew [PPL] [REDACTED] Bergstein Jr, Joseph P [PPL] [REDACTED] Wunderly, Mark Andrew [PPL] [REDACTED]  
**Subject:** Re: OVEC Q&A

Without HB6 I cannot say for sure what AEP's financial viewpoint is of their interest in OVEC, but generally I agree that the near term risk is low. It likely means that the plants would be closing well before the end of decade, but not imminent.

Paul

---

**From:** Sorgi, Vincent [PPL] [REDACTED]  
**Date:** August 8, 2020 at 9:57:27 PM EDT  
**To:** Thompson, Paul [REDACTED]  
**Cc:** Ludwig, Andrew [PPL] [REDACTED] Bergstein Jr, Joseph P [PPL] [REDACTED] Wunderly, Mark Andrew [PPL] [REDACTED]  
**Subject:** OVEC Q&A

Paul,

As you know we have an HB6 question regarding OVEC in the Q&A. AEP indicated the repeal of HB 6 would not impact their operations of OVEC, so it doesn't look like the risk identified in the Q&A is high regarding us needing to cover the debt.

Do you agree?

Vince

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**Fendig, John**

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**From:** Thompson, Paul  
**Sent:** Thursday, March 25, 2021 9:56 AM  
**To:** Arbough, Dan; Bellar, Lonnie  
**Subject:** RE: OVEC

Ok, thanks. That was my general understanding, too.

**From:** Arbough, Dan [REDACTED]  
**Sent:** Thursday, March 25, 2021 9:34 AM  
**To:** Thompson, Paul [REDACTED] Bellar, Lonnie [REDACTED]  
**Subject:** RE: OVEC

I don't think there would be a direct impact on OVEC. The companies that are receiving the extra revenue as a result of HB6 will not receive the additional revenue which will make OVEC less attractive to them. This could impact their willingness to support further OVEC capex and to push for lower O&M at OVEC. Those owners may also push for earlier plant shutdown.

Dan

**From:** Thompson, Paul <[REDACTED]>  
**Sent:** Thursday, March 25, 2021 9:17 AM  
**To:** Bellar, Lonnie <[REDACTED]> Arbough, Dan [REDACTED]  
**Subject:** OVEC

Guys, what will be the near term impact if the Ohio subsidy law gets rolled back?

Paul

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