

Exhibit No .:

Issue(s)

Certificate of Convenience and Necessity (CCN) Robinett/Rebuttal

Witness/Type of Exhibit: **Sponsoring Party:** 

Case No.:

Public Counsel EA-2019-0010

> **FILED** April 18, 2019 **Data Center** Missouri Public Service Commission

#### REBUTTAL TESTIMONY

OF

#### JOHN A. ROBINETT

Submitted on Behalf of the Office of the Public Counsel

#### EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. EA-2019-0010

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\*\*

Denotes Highly Confidential Information that has been Redacted

February 5, 2019

Date 4-8-16 Reporter 75 File No. EA-2019-0015

**PUBLIC** 

### BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of the Applicati	on of The	)	
<b>Empire District Electric Com</b>	pany for	)	
Certificates of Convenience a	and Necessity	)	File No. EA-2019-0010
Related to Wind Generation I	•	)	
AFF	IDAVIT OF J	OHN A. ROE	UNETT
STATE OF MISSOURI )	SS		
COUNTY OF COLE )			
John A. Robinett, of lav	vful age and be	eing first duly s	worn, deposes and states:
1. My name is John Office of the Public Counsel.	n A. Robinett.	I am a Utilit	y Engineering Specialist for

3. I hereby swear and affirm that my statements contained in the attached

Attached hereto and made a part hereof for all purposes is my rebuttal

John A. Robinett

**Utility Engineering Specialist** 

the

Subscribed and sworn to me this 5th day of February 2019.

testimony are true and correct to the best of my knowledge and belief.

MOTANY OF ME

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JERENE A, BUCKNAN My Commission Expires August 23, 2021 Cole County Commission #13754037

Jetene A. Buckman Notary Public

My Commission expires August 23, 2021.

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#### REBUTTAL TESTIMONY OF JOHN A. ROBINETT

#### THE EMPIRE DISTRICT ELECTRIC COMPANY

#### CASE NO. EA-2019-0010

- Q. What is your name and what is your business address?
  - A. John A. Robinett, PO Box 2230, Jefferson City, Missouri 65102.
- 3 | Q. By whom are you employed and in what capacity?

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- 4 A. I am employed by the Missouri Office of the Public Counsel ("OPC") as a Utility Engineering
  5 Specialist.
  - Q. Have you previously provided testimony before the Missouri Public Service Commission?
  - A. Yes. I have previously provided testimony before the Missouri Public Service Commission, both as a witness for Commission Staff and as a witness for OPC.
  - Q. What is your work and educational background?
  - A. A copy of my work and educational experience is attached to this testimony as Schedule JAR-R-1.
  - Q. What is the purpose of your rebuttal testimony?
  - A. I rebut the direct testimony of Empire Witnesses Mr. Todd Mooney, Mr. Timothy N. Wilson, and Mr. Blake A. Mertens who support The Empire District Electric Company's ('Empire') requests for certificates convenience and necessity ("CCN") for the Kings Point, North Fork Ridge wind farms in Missouri, and the Neosho Ridge wind farm in Kansas. I also again emphasize certain OPC concerns raised in Empire's earlier associated wind plan case, Case No. EO-2018-0092, and present my evaluation as to whether this filing resolves OPC's concerns from the 2018 case or whether those concerns are still valid. I also discuss the increased purchase prices of the wind turbines that Empire provided in this case, Case no. EA-2019-0010, and how they compare to the turbine prices included in response to the request for proposals Empire received during the pendency of Case No. EO-2018-0092. I discuss the various types of operations and maintenance expenses Empire modeled in this CCN case and in Case No. EO-2018-0092. Finally, I discuss the renewable energy standards and Empire's compliance currently and as a result of the wind projects.

#### Q. Do you have any recommendations for the Commission?

A. Yes. OPC has serious concerns with Empire's request because of: (1) the significant increases in pricing for the wind farms between bids and executed purchase sales agreements; (2) significant increases in the estimated purchase price to buy out the tax equity partner(s) ownership interest in the wind farms; (3) significant declines in O&M expense estimations, which are subject to change since service maintenance agreements have not been executed; and (4) the projects are not needed in their entirety to meet renewable energy standards. If the Commission does grant the CCNs requested by Empire OPC recommends the Commission require Empire to hold its customers harmless by imposing the condition that Empire make its customers whole through rates for each year during the life of the wind farms when the wind farms do not generate net cash through the Holdcos equal to or greater than the cost to the customers. This would include all costs including, but not limited to, the return of and on the capital investment for these wind farms and all operations and maintenance costs and administrative and general costs allocated to the wind farms.

Q. Mr. Mertens and Mr. Mooney both discuss Empire's application in Case No. EO-2018-0092. Did you testify for the OPC in Case No. EO-2018-0092?

A. Yes. I prepared written rebuttal testimony, surrebuttal testimony, an affidavit in opposition to a settlement agreement, an additional affidavit, and I testified live during the main evidentiary hearing in that case.

#### Q. To what did you testify?

A. I testified to Empire's compliance costs of the EPA's coal combustion residuals rule, the steel and aluminum tariffs proposed in 2018, and how both might affect the wind projects Empire was promoting in that case.

#### Q. What has occurred with regard to the federal coal combustion rule?

A. OPC opined in Case No. EO-2018-0092 that it was highly likely that the EPA would extend the rule's compliance date from the original deadline of April 2019. In fact, the EPA has extended the date by which utilities must comply with the rule. In response to

OPC data request number 8524 in this case, Empire states that the compliance date is now October 2020.

- Q. When did Empire enter into Purchase and Sale agreements for each of the three wind farms?
- A. According to Empire's witness Todd Mooney, Empire entered into agreements on October 12 and November 16, 2018, as shown in his direct testimony as follows:

On October 12, 2018, Empire entered into two Purchase and Sale Agreements (the "PSAs") with Tenaska Missouri Matrix Wind Holdings, LLC ("Tenaska") and Steelhead Missouri Matrix Wind Holdings, LLC ("Steelhead" and collectively, "Tenaska/Steelhead"). Pursuant to these PSAs, Empire will acquire ownership of two holding companies ("Holdcos") to be formed by Tenaska/Steelhead, each of which will own, through a project company (the "Wind Project Company"), an approximately 150 MW wind project in Missouri (each a "Wind Project" and collectively the "Wind Projects"). These projects are known as the Kings Point Wind project located in Jasper, Barton, Dade and Lawrence counties in Missouri, and the North Fork Ridge Wind project in Barton and Jasper counties in Missouri. The Missouri Wind Projects are the subject of Case No. EA-2019-0010.

On November 16, 2018, Empire entered a Purchase and Sale Agreement with Neosho Ridge Wind JV, LLC (the "Neosho Ridge JV"), a joint venture between a subsidiary of Apex Clean Energy, Inc. ("Apex") and a subsidiary of Steelhead Wind 2, LLC ("Steelhead"). Pursuant to the Purchase and Sale Agreement, the Neosho Ridge JV will sell and Empire will acquire ownership of a holding company (Neosho Ridge Wind Holdings, LLC, the "Holdco"), which will in turn own, through a project company (Neosho Ridge Wind, LLC, the "Wind Project Company"), an approximately 301.0 MW wind project in Kansas (the "Wind Project"). This project is known as the Neosho Ridge Wind Project and is located in Neosho County in Kansas.<sup>1</sup>

Q. Did OPC review the responses to Empire's request for proposals for wind projects in Case No. EA-2018-0092?

<sup>&</sup>lt;sup>1</sup> EA-2019-0118 Direct Testimony of Todd Mooney pg. 3 line 8 through pg. 4 line 4. Case No. EA-2019-0118 was consolidated with EA-2019-0010 by Commission order on December 19, 2018.

A. Yes. I reviewed the bids when Case No. EO-2018-0092 was pending, and again for this case. I focused primarily on the bids from the \*\* \*\* bidder(s) who are the successful bidders for the three wind farms that are the subject of this case and with whom Empire executed purchase and sale agreements.

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Q. Did OPC review the executed purchase and sale agreements?

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Yes, in this case.

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#### Turbine Pricing

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Q. Are there any terms in the Purchase and Sale Agreements that are materially different than the terms in the bids?

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13 14 A. Yes. The price per MegaWatt ("MW") for each of the wind farms materially increased in the Purchase and Sale Agreement from the price per MW in the bids for those same wind farms. Additionally, Empire has dramatically reduced its estimates of the expected costs of operating and maintaining each wind farm. Empire's dramatic reductions in its estimated costs of operating and maintaining each wind farm essentially offsets this actual increase in the price per MW to build these wind farms. This is why Empire's levelized cost of

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energy ("LCOE") for the wind farms shown in the table on page 23 of Mr. Mooney's direct

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testimony remained so close to the LCOE Empire presented for the wind farms in Case

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Q. Is the price per MW increase in the wind farms problematic?

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A. In my opinion it is.

No. EO-2018-0092.

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Q. Why?

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A. It is problematic for at least two reasons. First, the bids guaranteed a firm project price for a period of one year. Second, factors that Empire discounted before—aluminum and steel

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tariff impacts and transportation costs—Empire is now citing to for why the costs of the

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Q.

Why is the one year turbine price guarantee important?

wind farms have increased so dramatically.

A. In response to OPC data request number 8523 in Case No. EA-2019-0010, Empire states that the Proposal Validity Date, the date through which the bids offered were guaranteed, was October 1, 2018. In Case No. EO-2018-0092, in response to OPC May 1, 2018 data request 8554, Empire stated, \*\*

\*\* But, Empire failed to execute the purchase and sales agreements when the price guarantees were in effect, *i.e.*, by October 1, 2018. As noted earlier, Empire executed the purchase and sale agreements on October 12, 2018 and November 16, 2018, both shortly after the Proposal Validity Date of October 1, 2018. This delay exposes Empire's customers to the potential that the Commission will allow Empire to recover from them through rates, both undue increased pricing of the wind turbines and return on that increase.

#### Q. Why are you bringing up the issue of increased turbine prices now?

A. The costs of the wind farms and the prudency of Empire's actions regarding them bear on whether the turbines are necessary and convenient. Therefore, the OPC is placing Empire and the Commission on notice now of this prudency issue so that neither Empire nor the Commission's Staff can claim that somehow the OPC has waived or otherwise forgone raising prudency issues regarding Empire's acquisition of these wind farms when Empire seeks to recover its investment in the wind farms plus a return on that investment in future cases.

#### Q. Have other factors impacted the prices of these wind farms?

A. Yes. In its responses to OPC data requests 8506 and 8507 on November 29, 2018 and November 28, 2018 respectively, Empire discloses other factors that have affected the turbine prices. I issued OPC data request 8507 in this case inquiring about the impacts of the aluminum and steel import tariffs on the costs of the three wind farms. Previously in Case No. EO-2018-0092 I had issued OPC data request 8547 in which I asked Empire about the effects of the aluminum and steel tariffs on wind farm prices. In response to data request 8547 Empire had indicated that it did not anticipate the tariffs would affect the costs of the wind farms. In this case, in response to OPC data request 8507, Empire said,

	Rebuttal Testimony of John A. Robinett Case No. EA-2019-0010
1	"Since wind turbines include significant amounts of steel and aluminum, the increase
2.	prices for these commodities led the turbine manufacturer, Vestas, to increase the price of
3	the wind turbines,"
4	Additionally, Empire states in response to OPC data request 8506 in this case that **
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6	** This statement is alarming given that
7	Empire had other options available to it in the "short list of bidders" to attain a total capacit
8	of 600 MW. Confidential information regarding those other bidders follows:
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26	** Empire had no need to overvalue sunk costs,
27	and ignore other wind project sites. Attached as Schedules JAR-R-2 HC are
28	selected pages from the bids from Tenaska and Apex.

Rebuttal Testimony of John A. Robinett Case No. EA-2019-0010

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#### Q. Have any other factors affected wind farm turbine prices?

A. Yes. In response to data request 8526, Empire provided data from the Federal Reserve Bank of St. Louis Economic Research Department that indicates: "from April to November 2018 cold rolled steel sheet prices have increased by 7.42%. Additionally, the cost of freight trucking over the same time period has increased by 5.97%. Vestas' wind turbine manufacturing facility is located in Pueblo, Colorado, which is approximately 630 miles from Joplin, Missouri."

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Also in its response to data request 8526 asking the impacts of the U.S. aluminum and steel import tariffs Empire further stated, "Although it is impossible to break-out the impact of the tariffs on this material cost (vs other market forces such as supply and demand), the tariff is the major change in the steel environment. Due to the significant amount of steel used in a wind turbine (i.e. steel towers), this is one input cost whose change would have a material impact."

Empire's response to OPC data request 8525 further indicates that supply and demand market forces have driven costs higher because, as the company says, "Empire and APUC have conducted extensive verbal discussions with Vestas regarding the purchase of wind

John .	ttal Testimony of A. Robinett No. EA-2019-0010
	turbines for the Neosho Ridge, Kings Point and North Fork Ridge projects over the past three months. These discussions included in-person negotiation sessions conducted the weeks of October 15 and November 26. At these discussions Vestas has asserted that orders they have received are approaching their production capacity."
Q.	What are the prices in the contracts Empire executed for the wind farms?
A.	In his direct testimony, Mr. Mooney details the costs of these wind farms. At page 10 of his direct testimony (both for Kings Point and North Fork Ridge, and for Neosho Ridge), Mr. Mooney breaks down the wind farm specifications. The executed base prices for the Kings Point 149.4 MW wind farm, the North Fork Ridge 149.4 MW wind farm, and the Neosho Ridge 301 MW wind farm are: **
	**
Q.	How do these contract prices compare to the one-year price guarantee bids that preceded them?
A.	**
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of the wind farms has increased from the bid prices. The increase for Kings Point is \*\*

\*\*, the increase for North Fork Ridge is \*\*

\*\*, and the increase for Neosho Ridge is \*\*

\*\* Based on the total project costs in the executed contract prices, the percentage increases from the one year-guaranteed bids ranges from between \*\*

\*\* This means that Empire's failure to lock in the guaranteed bids exposes its customers to the potential of paying nearly \*\*

\*\* more in their rates for these same wind farms. Attached as Schedule JAR-R-3HC is an Excel spreadsheet that illustrates the comparison of bid prices and the executed purchase and sales agreement prices.

#### Q. Have any other prices related to the wind projects increased?

A. Yes. \*\*

Rebuttal Testimony of John A. Robinett Case No. EA-2019-0010 **Operations and Maintenance Expense** Q. Have any other costs or expenses changed materially between when Empire first brought its plan to build wind farms before the Commission in Case No. EO-2018-0092 and now? A. Yes, variable Operations and Maintenance ("O&M") expense as well as fixed O&M expenses have changed significantly since the previous case. Q. How does Empire define variable operations and maintenance expense in this case? A. Empire's definition of variable O&M is as follows from OPC data request 8005 and 8010: \*\*

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26	Q.	Does Empire have a tax equity partner for any	of the wind farms?	
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30	Q.	Has Empire's estimates of its fixed O&M expen	ises for these wind i	arms changed since
31		its estimates in Case No. EO-2018-0092?		
32	A	Empire's fixed O&M expense has declined signif	icantly from its original	nal estimates.
33			1 / 24	~
34	Q.	Do you have any graphics that might aid in	n understanding he	ow operations and
35		maintenance expense has changed?		
		Page 11 of 15		Public
1	i	i ago II Ol IS		

۸.	Yes. OPC used four sources for modeling Empire's O&M expense: Empire's projections
	from Case No. EO-2018-0092, Empire's initial work papers for these CNN applications,
	Empire's updated CCN work papers, and Empire's response to Staff Data Request No.
	0014. The data for Staff data request number 0014 was not plotted due to very limited
	differences from the updated CCN work papers data. Comparison of the thirty year O&M
	expenses show a decrease from Case No. EO-2018-0092 numbers; however, the decrease
	could be potentially attributed to the fact that Empire's original plan was for up to 800 MW
	of wind capacity and the current CNN applications are for a total 600MW of wind capacity,
	indicating fewer turbines to maintain. The table below is my summation of the change in
	Empire's operations and maintenance expense estimates over time from the three sets of
	work papers provided by Empire.

Q. Did Empire provide an explanation as to why its estimated fixed O&M costs have changed so dramatically?

A. Yes. It is my understanding that O&M expense estimates from Case No. EO-2018-0092 were developed based on national data from the National Renewable Energy Laboratory.

Rebuttal Testimony of John A. Robinett Case No. EA-2019-0010

contract expired.

has stated, "\*\*

#### **Renewable Energy Requirements**

Q. Does Mr. Mertens at page 12 of his direct testimony state that the 600MWs of wind will help replace Empire's existing renewable energy sources?

Based on Empire's response to Staff data request number 0014, the CCN updated work

papers reflect the projected service and maintenance expense based on a third-party service

quote from a turbine supplier followed by an estimate for self-maintaining once the service

8022, like many things about these wind farms, the Service Maintenance Agreements

("SMAs") are still not executed and their terms and conditions are not fully known. Empire

It is important to note that according to Empire's response to OPC data request

- A. Yes. Mr. Mertens explains that the 600 MWs of wind are expected to be operational in December of 2020 and that the purchase power agreements ("PPAs") for Elk River (150 MW) wind farm expires in 2025 and Meridian Way (105MW) wind farm expires in 2028.
- Q. Is Empire currently using the existing PPAs to meet the Missouri Renewable Energy Standards?

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Public

Rebuttal Testimony of John A. Robinett Case No. EA-2019-0010

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A. Yes. Empire is using a portion of the energy generated at the Elk River Wind farm to meet its Missouri Renewable Energy Standards as it stated in the 2018 Annual Renewable Energy Standard Compliance plan filed on April 11, 2018 with the Commission in File No. EO-2018-0285:

"This year and in the subsequent two years, EDE plans to comply with the non-solar portion of the RES through contracts with Elk River Windfarm, LLC and/or generation from its Ozark Beach Hydroelectric facility. In fact, EDE currently could meet the 2021 requirement through its renewable energy purchase power agreements and owned generation if it chose not to sell any RECs generated from these facilities. EDE is currently evaluating the feasibility of constructing and operating utility scale wind generation."<sup>2</sup>

Empire further provides a table for years 2018 through 2020 to show how the renewable energy standards will be satisfied through 2020. The table is below:

#### <u>Table 1: Projected Non Solar Compliance</u><sup>3</sup>

Time Period	RES Requirement Percent	Requirement Sales Non Solar Resources		s	Total Non- Solar Requirement	Total RES Requirement <sup>3</sup>		
		Elk River <sup>1</sup>	Meridian Way <sup>1</sup>	Ozark Beach <sup>1</sup>	Total Potential <sup>2</sup>			
2018	10%	4,125,411	550,000	330,000	67,500	947,500	404,290	412,541.1
2019	10%	4,165,107	550,000	330,000	67,500	947,500	408,181	416,510.7
2020	10%	4,193,311	550,000	330,000	67,500	947,500	410,945	419,331.1

Expected average operation; Ozark Beach number includes additional 0.25 credit

As indicated by Empire, the credits generated by Elk River and Ozark Beach hydro facility when combined satisfy the 10% of Missouri retail sales requirements currently and would still likely satisfy the requirements when it increases to 15% in 2021.

#### Q. The quote from Empire's report mentions a REC. Would you describe what a REC is?

<sup>3</sup> *Id*. pg. 5.

<sup>&</sup>lt;sup>2</sup>Total expected eligible RECs not including potential 3<sup>rd</sup> party sales or other RES requirements.

<sup>3</sup> Both Non solar and Solar will make up the total RES requirement

<sup>&</sup>lt;sup>2</sup> 2018 Annual Renewable Energy Standard Compliance Plan filed on April 11, 2018 in File No. EO-2018-0285 public version pg. 4.

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A. A renewable energy credit ("REC") is the renewable attributes of an MWh of energy generated by a renewable resource. When a resource that satisfies the Missouri Renewable Energy Standards requirements generates an MWh, a REC is created. The RECs are either retired because they are used to meet the standard, sold to another entity, or banked for future usage.

- Q. Would the entirety of the 600 MWs be needed to meet the Missouri Renewable Energy Standards after the Elk River PPA ends in 2025?
- A. No. After the Elk River PPA ends, the Meridian Way wind farm PPA, effective until 2028 and the Ozark Beach hydro facility still meet approximately 63% of the requirement assuming the same amount of retail sales in 2020 for 2021 and needing to meet 15% standard.
- Q. How many renewable energy credits are expected to be generated by the three wind farms for which Empire is requesting this CCN?
- A. Empire will receive one renewable energy credit for each MWh generated. Empire estimates these projects will generate \*\* \*\* MWh. However, according to Missouri statute, each MWh generated in Missouri gets an extra credit of 0.25. Just one of the wind farms that Empire is building in Missouri should produce more than enough energy for Empire to more than meet its Missouri renewable energy requirements.
- Q. Does this conclude your rebuttal testimony?
- A. Yes, it does.

<sup>&</sup>lt;sup>4</sup> EA-2019-0010 Direct Testimony of Todd Mooney Pg. 23 information from HC table

#### John A. Robinett

I am employed as a Utility Engineering Specialist for The Missouri Office of the Public Counsel (OPC). I began employment with OPC in August of 2016. In May of 2008, I graduated from the University of Missouri-Rolla (now Missouri University of Science and Technology) with a Bachelor of Science degree in Mechanical Engineering.

During my time as an undergraduate, I was employed as an engineering intern for the Missouri Department of Transportation (MoDOT) in their Central Laboratory located in Jefferson City, Missouri for three consecutive summers. During my time with MoDOT, I performed various qualification tests on materials for the Soil, Aggregate, and General Materials sections. A list of duties and tests performed are below:

- Compressive strength testing of 4" and 6" concrete cylinders and fracture analysis
- Graduations of soil, aggregate, and reflective glass beads
- Sample preparations of soil, aggregate, concrete, and steel
- Flat and elongated testing of aggregate
- Micro-deval and LA testing of aggregate
- Bend testing of welded wire and rebar
- Tensile testing of welded, braided cable, and rebar
- Hardness testing of fasteners (plain black and galvanized washers, nuts, and bolts)
- Proof loading and tensile testing of bolts
- Sample collection from active road constructions sites
- Set up and performed the initial testing on a new piece of equipment called a Linear Traverse / Image Analysis
- Wrote operators manual for the Linear Traverse / Image Analysis Machine
- Trained a fulltime employee on how to operate the machine prior to my return to school
- Assisted in batching concrete mixes for testing, mixing the concrete, slump cone testing, percent air testing, and specimen molding of cylinders and beams

Upon graduation, I accepted a position as an Engineer I in the Product Evaluation Group for Hughes Christensen Company, a division of Baker Hughes, Inc. (Baker), an oil field service company. During my employment with Baker, I performed failure analysis on oil field drill bits as well as composed findings reports which were forwarded to the field engineers in order for them to report to the company the conclusions of the failure causes.

I previously was employed as a Utility Engineering Specialist I, II, III for the Missouri Public Service Commission (Commission). My employment with the Commission spanned from April of 2010 to August of 2016. My duties involved analyzing deprecation rates and studies for utility companies and presenting expert testimony in rate cases before the Commission.

Listed below are the cases in which I have supplied testimony, comments, and/or depreciation rates accompanied by a signed affidavit.

Company	Case Number	Issue	Party
Kansas City Power & Light Company Greater Missouri Operations	EU-2019-0197 EC-2019-0200	Accounting Order for plant retirement	Office of the Public Counsel (OPC)
Ameren Missouri	EA-2018-0202	Surrebuttal Testimony Depreciation Life	OPC
Spire Missouri East Spire Missouri West	GO-2018-0309 GO-2018-0310	Direct and Live Rebuttal Testimony ISRS	OPC
Kansas City Power & Light Company	ER-2018-0145	Direct and Rebuttal, Surrebuttal, and True- up direct Testimony, Depreciation and O&M expense related to retired generation units, ONE CIS Allocation	OPC
Kansas City Power & Light Company Greater Missouri Operations	ER-2018-0146	Direct and Rebuttal, Surrebuttal, and True- up direct Testimony, Depreciation and O&M expense related to retired generation units, ONE CIS Allocation, Removal of Additional Amortization	OPC
Empire District Electric Company	EO-2018-0092	Rebuttal, Surrebuttal, Affidavit in Opposition, additional Affidavit and Live Testimony	OPC
Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	GR-2018-0013	Rebuttal and Surrebuttal Testimony depreciation, general plant amortization	OPC

Company	Case Number	Issue	Party
Laclede Gas Company Missouri Gas Energy Spire Missouri East Spire Missouri West	GO-2016-0332 GO-2016-0333 GO-2017-0201 GO-2017-0202 GR-2017-0215 GR-2017-0216	ISRS Over collection of depreciation expense and ROE based on Western District Opinion Docket No. WD80544	OPC
Gascony Water Company, Inc.	WR-2017-0343	Rebuttal, Surrebuttal, and Live Testimony rate base, depreciation NARUC USOA Class designation	OPC
Missouri American Water Company	WR-2017-0285	Direct, Rebuttal, Surrebuttal, and Live Testimony depreciation, ami, negative reserve, Lead Line	OPC
Indian Hills Utility Operating Company, Inc.	WR-2017-0259	Direct, Rebuttal, Surrebuttal, and Live Testimony Rate Base (extension of electric service, leak repairs)	OPC
Laclede Gas Company Missouri Gas Energy	GR-2017-0215 GR-2017-0216	Direct, Rebuttal, Surrebuttal, True-up Rebuttal, and Live Testimony depreciation, retirement work in progress, combined heat and power, ISRS	ОРС
Empire District Electric Company	EO-2018-0048	IRP Special issues	OPC
Kansas City Power & Light Company	EO-2018-0046	IRP Special issues	OPC
Kansas City Power & Light Company Greater Missouri Operations	EO-2018-0045	IRP Special issues	OPC
Kansas City Power & Light Company Greater Missouri Operations	EO-2017-0230	2017 IRP annual update comments	OPC

Company	Case Number	Issue	Party
Empire District Electric Company	EO-2017-0065	Direct, Rebuttal, Surrebuttal, and Live Testimony FAC Prudence Review Heat Rate	OPC
Ameren Missouri	ER-2016-0179	Direct, Rebuttal, Testimony Heat Rate Testing &Depreciation	OPC
Kansas City Power & Light Company	ER-2016-0285	Direct, Rebuttal, Surrebuttal, and Live Testimony Heat Rate Testing &Depreciation	OPC
Empire District Electric Company Merger with Liberty	EM-2016-0213	Rebuttal Testimony	Missouri Public Service Commission (MOPSC)
Empire District Electric Company	ER-2016-0023	Depreciation Study, Direct, Rebuttal, and Surrebuttal Testimony	MOPSC
Hillcrest Utility Operating Company, Inc.	SR-2016-0065	Depreciation Review	MOPSC
Hillcrest Utility Operating Company, Inc.	WR-2016-0064	Depreciation Review	MOPSC
Missouri American Water Company	WR-2015-0301	Depreciation Study, Direct, Rebuttal, and Surrebuttal Testimony	MOPSC
Bilyeu Ridge Water Company, LLC Midland Water Company, Inc. Moore Bend Water Utility, LLC Riverfork Water Company Taney County Water, LLC Valley Woods Utility, LLC(Water) Valley Woods Utility, LLC(Sewer) Consolidated into Ozark International, Inc.	WR-2015-0192 WR-2015-0193 WR-2015-0194 WR-2015-0195 WR-2015-0196 WR-2015-0197 SR-2015-0198 Consolidated into WR-2015-0192	Depreciation Review  *filed depreciation rates not accompanied by signed affidavit	MOPSC
I. H. Utilities, Inc. sale to Indian Hills Utility Operating Company, Inc.	WO-2016-0045	Depreciation Rate Adoption CCN	MOPSC

Company	Case Number	Issue	Party
Missouri American Water Company CCN City of Arnold	SA-2015-0150	Depreciation Rate Adoption CCN	MOPSC
Empire District Electric Company	ER-2014-0351	Direct, Rebuttal, and Surrebuttal Testimony	MOPSC
West 16th Street Sewer Company, W.P.C. Sewer Company, Village Water and Sewer Company, Inc. and Raccoon Creek Utility Operating Company, Inc.	SM-2015-0014	Depreciation Rate Adoption	MOPSC
Brandco Investments LLC and Hillcrest Utility Operating Company, Inc.	WO-2014-0340	Depreciation Rate Adoption, Rebuttal Testimony	MOPSC
Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	GR-2014-0152	Direct, Rebuttal, Surrebuttal and Live Testimony	MOPSC
Summit Natural Gas of Missouri, Inc	GR-2014-0086	Depreciation Study, Direct and Rebuttal Testimony	MOPSC
P.C.B., Inc.	SR-2014-0068	Depreciation Review	MOPSC
M.P.B., Inc.	SR-2014-0067	Depreciation Review	MOPSC
Roy-L Utilities	WR-2013-0543	Depreciation Review	MOPSC
Roy-L Utilities	SR-2013-0544	Depreciation Review	MOPSC
Missouri Gas Energy Division of Laclede Gas Company	GR-2014-0007	Depreciation Study, Direct and Rebuttal Testimony	MOPSC
Central Rivers Wastewater Utility, Inc.	SA-2014-00005	Depreciation Rate Adoption	MOPSC
Empire District Electric Company	ER-2012-0345	Depreciation Study, Direct, Rebuttal, and Surrebuttal Testimony	MOPSC
Empire District Electric Company	WR-2012-0300	Depreciation Review	MOPSC
Laclede Gas Company	GO-2012-0363	Depreciation Authority Order Rebuttal, Surrebuttal and Live Testimony	MOPSC
Moore Bend Water Company, Inc. sale to Moore Bend Water Utility, LLC (Water)	WM-2012-0335	Depreciation Rate Adoption	MOPSC
Oakbrier Water Company, Inc.	WR-2012-0267	Depreciation Review	MOPSC
Lakeland Heights Water Co., Inc.	WR-2012-0266	Depreciation Review	MOPSC

Company	Case Number	Issue	
			Party
R.D. Sewer Co., L.L.C.	SR-2012-0263	Depreciation Review	MOPSC
Canyon Treatment Facility, LLC	SA-2010-0219	Depreciation Rate Adoption- CCN	MOPSC
Taney County Water, LLC	WR-2012-0163	Depreciation Review	MOPSC
Sale of Saddlebrooke Water and Sewer Infrastructure, LLC to Missouri American Water Company (Sewer)	SA-2012-0067	Rebuttal Testimony	MOPSC
Sale of Saddlebrooke Water and Sewer Infrastructure, LLC to Missouri American Water Company (Water)	WA-2012-0066	Rebuttal Testimony	MOPSC
Midland Water Company, Inc.	WR-2012-0031	Depreciation Review	MOPSC
Sale of KMB Utility Corporation to Algonquin Water Resources of Missouri, LLC, d/b/a Liberty Water (Sewer)	SO-2011-0351	Depreciation Rate Adoption	MOPSC
Sale of KMB Utility Corporation to Algonquin Water Resources of Missouri, LLC, d/b/a Liberty Water (Water)	WO-2011-0350	Depreciation Rate Adoption	MOPSC
Sale of Noel Water Company, Inc. to Algonquin Water Resources of Missouri, LLC, d/b/a Liberty Water (Water)	WO-2011-0328	Depreciation Rate Adoption	MOPSC
Sale of Taney County Utilities Corporation to Taney County Water, LLC (Water)	WM-2011-0143	Depreciation Rate Adoption	MOPSC
Empire District Electric Company	ER-2011-0004	Depreciation Study, Direct, Rebuttal, and Surrebuttal Testimony	MOPSC
Rex Deffenderfer Enterprises, Inc.	WR-2011-0056	Depreciation Review	MOPSC
Tri-States Utility, Inc	WR-2011-0037	Depreciation Review	MOPSC
Southern Missouri Gas Company, L.P.	GE-2011-0096	Depreciation Study Waiver	MOPSC
Southern Missouri Gas Company, L.P.	GR-2010-0347	Depreciation Review	MOPSC
KMB Utility Corporation (Sewer)	SR-2010-0346	Depreciation Review	MOPSC
KMB Utility Corporation (Water)	WR-2010-0345	Depreciation Review	MOPSC
Middlefork Water Company	WR-2010-0309	Depreciation Review	MOPSC

### EA-2019-0010 Robinett Rebuttal

Schedules
JAR-R-2 thru JAR-R-3

have been deemed

"Highly Confidential"

in their entirety