Electric Cost of Service & Rate Design Study Results & Recommendations

Stillwater Utilities Authority
Stillwater, OK

September 25, 2023

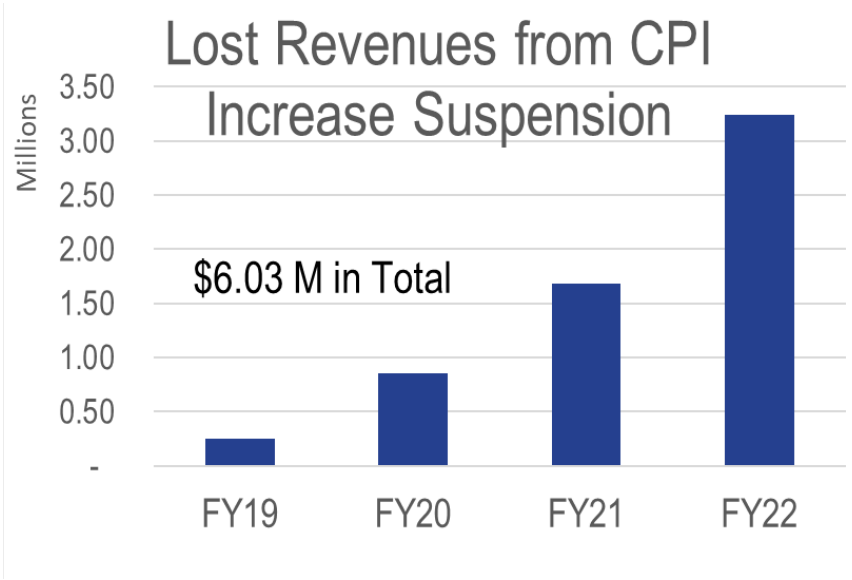
M VEDDER CONSULTING

Presenter

- Lisa M. Vedder
  - Principal LM Vedder Consulting
- Education
  - Harvard University: Master in Public Administration
  - University of Wisconsin-Madison: B.S. Industrial Engineering
    - Tau Beta Pi & Alpha Pi Mu
- Certifications
  - Certified Internal Auditor
  - Certification in Control Self Assessment
- 30 years industry experience
  - Rates, Cost of Service, Financial
  - Regulatory, Power Supply

Agenda

- History of SUA Electric Rates
- Key Events Since Last Study
- Overview of Study
- Rate Design
- Study Results
- Recommendations
- Questions



History of SUA Electric Rates

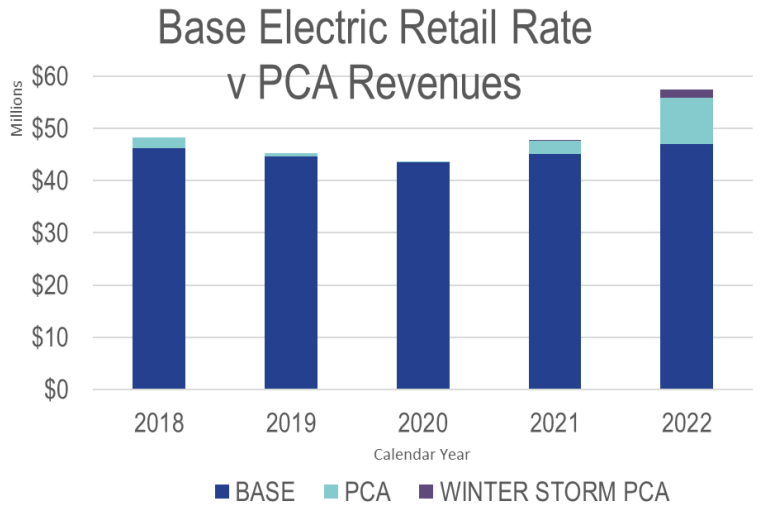
- Last Electric Rate Study in 2020
  - Revenue Neutral Recommendations
    - No Overall Rate Increase
    - Revenues Adjusted Between Classes Based on Cost of Service
- Pandemic
  - Rate Recommendations Not Implemented
  - CPI Increases Suspended FY19 to FY22—$6 M Loss

Key Events Since Last Electric Rate Study

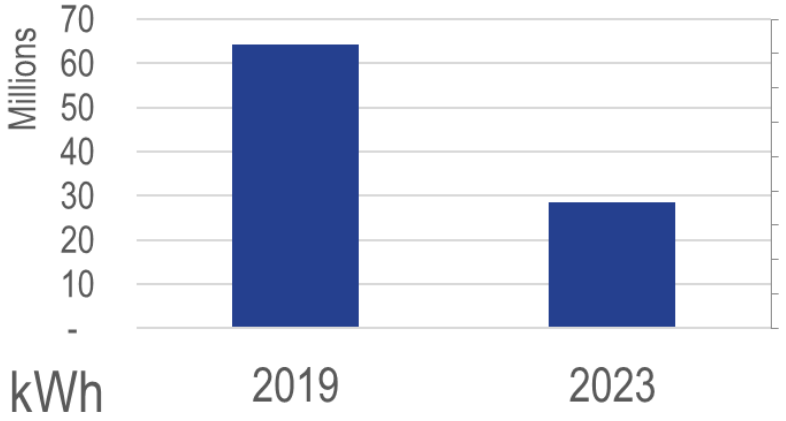
- Flat Revenues
- Loss of Industrial Load
- Cost Increases
  - Inflation
  - Fuel/Wholesale Power
  - General Fund Transfers
  - Labor
  - Health Insurance
  - Materials
- Supply Chain Lead Time Increases
- Need to Draw from Available Fund Balance
- Ratings Agency Concerns

Key Events Since Last Electric Rate Study

Flat Revenues

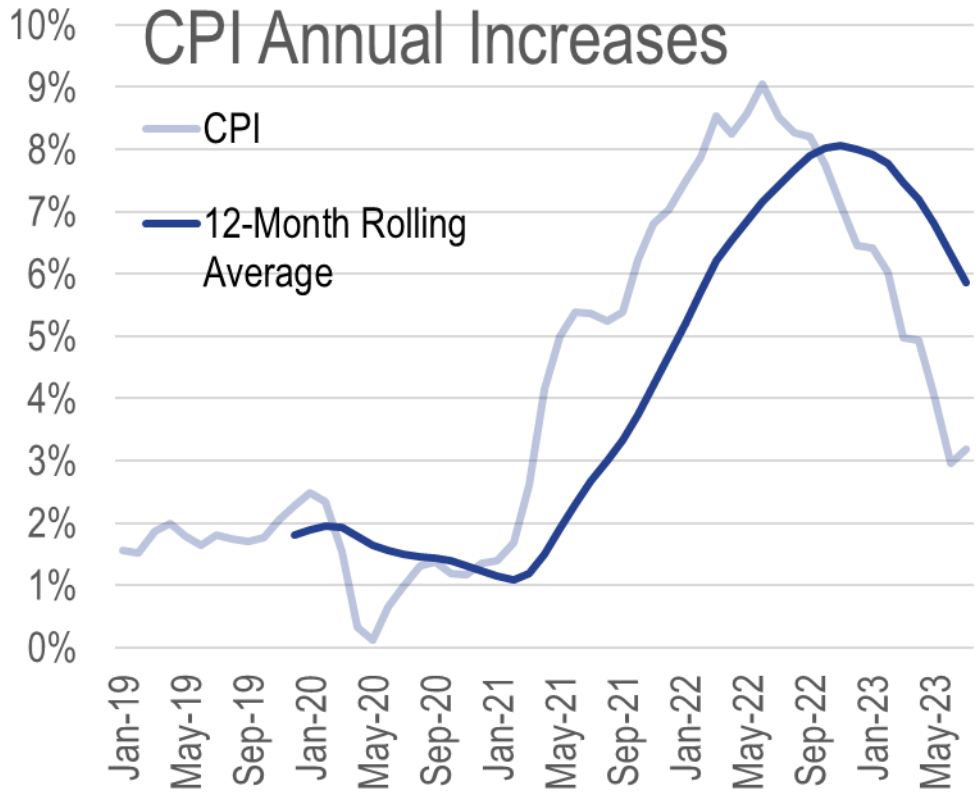


Loss of Industrial Load



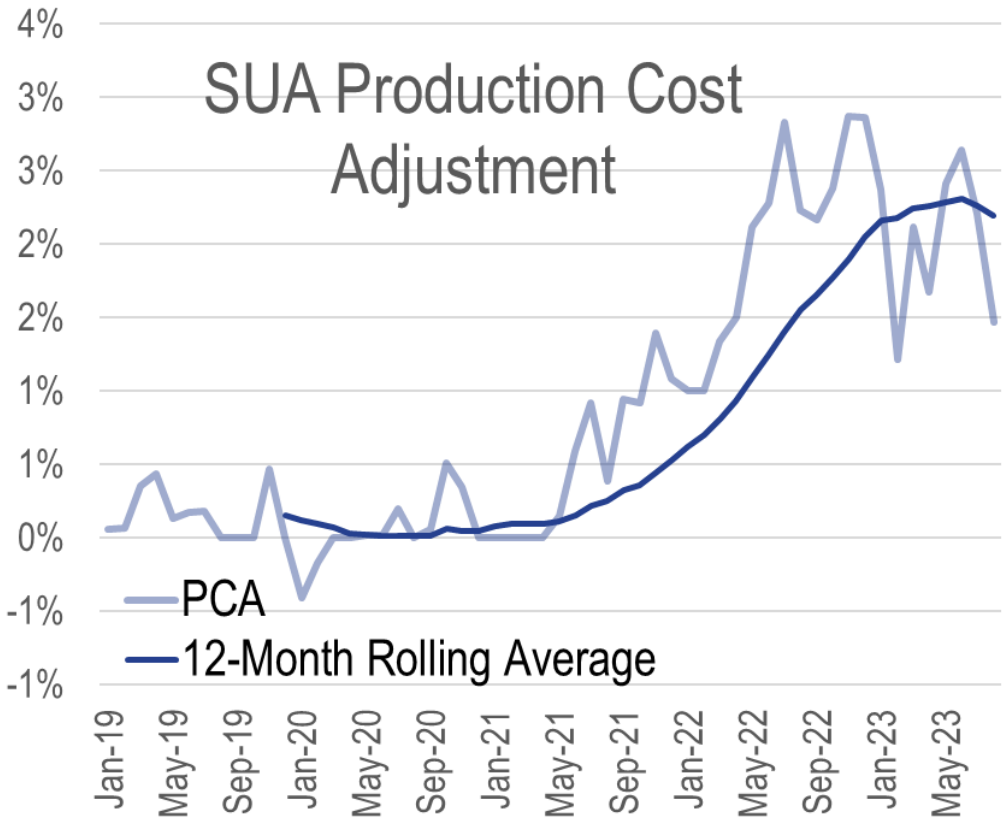
Key Events Since Last Electric Rate Study

- Cost Increases
  - Inflation



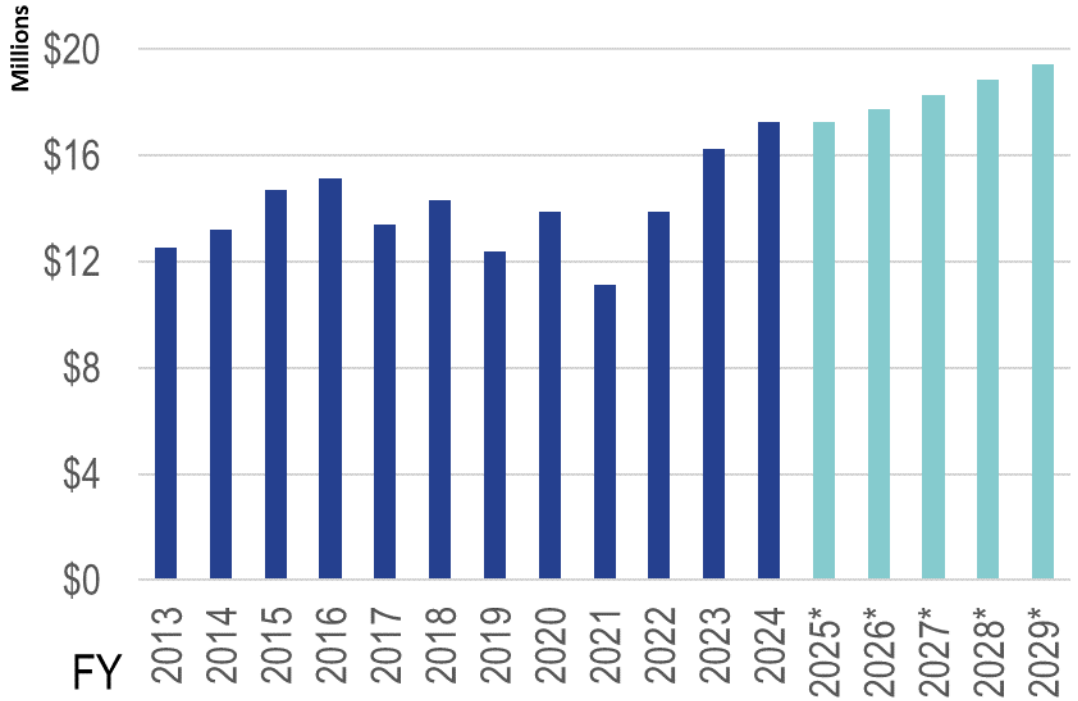
Key Events Since Last Electric Rate Study

- Cost Increases
  - Fuel/Wholesale Power



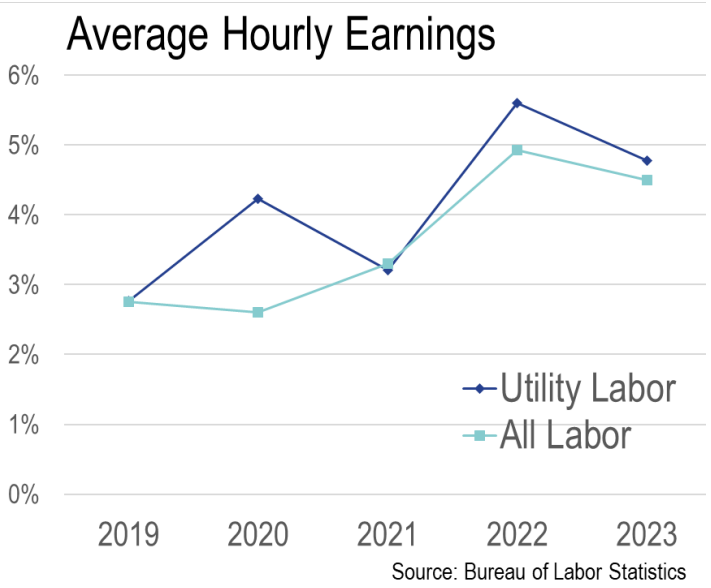
Key Events Since Last Electric Rate Study

- Cost Increases
  - General Fund Transfer



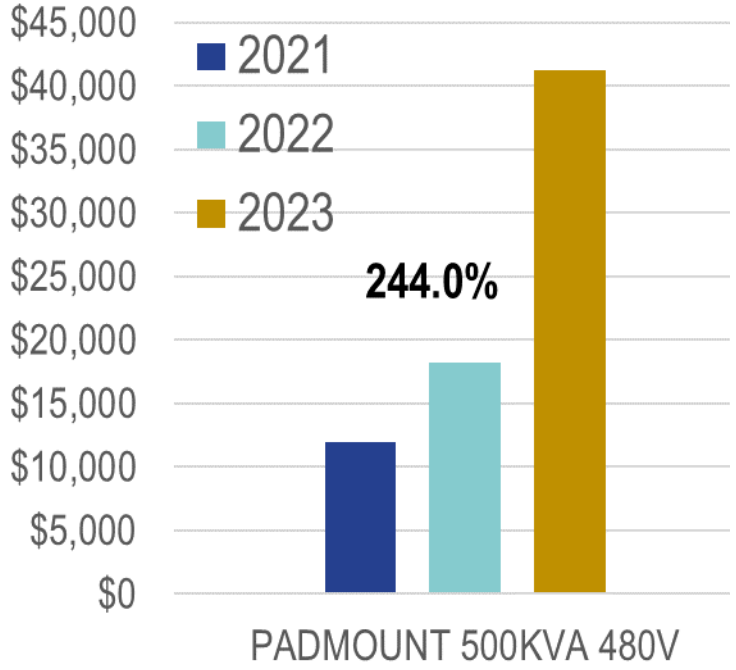
Key Events Since Last Electric Rate Study

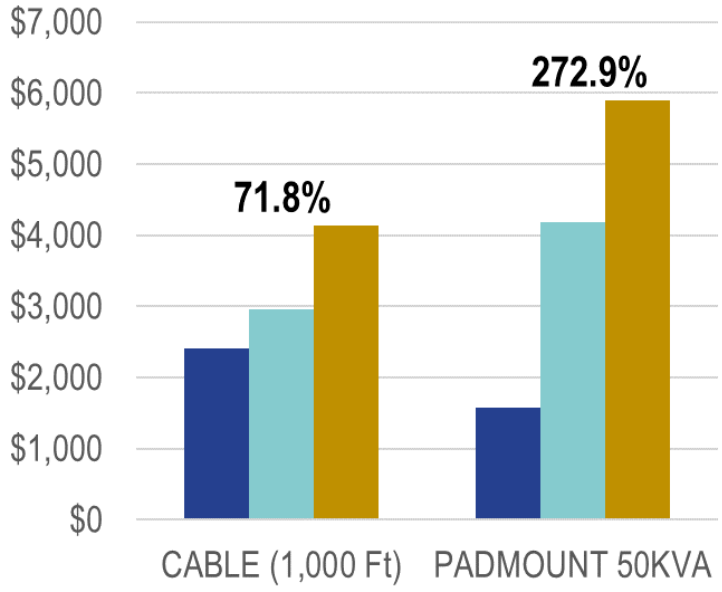
- Cost Increases
  - Labor

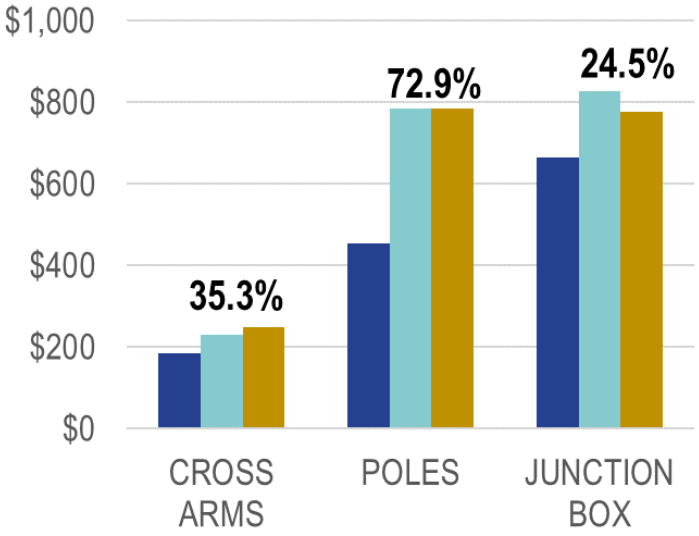


Source: Bureau of Labor Statistics

  - Health Insurance Cost Increases
    - 44% Increase FY17-FY23
    - 28% Increase FY20-FY23
    - Absorbed by City Due to Lack of COLA Increases Until July 2023



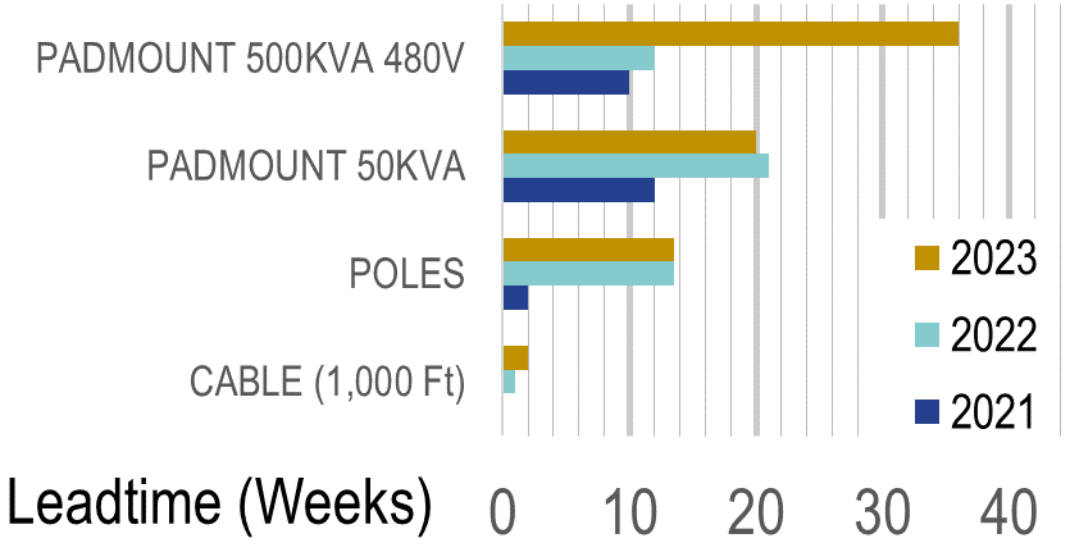




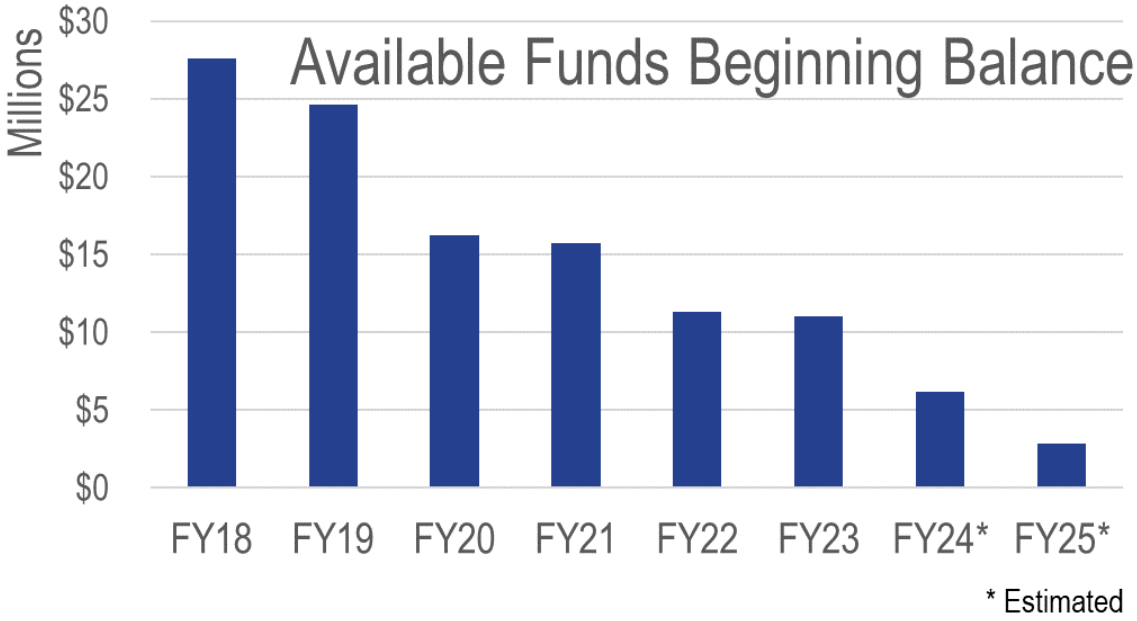
Distribution Materials Cost Increases 2021-23

Key Events Since Last Electric Rate Study

- Supply Chain Leadtime Increases
  - Distribution Materials



Key Events Since Last Electric Rate Study

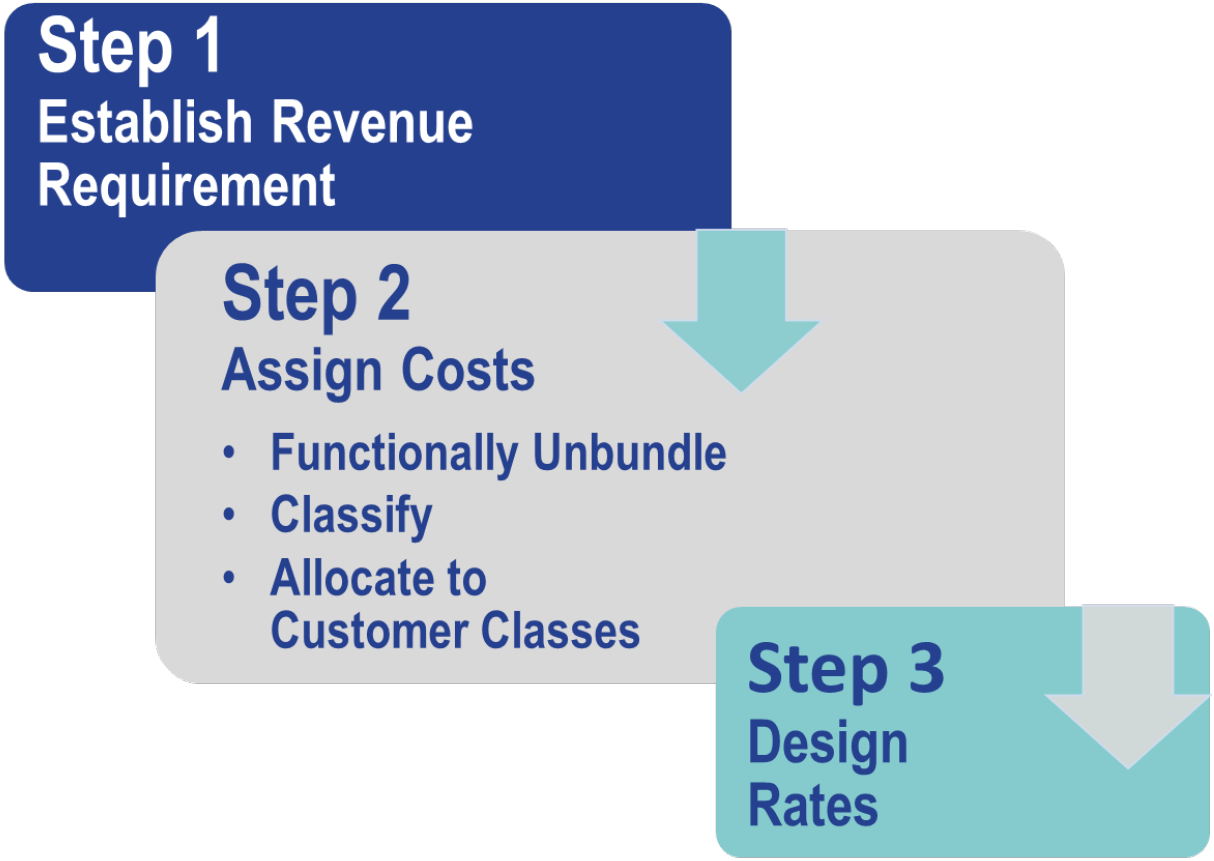


- Increased Draws from Available Funds Balance to Meet City Operational Needs
  - General Fund
  - SUA Operating Fund

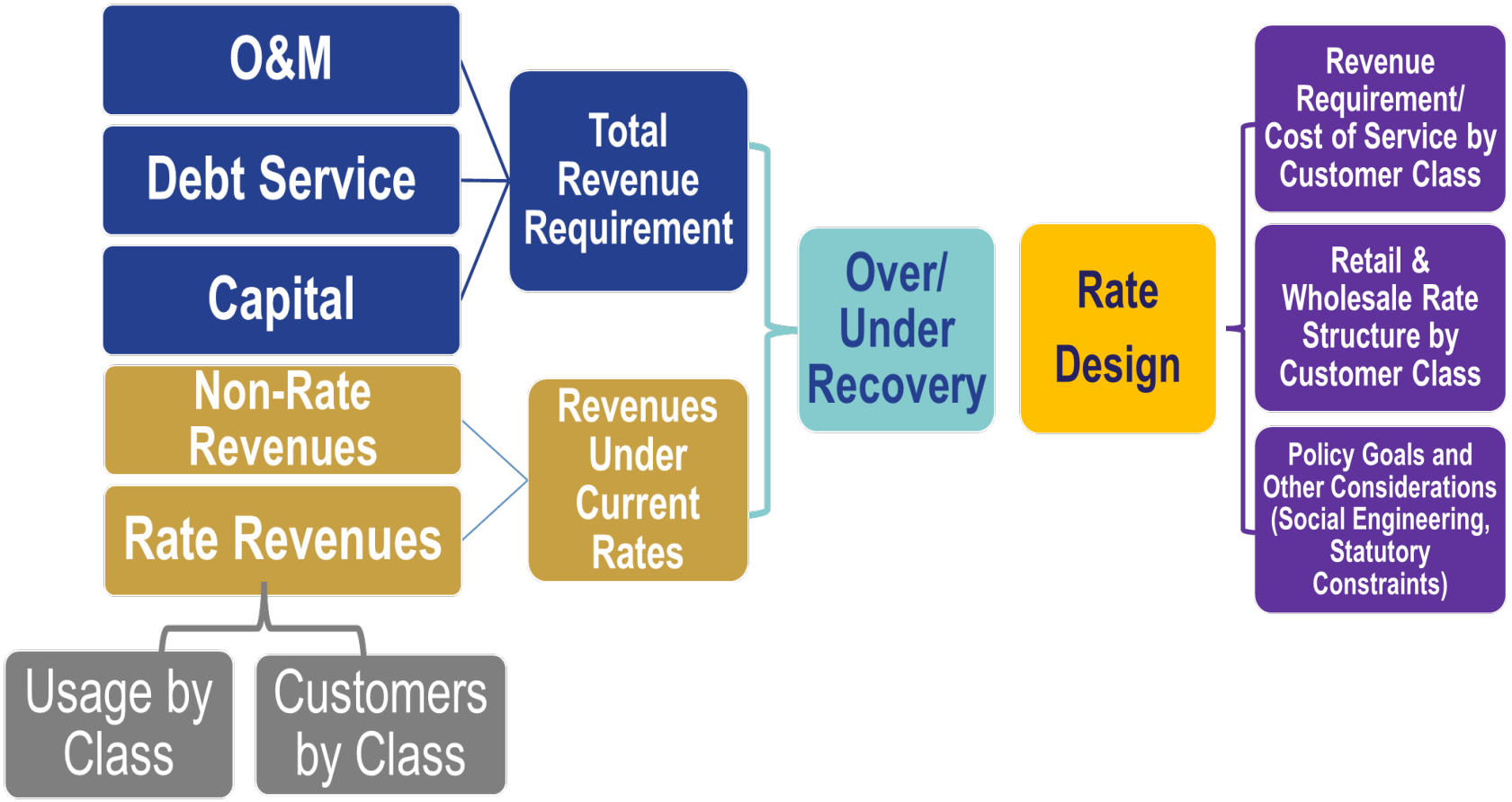
Key Events Since Last Electric Rate Study

- Ratings Agency Concerns
  - Standard & Poor's Feb 2023 Review
  - Decline in Fixed Charge Coverage Ratio (FCC) Due to:
    - Higher Purchased Power Costs
    - Winter Storm Uri Costs
    - High Transfers from SUA to the City's General Fund
    - Lack of Base Rate Increases from 2019 to 2022
  - May Result in a Downgraded Rating
  - Higher Interest Costs on Future Debt

Electric Cost of Service & Rate Study



Study Overview



Methodology

Test Year

- Test Year is Basis for Setting Rates
- Adjustments Meant to Capture Events Over Planning Horizon
  - Customer Make Up
  - Costs
  - Economic Conditions
  - Energy Usage
  - Markets

Revenue Requirement

Description	Proposed Budget FY 2024 ($000)	Adjustments ($000)	Revenue Requirement FY 2025 ($000)
Operating Expenses			
Cost of Power	$ 32,000	$ 725	$ 32,725
Natural Gas	4,950	(417)	4,533
Engineering & Admin	3,747	227	3,974
O&M	10,201	903	11,104
Other	1,531	41	1,573
TOTAL	$ 52,430	$ 1,480	$ 53,910
Other Revenue Requirements			
Transfer to General Fund	$ 16,257	$ 993	$ 17,250
Transfer to RSF	4,000	1,000	5,000
Transfer to Replenish RSF	-	-	-
TOTAL	$ 20,257	$ 1,993	$ 22,250
Total Expenditures	**$ 72,687**	**$ 3,473**	**$ 76,160**
Less Transfers and Other Revenue			
Other Non Rate Revenue	$ 713	$ 114	$ 827
GRDA Capacity & Energy	4,115	402	4,517
Sales Tax	9,700	-	9,700
TOTAL	$ 14,528	$ 516	$ 15,044
Net Revenue Requirement	***$ 58,159***	***$ 2,957***	***$ 61,116***

Description	Proposed Budget FY 2024 ($000)	Adjustments ($000)	Test Year Revenue Requirement FY 2025 ($000)
Net Revenue Requirement	**$ 58,159**	**$ 2,957**	**$ 61,116**
Projected Revenue From Sales			
Existing Base Rate Revenues	$ 48,000	$ (128)	$ 47,872
PCA Revenues	10,000	365	10,365
Other Revenue	-	-	-
TOTAL REVENUES FROM SALES	$ 58,000	$ 238	$ 58,238
Revenue Surplus or (Deficiency	**$ (159)**	**$ (2,719)**	**$ (2,878)**
			-4.9%

Revenues at Current Rates v. TY Revenue Requirement

Description	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Net Revenue Requirement	**$ 61,116**	**$ 61,999**	**$ 62,859**	**$ 63,725**	**$ 64,763**
Projected Revenue From Sales					
Existing Base Rate Revenues	$ 47,872	$ 48,515	$ 49,102	$ 49,660	$ 50,232
PCA Revenues	10,365	9,910	9,458	8,968	8,651
Other Revenue	-	-	-	-	-
TOTAL REVENUES FROM SALES	$ 58,238	$ 58,425	$ 58,560	$ 58,629	$ 58,883
Revenue Surplus or (Deficiency)	***$ (2,878)***	***$ (3,574)***	***$ (4,299)***	***$ (5,097)***	***$ (5,880)***
	-4.9%	*-6.1%*	*-7.3%*	*-8.7%*	*-10.0%*

Cumulative Loss of ($21,728)

Revenues at Current Rates v. TY Revenue Requirement

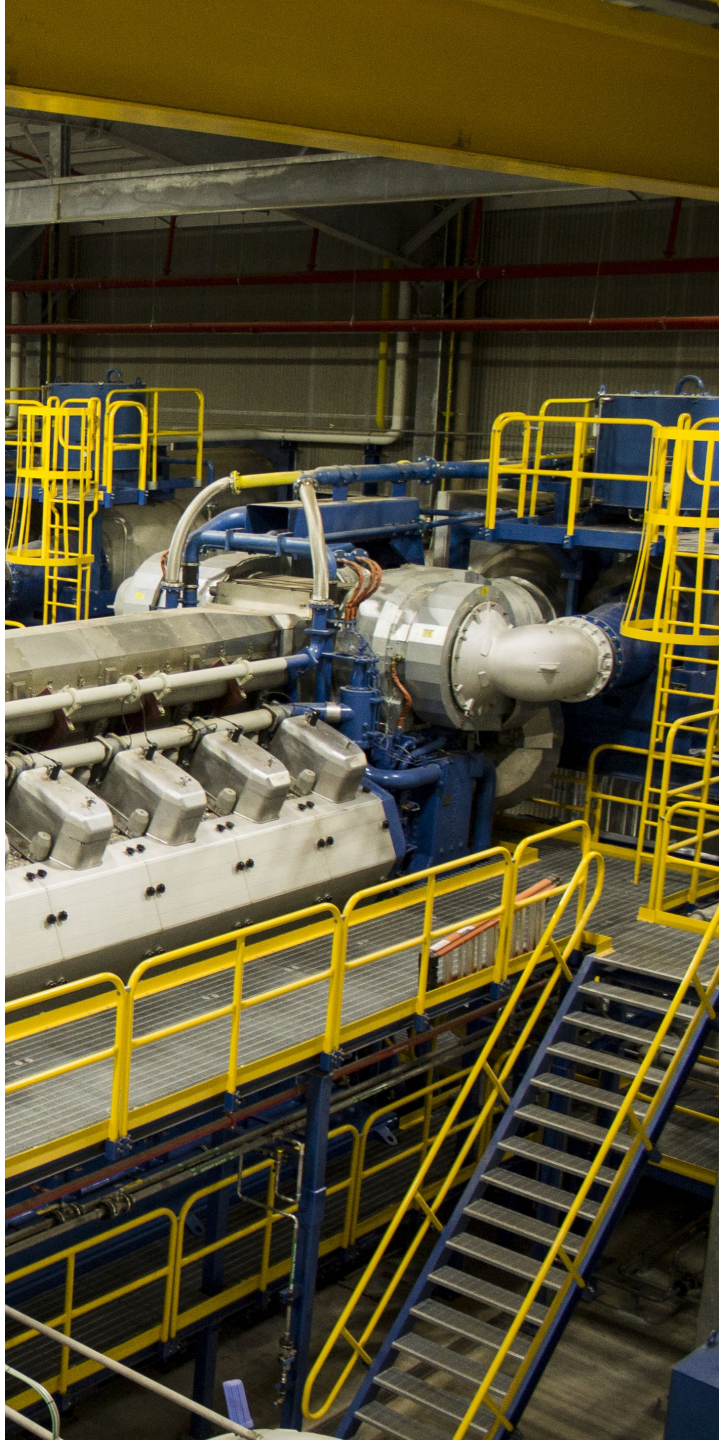
What is the Path Forward?

- Increase Fixed Charges to Align with Cost of Service (COS)
- Eliminate Declining Block Rate Billing Structures
- Eliminate Seasonal Demand Charge Differentials
- Align Commercial (General Service) Class with Peers & COS
- Implement New Rates January 1, 2024

Description	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Net Revenue Requirement	**$61,638**	**$62,161**	**$62,859**	**$63,725**	**$64,763**
Projected Revenue From Sales					
Existing Base Rate Revenues	$51,273	$52,251	$53,308	$54,493	$55,877
PCA Revenues	10,365	9,910	9,458	8,968	8,651
Other Revenue	-	-	93	264	236
TOTAL REVENUES FROM SALES	$61,638	$62,161	$62,859	$63,725	$64,763
Revenue Surplus or (Deficiency)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
	0.0%	*0.0%*	*0.0%*	*0.0%*	*0.0%*

Revenues at Future Rates v. TY Revenue Requirement

Rate Design



Can a Municipal Utility Charge its Customers Whatever it Wants?

- Rules for Public Utility Price Setting
  - Cost of Service (COS) Plus
  - A Reasonable Return

Bonbright, James C., Principles of Public Utility Rates. New York: Columbia University Press, 1961

> "Hence, to a substantial extent, sound ratemaking policy is a policy of reasonable compromise among partly conflicting objectives."
> – James C. Bonbright, Principles of Public Utility Rates, 1961

Bonbright's Principles of Public Utility Rates

1. Practical
2. Uncontroversial as to Interpretation
3. Effective in Meeting Revenue Requirements
4. Stable from a Revenue Perspective
5. Stable from a Rate Perspective
6. Fairness Among Customer Classes
7. Avoidance of Undue Discrimination
8. Efficient Economically
   - Discouraging Wasteful Use of Services
   - Promoting Optimal Offerings of Services

Revenue Requirements Low Rates Predictability	Equity & Fairness Behavior Modification Ability & Willingness to Pay
Competitiveness Environment Regulations	Simplicity Understandability Accuracy

Rate Design Trade Offs

Service Class	Production ($000) Fixed	Production ($000) Variable	Distribution ($000) Fixed	Customer ($000) Fixed	Total Cost of Service ($000)	
Residential	$11,446	$10,656	$ 5,235	$ 5,889	$33,227	54%
Commercial	1,548	2,806	708	704	5,765	9%
Power	7,239	7,487	2,509	239	17,474	29%
Industrial	1,049	1,483	392	3	2,928	5%
Un-Billed & Other	662	841	218	1	1,722	3%
TOTAL COS	$21,944	$23,273	$ 9,063	$ 6,837	$61,116	100%

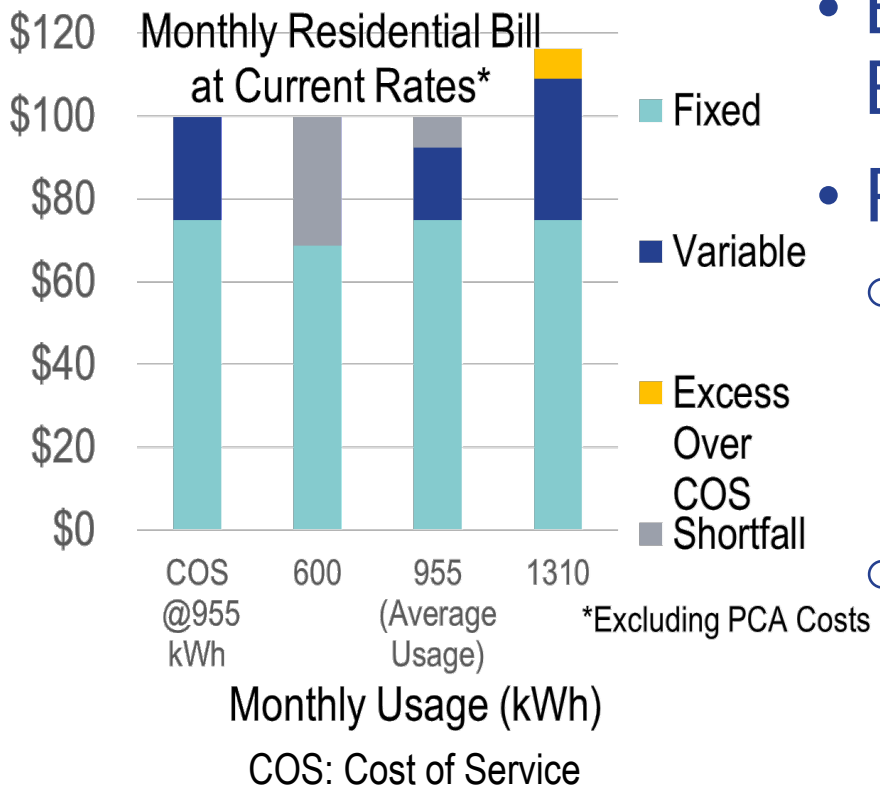
Test Year Cost of Service by Customer Class

Service Class	Test Year Revenues at Current Rates ($000)	Total Cost of Service ($000)	
Residential	$ 30,121	$ 33,227	-9%
Commercial	8,247	5,765	43%
Power	17,053	17,474	-2%
Industrial	2,812	2,928	-4%
Un-Billed & Other	-	1,722	-100%
TOTAL COS	$ 58,232	$ 61,116	-5%

Test Year Cost of Service v Revenues by Customer Class

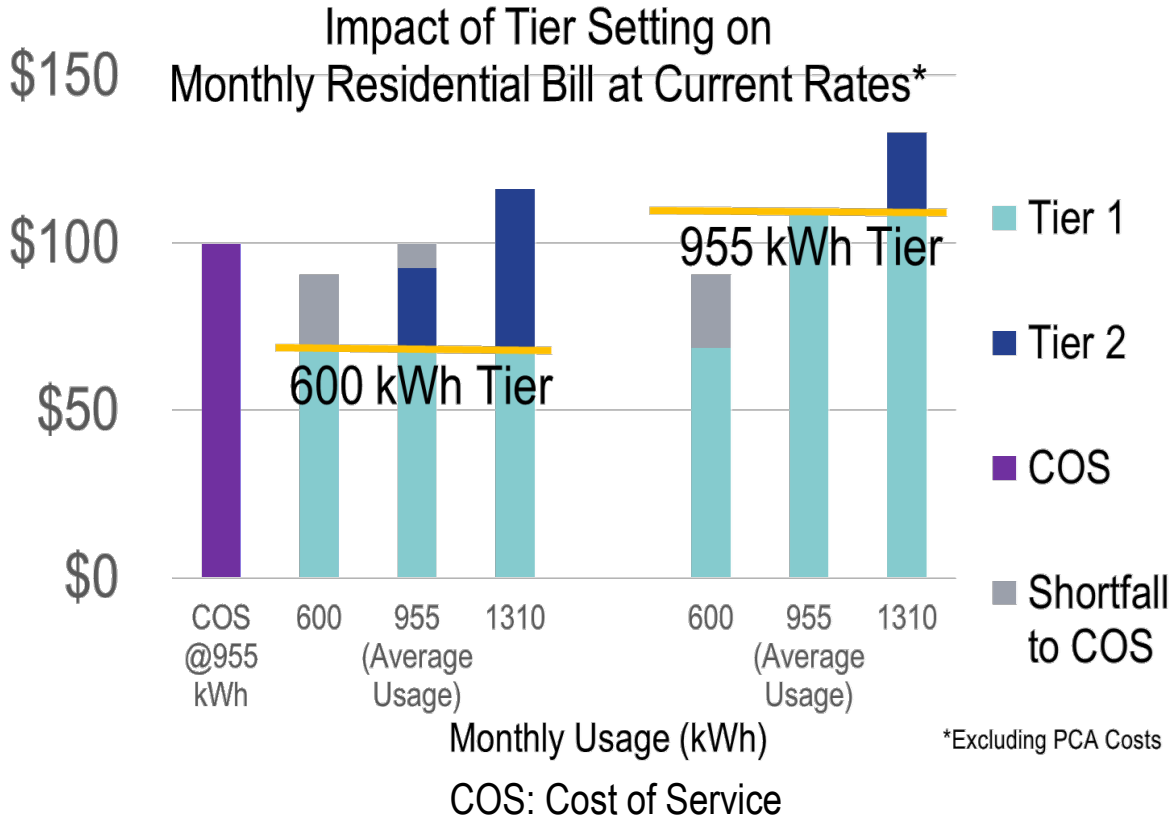
Rate Design Recommendations

- Increase Fixed Charges to Align with Cost of Service (COS)
- Eliminate Declining Block Rate Billing Structure
- Eliminate Seasonal Demand Charge Differential
- Align Commercial (General Service) Class with Peers & COS
- Implement New Rates January 1, 2024



Rate Design Recommendations

- Eliminate Declining Rate Billing Structures
- Residential Rates
  - Tier Level Too Low (600 kWh)
    - Average Usage is 955 kWh
    - 45% to 70% of Customers in Tier on Given Month (2022 Data)
  - Inconsistent with Sustainability Goals
    - Encourages Excess Use
    - Inclining Block aka "Conservation Rates" are Now Preferred
  - Rate is Below Cost
    - Subsidizes High Usage
  - Removal Reduces Level of Rate Increase Needed



Rate Design Recommendations

- Eliminate Residential Declining Rate Billing Structure
  - Tiers are Out of Synch With Load Characteristics
  - Currently Set Well Below Average Usage
- Eliminate General Service Declining Rate Billing Structure

Rate Design Recommendations

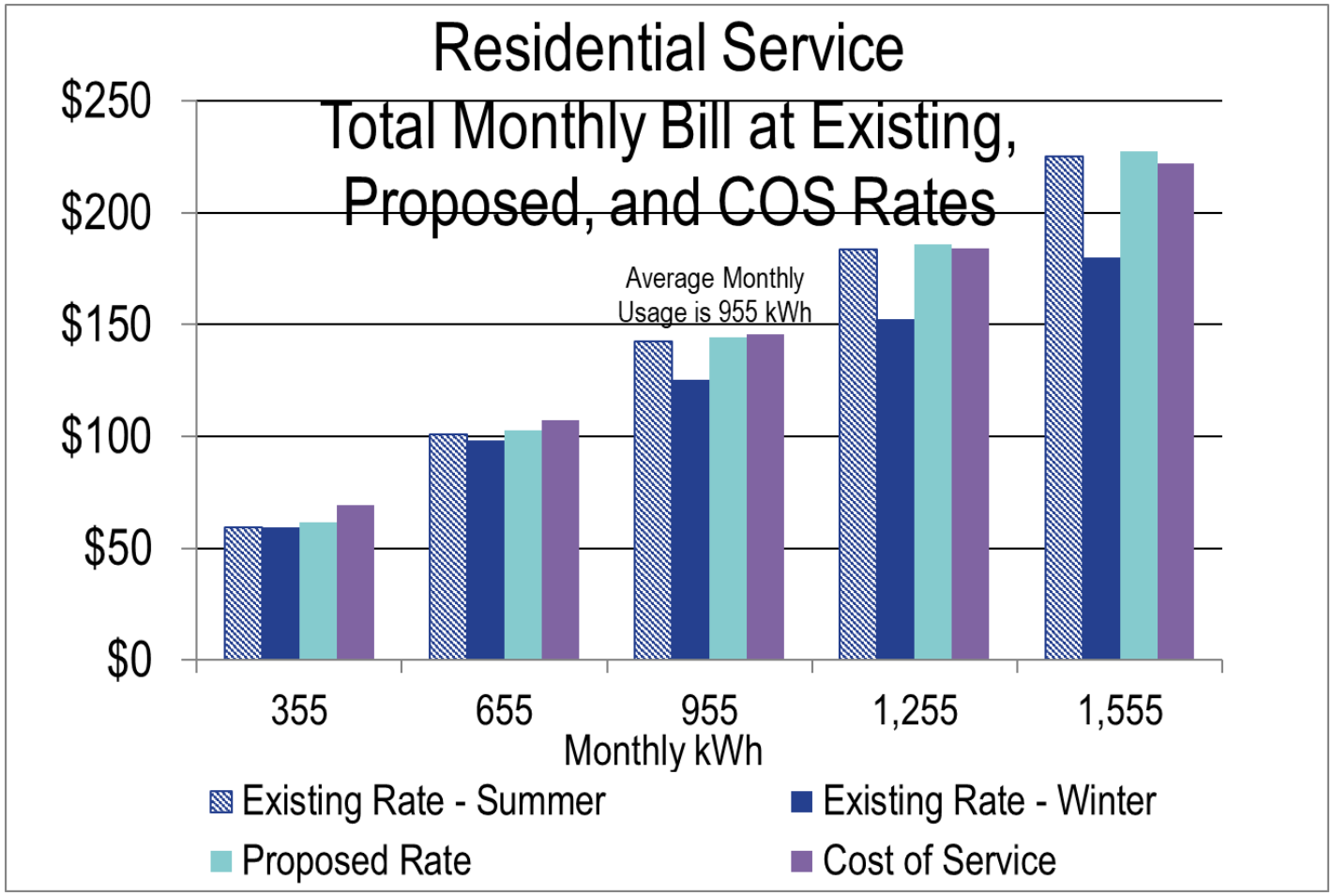
- Eliminate Seasonal Demand Differential
  - Not Based on Cost of Services (COS)
  - May be Impacting Competitiveness
  - Aligns with Goal of Increasing Fixed Cost Recovery
    - Lower Winter Rate is Well Below COS

Proposed Rates

Rate	Unit	Existing Rates	COS Rate	Change	Proposed Rates	Change
Residential Service						
Customer Charge	($/month)	$ 10.39	$ 24.00	$ 13.61	$ 12.28	$ 1.89
Summer (May 1 to September 30)	($/kWh)	0.11446	0.10390	(0.0106)	0.11463	0.00017
Winter (October 1 to April 30)						
0 to 600 kWh per Month	($/kWh)	0.11446	0.10390	(0.0106)	0.11463	0.00017
> 600 kWh per Month	($/kWh)	0.06693	0.10390	0.0370	0.11463	0.04770

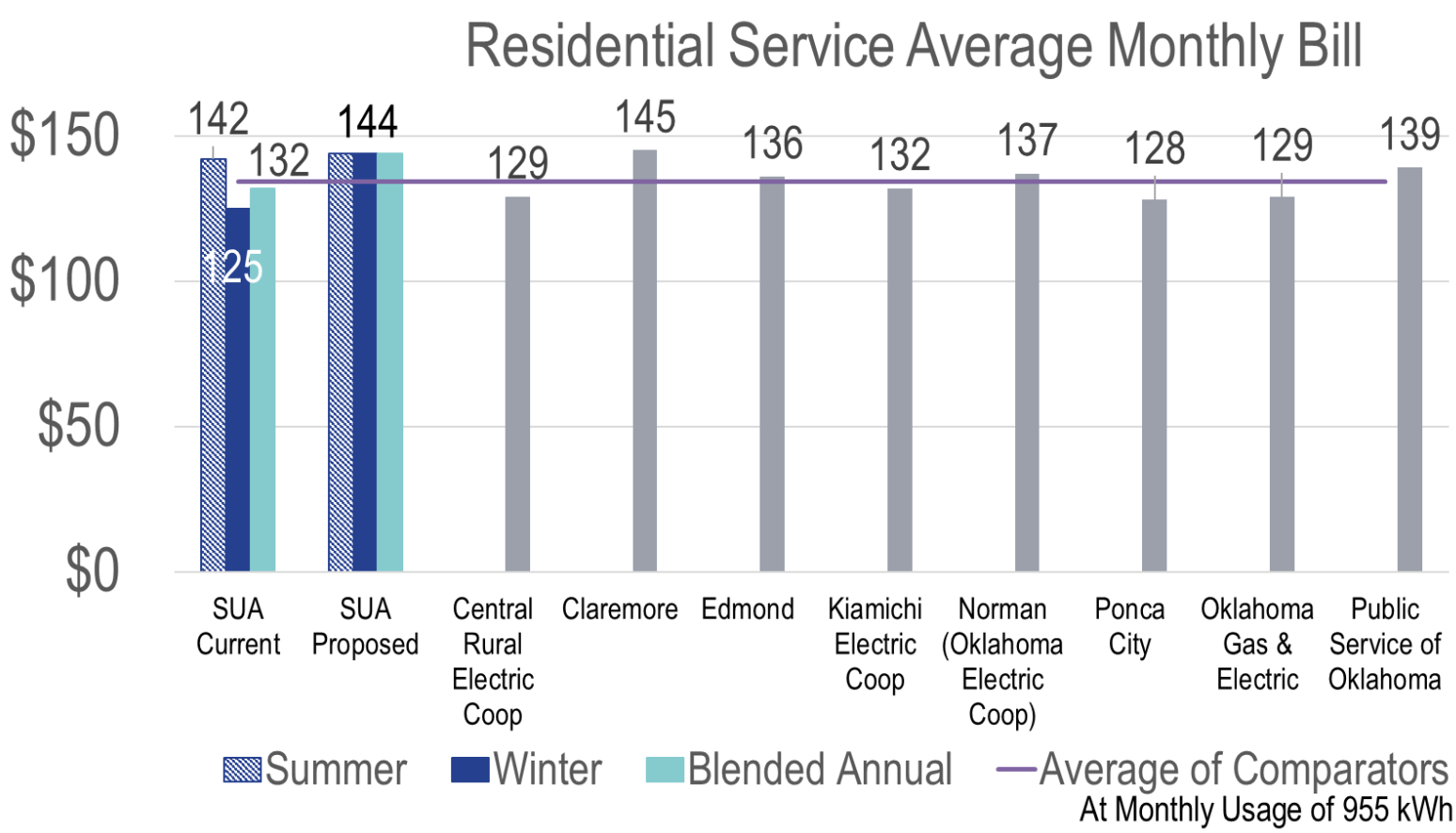
- Implement New Rates on January 1, 2024
- COS: Cost of Service

Results



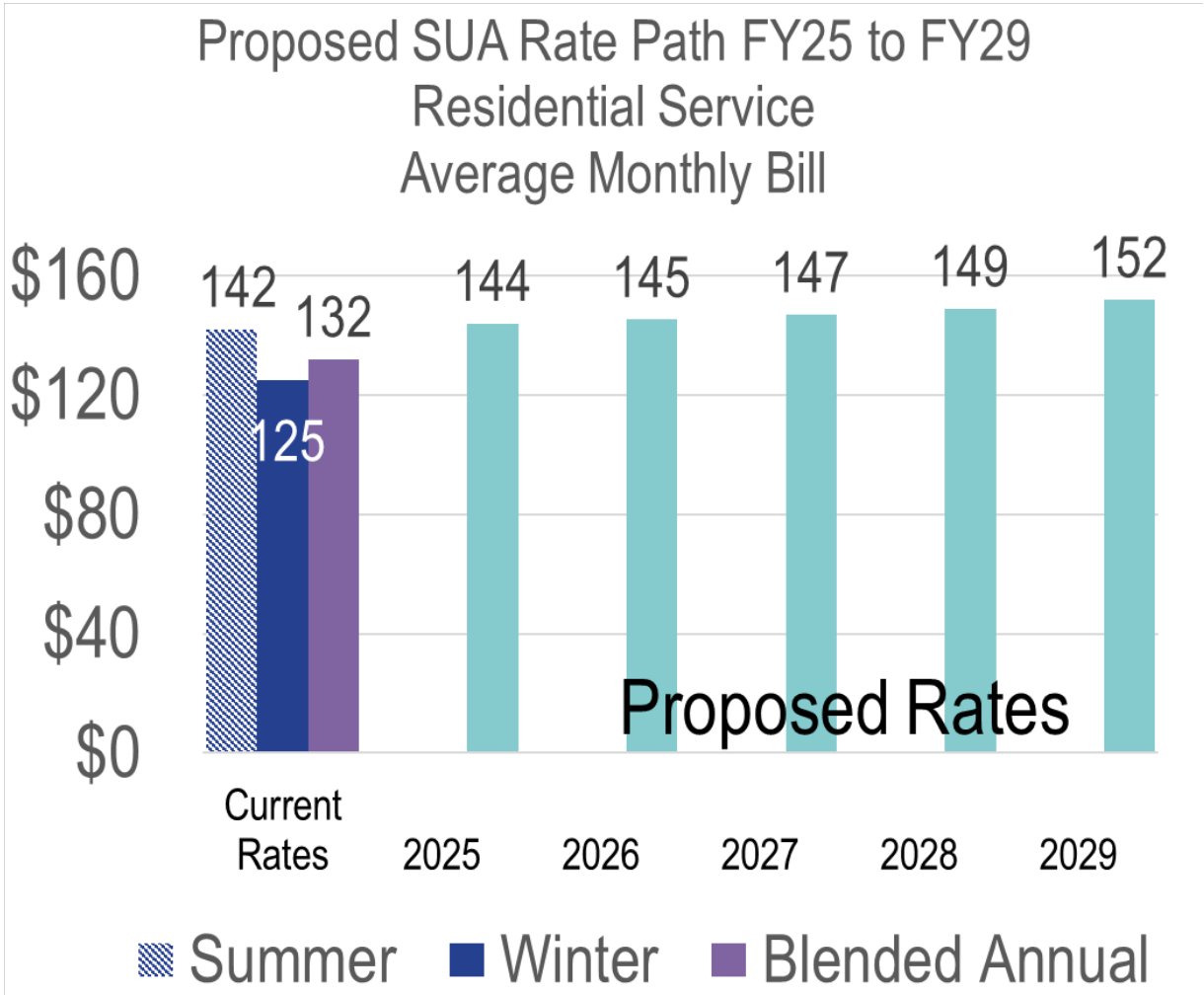
Results

- Implement New Rates on January 1, 2024
- COS: Cost of Service



- Based on Publicly Available Data
- Includes Production Cost Adjustments

Results



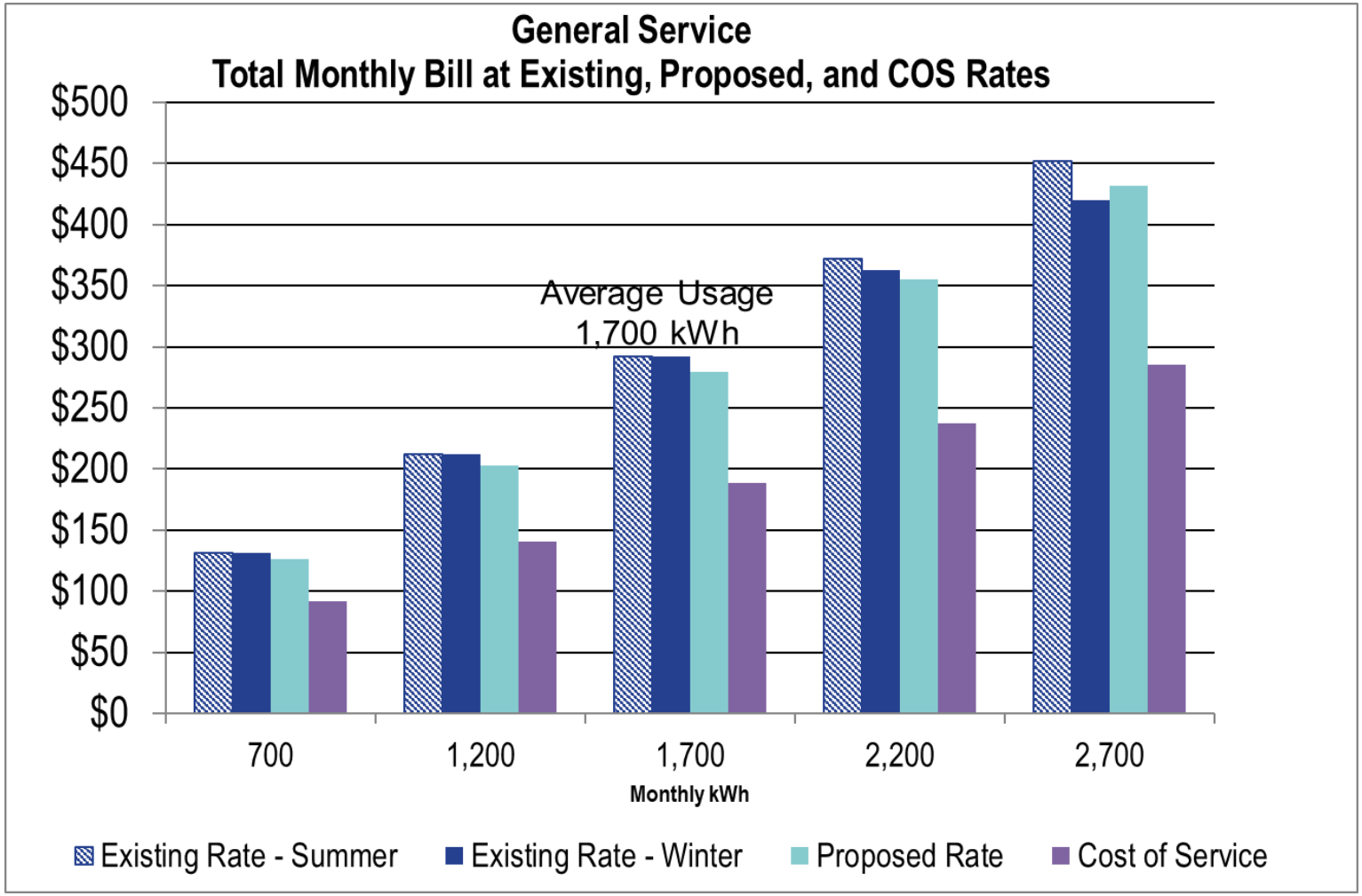
Results

— Implement New Rates on January 1, 2024

Rate	Unit	Existing Rates	COS Rate	Change	Proposed Rates	Change
Commerical						
Customer Charge	($/month)	$ 19.14	$ 24.00	$ 4.86	$ 19.33	$ 0.19
Summer (May 1 to September 30)	($/kWh)	0.13679	0.07333	(0.06346)	0.12910	(0.00769)
Winter (October 1 to April 30)						
0 to 2000 kWh per Month	($/kWh)	0.13679	0.07333	(0.06346)	0.12910	(0.00769)
> 2000 kWh per Month	($/kWh)	0.09037	0.07333	(0.01704)	0.12910	0.03873

- Implement New Rates on January 1, 2024
- COS: Cost of Service

Results



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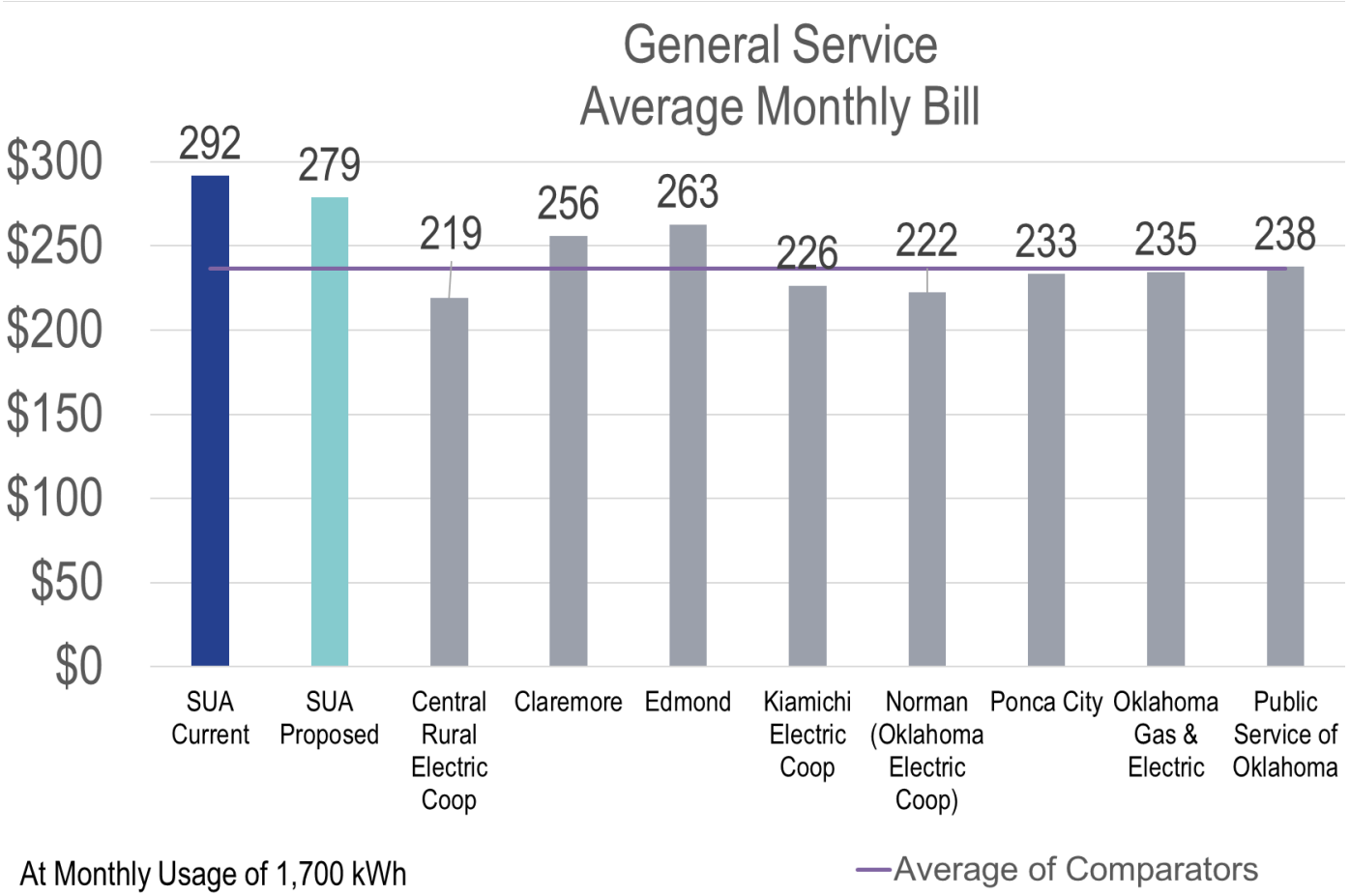

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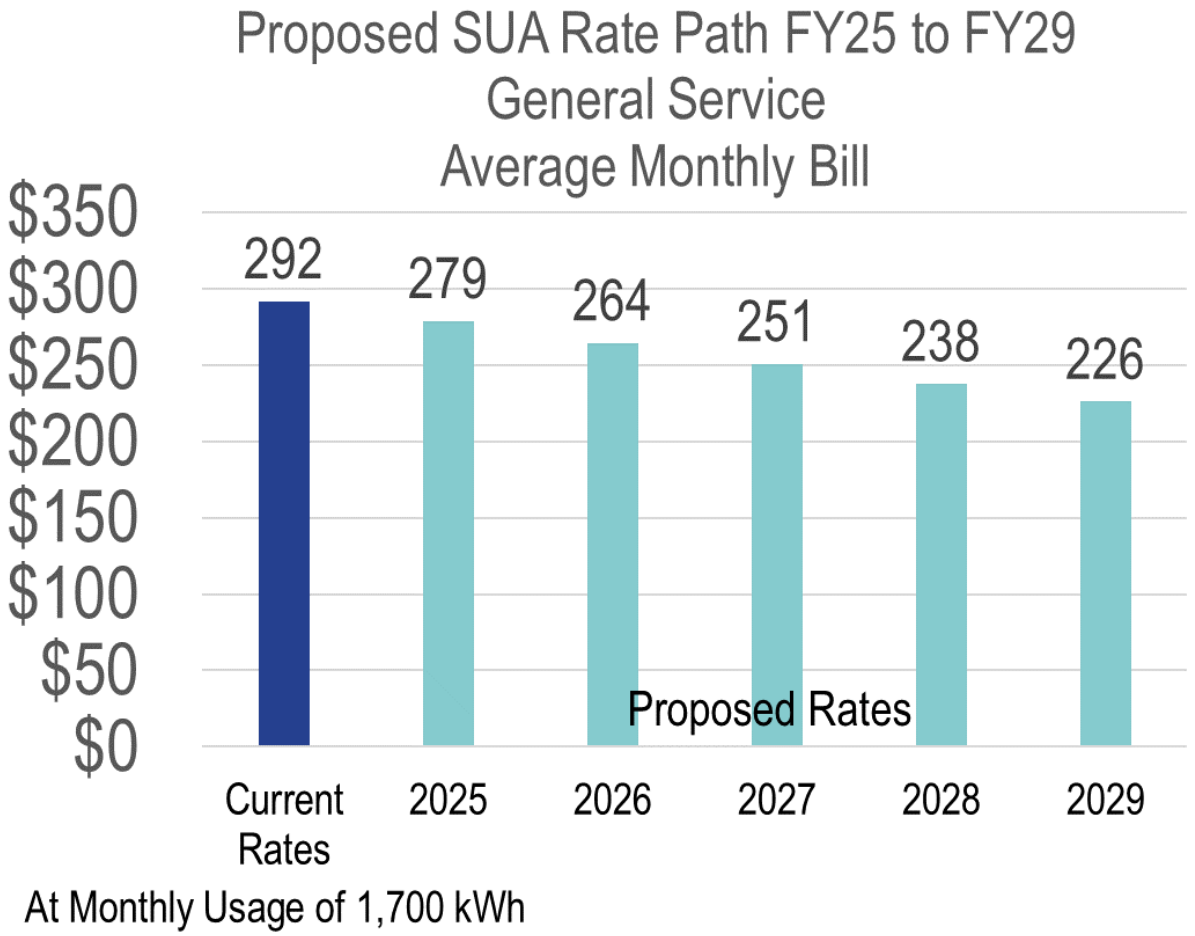


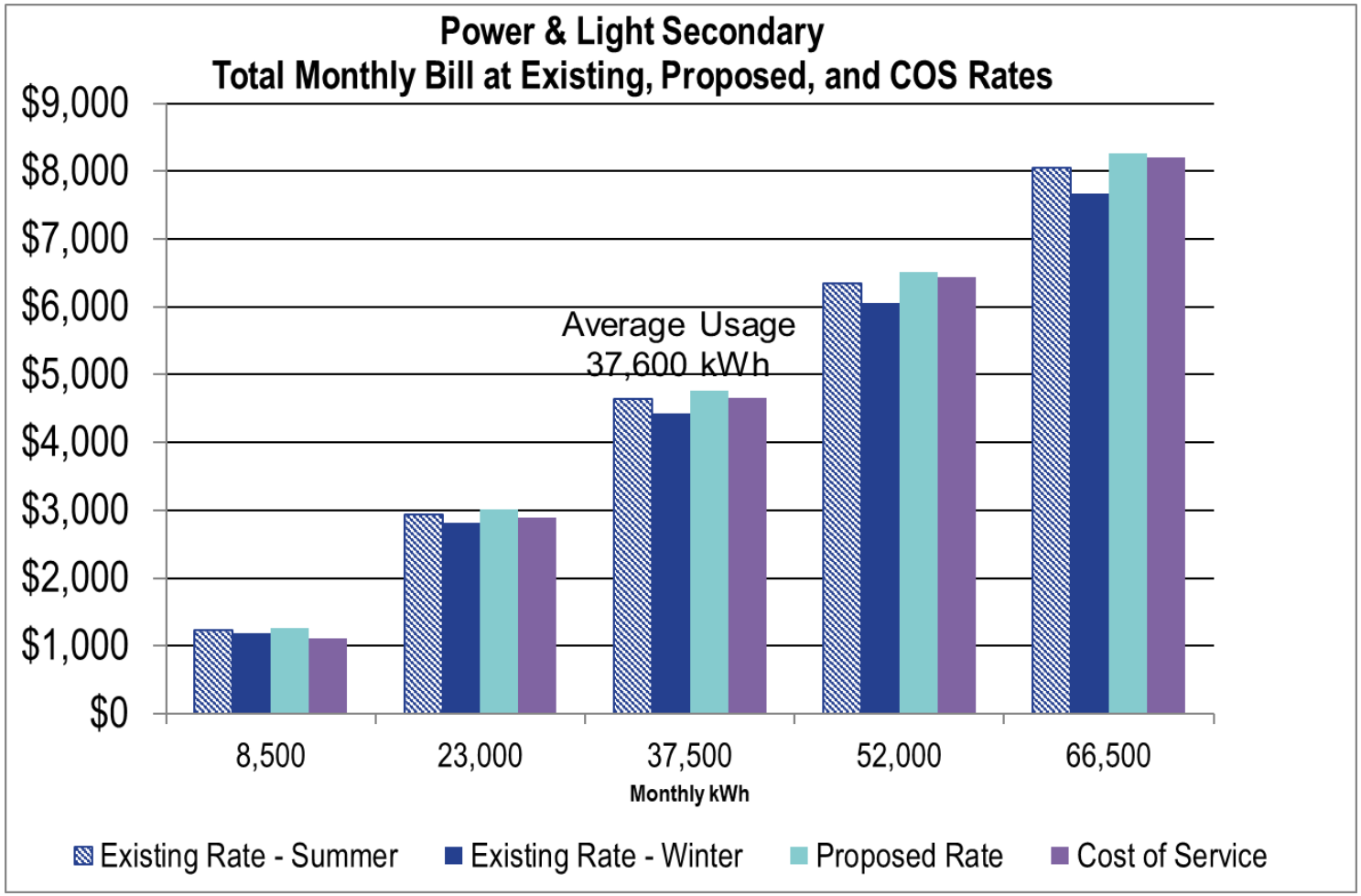
Results

— Implement New Rates on January 1, 2024

Rate	Unit	Existing Rates	COS Rate	Change	Proposed Rates	Change
Power and Light Secondary						
Customer Charge	($/month)	$240.70	$ 72.00	$(168.70)	$243.11	$ 2.41
Energy	($/kWh)	0.05866	0.02855	(0.03011)	0.05573	(0.00293)
Summer Demand	($/kW Mo	$ 12.06	$ 24.16	$ 12.10	$ 14.20	$ 2.14
Winter Demand	($/kW Mo	$ 10.11	$ 24.16	$ 14.05	$ 14.20	$ 4.09

- Implement New Rates on January 1, 2024
- COS: Cost of Service

Results



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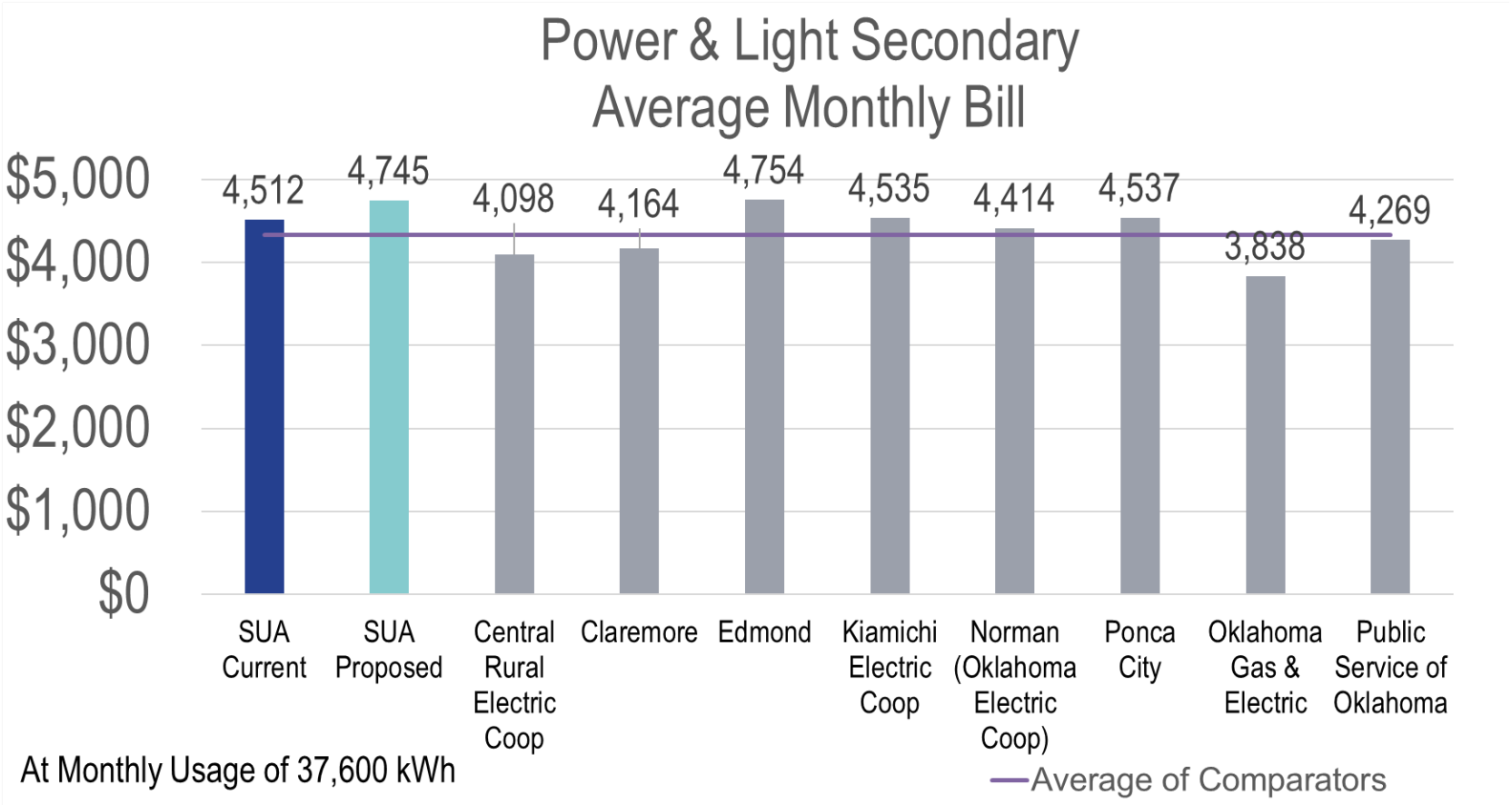

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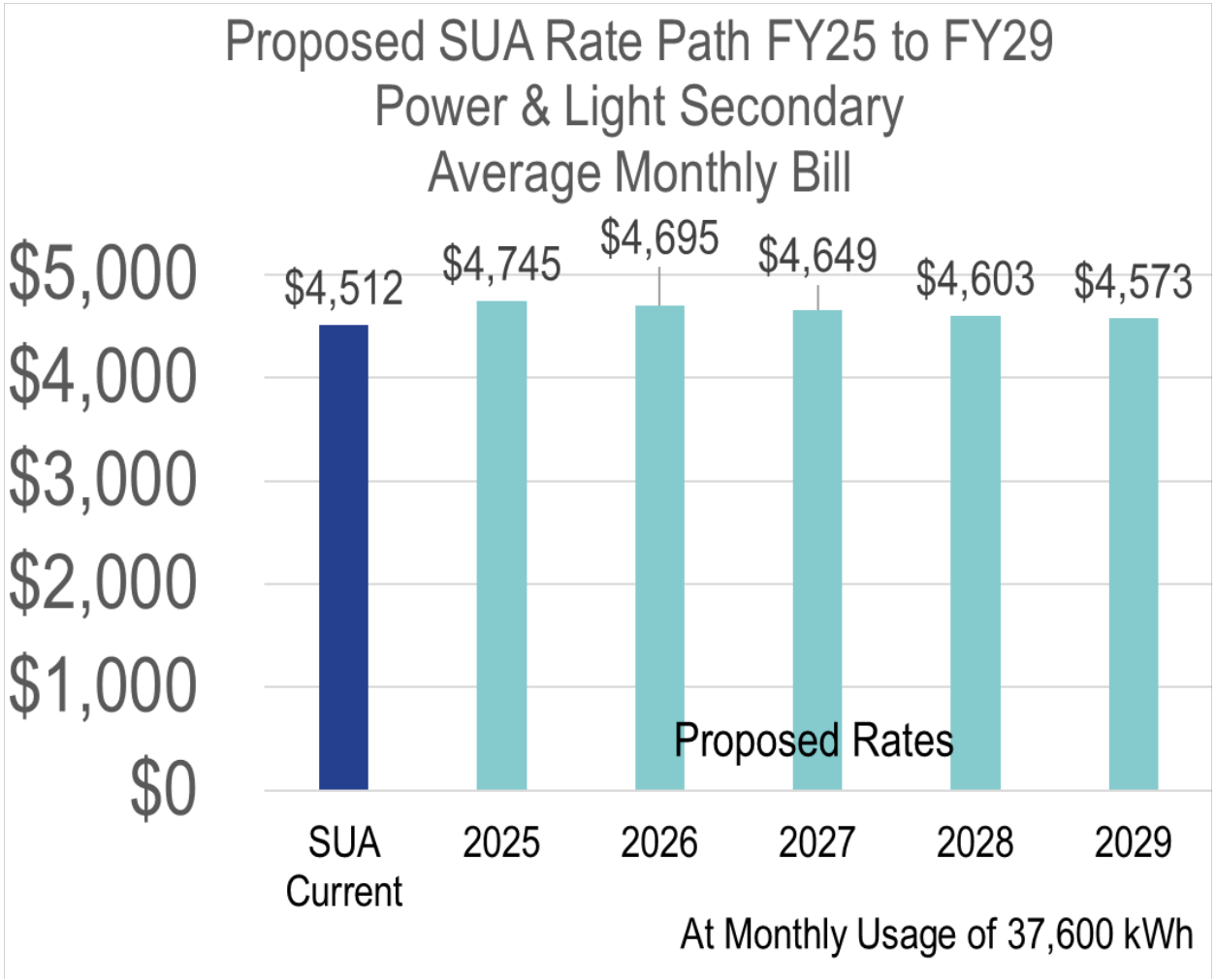

Results

— Implement New Rates on January 1, 2024

Recommendations

Action is Needed

- Costs Have Increased Dramatically
  - $3 M for Test Year Revenue Requirement
  - Average $0.78 M Per Year FY 26-29
- Current Rate Revenues Are Not Sufficient
  - Fund Draws Have Been Used to Meet Operational Needs
  - 5-Year Deficit of $22 M Forecast
- Rating Agency's Have Voiced Concerns

Rate Design Recommendations

- Increase Fixed Charges to Align with Cost of Service (COS)
- Eliminate Declining Block Rate Billing Structure
- Eliminate Seasonal Demand Differential
- Align Commercial (General Service) Class with Peers & COS
- Implement New Rates January 1, 2024

Questions