KCC Ratemaking 101 and Update on Regional Competiveness of Kansas Electric Rates

House Energy, Utilities, and Telecommunications Committee—March 1, 2022

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Kansas Corporation Commission

Focus of My Presentation:

1. Overview of Ratemaking Process at KCC
2. Updated Kansas Electricity Rate Data and Regional Rate Comparisons

KCC Ratemaking Process - Agenda

1. **Overview of the Ratemaking Process in Kansas**
   a. Regulatory Compact / Legal Standards
   b. KCC Ratemaking Process
   c. Role of KCC Staff and Other Intervening Parties
2. **Types of Cases**
3. **Styles of Ratemaking**
   a. Rate Base/Rate of Return
   b. DSC/TIER
4. **Review of a Rate Case**
5. **Rate Design/Class Cost of Service**

Regulatory Compact

The regulatory compact is an agreement codified by statute and case law that is unique to the utility space and calls for:

1. the utility to provide safe, reliable and reasonably priced service;
2. the commission to provide the utility with a reasonable opportunity to recover its costs and earn a return similar to that of other investments that have similar risk characteristics;
3. the customer to pay the approved rates; and,
4. the investor to supply the capital necessary to maintain or expand the utility system.

Source: RRA Regulatory Focus, The rate case process: a conduit to enlightenment, p.1. (July 3, 2018).

Legal Standards

1. K.S.A. 66-101b—Requires Efficient and Sufficient Service at Just and Reasonable Rates.
2. Just and Reasonable Rates has been interpreted by the Kansas Supreme Court as:

…a rate fixed within the "zone of reasonableness" after the application of a balancing test in which the interests of all concerned parties are considered. In rate-making cases, the parties whose interests must be considered and balanced are these: (1) the utility's investors vs. the ratepayers; (2) the present ratepayers vs. the future ratepayers; and (3) the public interest.

Kan. Gas and Electric Co. v. State Corp Comm'n, 239 Kan. 483, 488 (1986).

Legal Standards

1. The KCC is required to balance the public need for adequate, efficient, and reasonable service with the public utility's need for sufficient revenue to meet the cost of furnishing service and to earn a reasonable profit. Danisco Ingredients USA, Inc. v. Kansas City Power & Light Co., 267 Kan. 760, 773 (1999).

2. There is a also Constitutional basis behind the "Just and Reasonable" Standard.

The Fifth Amendment provides that, "No person shall…be deprived of…property, without due process of law; nor shall private property be taken for public uses without just compensation." The Fourteenth Amendment provides that "No State …shall deprive any person of…property, without due process of law…" Leonard Saul Goodman, The Process of Ratemaking, p. 132. (Public Utility Reports, Inc., 1998).

KCC Ratemaking Process

Fundamentally a Legal Process

- Utility regulation and Ratemaking is governed by Kansas Statutes, Administrative Rules and Regulations, and Civil Court proceedings (through appeals of KCC Orders)
- Therefore, KCC Ratemaking is largely a legal process designed to produce "substantial competent evidence" that is necessary to decide a "just and reasonable" rate necessary for the provision of "efficient and sufficient service."
- This occurs through formal discovery, formal testimony (written and oral), post hearing briefs, evidentiary hearings, and Orders. A Record consisting of 10,000 pages is not unheard of for a major rate case proceeding.
- Generally, due process rights are set out in procedural schedules (see example of current procedural schedules next slide)
- Commission has 240 days to issue an Order so procedural schedule defines the due dates within statutory time frame
- Commission issues Orders that can be appealed to a civil court

For Comprehensive Overview of KCC Ratemaking:
https://kcc.ks.gov/images/PDFs/electric/Rate-Study-Final-1-13-2018.pdf

Examples of Recent Rate Case Procedural Schedule

Black Hills Energy Rate Case, Docket No. 21-BHCG-418-RTS
--Filed May 7, 2021

July 26, 2021	5:00 p.m.	Affidavit of mailing, publication, and electronic service
August 4, 2021	6:00 p.m.	Public hearing via Zoom
September 10, 2021	5:00 p.m.	Staff/intervenor testimony due
September 21, 2021	5:00 p.m.	Cross-answering testimony due
October 1, 2021	5:00 p.m.	Rebuttal testimony due
October 5, 2021	9:00 a.m.	Settlement conference
October 8, 2021	5:00 p.m.	Deadline to submit settlement agreement
October 11, 2021	5:00 p.m.	Deadline for Black Hills to submit estimate rate case expense to Commission
October 13, 2021	5:00 p.m.	Deadline to submit testimony in support of / opposition to settlement agreement
October 13, 2021	5:00 p.m.	Deadline for all discovery motions
October 14, 2021	9:00 a.m.	Prehearing conference, if necessary
October 18-20, 2021	9:00 a.m.	Evidentiary hearing, if necessary
October 21, 2021	5:00 p.m.	Public comment period ends
October 26, 2021	5:00 p.m.	PACP report of public comments due
November 10, 2021	5:00 p.m.	Black Hills initial brief due
November 22, 2021	5:00 p.m.	Staff/intervenor briefs due
December 30, 2021	5:00 p.m.	Commission order due

Role of Interveners in Ratemaking Process

- The KCC Staff represents the "public generally," which means we strive to balance the interests between the utility company, its shareholders, and ratepayers
- Citizen's Utility Ratepayer Board
  - Advocates on behalf of residential and small commercial ratepayers
- Other parties – such as large industrial customers, other government entities, or other utility companies – represent their respective interests.
  - Example—Last Evergy Kansas Central Rate Case, 21 Intervenors, including: CURB, KIC, USD 259, Kroger Co., Spirit AeroSystems, CCPS Transportation., Coffeyville Resources Refining & Marketing., Wal-Mart Stores., United States Department of Defense, Holly Frontier El Dorado Refining,, Occidental Chemical Corporation, Goodyear Tire & Rubber Company, Learjet, Climate and Energy Project, Cargill, Kansas State Board of Regents, Topeka Metropolitan Transit Authority, Tyson Foods, Sierra Club, Vote Solar, Midwest Power Company.
- These parties all review the Application, make recommendations on the appropriate rate level, return for stockholders, operating expenses, prudent investment, etc.
- Most rate cases settle unanimously. On occasion parties will litigate one or two issues, settle all others. All rate cases since 2012 for Evergy Kansas Central have been unanimous settlements.

Types of Cases with Direct Rate Implications

- Rate Cases
  - General (K.S.A. 66-117)
  - Abbreviated (K.A.R 82-2-231(b)(3)(A)
- Fuel Clause Review (Purchased Gas Adjustments and Energy Cost Adjustments)
- Review of Surcharges and Riders
  - Property Tax Surcharge (66-117(f))
  - Transmission Delivery Charge (66-1237)
  - Energy Efficiency Rider (66-1283)
  - Gas Safety Reliability Surcharge (66-2202)
  - System Integrity Plan Rider (Atmos Energy)
- Kansas Universal Service Fund Audits (KUSF)
  - Not a rate directly, but set using ratemaking process.

Styles of Ratemaking
Rate Base/Rate of Return

- **Revenue Requirement = (RB*ROR) + O&M + A&G+ Depreciation + Taxes**

*= (Rate Base * Rate of Return) + Operating and Maintenance Expenses + Administrative and General Expenses + Depreciation Expense + Income and Other Taxes Expenses*

- Primarily used for Investor Owned Utilities (Evergy, Empire, Black Hills, Atmos, Kansas Gas Service)
- Rate Base represents all utility capital investment 'used and required to be used' to provide utility service to consumers
- Rate of Return consists of Weighted Average Cost of Capital *(Cost of Debt * Proportion of Debt in Cap. Structure) + (Cost of Equity* Proportion of Equity in Capital Structure)* ***Example WACC= (5% * 50%) + (9% * 50%)= 7%***
- Cost of Equity (required shareholder return) is usually the most contentious issue in the case due to significant impact to both customers and shareholders, and disagreements about models used to estimate
- A Just and Reasonable rate requires a an <u>opportunity</u> to earn a fair return but no guarantee

Example of Revenue Requirement Calculation from Black Hills recent case

LINE NO.	DESCRIPTION	STAFF ADJUSTED
1	PROFORMA RATE BASE	$240,977,841
2	RATE OF RETURN	6.6117%
3	OPERATING INCOME REQUIRED	15,932,611
4	STAFF ADJUSTED OPERATING INCOME	10,709,936
5	DIFFERENCE	5,222,675
6	INCOME TAX FACTOR	0.790000
7	PROFORMA REVENUE INCREASE (DECREASE)	$6,610,982

Example of Rate Base Calculation—

Black Hills

LINE NO.	DESCRIPTION	APPLICANT JURISDICTIONAL PER BOOKS	APPLICANT TEST YEAR ADJUSTMENTS	APPLICANT ADJUSTED	STAFF TEST YEAR ADJUSTMENTS	STAFF PRO FORMA ADJUSTED
1	INTANGIBLE PLANT	$3,508,760	$0	$3,508,760	$0	$3,508,760
2	MANUFACTURED GAS PRODUCING PLANT	0	0	0	0	0
3	PRODUCTION AND GATHERING PLANT	18,719	0	18,719	0	18,719
4	PRODUCT EXTRACTION PLANT	0	0	0	0	0
5	TRANSMISSION PLANT	45,853,421	4,679,841	50,533,262	7,794,409	58,327,671
6	DISTRIBUTION PLANT	265,317,942	11,195,221	276,513,163	322,353	276,835,516
7	GENERAL PLANT	37,187,647	3,632,436	40,820,083	3,229,123	44,049,206
8	TOTAL GAS PLANT IN SERVICE	351,886,489	19,507,498	371,393,987	11,345,885	382,739,872
9	LESS: ACCUM. PROV. FOR DEPR. & AMORT.	104,681,914	3,634,488	108,316,402	(1,394,024)	106,922,378
10	NET GAS PLANT IN SERVICE	247,204,575	15,873,010	263,077,585	12,739,909	275,817,494
11	CONSTRUCTION WORK IN PROGRESS	0	0	0	0	0
12	MATERIALS AND SUPPLIES	2,372,733	300,879	2,673,612	(129,207)	2,544,405
13	GAS STORAGE	2,317,861	(530,733)	1,787,128	60,082	1,847,210
14	PREPAYMENTS	49,066	41,032	90,098	(55,832)	34,266
15	CASH WORKING CAPITAL	0		0	0	0
16	CUSTOMER ADVANCES	(114,892)		(114,892)	100,479	(14,413)
17	CUSTOMER DEPOSITS	(1,433,558)		(1,433,558)	110,474	(1,323,084)
18	DEFERRED INCOME TAX ASSETS	7,620,855	(1,871,498)	5,749,357	(1,119,477)	4,629,880
19	ACCUMULATED DEFERRED INCOME TAXES - PROPERTY	(26,195,528)	(134,614)	(26,330,142)	(1,477,331)	(27,807,473)
20	REGULATORY LIABILITIES FOR KANSAS TCJA EDIT	(16,194,866)	4,205,399	(11,989,467)	(278,676)	(12,268,143)
21	REGULATORY LIABILITIES FOR KANSAS EDIT	(3,733,744)	3,733,744	0	0	0
22	ACCUMULATED DEFERRED INCOME TAXES - OTHER	(690,064)		(690,064)	654,767	(35,297)
23	ALLOCATED BLACK HILLS SERVICE COMPANY ADIT & EDIT	(2,435,601)	(46,277)	(2,481,878)	34,873	(2,447,005)
24	TOTAL RATE BASE - KANSAS	$208,766,837	$21,570,942	$230,337,779	$10,640,062	$240,977,841

Example of Operating Income Calculation—Black Hills

LINE NO.	DESCRIPTION	APPLICANT JURISDICTIONAL PER BOOKS	APPLICANT TEST YEAR ADJUSTMENTS	APPLICANT ADJUSTED	STAFF TEST YEAR ADJUSTMENTS	STAFF ADJUSTED	STAFF PRO FORMA ADJUSTMENTS	STAFF PRO FORMA
	OPERATING REVENUES:							
1	GAS REVENUES	$87,442,937	($43,349,648)	$44,093,289	$562,314	$44,655,603	$6,610,982	$51,266,585
2	OTHER REVENUES	8,353,960	(186,515)	8,167,445	(13,081)	8,154,364		8,154,364
3	TOTAL REVENUES	95,796,897	(43,536,163)	52,260,734	549,233	52,809,967	6,610,982	59,420,949
	OPERATING EXPENSES:							
4	PURCHASED GAS	38,992,210	(38,992,210)	0	0	0		0
5	OPERATING AND MAINTENANCE	26,861,025	193,424	27,054,449	(2,150,109)	24,904,340		24,904,340
6	TOTAL OPERATING EXPENSES	65,853,235	(38,798,786)	27,054,449	(2,150,109)	24,904,340	0	24,904,340
7	DEPRECIATION AND AMORTIZATION	8,617,795	1,401,253	10,019,048	(125,218)	9,893,830		9,893,830
8	TAXES OTHER THAN INCOME TAXES	5,947,476	402,050	6,349,526	(54,790)	6,294,736		6,294,736
9	CUSTOMER DEPOSITS INTEREST EXPENSE	23,684	0	23,684	(21,964)	1,720		1,720
10	INCOME TAXES - CURRENT & DEFERRED	2,264,844	(1,631,675)	633,169	372,236	1,005,405	1,388,306	2,393,711
11	TOTAL EXPENSES	82,707,034	(38,627,158)	44,079,876	(1,979,844)	42,100,032	1,388,306	43,488,338
12	OPERATING INCOME	$13,089,863	($4,909,005)	$8,180,858	$2,529,077	$10,709,936	$5,222,676	$15,932,611

Example of Staff Adjustments to Rate Base and Operating Income

Adj. No.	Witness	Description	Effect on Rate Base or Operating Income
RB-1	Justin Grady	Deferred Tax Impacts on Rate Base	(20,324,502)
RB-2	Justin Grady	Western Plains Levelized Amount	(405,029,711)
RB-3	Kristina Luke Fry	Reverse Pension Rate Base	24,177,813
RB-4	Kristina Luke Fry	Analog Meter Retirements	5,462,584
RB-5	Kristina Luke Fry	Working Capital Update	(2,699,189)
RB-6	Kristina Luke Fry	Rate Base Reduction Update	1,624,705
RB-7	Chad Unrein	Reverse Elimination Adjustment	(1,258,941)
RB-8	Chad Unrein	Electric Vehicle Charging Stations	(4,251)
RB-9	Chad Unrein	Construction Work in Progress	(21,412,967)
IS-1	Darren Prince	Weather Normalization	2,848,827
IS-2	Justin Prentiss	Customer Annualization	8,954,522
IS-3	Justin Prentiss	Rate Annualization	(1,112,848)
IS-4	Justin Grady	Western Plains Removal	(20,611,366)
IS-5	Justin Grady	Western Plains Levelized Amount	(24,432,631)
IS-6	Kristina Luke Fry	Pension Expense to April 30, 2015	(2,417,184)
IS-7	Kristina Luke Fry	Pension & Postretirement Benefit Tracker	(821,219)
IS-8	Kristina Luke Fry	Analog Meter Retirements	1,440,899
IS-9	Kristina Luke Fry	Property Tax Surcharge Revenue	(379,069)
IS-10	Kristina Luke Fry	Wind Generation Royalty Payments	(661,161)
IS-11	Kristina Luke Fry	RSU Expense Adjustment	4,609,954
IS-12	Kristina Luke Fry	Distribution Generation Docket Amort.	234,964
IS-13	Brad Hutton	Customer Deposits	21,994
IS-14	Brad Hutton	Rate Case Expense	324,162
IS-15	Brad Hutton	Bad Debt Expense (Step 1) Bad Debt Expense (Step 2)	(22,651) (54,295)
IS-16	Brad Hutton	Donations	118,554
IS-17	Brad Hutton	Advertising	61,564
IS-18	Brad Hutton	Dues	424,745
IS-19	Brad Hutton	SmartStar	85,029
IS-20	Brad Hutton	Insurance Premium	1,011,694
IS-21	Brad Hutton	Credit Card Expense	(66,744)

These are the Adjustments Staff made to Evergy's Rate Base and Operating Income in last rate case, Docket No. 18-WSEE-328-RTS.

Adj. No.	Witness	Description	Effect on Rate Base or Operating Income
IS-22	Chad Unrein	Wolf Creek Outage Costs	2,989,312
IS-23	Chad Unrein	IT Service Agreement	248,951
IS-24	Chad Unrein	Knock & Collect	(218,215)
IS-25	Chad Unrein	Reg. Asset Prepay Program	49,723
IS-26	Chad Unrein	Reg. Asset Grid Security	196,116
IS-27	Chad Unrein	Depreciation	23,504,827
IS-28	Katie Figgs	State Line Regulatory Liability Amort.	(1,202,316)
IS-29	Katie Figgs	Payroll to March 31, 2018	5,447,234
IS-30	Katie Figgs	Benefits to March 31, 2018	(67,856)
IS-31	Katie Figgs	Merger Savings	6,726,984
IS-32	Katie Figgs	Wolf Creek Settlement	556,351
IS-33	Katie Figgs	Occidential Revenue Loss	313,281
IS-34	Justin Grady	JEC Lease Expense (Step 1) JEC Lease Expense (Step 2)	0 8,330,916
IS-35	Kristina Luke Fry	Wind Farm PTCs (Step 1) Wind Farm PTCs (Step 2)	0 (9,770,859)
IS-36	Kristina Luke Fry	Income Taxes (Step 1) Income Taxes (Step 2)	181,879 2,385,594

Styles of Ratemaking
DSC/TIER

- Debt Service Coverage (DSC) & Times Interest Earned Ratio (TIER)
- Primarily used for Co-ops and Southern Pioneer
- Although most Co-op rates are deregulated, transmission services are not. The KCC currently regulates Local Access Charges for transmission service over 34.5 kV system.
- Under DSC & TIER, revenue requirement equals the total of:
  - O&M + A&G +Depreciation
  - Debt Service Requirements (TIER uses interest only while DSC uses principal and interest)
  - “Coverage” allowance in excess of the actual debt service payments required

KCC Staff Review of a Rate Case

- Evaluate and analyze utility rate case applications for adherence to accepted regulatory theory.
  - Eliminations, normalizations, annualizations
- Accumulate and evaluate evidence obtained from the utility (formal discovery process).
- Determine differences between utility's application and established policies and ratemaking concepts.
- There are few issues that are straightforward, non controversial.
- Provide pre-filed testimony to Commissioners presenting evidence in support of Staff's position
- The Goal is a Revenue Requirement (and ultimately rates) that allows the utility to meet its financial obligations and provide reliable service, while at the same time protecting captive ratepayers from overpaying for a service that is essential to modern day life.

CCOS / Rate Design

Rate Design is the development of prices customers will pay for retail service. There are two stages:

- Allocate the Revenue Requirement among the different classes of customers. This determines how much revenue needs to be collected from each class. The process to determine this allocation is called a “class cost of service” study.
- Calculate customer rates for each class and sub-class that generates the required class revenue
- This phase of a proceeding is often very contentious amongst larger customers in different classes.

Regional Rate Comparisons

- Regional electricity rate comparison based on the following nine states, plus Kansas: Colorado, Missouri, Oklahoma, Arkansas, Iowa, Minnesota, North Dakota, South Dakota, and Texas.
- All of the data will be sourced from the Energy Information Administration (EIA). Specifically, Tables 6, 7, and 8—released around October of every year for the previous year's data.
- The regional electricity rate comparison would consist of the following:
  - The average residential, industrial, and commercial electricity rate for each Investor Owned Utility operating in these states, as reported by the EIA.
  - The average monthly electric bill for residential customers for each Investor Owned Utility operating in these states, as reported by the EIA.
  - The statewide average electricity rate for cooperative utilities in each of the states, presented for residential, commercial, and industrial customers as reported by the EIA.
  - The statewide average electricity rate for municipal utilities in each of the states, presented for residential, commercial, and industrial customers are reported by the EIA.
  - The statewide average electricity rate for all consumers across all utility types for each state.

2020 Update on Kansas Electric Rates

- In 2020, the most updated annual data we have from EIA, Average Electricity Rates in Kansas grew by 1.17%.
- Data for Kansas and the agreed-upon surrounding states are as follows from 2016-2020.

Average Electric Rate ($/kWh) by State, All Consumers (2016-2020)

	2016	2017	2018	2019	2020	2019/2020 Change	2016/2020 Change
United States Average	10.27	10.48	10.53	10.54	10.59	0.47%	3.12%
Minnesota	9.99	10.27	10.37	10.33	10.57	2.32%	5.81%
Kansas	10.49	10.60	10.72	10.26	10.38	1.17%	-1.05%
Colorado	9.83	9.99	10.02	10.17	10.27	0.98%	4.48%
South Dakota	9.83	10.05	9.97	9.96	10.06	1.00%	2.34%
Missouri	9.74	10.03	9.93	9.68	9.64	-0.41%	-1.03%
Iowa	8.55	8.73	8.92	9.08	8.97	-1.21%	4.91%
North Dakota	8.94	8.78	8.91	8.85	8.53	-3.62%	-4.59%
Texas	8.43	8.38	8.48	8.6	8.36	-2.79%	-0.83%
Arkansas	8.13	8.26	7.78	8.22	8.32	1.22%	2.34%
Oklahoma	7.83	8.20	8.09	7.86	7.63	-2.93%	-2.55%

2020 Update on Kansas Electric Rates (Industrial)

- In 2020, Kansas' average electric rate for Industrial customers declined .71%.

2020 Average Rate per kWh- Industrial			
State	**2019 Average Price (cents/kWh)**	**2020 Average Price (cents/kWh)**	**2020/2019 Change**
South Dakota	7.81	7.79	-0.25%
Minnesota	7.53	7.67	1.89%
Colorado	7.40	7.48	1.14%
Kansas	7.35	7.30	-0.71%
North Dakota	7.94	7.26	-8.53%
Missouri	7.11	6.84	-3.77%
U.S. Total	**6.81**	**6.67**	**-2.08%**
Iowa	6.60	6.43	-2.62%
Arkansas	6.13	5.89	-3.89%
Texas	5.45	5.07	-6.99%
Oklahoma	5.07	4.61	-9.07%

2020 Update on Kansas Electric Rates (Residential)

- In 2020, Kansas' average electric rate for Residential Customers increased 1.08%

2020 Average Rate per kWh - Residential

State	2019 Average Price (cents/kWh)	2020 Average Price (cents/kWh)	2020/2019 Change
Minnesota	13.04	13.17	0.99%
U.S. Total	**13.01**	**13.15**	**1.05%**
Kansas	12.71	12.85	1.08%
Iowa	12.46	12.46	0.01%
Colorado	12.18	12.36	1.52%
South Dakota	11.55	11.75	1.70%
Texas	11.76	11.71	-0.44%
Missouri	11.14	11.22	0.73%
North Dakota	10.30	10.44	1.35%
Arkansas	9.80	10.41	6.28%
Oklahoma	10.21	10.12	-0.85%

Kansas Residential Monthly Bill Data

- In 2020, Kansas Residential Monthly Electric Bills increased 0.23%, from $113.26/month to $113.52/month.

2020 Average Monthly Bill- Residential

State	Average Monthly Consumption (kWh)	Average Price (cents/kWh)	Average Monthly Bill (Dollar and cents)	Monthly Bill Rank
Texas	1,132	11.71	132.59	1
South Dakota	1,037	11.75	121.77	2
U.S. Total	**893**	**13.15**	**117.46**	**3**
Missouri	1,028	11.22	115.35	4
Kansas	883	12.85	113.52	5
North Dakota	1,085	10.44	113.26	6
Arkansas	1,060	10.41	110.33	7
Oklahoma	1,078	10.12	109.07	8
Iowa	865	12.46	107.78	9
Minnesota	775	13.17	102.11	10
Colorado	711	12.36	87.88	11

Residential Rate Data—Kansas IOUs

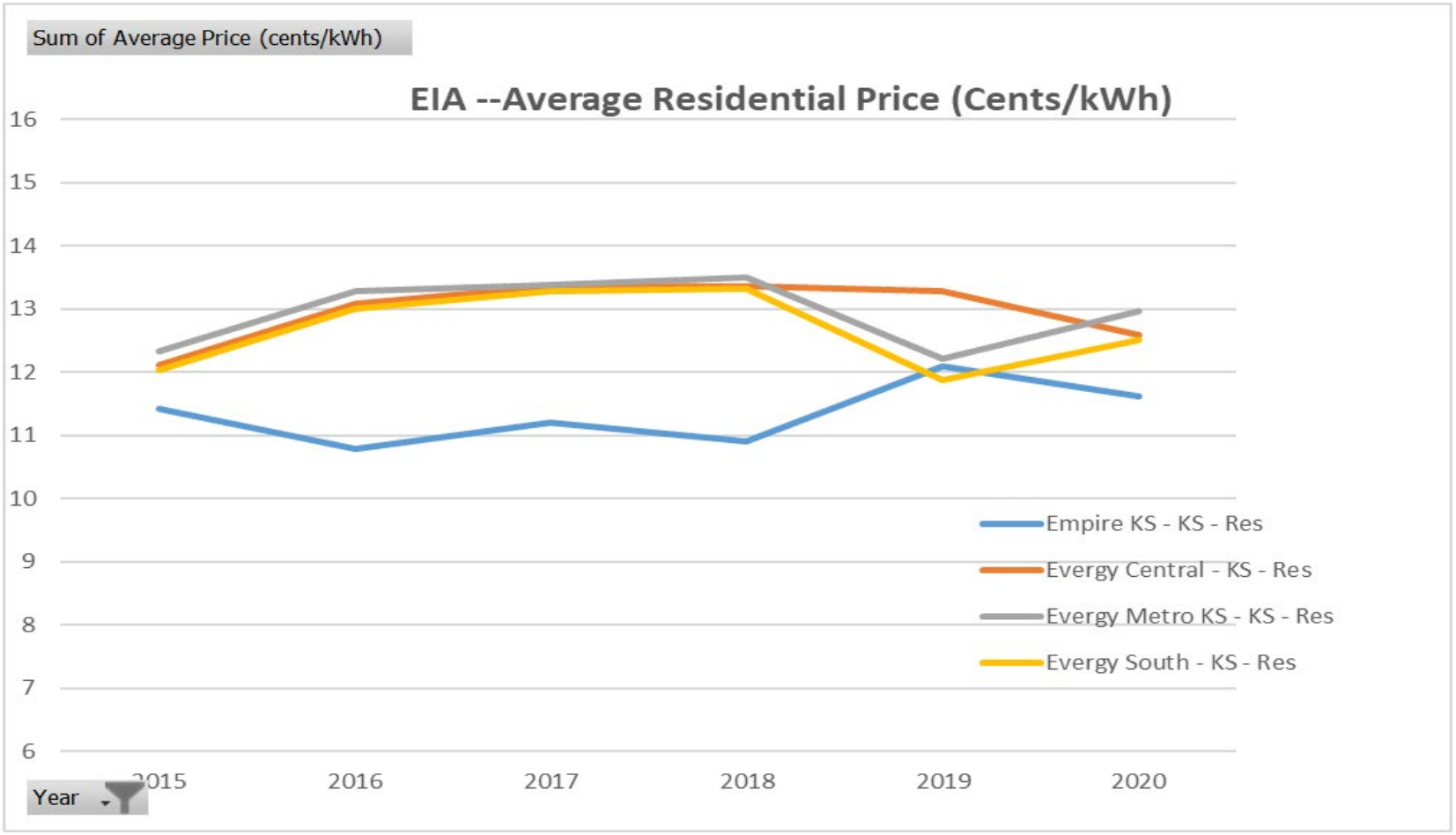
- Rate data (from EIA) for residential customers shows that electric rates in Kansas have grown at around half the rate of inflation (CPI) over the last five years.

Average Residential Price EIA (Cents per kWh)

Row Labels	Empire KS Total	Evergy Central Total	Evergy Metro KS Total	Evergy South Total
2015	11.41	12.11	12.33	12.04
2016	10.78	13.08	13.27	13.00
2017	11.20	13.36	13.39	13.28
2018	10.90	13.37	13.50	13.33
2019	12.10	13.29	12.21	11.88
2020	11.61	12.59	12.96	12.51
2015-2020 CAGR	0.34%	0.77%	0.99%	0.77%

Residential Rate Data—Kansas IOUs

- Rate data (from EIA) for residential customers shows that electric rates in Kansas have grown at around half the rate of inflation (CPI) over the last five



Residential Monthly Bill Data—Evergy

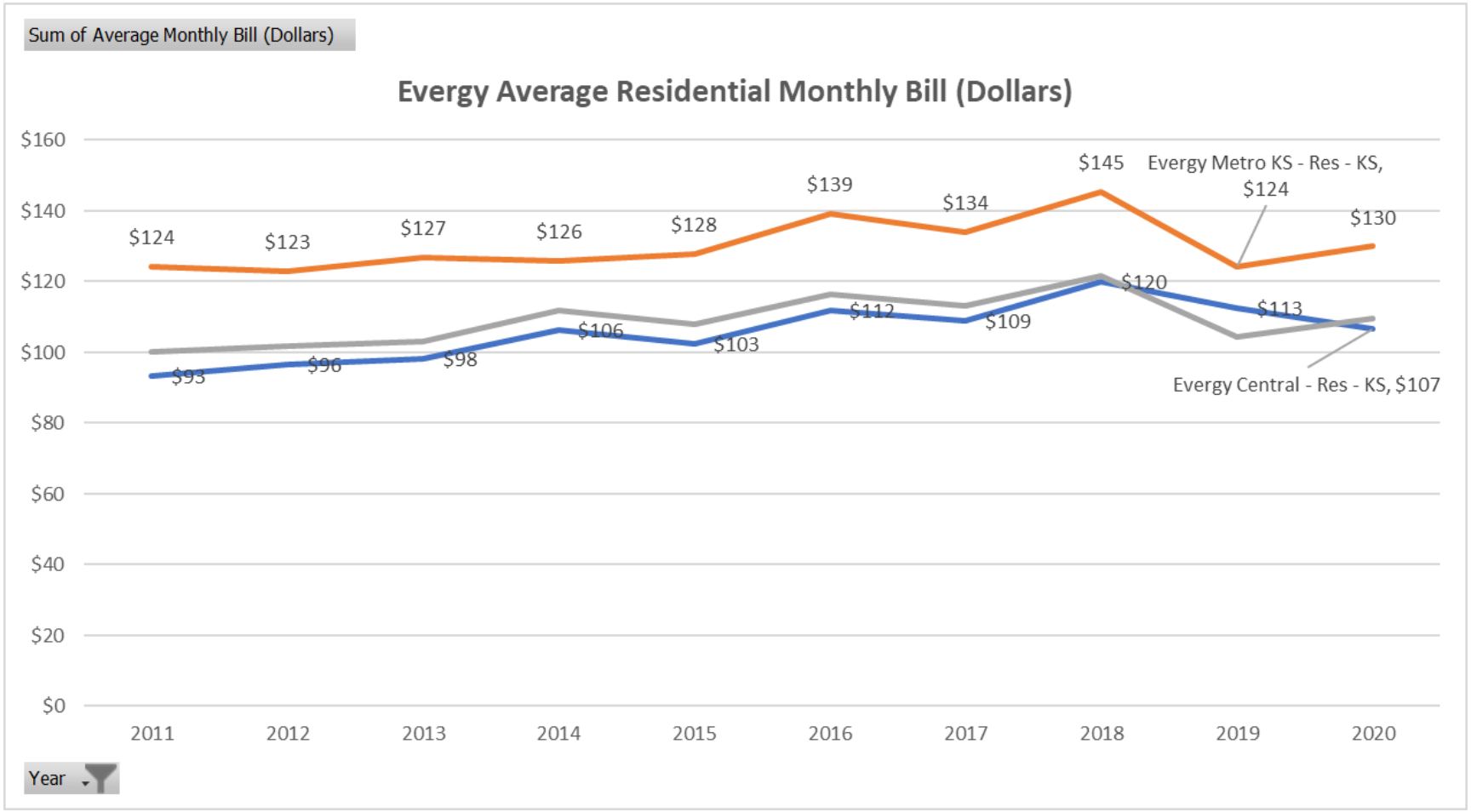
- Evergy's Monthly Bill data (from EIA) for residential customers shows that customer bills have grown less than inflation (CPI) over the last ten years

Evergy Residential Customer Average Monthly Bill

Year	Evergy Kansas Metro	Evergy Kansas North	Evergy Kansas South	Combined Evergy Kansas Central
2011	$ 124.30	$ 93.30	$ 99.99	$ 96.45
2012	$ 123.04	$ 96.46	$ 101.85	$ 99.00
2013	$ 126.84	$ 98.20	$ 103.20	$ 100.55
2014	$ 125.84	$ 106.29	$ 111.92	$ 108.94
2015	$ 127.95	$ 102.57	$ 107.99	$ 105.12
2016	$ 139.16	$ 111.90	$ 116.41	$ 114.02
2017	$ 134.01	$ 108.89	$ 113.19	$ 110.91
2018	$ 145.39	$ 120.07	$ 121.70	$ 120.84
2019	$ 124.32	$ 112.66	$ 104.41	$ 108.78
2020	$ 129.92	$ 106.51	$ 109.73	$ 108.02
10-YR CAGR	0.49%	1.48%	1.04%	1.27%
10-YR Growth	4.53%	14.16%	9.74%	12.00%

Residential Monthly Bill Data—Evergy

- Evergy's Monthly Bill data (from EIA) for residential customers shows that customer bills have grown less than inflation (CPI) over the last ten years



The average residential, industrial, and commercial electricity rate for each Investor Owned Utility operating in these states, as reported by the EIA.

Full List Attached

Residential—

- Evergy Kansas Central (EKC) ranks 11th in rates, 16th in bills out of 38 utilities. (1st being highest). Rates are 10.24% higher, Bills 7.12% higher (than average outside Kansas).
- Evergy Kansas Metro (EKM) ranks 9th in rates, 2nd in bills out of 38 utilities. Rates are 13.81% higher, Bills 28.84% higher.

Commercial—

- EKC ranks 15th in rates, 6.88% higher than average outside Kansas.
- EKM ranks 10th in rates, 11.39% higher than average outside Kansas.

Industrial—

- EKC ranks 14th in rates, 12.48% higher than average outside Kansas.
- EKM ranks 2nd in rates, 45.46% higher than average outside Kansas.

The statewide average electricity rate for Cooperative Utilities in each of the states, presented for residential, commercial, and industrial customers as reported by the EIA.

2020 Average Rate per kWh -Cooperatives

State	Residential Average Price (cents/kWh)	Commercial Average Price (cents/kWh)	Industrial Average Price (cents/kWh)
Colorado	14.29	12.59	9.90
Minnesota	12.95	11.05	9.12
Kansas	12.82	12.18	8.80
Iowa	12.47	10.86	8.18
South Dakota	12.07	11.11	9.46
Oklahoma	11.97	11.01	6.94
U.S. Total	**11.81**	**10.74**	**6.78**
Missouri	11.40	10.35	7.80
Texas	11.36	10.20	7.24
Arkansas	10.78	10.05	7.95
North Dakota	10.09	11.31	8.24
Avg. Outside Kansas	11.93	10.95	8.31

The statewide average electricity rate for Municipal Utilities in each of the states, presented for residential, commercial, and industrial customers are reported by the EIA.

2020 Average Rate per kWh -Municipals

State	Residential Average Price (cents/kWh)	Commercial Average Price (cents/kWh)	Industrial Average Price (cents/kWh)
North Dakota	N/A	N/A	N/A
Minnesota	12.76	11.19	8.68
Iowa	12.32	9.69	7.55
Oklahoma	12.03	10.01	7.16
U.S. Total	**11.85**	**11.02**	**7.73**
Kansas	11.08	9.26	6.54
South Dakota	10.86	10.65	8.08
Texas	10.85	9.61	6.87
Missouri	10.67	9.86	8.25
Colorado	10.33	9.37	7.46
Arkansas	9.06	8.58	6.65
Avg. Outside Kansas	11.11	9.87	7.59

Questions??

2020 Residential Electric Rate Regional Comparison

Bill Rank	Entity	State	Ownership	Customer Count	Sales (MWhs)	Revenues (000's Dollars)	Average Price (cents/kWh)	Average Customer Bill
1	Empire District Electric Co	MO	Investor Owned	133,019	1,644,537	$220,751	13.42	$138.30
2	Evergy Metro	KS	Investor Owned	234,541	2,821,786	$365,649	12.96	$129.92
3	Entergy Texas Inc.	TX	Investor Owned	410,753	6,145,701	$607,907	9.89	$123.33
4	Interstate Power and Light Co	IA	Investor Owned	407,849	3,622,771	$601,867	16.61	$122.98
5	Empire District Electric Co	KS	Investor Owned	8,183	103,380	$12,003	11.61	$122.24
6	Entergy Arkansas LLC	AR	Investor Owned	598,506	7,583,717	$838,065	11.05	$116.69
7	Southwestern Electric Power Co	TX	Investor Owned	152,519	2,073,543	$213,408	10.29	$116.60
8	Evergy Missouri West	MO	Investor Owned	291,923	3,561,621	$402,217	11.29	$114.82
9	Empire District Electric Co	OK	Investor Owned	3,801	48,821	$5,093	10.43	$111.65
10	Amana Society Service Co	IA	Investor Owned	710	7,195	$951	13.22	$111.62
11	Evergy Metro	MO	Investor Owned	262,729	2,608,047	$350,024	13.42	$111.02
12	Otter Tail Power Co	SD	Investor Owned	8,858	118,203	$11,754	9.94	$110.57
13	Empire District Electric Co	AR	Investor Owned	4,121	43,465	$5,438	12.51	$109.97
14	Evergy Kansas South, Inc	KS	Investor Owned	293,297	3,087,234	$386,212	12.51	$109.73
15	NorthWestern Energy	SD	Investor Owned	50,646	583,357	$66,509	11.40	$109.43
16	Combined Evergy Kanas Central (N&S)	KS	Investor Owned	628,556	6,491,132	$814,700	12.55	$108.01
17	Union Electric Co	MO	Investor Owned	1,071,999	13,250,393	$1,371,554	10.35	$106.62
18	Otter Tail Power Co	ND	Investor Owned	45,673	602,118	$58,408	9.70	$106.57
19	Evergy Kansas Central, Inc	KS	Investor Owned	335,259	3,403,898	$428,487	12.59	$106.51
20	Black Hills Power, Inc.	SD	Investor Owned	57,626	537,593	$71,895	13.37	$103.97
21	Black Hills Colorado Electric, LLC	CO	Investor Owned	86,197	640,415	$105,029	16.40	$101.54
22	Public Service Co of Oklahoma	OK	Investor Owned	483,536	6,116,579	$579,751	9.48	$99.92
23	Southwestern Public Service Co	TX	Investor Owned	214,908	2,562,133	$256,878	10.03	$99.61
24	Oklahoma Gas & Electric Co	OK	Investor Owned	679,548	8,742,115	$809,628	9.26	$99.29
25	MidAmerican Energy Co	SD	Investor Owned	4,165	60,316	$4,879	8.09	$97.61
26	Montana-Dakota Utilities Co	SD	Investor Owned	6,441	67,552	$7,460	11.04	$96.52
27	Otter Tail Power Co	MN	Investor Owned	49,403	545,911	$56,415	10.33	$95.16
28	Northern States Power Co	SD	Investor Owned	84,374	802,478	$95,715	11.93	$94.53
29	Southwestern Electric Power Co	AR	Investor Owned	103,790	1,113,912	$114,004	10.23	$91.53
30	Northern States Power Co	MN	Investor Owned	1,171,591	9,033,597	$1,241,195	13.74	$88.28
31	Oklahoma Gas & Electric Co	AR	Investor Owned	56,820	713,946	$59,439	8.33	$87.17
32	El Paso Electric Co	TX	Investor Owned	297,495	2,534,390	$305,528	12.06	$85.58
33	MidAmerican Energy Co	IA	Investor Owned	604,126	5,986,935	$618,793	10.34	$85.36
34	Montana-Dakota Utilities Co	ND	Investor Owned	78,812	773,739	$79,626	10.29	$84.19
35	Northern States Power Co	ND	Investor Owned	81,287	779,212	$81,239	10.43	$83.28
36	ALLETE, Inc.	MN	Investor Owned	123,617	1,046,910	$117,084	11.18	$78.93
37	Public Service Co of Colorado	CO	Investor Owned	1,298,707	9,992,279	$1,145,077	11.46	$73.48
38	Northwestern Wisconsin Elec Co	MN	Investor Owned	73	441	$63	14.17	$71.35

Median Outside of Kansas	11.04	$99.92
Average Outside Kansas	11.38	$100.83
% Evergy Kansas Central Over Median	13.65%	8.10%
% Evergy Kansas Central Over Average	10.24%	7.12%
% Evergy Kansas Metro Over Median	17.34%	30.03%
% Evergy Kansas Metro Over Average	13.82%	28.84%

2020 Industrial Electric Rate Regional Comparison

Count	Entity	State	Ownership	Customer Count	Sales (MWhs)	Revenues (000s Dollars)	Average Price (cents/kWh)
1	Empire District Electric Co	KS	Investor Owned	48	59,744	$6,509	10.89
2	Evergy Metro	KS	Investor Owned	885	261,050	$24,881	9.53
3	Black Hills Colorado Electric, LLC	CO	Investor Owned	55	414,999	$37,182	8.96
4	Black Hills Power, Inc.	SD	Investor Owned	6	189,699	$15,568	8.21
5	Montana-Dakota Utilities Co	SD	Investor Owned	8	7,517	$609	8.10
6	Empire District Electric Co	MO	Investor Owned	275	911,077	$73,435	8.06
7	Northern States Power Co	MN	Investor Owned	502	7,004,313	$558,613	7.98
8	Evergy Kansas Central, Inc	KS	Investor Owned	1,191	2,064,242	$164,330	7.96
9	Empire District Electric Co	AR	Investor Owned	9	83,149	$6,524	7.85
10	Amana Society Service Co	IA	Investor Owned	1	70,226	$5,453	7.76
11	Empire District Electric Co	OK	Investor Owned	11	39,933	$3,080	7.71
12	Interstate Power and Light Co	IA	Investor Owned	1,432	6,372,272	$487,797	7.65
13	Northern States Power Co	SD	Investor Owned	26	379,186	$28,978	7.64
14	Combined Evergy Kansas Central (N&S)	KS	Investor Owned	4,445	5,241,849	$386,301	7.37
15	Northern States Power Co	ND	Investor Owned	24	342,142	$25,170	7.36
16	NorthWestern Energy	SD	Investor Owned	63	415,340	$30,474	7.34
17	Evergy Metro	MO	Investor Owned	914	1,433,681	$104,192	7.27
18	Otter Tail Power Co	ND	Investor Owned	3	20,545	$1,457	7.09
19	Evergy Kansas South, Inc	KS	Investor Owned	3,254	3,177,607	$221,972	6.99
20	ALLETE, Inc.	MN	Investor Owned	378	5,652,942	$394,717	6.98
21	Montana-Dakota Utilities Co	ND	Investor Owned	89	232,032	$15,731	6.78
22	Public Service Co of Colorado	CO	Investor Owned	322	6,298,197	$409,534	6.50
23	Southwestern Electric Power Co	AR	Investor Owned	639	1,116,464	$72,302	6.48
24	Southwestern Electric Power Co	TX	Investor Owned	4,419	2,658,399	$169,120	6.36
25	Union Electric Co	MO	Investor Owned	3,754	4,157,495	$261,052	6.28
26	Evergy Missouri West	MO	Investor Owned	223	1,306,754	$81,806	6.26
27	Entergy Arkansas LLC	AR	Investor Owned	23,481	7,585,640	$460,449	6.07
28	Otter Tail Power Co	MN	Investor Owned	11	981,838	$56,724	5.78
29	MidAmerican Energy Co	IA	Investor Owned	1,653	13,872,083	$767,146	5.53
30	MidAmerican Energy Co	SD	Investor Owned	22	133,746	$6,744	5.04
31	Oklahoma Gas & Electric Co	AR	Investor Owned	409	988,763	$49,807	5.04
32	Entergy Texas Inc.	TX	Investor Owned	5,678	7,884,794	$369,344	4.68
33	El Paso Electric Co	TX	Investor Owned	39	907,045	$42,278	4.66
34	Oklahoma Gas & Electric Co	OK	Investor Owned	9,372	7,442,630	$319,753	4.30
35	Public Service Co of Oklahoma	OK	Investor Owned	6,796	5,713,383	$221,250	3.87
36	Southwestern Public Service Co	TX	Investor Owned	150	7,381,412	$260,270	3.53

Median Outside Kansas	6.78
Average Outside Kansas	6.55

% Evergy Kansas Metro Over Median	40.58%	% Evergy Kansas Central Over Median	8.70%
% Evergy Kansas Metro Over Average	45.47%	% Evergy Kansas Central Over Average	12.48%

2020 Commercial Electric Rate Regional Comparison

Rank	Entity	State	Ownership	Customer Count	Sales (MWhs)	Revenues (000s Dollars)	Average Price (cents/kWh)
1	Northwestern Wisconsin Elec Co	MN	Investor Owned	29	152	$22	14.67
2	Interstate Power and Light Co	IA	Investor Owned	85,271	3,869,362	$486,708	12.58
3	Black Hills Power, Inc.	SD	Investor Owned	13,376	738,445	$89,693	12.15
4	Amana Society Service Co	IA	Investor Owned	179	7,950	$948	11.92
5	Empire District Electric Co	KS	Investor Owned	1,439	54,175	$6,416	11.84
6	Black Hills Colorado Electric, LLC	CO	Investor Owned	12,155	856,213	$98,980	11.56
7	Empire District Electric Co	MO	Investor Owned	24,101	1,419,920	$159,661	11.24
8	NorthWestern Energy	SD	Investor Owned	13,160	676,793	$73,368	10.84
9	Northern States Power Co	MN	Investor Owned	141,360	12,082,902	$1,268,029	10.49
10	Evergy Metro	KS	Investor Owned	30,205	3,087,285	$321,046	10.40
11	ALLETE, Inc.	MN	Investor Owned	24,337	1,190,093	$122,875	10.32
12	Evergy Metro	MO	Investor Owned	32,905	4,011,045	$406,528	10.14
13	Evergy Kansas South, Inc	KS	Investor Owned	37,949	2,916,485	$292,954	10.04
14	Empire District Electric Co	AR	Investor Owned	803	38,716	$3,883	10.03
15	Combined Evergy Kansas Central (N&S)	KS	Investor Owned	87,460	6,915,819	$690,029	9.98
16	Public Service Co of Colorado	CO	Investor Owned	218,890	12,463,353	$1,240,861	9.96
17	Evergy Kansas Central, Inc	KS	Investor Owned	49,511	3,999,334	$397,076	9.93
18	Montana-Dakota Utilities Co	SD	Investor Owned	2,052	66,771	$6,557	9.82
19	Northern States Power Co	SD	Investor Owned	12,528	972,326	$92,956	9.56
20	Empire District Electric Co	OK	Investor Owned	918	53,084	$4,968	9.36
21	Northern States Power Co	ND	Investor Owned	13,200	1,006,315	$93,725	9.31
22	Montana-Dakota Utilities Co	ND	Investor Owned	14,348	1,033,823	$94,705	9.16
23	El Paso Electric Co	TX	Investor Owned	37,864	2,952,057	$263,265	8.92
24	Evergy Missouri West	MO	Investor Owned	39,801	3,111,552	$273,407	8.79
25	Entergy Arkansas LLC	AR	Investor Owned	96,291	5,578,749	$482,495	8.65
26	Otter Tail Power Co	MN	Investor Owned	13,051	1,032,208	$88,869	8.61
27	Southwestern Electric Power Co	TX	Investor Owned	30,544	2,003,532	$169,157	8.44
28	MidAmerican Energy Co	IA	Investor Owned	98,781	4,565,657	$371,366	8.13
29	Southwestern Electric Power Co	AR	Investor Owned	18,376	1,212,967	$98,578	8.13
30	Union Electric Co	MO	Investor Owned	159,512	13,174,534	$1,040,749	7.90
31	Otter Tail Power Co	ND	Investor Owned	13,613	1,115,223	$87,957	7.89
32	Entergy Texas Inc.	TX	Investor Owned	52,318	4,646,083	$353,076	7.60
33	MidAmerican Energy Co	SD	Investor Owned	969	57,072	$4,108	7.20
34	Oklahoma Gas & Electric Co	OK	Investor Owned	105,868	8,405,475	$603,198	7.18
35	Oklahoma Gas & Electric Co	AR	Investor Owned	10,996	740,117	$52,984	7.16
36	Southwestern Public Service Co	TX	Investor Owned	57,811	3,343,412	$230,883	6.91
37	Otter Tail Power Co	SD	Investor Owned	2,879	360,642	$24,781	6.87
38	Public Service Co of Oklahoma	OK	Investor Owned	72,286	5,872,283	$386,464	6.58

		Median Outside of Kansas	9.16
		Average Outside Kansas	9.34
% Evergy Kansas Metro Over Median	13.52%	% Evergy Kansas Central Over Median	8.92%
% Evergy Kansas Metro Over Average	11.39%	% Evergy Kansas Central Over Average	6.88%

Both Westar and KCP&L recently completed post-merger rate cases that resulted in rate reductions of $66 million and $10.7 million respectively.[15] These rate reductions were largely possible because of the cumulative effect of the guaranteed level of merger savings noted above as well as the reduction in income tax expense related to the Tax Cuts and Jobs Act.

Staff also notes that, because the Commission's approved merger conditions contain a five-year base rate moratorium, the 2018 rate reductions are the last rate changes for the next five years.

II. The Regulatory Compact

A. The Utility-Regulator Relationship

In the broadest context, the regulatory compact is a summary of the intent of the legal framework that establishes the relationship between a public utility and a regulatory body. This legal framework includes all of the statutory provisions, case law, rules and regulations, and Commission policies under which a utility is regulated.

SNL Financial and Regulatory Research Associates (SNL and RRA) have provided a concise and accurate description of the regulatory compact as follows:[16]

> The regulatory compact is an agreement codified by statute and case law that is unique to the utility space and calls for: the utility to provide safe, reliable and reasonably priced service; the commission to provide the utility with a reasonable opportunity to recover its costs and earn a return similar to that of other investments that have similar risk characteristics; the customer to pay the approved rates; and, the investor to supply the capital necessary to maintain or expand the utility system.[17]

SNL and RRA further explained the rational underlying the regulatory compact as follows:

> The utility sector is unlike any other sector of the economy. In a competitive industry, customers have numerous purchasing options. In the automotive

[15] Westar's $66 million reduction includes the assumed effect of rebasing the Ad Valorem Tax Rider, base rates were actually reduced by $50.3 million in this case. Likewise, KCP&L's $10.7 million reduction includes the assumed effect of rebasing the Ad Valorem Tax Rider, base rates were actually reduced $3.96 million in this case.

[16] SNL and RRA are two leading utility research and analysis firms that combined in 2005. Combined, SNL/RRA provide subscription-based expert analysis through commentary, articles, and research papers on various news events as well as critical regulatory issues to investment banks, investors, utilities, and government agencies.

[17] RRA Regulatory Focus, The rate case process: a conduit to enlightenment, p.1. (July 3, 2018). (RRA, The rate case process).

> or consumer products industry, customers can select from the product offerings of many different providers, and product quality and price have considerable influence on consumer purchasing decisions. If a seller's prices are too high or the quality of the product does not meet the customer's standards, the customer can select the wares offered by another seller. Prices in competitive industries are set by supply and demand in the marketplace.
>
> Utilities, on the other hand, cannot simply set up shop wherever they choose. Utilities are natural monopolies because their capital costs are enormous. Monopolies, by definition, also have high barriers to entry. However, a company with monopoly power cannot be allowed to operate without oversight. If they could, the price of the company's product could be exorbitant. Hence, the state utility commissions were created to regulate the rates charged by the utilities and together with the utilities themselves, investors and customers, comprise [the regulatory compact].[18]

B. Management Discretion

The need for a utility's management to use its discretion to make important business decisions is a critical component of understanding the relationship between a utility and its economic regulator. In Kansas, a utility is charged with a critically important responsibility to provide efficient and sufficient service at just and reasonable rates. It is therefore important that a utility's management is free to make business decisions as to how to meet its statutorily charged responsibility, while still being held accountable for its decisions by its economic regulator. This relationship has been defined as follows:

> It is, at best, an oversimplification that a just and reasonable rate is a question of sound business judgement. Regulatory agencies have only limited authority to interfere with discretionary power of utility management over legitimately internal affairs of a company subject to economic regulation. An agency is not a "super board of directors" for the regulated company.[19]
>
> Regulatory agencies do not have the responsibility to manage any company; their function is solely to regulate their activities in accordance with statutory standards and regulatory policy. An agency, therefore, does not order a company to acquire specific resources, but it may order that the company consider specific standards in formulating an integrated resource plan and that it submit such plan for commission review.[20]

[18] RRA, The rate case process, p. 1.
[19] Leonard Saul Goodman, *The Process of Ratemaking*, p. 132. Internal cites omitted. (Public Utility Reports, Inc., 1998). (Goodman, *The Process of Ratemaking*).
[20] Goodman, *The Process of Ratemaking,* pp. 134. Internal cites omitted.

While the definition and regulatory theory described above may seem to indicate that utility management is free to make its business decisions with little recourse, utility management is also keenly aware that its economic regulator will review its decisions after the fact and can disallow costs incurred by the utility. However, any cost disallowance by an economic regulator must be based on evidence, case specific facts, statutory guidelines, or prior precedent. For example, the *Process of Ratemaking* states the following:

> An agency will not defer to the utility's knowledge of the market, such as the market for gas supplies. "General knowledge and experience in the gas industry is insufficient, without more, to demonstrate the reasonableness of a utility's gas purchasing decision-making," whether the utility deals with affiliated or unaffiliated companies.[21]

In other words, a utility's management cannot rely solely on its business judgement as the singular source of evidence that its decision will result in a just and reasonable rate. Rather, the utility's management must provide sufficient evidence through its documentation and analysis that the business decision will result in a just and reasonable rate.

C. Reasonable Management Presumed

K.S.A. 66-101b requires a utility to provide "efficient" service. In doing so, reasonable management is presumed on the part of the utility unless specific findings of inefficient management can be documented. *The Process of Ratemaking* states:

> Unless there is direct evidence of mismanagement, regulatory agencies will presume that management has properly performed its duties. The presumption can be overturned with evidence of extravagance or of needless expenditures of money, waste, or enormous salaries. Actual cost may far exceed present value of the properties used and useful in the public service; or the company may simply have been unwisely built, in localities where there is insufficient business. In the absence of any satisfactory showing along one of these or similar lines, the company's evidence, that over a reasonable period earnings above operating expenses have been insufficient to pay capital charges on money invested in the enterprise, will sustain a finding that forced rate reductions are unjust and unreasonable.[22] [Internal cites omitted.]

However, a utility does have the burden to provide documentation through reports or other information that demonstrate its efficient operations.

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[21] Goodman, *The Process of Ratemaking,* pp. 134. Internal cites omitted.
[22] Goodman, *The Process of Ratemaking,* p. 840.

The legal framework that encompasses the statutory provisions, case law, rules and regulations, and policies for Kansas' utilities in a rate setting context is addressed in more detail in the next section of this study.

III. Statutory Provisions, Case Law, and Policy Decisions

There are a large number of Kansas statutes, relevant case law, rules and regulations, and Commission precedential and policy decisions that encompass the legal framework under which the Commission's jurisdictional electric utilities are regulated. This study will not summarize or define each one. Rather, this section will attempt to reference and explain the most relevant statutes, case law, and Commission policies that affect the manner in which the Commission is legally required to establish rates.

A. Statutory Provisions

As noted in the discussion of the Regulatory Compact above, "The regulatory compact is an agreement codified by statute and case law that is unique to the utility space *and calls for the utility to provide safe, reliable and reasonably priced service; the commission to provide the utility with a reasonable opportunity to recover its costs and earn a return similar to that of other investments that have similar risk characteristics; the customer to pay the approved rates; and, the investor to supply the capital necessary to maintain or expand the utility system.*" [Emphasis added.] Another way to state the Regulatory Compact's requirement to provide "safe, reliable and reasonably priced service" is to say that a Kansas utility is required to provide "efficient and sufficient service" and to establish "just and reasonable rates". In Kansas, the utility is mandated to provide efficient and sufficient service and establish just and reasonable rates and the Commission is mandated to require such per K.S.A. 66-101b, which states:

> **66-101b. Electric public utilities; efficient and sufficient service; just and reasonable rates.** *Every electric public utility governed by this act shall be required to furnish reasonably efficient and sufficient service* and facilities for the use of any and all products or services rendered, furnished, supplied or produced by such electric public utility, *to establish just and reasonable rates*, charges and exactions and to make just and reasonable rules, classifications and regulations. Every unjust or unreasonably discriminatory or unduly preferential rule, regulation, classification, rate, charge or exaction is prohibited and is unlawful and void. *The commission shall have the power*, after notice and hearing in accordance with the provisions of the Kansas administrative procedure act, *to require all electric public utilities governed by this act to establish and maintain just and reasonable rates when the same are reasonably necessary in order to maintain reasonably sufficient and efficient service from such electric public utilities*. [Emphasis added.]

In establishing just and reasonable rates, the courts have mandated the Commission consider certain interests. These include the following:

> The Kansas Supreme Court mandates the Commission consider and balance *the interests of the utility's investors vs. the ratepayers, the present ratepayers vs. the future ratepayers, and the public interest*. "[C]ases in this area clearly indicate that the goal should be a rate fixed within the zone of reasonableness after the application of a balancing test in which *the interests of all concerned parties are considered*." [Emphasis added] [23]
>
> "The KCC is required to *balance* the public need for adequate, efficient, and reasonable service with the public utility's need for sufficient revenue to meet the cost of furnishing service and to earn a reasonable profit." [15-115 Order at ¶ 71, citing Danisco Ingredients USA, Inc. v. Kansas City Power & Light Co., 267 Kan. 760, 773 (1999)]. [Emphasis added].

There is also a constitutional basis for the just and reasonable standard. If the Commission were to set rates that specifically favor customers over investors by ignoring legitimate utility costs and investments, then the Commission will most likely have violated the Takings Clause of the Fifth Amendment as well as the Due Process Clause of the Fourteenth Amendment. The *Process of Ratemaking* describes this issue as follows:

> The Fifth Amendment provides that, "No person shall…be deprived of…property, without due process of law; nor shall private property be taken for public uses without just compensation." The Fourteenth Amendment provides that "No State …shall deprive any person of…property, without due process of law…"
>
> A just and reasonable rate is a constitutional rate, but, as we shall see, a rate need not pass every just and reasonable test, which indeed may vary from state to state, to pass muster as a constitutional rate.
>
> The judiciary at first attempted to formulate their own threshold test for a constitutionally approved rate of a regulated company. The experiment was eventually abandoned in deference to the emerging just and reasonable standard already applicable to those companies.[24]

i. Balancing of Interests

As noted previously, the Commission is charged with a balancing test in which the interests of all concerned parties are considered when setting rates. However, achieving a balanced approach to setting rates does not mean that the Commission must always adopt

[23] Order Approving Stipulation and Agreement, Docket No. 15-WSEE-115-RTS (September 24, 2015) (15-115 Order) at ¶ 71 citing Kansas Gas and Elec. Co. v. State Corp. Com 'n, 239 Kan. 488 (1986).
[24] Goodman, *The Process of Ratemaking,* p. 24

the midpoint of a particular issue in dispute when setting rates. The appropriate approach is described in the *Process of Ratemaking* as follows:

> An agency that is satisfied that opposing views are both well supported in the record may adopt the midpoint between the parties' positions as a reasonable resolution of the matter. A reviewing court well may be satisfied that the agency reached its decision by exercising a judgement to "split the difference" between opposing views.[25]
>
> There is a limit to an agency's resolving issues by striking a middle ground between opposing views. An exercise of discretion and judgement does not necessarily produce only a middle ground position between opposing views. An agency may indeed need to reject outright positions outrageously stated or unfounded in logic or the evidence. In such cases, it should substitute reasoned analysis of the issues, even when there are a seeming multitude of issues to be resolved.[26]
>
> …[If] an agency constantly assumes that it will attain a proper balance between opposing interests by striking a middle ground, it will merely encourage the parties before it to stake out outrageous positions. Each party will but reasonably assume than it will fare much better in such "balance," if it asks for far more that it should reasonably expect to obtain, and "on balance" still receives more than it might otherwise obtain by more discrete evidence.[27]
>
> The proper balance of interests may require, not the automatic acceptance of a middle ground, but rather, a) a full understanding and analysis of each party's position; and b) if necessary to reach a fair result, the full acceptance of a party's position on a given issue.[28]

In order to reach a balanced decision, the Commission typically accepts (or adopts) one party's position on a given issue after hearing all sides and weighing the evidence. The Commission rarely "splits the difference" and, when it does, it is generally because equal evidentiary weight can be given the opposing parties positions. Staff also notes that it is our role to balance the interests of the ratepayer with the interest of the shareholder in addressing every case before the Commission. Staff's role is required because all parties[29] to a rate case, or any other type of case, are advocating for their specific interests and are therefore not attempting to balance the interests of the ratepayer and the shareholder. Staff's role is unique to the rate setting process and requires a careful and diligent approach in developing positions that strike an appropriate balance.

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[25] Goodman, *The Process of Ratemaking,* p. 128
[26] Goodman, *The Process of Ratemaking,* p. 128.
[27] Goodman, *The Process of Ratemaking,* p. 129.
[28] Goodman, *The Process of Ratemaking,* p. 129.
[29] "Parties" are discussed in more detail in Section IV., but generally consist of the utility and intervening parties such as industrial customers.

ii. Public Interest Standard

The "public interest" is derived from various statutory requirements throughout K.S.A. Chapter 66. When the Commission exercises its delegated administrative power, it is protecting and promoting the public interest (i.e., the welfare of the people). The State's police power exists to promote the health, safety, and welfare of the public.[30] Generally speaking, the public interest is served when ratepayer interests are carefully considered and protected.[31] In the context of a rate case, the public interest is served when ratepayers are protected from unnecessarily high prices, discriminatory prices, and/or unreliable service. The public interest standard can also vary based on the type of case and the decision required from the Commission. For example, mergers and acquisitions have a specific set of standards established that must be evaluated in order to determine whether the proposed transaction meets a public interest standard.

B. Case Law

The term "case law" refers to law that comes from previous decisions made by courts in previous cases. Case law provides a common contextual background for certain legal concepts, and how they are applied in certain types of cases.

Statutory laws are created by legislative bodies, such as the Kansas Legislature. While statutory laws provide rules and guidelines, it is impossible for any legislative body to anticipate all situations and legal issues. The court system is charged with interpreting the law when it is unclear or in dispute as to a case-specific issue. The courts decide cases based on the applicable law, precedent, and the fact-specific circumstances of the case at hand. These court decisions become a precedent for future cases with similar facts.

Case law is also specific to the jurisdiction in which the decision is made. Generally, case law from a different jurisdiction, such as a different state, it is not enforceable in Kansas. However, if there is no precedent in Kansas, the relevant case law from another state may be used as persuasive authority in Kansas.

Because of the complexity of the issues that arise in utility matters, Staff researches case law from other states in order to gain an insight into the rationale used to decide certain issues. Of course, case law from Kansas generally requires Staff to follow the guidelines stemming from the court's decision in a case.

[30] *See Manzanares v. Bell*, 214 Kan. 589, 606 (1974).
[31] *See Kansas City Power & Light Co. v. State Corp. Comm'n*, 238 Kan. 842,846 (1986).

C. Commission Precedential Orders and Policy Decisions

The Commission designates precedential orders as such. The Commission's website lists its precedential orders and states the following:

> Precedential orders may bind parties, establish policies, or interpret statutes or regulations in a way that applies against a person or company that was not a party to the original order. The KCC cannot treat an order as precedential unless the agency designates the order as precedential and makes the order available to the public…

On the other hand, policy decisions generally are guidelines established by the Commission through an order for a certain issue or issues. While Commission policies may not be binding on parties in the same manner as a precedential order, any party that wishes to take an approach contrary to a Commission policy will have to make a compelling argument that the facts and circumstances specific to their issue(s) warrant a different approach.

The rationale behind establishing Commission precedent and policy has been described as follows:

> The administrative agencies, like the courts, cite and rely on their prior decisions to maintain consistency and fairness in their administration of their enabling statutes. Decisions from other jurisdictions can be instructive and useful; statutory and decisional law from other jurisdictions provide "persuasive authority by analogy."[32]
>
> Precedent is relevant on the basis of the broader legal principal that "the starting point" for just and reasonable rates is any long-standing business practice that has arisen with respect to such rates. "A change cannot be made without either a reasoned explanation or a finding that such a practice is unjust and unreasonable."[33]
>
> The binding effect of precedent is also manifest in the principle that all similarly situated regulated utilities should be treated alike. An agency will attempt to apply its cost terms and definitions uniformly to the various utilities that are subject to its rules, whether or not the rules and practices are formally codified.[34]
>
> There are limits on an agency's resting on precedent. It cannot rely on precedent to the exclusion of the evidence on the record before it for

[32] Goodman, *The Process of Ratemaking*, pp. 129-130. Internal cites omitted.
[33] Goodman, *The Process of Ratemaking*, p. 130. Internal cites omitted.
[34] Goodman, *The Process of Ratemaking*, p. 130. Internal cites omitted.

> decision. An agency's failure to base its findings on the evidence of record is reversible error on appeal to the courts.[35]
>
> The courts are not concerned with the consistency or inconsistency of agency decisions, as such, but they will require agencies to explain their departures from current precedent. The judicial role here is less to enforce consistency than to require each agency decision to contain a rational basis before it will pass judicial scrutiny. Its primary role is to require regulatory even-handedness in the agency's dealing with the company and its customers.[36]

D. Basics of Ratemaking

A. Just and Reasonable Rates

As noted previously, in establishing just and reasonable rates, the Commission has used Kansas Supreme Court case law and has described its mandate as follows:

> The Kansas Supreme Court mandates the Commission consider and balance *the interests of the utility's investors vs. the ratepayers, the present ratepayers vs. the future ratepayers, and the public interest*. "[C]ases in this area clearly indicate that the goal should be a rate fixed within the zone of reasonableness after the application of a balancing test in which *the interests of all concerned parties are considered*." [Order Approving Stipulation and Agreement, Docket No. 15-WSEE-115-RTS (September 24, 2015) (15-115 Order) at ¶ 71 citing Kansas Gas and Elec. Co. v. State Corp. Com 'n, 239 Kan. 488 (1986)]. [Emphasis added.]

In order to meet the Kanas Supreme Court's mandate and follow the Commission's statutory obligations, the KCC follows a quasi-judicial process in determining a revenue requirement and the resulting rate design. This section discusses the rate case process as well as the pertinent aspects of determining the revenue requirement and rate design. Much of this section also relies on the RRA Topical Special Report *The Rate Case Process: A Conduit to Enlightenment* (RRA Special Report) for the narrative describing the ratemaking process because RRA has done an excellent job of distilling a complex discussion into a clear and concise narrative.

[35] Goodman, *The Process of Ratemaking,* p. 131. Internal cites omitted.
[36] Goodman, *The Process of Ratemaking,* p. 132. Internal cites omitted.

B. The Rate Case Process

RRA's Special Report describes the rate case process as follows:

> A rate case is a quasi-judicial process, although there is no jury and the final outcome is determined by the commission. In some jurisdictions, the commission presides over the hearings and all aspects of a case, but in most instances the commissioners get involved at the end of the proceeding, and make their decision after reviewing the entire case record. The process is complicated and costly, sometimes taking as long as two years to be completed. So utilities do not enter into a rate case lightly.
>
> The process begins with the utility's filing, which includes the testimony of several witnesses. The company quantifies the additional revenue it believes it needs to recover its operating costs, depreciation expense and taxes, and allow its shareholders to earn a reasonable return. Each witness supports a specific aspect of the company's filing, e.g., depreciation, rate of return or pension costs. The commission will schedule a series of local public hearings that offer ratepayers an opportunity to speak their mind about whatever it is the utility is proposing. Technically speaking, the commission is not supposed to let the comments from these hearings factor into their decisions on case-specific issues because the comments are not part of the case record. [Note: This statement is not correct for Kansas because the Commission does enter public comments into the record of a rate case.] However, commissioners are not immune to the public outcry that generally accompanies a rate case.
>
> At some point during the process, after the intervenors have had a chance to digest the company's application, they will file their direct testimony, in which they outline their recommendations and their respective positions on various proposals put forth by the company. These parties will critique nearly every aspect of the utility's request, with the recommendations tailored to suit the needs of the relevant constituent group. Usually it is the commission's staff, a state attorney general and/or another state agency that represents the public interest, primarily as it relates to residential customers, and their stance on rate case matters tends to be very different from that of the company. [Note: In Kansas, CURB represents residential and small business ratepayers while Staff represents the public generally]. Every jurisdiction is different, but intervening entities can also include an individual large commercial or industrial customer or a consortium of such customers that may have a rather limited focus, a municipality or group of municipalities in which the utility operates, a group seeking to advance an environmental agenda and/or an organization that advocates for the needs of a particular segment of the population, such as retired ratepayers. [Note:

In Kansas, interveners in electric investor-owned utility rate cases typically consist of the Citizen's Utility Ratepayer Board and large industrial customers, significantly affected school districts, consortiums of industrial consumers (examples include the Kansas Industrial Consumers Group, Inc. and Midwest Energy Consumers Group), large commercial customers (examples include Walmart, Inc. and Kroger Company), and other interested parties. It is not uncommon for fifteen to twenty individual interveners to be involved in a single Westar or KCP&L rate case. In the most recent Westar rate case, Docket No. 18-WSEE-328-RTS, there were 21 interveners].

After this initial round of testimony, more testimony is filed in which the parties address their concerns with the positions laid out in earlier rounds of testimony, and sometimes they will hold firm on their positions. But more often than not, the parties will begin settlement discussions to see if they can arrive at some sort of middle-of-the-road position, either on certain issues or on all of the outstanding issues in the proceeding. At the very least, this will narrow the gap between the parties' respective revenue requirement positions. If a consensus can be reached with respect to a stipulated rate increase, then the parties — at least some of them — will sign a settlement and file it with the commission. A settlement will generally shorten the timeframe required to complete a rate case, since some of the other steps in the process can be eliminated.

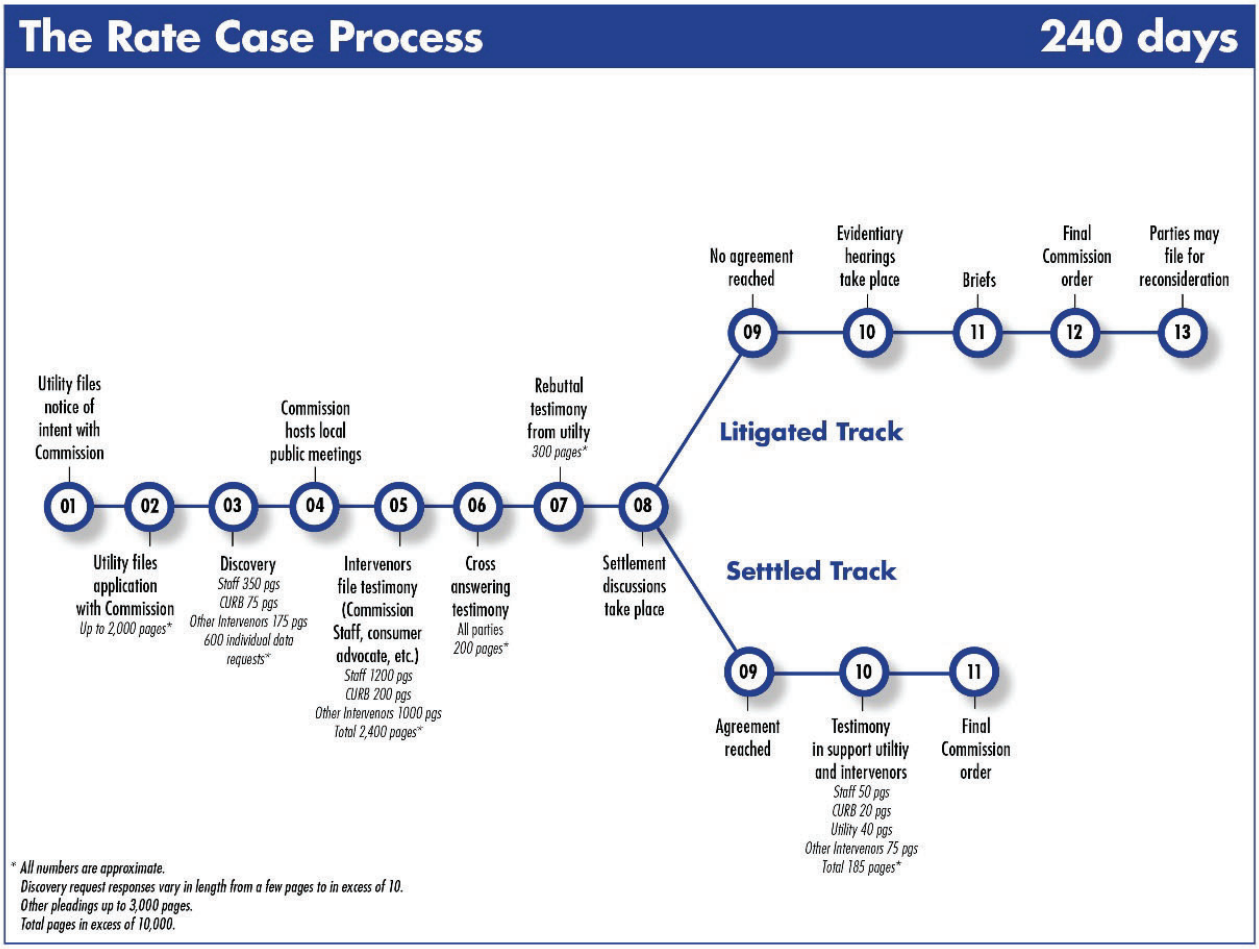
If the parties are unable to reach a comprehensive agreement on the outstanding issues, the case will proceed on a litigated track. What that means is that the commission will need to rely on the evidence in the case as it develops a final decision on these issues. Frequently, a commission administrative law judge will issue a proposed order, effectively a recommendation, for the commissioners to consider for approval. At this point, the commissioners will hold a meeting and vote on a final order, and some commissions allow the public to listen in on their dialogue. The public may still not know what's included in the order, but at least they can feel that they're informed. Other commissions will simply issue their order with little advance notice. [Note: In Kansas, the Commission does not use administrative law judges. The Commission deliberates and votes on order during regularly scheduled business meetings.]

Although the commission may have issued a final order, the case may not be completed, especially litigated cases, as the utility and some of the intervenors may not agree with aspects of the commission's order. The company may feel that the authorized ROE is out of line with prevailing industry returns, or the consumer advocate or attorney general may contend

> that the commission had no legal justification for allowing implementation of a rate rider.
>
> For parties with objections to the final outcome, the initial remedy would be in the form of a request for reconsideration, and the parties can attempt to substantiate their claims. From that point, the commission could simply affirm its earlier order, or amend that order in light of a new or compelling argument presented during the reconsideration process.
>
> Once the commission acts on the requests for reconsideration, any further amendatory requests would need to be made in the form of a legal appeal to a court with jurisdiction over the commission's orders. The appeals process can be drawn out, and it's not uncommon to see utility rate matters get tied up in court for several years. But just because a commission's order is on appeal doesn't mean that the utility is prohibited from filing a new rate case. The appeals process does not have to play out in its entirety before another case can be filed. By and large, most commission decisions typically have been upheld by the courts. However, the court may remand or reverse a decision if the commission's ruling is determined to be in violation of law.[37]

A graphical representation of the rate case process is provide below that outlines the major steps involved in the process as well as the overall time line (240 days by statute) and an approximation of the number of pages of documents that make up the official record for a rate case.

[37] RRA, The rate case process, pp. 2-3.



C. The Test Year

RRA's Special Report describes the importance of the test year as follows:

> An analysis of a utility's revenue requirement begins with the selection of a test year, which is simply a 12-month period of time to use as a base line in examining the utility's actual revenues and expenses, if an historical test year is chosen, or a forecast of the utility's revenues and expenses for a future 12-month period if a fully forecasted test year is selected. A hybrid approach can also be used that is essentially a blend of both methods. [Note: Historical test years are used in Kansas.]
>
> Using its test year financial data as the starting point, the utility proceeds to make adjustments for items that may not be representative of its operations going forward. For example, the utility may have filed a rate case on Jan. 1, 2018, and chosen a test year that ended on June 30, 2017. A wage increase for the company's unionized employees may have become effective in

September 2017, but is not reflected in the financial results for the 12 months ended June 30, 2017. The approved rate change will not be implemented until late-2018, at which point the wage increase has long since been in place, so the utility will adjust its per books labor expense level upward to reflect this in the new case.

Alternatively, the summer cooling season for an electric utility during the test year could have been abnormally hot, and the company's kilowatt-hour sales could have been abnormally high. In that situation, an adjustment to the utility's test year revenues could be warranted, which all else being equal, would have the effect of showing a greater need for a rate increase. Ideally, the utility will seek to select a test year and make appropriate adjustments to provide a representative picture of what its financial performance will be like during the first year that the new rates are in effect.[38]

D. Revenue Requirement Calculation

RRA's Special Report describes calculating the revenue requirement and rate change as follows: [39]

Revenue Requirement = ROR (Rate Base) + Operating Expenses + Depreciation + Taxes

The above equation gives rise to the company's total revenue requirement. However, the process must shift to the determination of the *rate change* that is required, so that the company can achieve its total revenue requirement. In simple terms, the commission reviews the utility's revenue and prudent costs for the selected test year, and considers the resulting earnings for that period of time. If the company's earnings are determined to be inadequate,

[38] RRA, The rate case process,, p. 5

[39] Since the traditional utility regulation formula is based on costs, the process used to determine a utility's revenue requirement begins with the expression below. At this point, this is pure accounting and not unique to the utility space (Revenue - Operating Expenses - Depreciation - Taxes = Net Operating Income). In the next equation, revenue has been isolated on the left side and has been renamed "revenue requirement" (Revenue Requirement = NOI + Operating Expenses + Depreciation + Taxes).
In the third iteration of the formula, net operating income, or NOI, has been replaced with the product of the utility's rate of return and its net assets. Since NOI includes the funds necessary to service all of the utility's securities, e.g., debt, preferred stock and common stock, NOI must equal the product of the overall rate of return, or cost of capital, and the asset base. It is essentially the pool of money left over for investors after all of the direct costs of doing business have been satisfied (Revenue Requirement = ROR (Net Assets) + Operating Expenses + Depreciation + Taxes). In the fourth version shown above, net assets has been renamed "rate base," which is a regulatory term that refers to the company's net utility assets, as determined by the commission, that are "used and useful" in the provision of service to ratepayers.

a rate increase is authorized. Conversely, if earnings are found to be too high, a rate reduction can be ordered.

The following expression is the common formula for calculating a rate change, which in industry speak means the additional revenue the utility is proposing, or that an intervenor is recommending or that the commission is authorizing. The equation has three variables — or four, if you count the tax factor — and these variables are shown in bold, and everything else is the result of plugging the appropriate variable into the equation.

	Rate of Return*
x	**Rate Base***
	Required NOI
-	**NOI Under Current Rates***
	NOI Deficiency
x	**Tax Factor**
	Revenue Adjustment

* Rate Case Variable

Rate of Return — The first variable in the expression is rate of return, which is the result of a weighted average cost of capital calculation, and includes the cost of debt and the cost of equity. [Note: For illustration purposes, an example of the weighted average cost of capital calculation from a recent Kansas rate case is inserted below.]

	Staff Adjusted	Capitalization Ratios	Cost of Capital	Weighted Cost of Capital
Long-Term Debt	2,549,380	50.9113%	4.9253%	2.5075%
Preferred Stock	0	0.0000%	0.0000%	0.0000%
Common Equity	2,458,112	49.0887%	9.3000%	4.5652%
Total	5,007,492	100.0000%		7.0727%

Example from KCP&L Rate Case, Docket No. 18-KCPE-480-RTS

While the cost of a company's debt securities can be gleaned by reviewing the stated cost rates for each particular debt issue, there is no such stated return for common equity. If an investor were to buy a utility stock, he or she would not be promised any specific return on their investment. There is no coupon rate for common equity and the return will simply be the sum of any dividend income the investor will receive over time and the price appreciation or price reduction experienced during the holding term.

What does this mean in terms of calculating the ROE? It means that informed individuals can disagree markedly on what the appropriate return should be, even though they rely on established financial theory to arrive at an estimate for the "cost" of equity. In utility rate cases, the estimated ROE is very subjective and even slight variations to the inputs in the formulas commonly used for estimating it can produce significant differences between what each party thinks is an acceptable equity return for the company.[40]

Estimating the ROE – There are several methodologies for estimating an ROE for a utility in a rate case, although there are a select few that are consistently recognized by utility commissions.

Discounted cash flow, or DCF — The DCF model calculates ROE by dividing the company's dividend, in dollars, by its observable market price, and then adding an assumed growth rate, as shown below.

Dividend/Market Price + Growth Rate = Required return on equity

If a company's dividend is expected to grow at different rates over a period of time, then a multi-stage DCF approach can account for this. The DCF model is one of the standard formulas for estimating ROE in rate cases, but as is the case with any formula or model, the output is only as good as the inputs, so it is important to make reasonable assumptions regarding the growth rate.

Capital Asset Pricing Model, or CAPM — The CAPM is also given significant weight by the commissions and is depicted below.

Risk-free rate + [Expected market return premium x Utility stock's beta]

= Required return on equity

The CAPM uses, as the starting point for determining the ROE, the yield on a long-term U.S. Treasury bond. This rate is the risk-free rate of return in the formula. Since all securities are, by definition, riskier than the riskless government bond, an ROE for those securities will need to reflect some sort

[40] RRA, The rate case process, p. 6.

of premium over the risk-free return. The CAPM approach adds the product of the utility stock's beta —the systematic risk factor for the company, calculated by looking at the relationship of the stock's historical price movements versus those of the broader market — and a market return premium. The market return premium is simply the expected "excess" return for the stock market over the risk-free rate, and it's also calculated with historical price movements in mind. The sum of the risk-free rate and the product of the stock's beta and the market return premium will give you an estimate of an appropriate ROE for a utility.[41]

Comparable Earnings – Many commissions consider the results of a comparable earnings analysis when establishing an authorized ROE. This approach assumes that a given investment should earn a return similar to that of investments with similar risk characteristics. Generally speaking, utility commissions have a preference for the DCF and CAPM methodologies, and instead of relying on one or the other, they'll often take an average of the ROE estimates these two models produce.

Certain factors may impact the ROE ultimately authorized. For example, if the utility is an electric distribution company with no regulated generation, the commission may consider this company to be a lower-risk entity, and authorize a slightly lower ROE than it would for a fully integrated electric company. In addition, commissions may authorize a slightly lower ROE for companies that utilize several adjustment clauses that allow for timely recognition of changes in certain expenses outside of a general rate case. Over the years, there have also been ROE authorizations that reflected incentive awards for superior management performance or less-than-stellar service quality.

The bottom line is that there is no "correct" way to calculate an appropriate ROE. As is the case with most financial models, the output is only as good as the input, which means that estimating the variables in any ROE formula is an important undertaking.[42]

Rate Base — The second variable in the calculation shown above is the rate base value. At a very basic level, rate base is a utility's prudent capital investment, as authorized by the commission, net of accumulated depreciation. Rate base may include other items such as commission approved deferred costs, known as regulatory assets, employee pension accruals and items that may be used to offset the value of rate base, such as accumulated deferred income taxes, or ADIT, and customer deposits. But in its simplest form it is the "used-and-useful" net asset base from which

[41] RRA, The rate case process, pp. 9-10.
[42] RRA, The rate case process, p. 10.

the utility provides service to customers and upon which it is allowed to earn a rate of return.

For electric utilities doing business in non-restructured jurisdictions, rate base includes the net value of its investments in generation, transmission and distribution infrastructure. [Note: Kansas has not restructured.] In states that have restructured their electric markets and where the generation supply is now competitively procured, the generation assets are no longer included in the rate base calculation. In restructured jurisdictions, legacy utility generation plants have either been divested entirely to a merchant generation company or transferred to an affiliate of the utility and these plants are no longer economically regulated.

Calculating rate base can be complicated due to certain policy considerations. For example, what period of time should the commission use to measure rate base? Should it be a specific historical date, with "known-and-measurable changes" recognized? Should it be a date in the future that contains projections? Using projections generally produces a higher rate base. Should rate base be determined as of the end of the rate case test year — a year-end valuation — or should it be based on the average of the monthly rate base values over the course of the test year? Does the commission include construction work in progress, or CWIP, in rate base?

Including CWIP in rate base allows the utility to collect a cash return on the asset under construction prior to completion. If CWIP is not included in rate base, accounting standards dictate that the utility is to record a non-cash adder, known as allowance for funds used during construction, or AFUDC, which represents the accrued financing charges associated with CWIP that is not yet included in rate base. AFUDC is equal to the assumed rate of return on the CWIP balance, with the amount included on the utility's income statement during the period in question. With AFUDC, during construction, earnings remain whole but there's no impact on the company's cash flows. Once the plant is completed, the accumulated AFUDC is generally included in rate base as plant-in-service. Several states have statutes that prohibit the inclusion of CWIP in rate base…[43]

NOI Under Current Rates — The third variable in the equation is what's known as NOI under current rates, which is basically the NOI the utility would be expected to achieve if its rates were to be left untouched. This figure is pulled from one of the financial exhibits the utility submitted in its rate case application and it includes adjustments such as employee wage increases. It's another variable that can vary considerably in a rate case.

[43] RRA, The rate case process, pp. 7.

As an example, an increased executive incentive compensation expense, all else being equal, would lead to a lower NOI under current rates, and, working through the rate change formula shown on page 4, a greater need for a rate increase. But this variable cuts both ways. The intervenors in a rate case might recommend that a portion of the company's executive incentive compensation expense be disallowed, and excluded from the calculation of this variable, if it's demonstrated that the cost was tied to a financial metric that only benefitted shareholders. Disallowing recovery of these costs would result in a higher NOI under current rates, and would lead to less of a need for a rate increase. The list of potential NOI adjustments is extensive, but there is ample opportunity for the company and the parties to propose adjustments that can significantly impact the revenue requirement in the case.

The required NOI will be compared to the NOI under current rates and the difference is referred to as the NOI deficiency, indicating a need for a rate increase, or the NOI sufficiency, suggesting that rates should be reduced. This amount is a net amount that needs to be grossed up for taxes, since the utility is permitted to collect amounts that will be remitted to the taxing authorities. Generally speaking, corporate taxes will take a 20-30% bite out of pretax income, so multiplying the NOI deficiency or sufficiency by about 1.4 — the reciprocal of 70% — will give you the top-line revenue change number.[44]

Authorized vs. Earned ROEs

A utility's authorized ROE is that which has been specified by the commission in a rate case for the company, and it is used to calculate the overall return that is applied to the utility's rate base and reflected in the rates that customers are charged. By contrast, the earned ROE reflects actual results achieved by the company over a period of time. The two numbers don't have to be equivalent, and they're usually not.

Commissions are required by the regulatory compact to provide the utility with a "reasonable opportunity" to earn the authorized ROE, but that is by no means a guarantee. Utilities are not guaranteed any sort of return by their regulators, although for some regulatory frameworks that are based on a formulaic or performance-based ratemaking structure, this isn't necessarily true. But those circumstances are not the norm.

Assuming the commission did not adopt any meaningful disallowances in the utility's most recent rate case and the test year that was used in the case was not too old, the company may be able to earn that return if it operates the business efficiently. However, for those utilities that are continually

[44] RRA, The rate case process, p. 8.

> subject to "regulatory lag" — meaning that their authorized revenue requirement does not reflect the full value of the investments that are currently being used to provide service — they may never be able to earn their authorized ROEs.[45]

Operating and Maintenance Expenses – Operating expenses included in a rate case are from the test period selected, which in Kansas is a historic test year. Operating and maintenance expenses can be adjusted from historical levels in order to include an annualized level of expense or to update the test period with known and measurable changes. Many of the more complicated and controverted adjustments that are involved in a rate case proceeding are adjustments involving the proper level of O&M expenses. Examples include the proper level of payroll expense to include in the adjusted test year and whether incentive compensation paid to executives should be born be ratepayers. It is not uncommon for 50 adjustments to be proposed to the utility's proposed level of O&M expense during a major rate case.

Depreciation and Amortization Expenses – Depreciation and amortization expenses are also based on a historical test year and include adjustments to recognize changes in depreciation and amortization rates or changes in test year depreciable plant (e.g., recognition of depreciation requirements on year-end plant balances added to the rate base through CWIP).

Taxes – Tax expenses included in the revenue requirement include property taxes, payroll taxes, franchise taxes, as well as income taxes.

E. Determining the Rate Structure

The last stage in the rate making process is translating the utility's revenue requirement into customer rates that will recover the revenue requirement—the creation of the rate structure. The two steps in the creation of the rate structure are (1) the allocation of the revenue requirement among rate classes, and (2) the development of customer rates for each class.

The two foundations needed to translate the revenue requirement into customer rates are (1) the billing determinants—the data necessary to generate existing and proposed revenue from customers, and (2) the class cost of service (CCOS)—a full allocation of the utility's cost to serve customers allocated among all the customer classes.

[45] RRA, The rate case process, p. 11.

i. Billing Determinants

Billing determinants consist of all the data necessary to create a proof of revenue: number of customers by season and by class, the energy used in each rate block by season and class, customer demand[46] for each demand block by season and class, and the customer rates by block, season, and class. By multiplying the number of customers, energy used, and customer demand by the appropriate customer rates the amount of revenue the customer rates can generate will be determined, which is the proof of revenue.

The proof of revenue serves two purposes: (1) it demonstrates that the company's revenue requirement can be recovered with the rate structure proposed, and (2) provides a means of comparing the change in revenue caused by moving from existing rates to the proposed rates.

ii. Class Cost of Service

Class revenue allocation and rate design need to begin with the concept of cost causation: the cost causer should be the cost payer. Thus, the rate analysts allocating revenue to classes and creating the class rate designs, and the Commissioners who must evaluate the work of the rate analysts, need a class allocation of utility costs. This is the purpose of a CCOS study—the allocation of a utility's costs to serve customers among the different customer classes.

The CCOS study can then be used as a starting point and guide for class allocation of the revenue requirement. By starting with a CCOS study, the rate analyst is tying revenue allocation and customer rates to cost causation. The link between the CCOS study and cost causation is the strength of using a CCOS study for revenue allocation.

However, CCOS studies do have limitations. (1) CCOS studies are an art; they are not a science. A substantial number of subjective judgments must go into the production of any CCOS study. (2) Because all CCOS studies are based on allocation mechanisms that are approximations of structural relationships, the CCOS studies must, themselves, be viewed as approximations. (3) The approximations of the structural relationships are not based on statistical theory (for the most part) so determining a confidence interval using statistical techniques is not possible. Further, because of the size and complexity, only crude sensitivity analysis is possible. Therefore, it is difficult to get a handle on the accuracy of the approximation using sensitivity analysis. Thus, we are left knowing that

[46] Customer demand and the amount of energy used are different. In rate design demand does not mean what it means in economics. Energy usage is what economists would think of as customer demand, but in rate design language, demand refers to the peak usage for a particular time period by the customer. Customer demand is actually a capacity requirement concept—the maximal amount of capacity the customer will require for a particular period of time.

the cost allocation from a CCOS study is an approximation, but we cannot know precisely the numerical bounds of the approximation. (4) A CCOS is a static snapshot of a dynamic process. Over time, the structural cost relationships have changed and are expected to change in the future.

Thus, a rate analyst should be cautious when using a CCOS study to help determine class revenue allocations.

The allocation process used to develop a CCOS follows a standard method outlined in the NARUC manual titled *Electric Utility Cost Allocation Manual*. The five basic steps to the CCOS process are:

1. Direct assignment of costs where possible;

Where direct assignment is not possible, joint and common costs are assigned by:

2. Functionalizing costs;

3. Classifying costs;

4. Allocating costs across classes;

After all the costs have been allocated across customer classes, then the question of whether cross-subsidization exists in the current rate design can be investigated using:

5. Rate of return analysis;

From the NARUC manual, Table 1 below shows the basic categories for each step in the process of allocation.

Functionalization	Classification	Allocation
Production	Demand	Residential
Transmission	Energy	Commercial
Distribution	Customer	Industrial
Customer Service		Other
Administrative and General		

The process of moving from functionalization to classification is illustrated below:

Cost Function		Cost Classification
Production	⇒	Demand Related
		Energy Related
Transmission	⇒	Demand Related
		Energy Related
Distribution	⇒	Demand Related
		Energy Related
		Customer Related
Customer Service	⇒	Customer Related
		Demand Related
Administrative and General	⇒	Whatever is appropriate

The table below illustrates a simple model of CCOS. The model contains the three steps (Functionalization, Classification, and Allocation) that together produce an allocation of costs across classes of electric customers.

The final step in cost allocation is illustrated in the last section of table labeled "Total Cost of Service." This section shows customer class total expenses, total revenue, and net operating income—net operating income is the subtraction of total expenses from total revenue. The next two lines show rate base and rate of return, where the class rate of return is found by dividing net operating income by the rate base.

Functionalization and Classification of Costs	Total	Allocation Factor	Customer Classes				
			Residential	Small General	Medium General	Large General	Large Power
Production							
Production Demand related							
Base Load	40,414,517	Base Allocator	16,138,286	2,133,137	5,059,391	15,967,568	1,116,135
Intermediate	67,265,899	Intermediate Allocator	44,654,485	3,300,514	5,803,680	12,507,570	999,651
Peaking	25,920,652	Peaking Allocator	18,960,135	1,160,948	2,191,034	3,587,450	21,085
Production Energy related							
Fuel & PP	133,303,282	kWh Sales	60,092,099	6,800,129	15,565,988	47,473,639	3,371,426
Variable O&M	4,590,939	kWh Sales	2,069,560	234,195	536,090	1,634,983	116,111
Wind	14,055,123	kWh Sales	6,335,942	716,986	1,641,234	5,005,487	355,474
Total Production	285,550,413		148,250,507	14,345,909	30,797,417	86,176,698	5,979,882
Transmission							
Demand Related	21,861,733	12 CP	11,364,649	1,116,893	2,349,277	6,554,210	476,704
Distribution							
Demand Related	40,792,669	1 NCP	21,859,185	2,386,990	4,078,848	11,230,408	1,237,239
Customer Related	36,714,947	No. Cust	32,649,626	3,272,313	622,896	169,652	460
Total Distribution	77,507,616		54,508,811	5,659,303	4,701,744	11,400,060	1,237,699
Customer							
Total Customer	17,187,685	No. Cust	15,284,551	1,531,896	291,602	79,421	215
Total Cost of Service	402,107,447		229,408,518	22,654,001	38,140,039	104,210,388	7,694,500
Expenses	205,851,976		116,431,778	12,555,520	18,657,809	54,363,182	3,843,686
Revenue	225,477,523		116,953,509	15,573,337	27,783,396	61,636,398	3,530,883
Net Operating Income	19,625,547		521,730	3,017,817	9,125,587	7,273,217	(312,804)
Rate Base	196,255,471		112,976,740	10,098,481	19,482,230	49,847,206	3,850,814
Rate of Return	**10.0%**		**0.5%**	**29.9%**	**46.8%**	**14.6%**	**-8.1%**

> Because the CCOS represents cost causation it can also be used to test for cross-subsidization across classes. The test begins by comparing the rates of return for each of the classes. If the rates of return are close, then that means that each class is providing proportionally about the same net operating income given the rate base that has been allocated to it. If the rates are not close, then the CCOS results indicate that cross-subsidization in the current rate design is present. There are two cautionary comments about the equalized rates of return test for cross-subsidization that are important.
>
> (1) The equalized rates of return test assumes that the cost allocation is correct and the test determines only whether the rate design is in line with the cost allocation. Thus, the equalized rates of return test is completely dependent on the cost allocation techniques used to allocate shared costs. This raises the second issue.
>
> (2) Shared costs make up a large portion of a vertically integrated electric utility's total cost. In particular, most of the rate base is comprised of allocated shared costs; and because rate base is the denominator of the class rate of return calculation, small changes in the allocation method could have a significant effect on the results of this test. Additionally, since there are multiple methods for allocating costs for a CCOS study, any particular allocation is not unique; and since the test is dependent upon the specific cost allocation method used, the results of equalized rates of return tests are not necessarily unique.[47]

iii. Rate Design

Once the overall revenue requirement and the relative costs of serving the different rate classes has been determined, the final rates can be determined with various non-cost considerations in mind. The types of non-cost considerations generally considered by Staff are as follows:

1. Gradualism;
2. Cost of a competitive service (Industrial customers only);
3. Comparable rates in surrounding states(Industrial customers only);
4. Design of rates currently in effect;
5. Political impact of changes;
6. Types of customers and nature of service area;
7. Public policy;
8. Impact on customer usage characteristics;

[47] Staff Direct Testimony of Robert H. Glass, Exhibit 1, pp. 4-6, Docket No. 12-KCPE-764-RTS (Aug. 12, 2012).

9. Simplicity and ease of understanding and administering rates; and
10. Stability of revenues.

A few of the non-cost considerations noted above warrant additional discussion for clarity. These non-cost issues are gradualism and the types of customers and nature of service area.

> Gradualism entails moving various classes towards an equalized rate of return in a graduated fashion. The principle of gradualism recognizes the limitations of a CCOS study: the imprecision created by the extensive use of approximations. Because of the imprecision of a CCOS, gradualism suggests that small steps rather than large leaps should be taken. But gradualism does not imply that no change in the class allocation should occur.
>
> The Commission Staff implements gradualism by using two basic rules of thumb. (1) If the relative rate of return for a class is between 0.95 and 1.05 then that class should receive an increase in revenue requirement approximately equal to the system-wide percentage increase in revenue requirement. For example, if a class has a relative rate of return of 0.96 and the system-wide increase in revenue was 5%, then that class should receive about a 5% increase in revenue. (2) If a class is outside of the 10% range, then any increase in revenue requirement for the class should not move the class more than halfway toward the 1.0 relative rate of return. For example, if a class has a relative rate of return of 0.8, then this rule of thumb suggests that the increase in revenue requirement should not increase the relative rate of return to more than 0.9, which is halfway to 1.0. These two rules of thumb moderate action, but do not prevent action. They also prevent attempts to use relative rates of return to fine tune a rate design.[48]

Because rate design is effectively the pricing of a utility's product, the rate structure must be developed based on a comprehensive understanding of the utility's types of customers and the nature of the service area. The rate structure is defined as the number of rate classes as well as the various components of a rate, such as the customer charge, demand charge, base rate charge, types of block rates, etc. Examples of issues to be considered when designing the rate structure are:

1. Is the service area mostly residential and commercial, or is there a large number of industrial customers?
2. What are the industrial competitive factors that are in the utility's service area?
3. What and how many complaints do current customers have with the current rates?
4. Do customer complaints or other factors indicate issues with the utility's ability to properly and easily administer the rates?

[48] Staff Direct Testimony Prepared by Robert H. Glass, pp. 23-24, (June 13, 2018).

5. Does the public understand and accept the current rates?

Utility personnel are obviously the best suited to have a comprehensive understanding of their customer base and the nature of the service area. Therefore, utility personnel originate the rate structure and propose modifications to it in subsequent rate cases. Staff and other intervening parties review the rate structures proposed by the utility and then propose any changes deemed necessary.

iv. Rate Comparisons among Utilities

Rate comparisons among utilities – particularly utilities in different states – are an approximation and can only realistically be completed by developing an "all-in" rate for each utility. An all-in rate is the product of dividing total retail revenues by total retail volumetric sales. The reason that rate comparisons among utilities is complex is due to the extensive number differences that can significantly affect a revenue requirement as well as the development and application of rates. State statutes, rules and regulations, and the regulatory environment primarily drive the basis of the differences. Some of the specific differences are:

- Differences in customer bases;
- Types of riders/surcharges allowed;
- Timing of when costs for construction projects may be reflected in rates;
- Methodologies used to allocate costs between state jurisdictions for multi-state utilities;
- Methodologies used to allocate costs between wholesale and retail jurisdictions;
- Methodologies used to allocate costs between customer classes to design rates;
- Differences in rate case processes and timing of procedural schedules;
- Commission policies and decisions with regard to items such as return on equity, depreciable life of assets, and types of costs disallowed;
- Differences in customer demographics in each jurisdiction affect billing determinants;
- Differences in billing determinants affect rate levels;
- Differences in renewable energy standards (*eg*., voluntary vs. mandatory, calculation of renewable energy, amount of required, and timing of incremental requirements);
- Differences in how data is collected and reported by both Edison Electric Institute (EEI) and Energy Information Agency (EIA) require caution when making comparisons.

Due to the myriad of differences affecting development of the rates for any single utility service territory, it is difficult to compare rates between electric utilities within the same state or in other states.