HPU HIBBING PUBLIC UTILITIES

Commission Meeting

NOVEMBER 12TH, 2024

HPU HIBBING PUBLIC UTILITIES
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Commission Meeting Agenda

November 12th, 2024

Chair J. Hart	__	Commissioner J. Bayliss	__
Commissioner J. Stokes	__	Commissioner J. Babich	__
Commissioner J. Sandstede	__	Legal Counsel A. Borland	__
General Manager L. Peterson	__	Auditors Abdo, LLP	__
Utility Operations S. Dickinson	__	Energy & Pricing P. Plombon	__
Customer Ser. & Finance J. Zallar	__	Admin & Comm E. Dixon	__
Electrical Operations S. Adams	__	Local 94 President Rich Kampsula	__

1. Presentation of HPU Rate Study

2. TG#3 Update

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Hibbing Public Utilities

Commission Workshop

Electric, Gas, Steam, and Water Cost of Service & Rate Design Studies

November 12, 2024

Agenda

1. Business and utility finance
2. The process for a rate study
3. Discussion on individual rate studies
    - Electric
    - Gas
    - Steam
    - Water

Business and Utility Finance

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Private Sector Business Finance

1. Business fundamentals center on liquidity ratios, debt ratios, and cash flows
2. Liquidity ratios –
   - Current ratio – ratio of current asset to current liabilities
   - Quick ratio – cash available for current liabilities
   - Days cash on hand
3. Debt ratios –
   - Capitalization – debt to total assets
4. Operating ratios –
   - Revenues per employee
   - Customer service ratios
   - Operating expense ratios

Public Sector Utility Finance

1. Follow public sector business finance

2. The utilities are “enterprise funds” of the City – they operate under private sector business fundamentals

Key Utility Financial Metrics

	Current Year	Prior Year
Actual Rate of Return	3.40%	6.05%
Authorized Rate of Return	0.00%	0.00%

Unrestricted Reserves

	2023	YTD August
Year end balance	$ 37,382,395	$ 37,073,898
Months on hand	14.79	14.16

Debt Coverage

	2023	YTD August
Actual	1.88	1.39
Required	1.25	1.25

Investment in Capital

Utility finance foundations

1. Utility customers should pay for their current cost of using utility services

2. Overall objective – Each utility should stand on its own financially

3. One utility's ratepayers should not subsidize another utility's operations and ratepayers

Ratemaking objectives

1. Revenue sufficiency
   - Rates should generate revenues to cover the cost of service for each utility and a return on investment.
2. Fairness
   - Rates should be fair and equitable, i.e. one rate class should not subsidize another rate class. One utility's ratepayers should not subsidize another utility's ratepayers.
3. Efficiency
   - Rates should encourage conservation where appropriate.

Ratemaking objectives

4. Simplicity
   - Rates should be understandable to customers and not difficult to implement.
5. Stability
   - Rates should provide revenue stability for the utility and rate stability for customers, avoiding frequent or sudden drastic changes.
6. Public Acceptability
   - Rates should be acceptable to policymakers and the public, balancing economic realities and social objectives.

Rate Study Process

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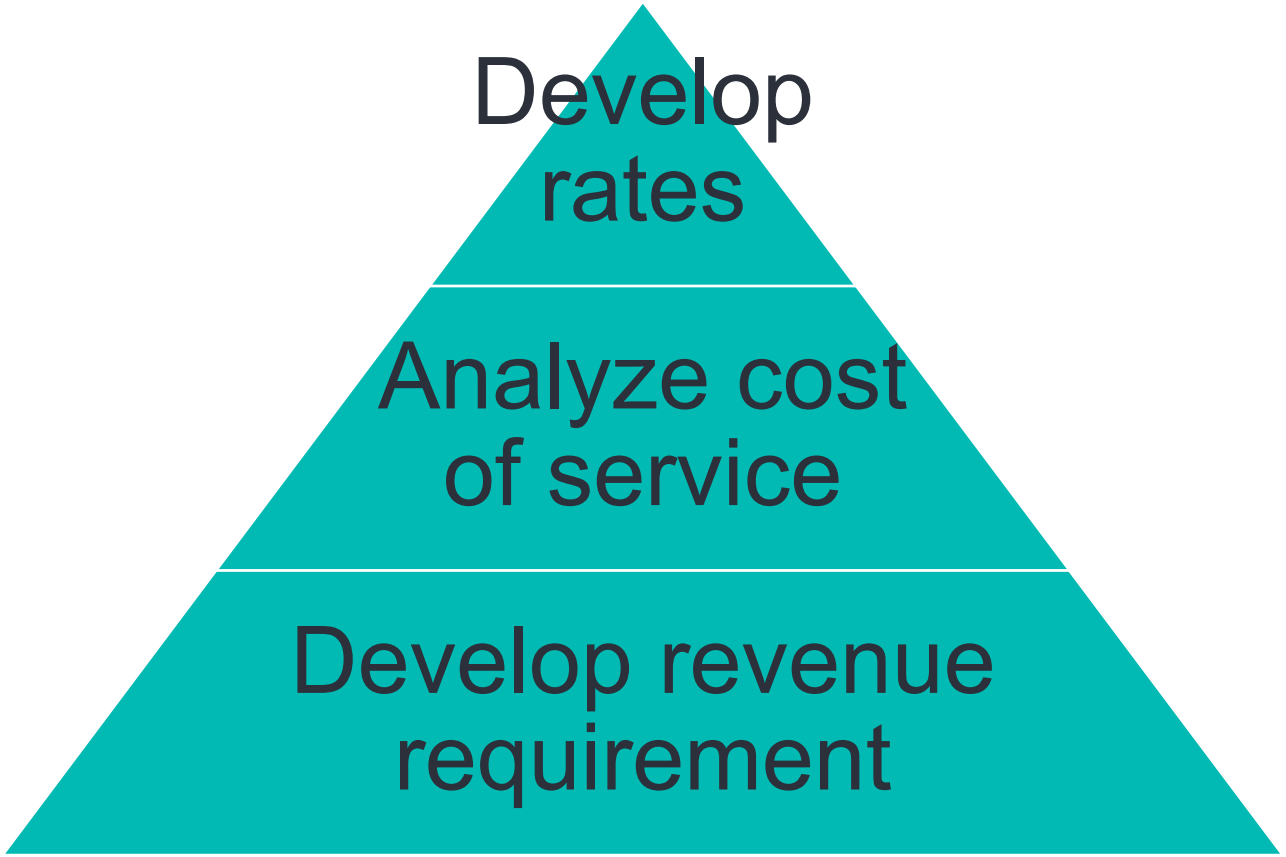
Rate study process



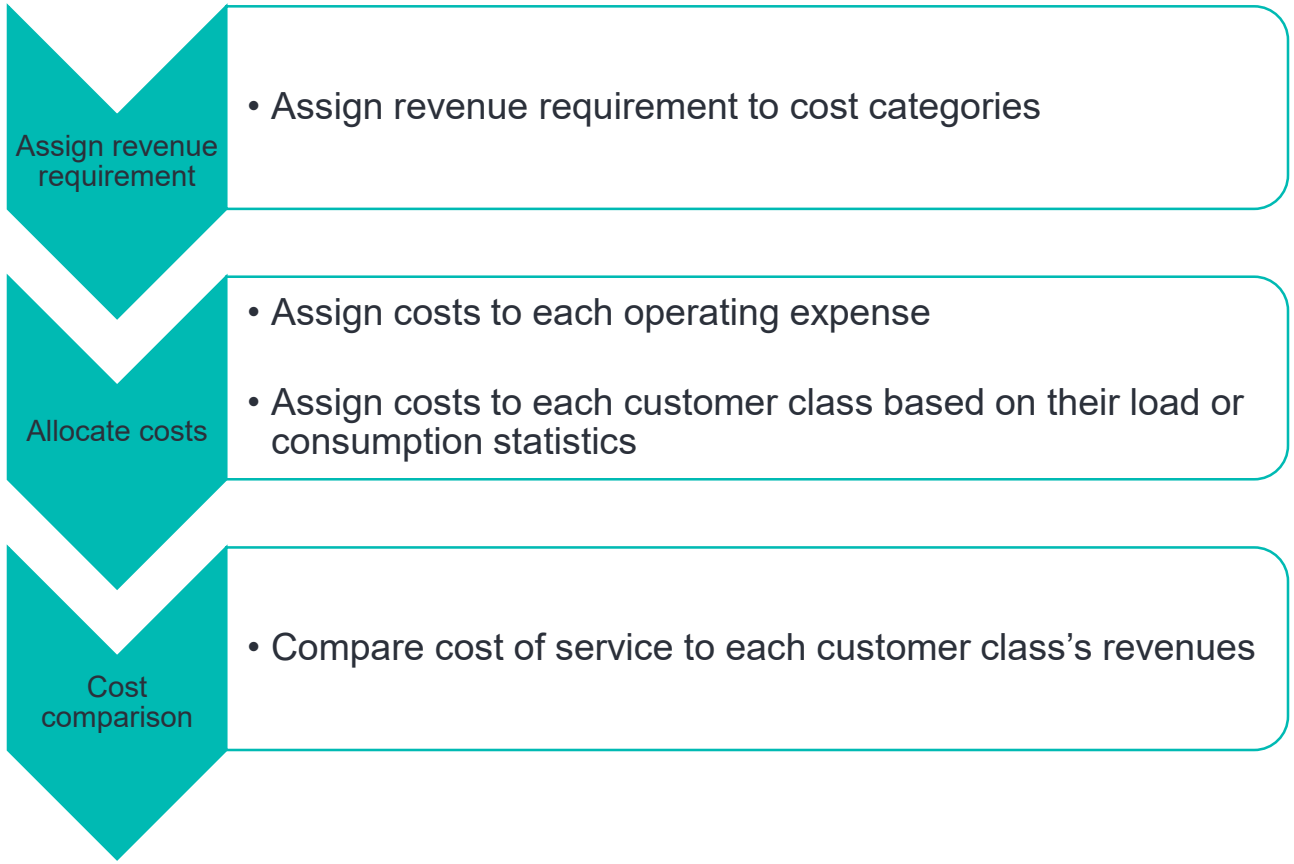
Bottom-up approach

Revenue requirement methods

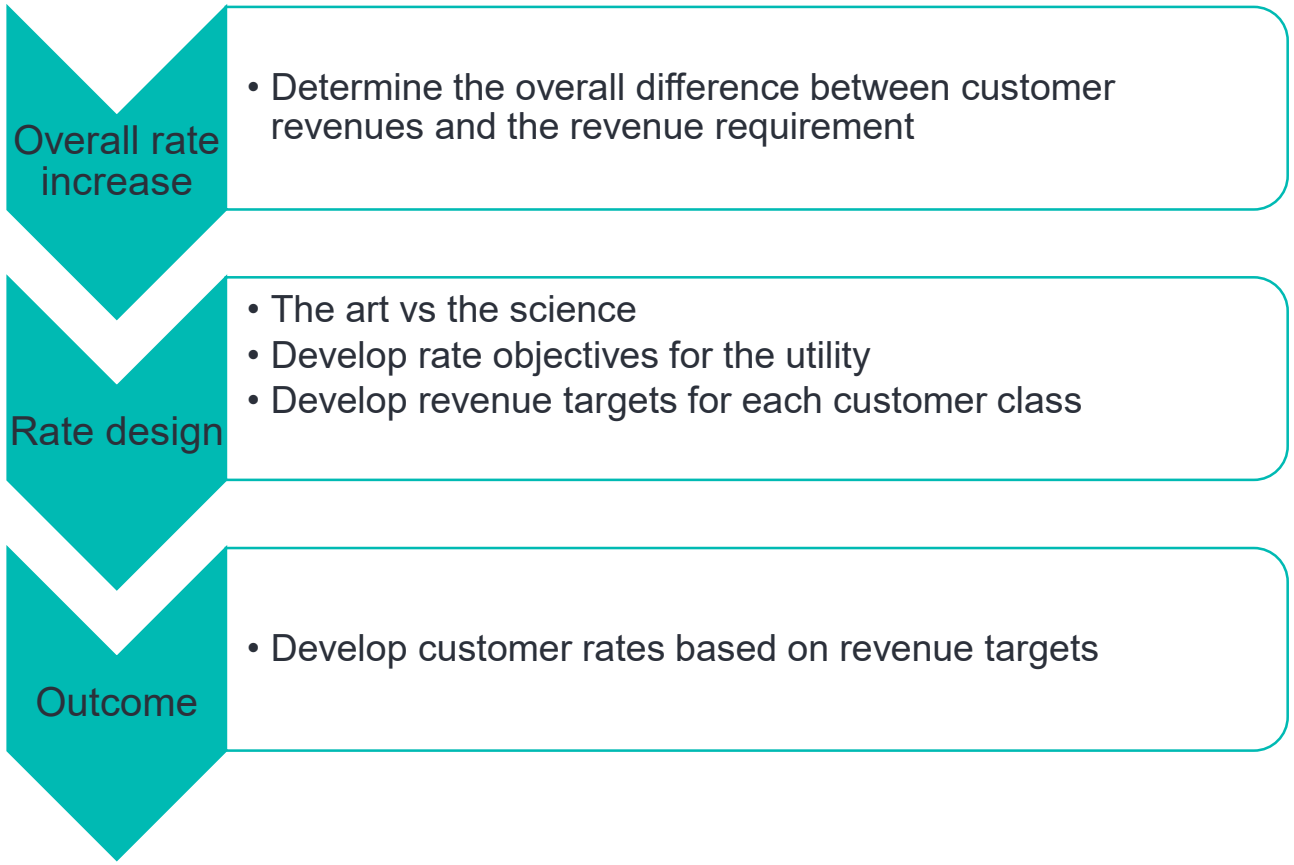
1. Utility basis
   - Includes operation and maintenance expenses, depreciation, and return on ratebase
   - This is the utility industry standard

2. Cash basis
   - Includes operation and maintenance expenses, routine capital improvements, and debt service

Cost of service study



Rate design


Overall rate increase
• Determine the overall difference between customer revenues and the revenue requirement
Rate design
• The art vs the science
• Develop rate objectives for the utility
• Develop revenue targets for each customer class
Outcome
• Develop customer rates based on revenue targets

Cost allocations

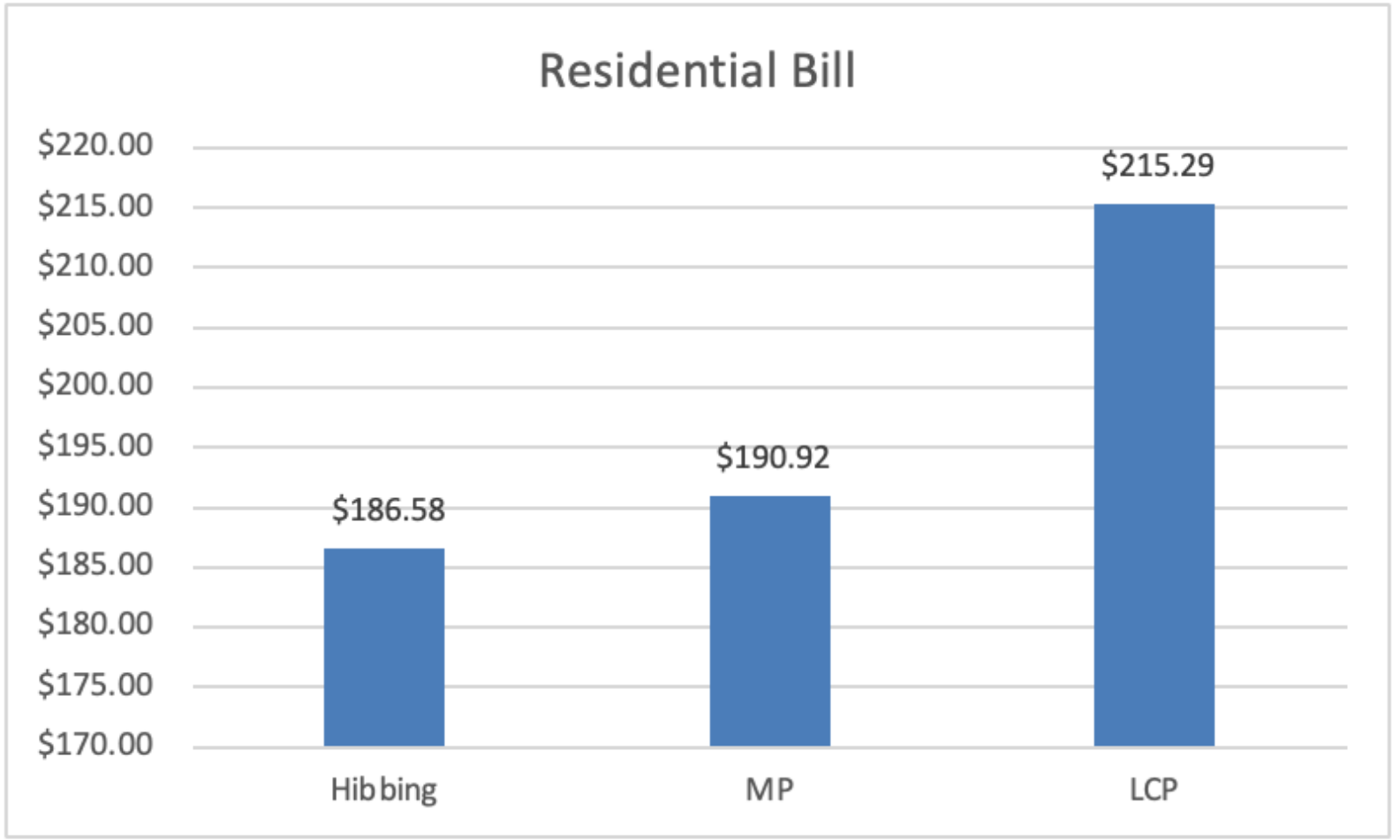
1. Administrative and general expenses are allocated to each utility using a “3-Factor” formula
2. Costs are allocated based on headcount, expenses, and plant in service
3. Overhead cost allocations:
   - Electric – 68%
   - Gas – 12%
   - Steam – 6%
   - Water – 14%

Electric Utility

Financial summary – Electric Utility

	Actual 2023	Forecasted 2024	Forecasted 2025
Total Operating Revenues	$ 16,800,751	$ 16,970,410	$ 18,786,649
Total Operating Expenses	$ 20,537,741	$ 20,443,628	$ 21,487,116
Operating Income	$ (3,736,990)	$ (3,473,218)	$ (2,700,467)
Net Investment Ratebase	$ 40,854,703	$ 49,987,052	$ 61,601,684
Rate of Return	-9.15%	-6.95%	-4.38%

Electric – Average residential monthly bill



Electric – Considerations

1. A 5-year phased-in approach will smooth implementation of new rates

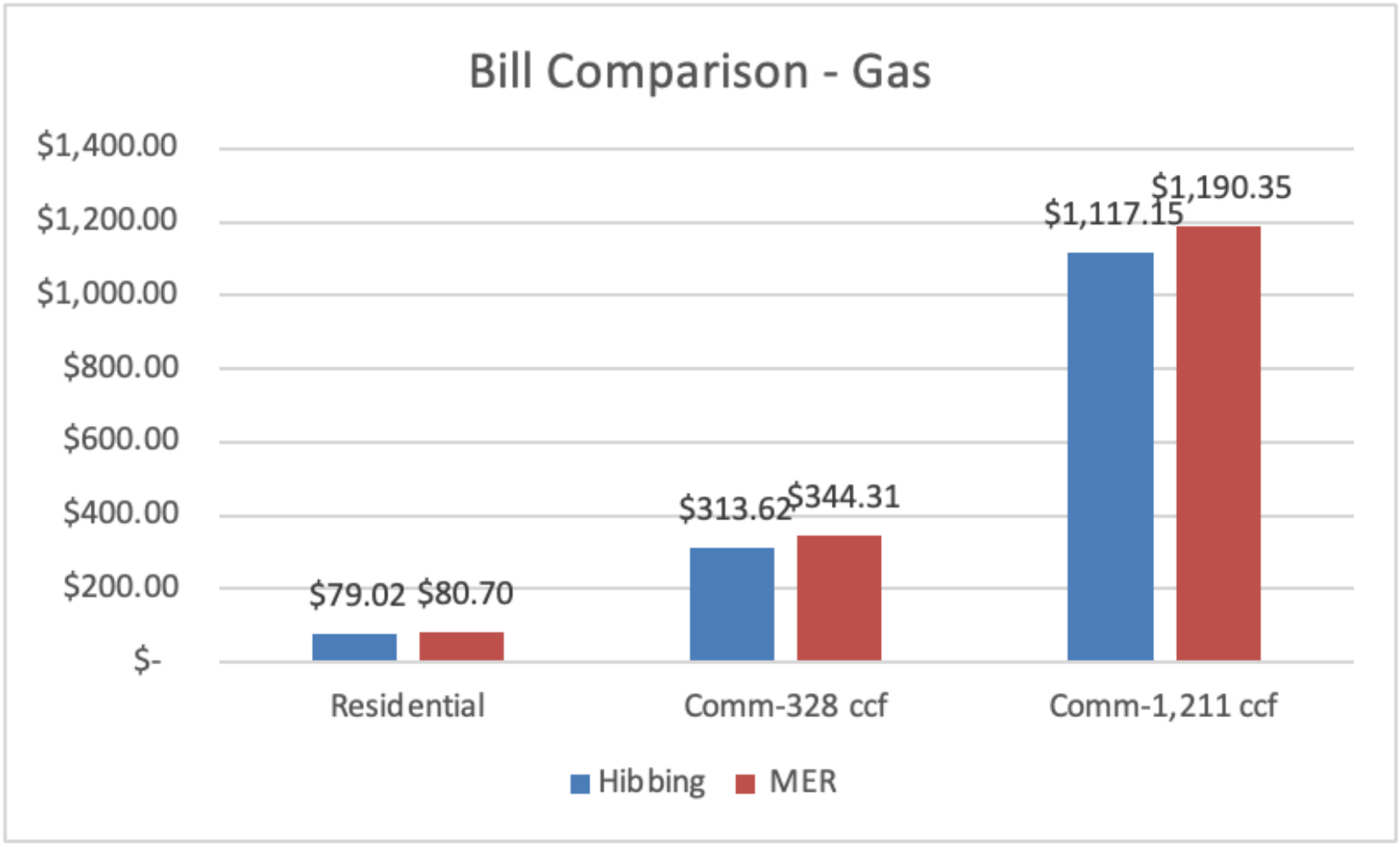
2. Considerations should be made for lower/fixed income customers
   - Monthly annual customer usage is approximately 660 kWh
   - Median monthly customer usage is 510 kWh
   - HPU currently has approximately 2,200 residential customers that use less than 660 kWh per month
   - Minnesota Power has a lower-usage/income credit of 40% for customers that use less than 1,000 kWh per month and apply for the rate
   - Xcel provides a $15/month discount for customers over age 62 (or disabled customers) who also receive LIHEAP assistance – must reapply each year before October 1

Gas Utility

Financial summary – Gas Utility

	Forecasted	
	2024	2025
Total Operating Revenues	$ 8,556,924	$ 7,629,731
Total Operating Expenses	3,749,903	5,571,821
Operating Income	$ 4,807,021	$ 2,057,910
Net Investment Ratebase	$ 4,566,288	$ 4,269,817
Rate of Return on Ratebase	105.27%	48.20%

Gas – Average monthly bill comparison



Gas – Considerations

1. Gas rates currently include a purchased gas adjustment (PGA) adder of $0.12 per CCF
2. Eliminating the PGA will provide the gas utility with strong cash flows and a rate of return of 48%
3. We recommend adopting a floating PGA, calculated each month based on the market price of gas vs. the base cost of gas included in customer rates

Steam Utility

Financial summary – Steam Utility

	Forecasted	
	2024	2025
Total Operating Revenues	$ 2,537,098	$ 2,667,295
Total Operating Expenses	3,624,242	3,693,281
Operating Income	$ (1,087,144)	$ (1,025,987)
Net Investment Ratebase	$ 1,878,359	$ 1,018,228
Rate of Return on Ratebase	-57.88%	-100.76%

Steam – Considerations

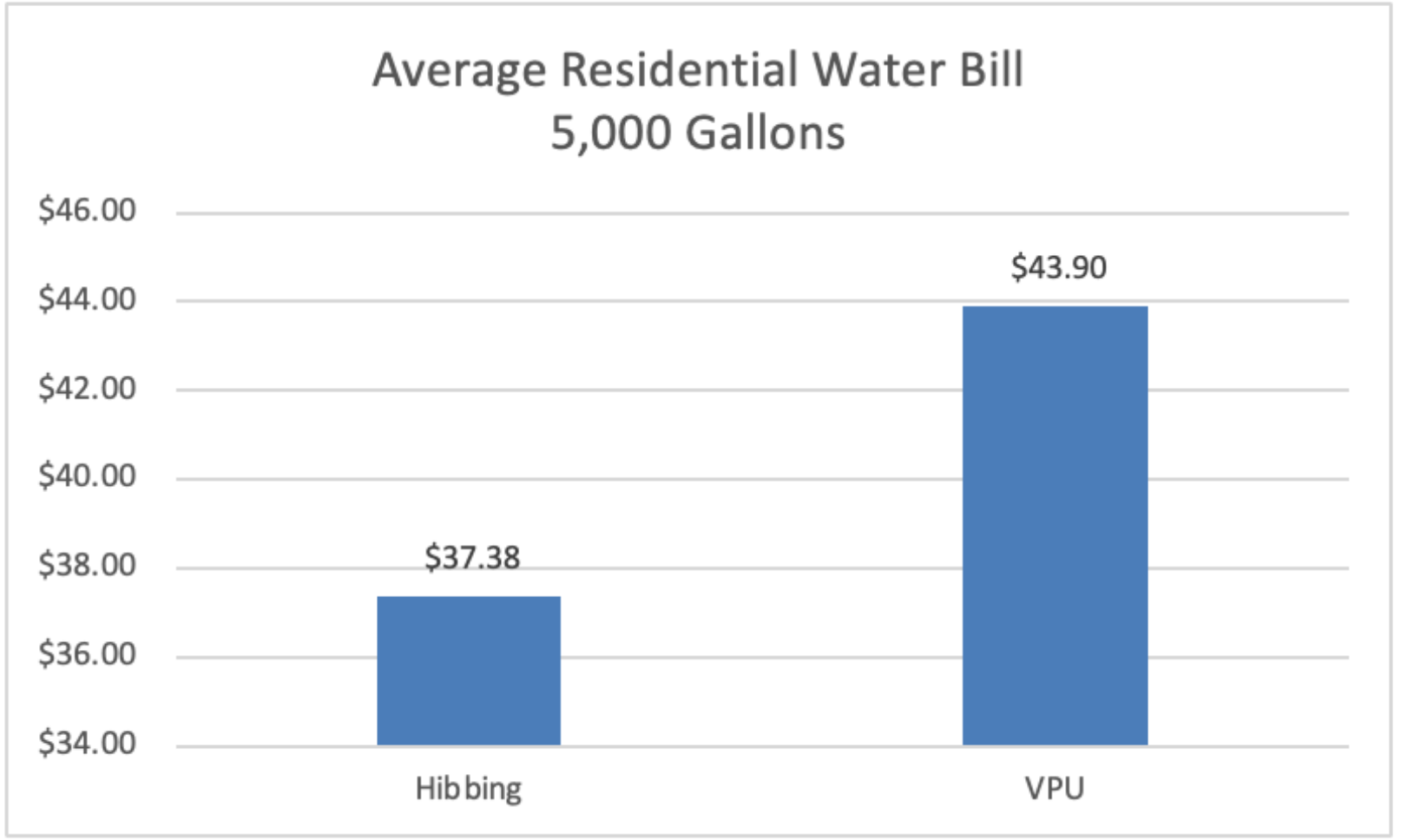
1. Steam is a by-product of electric generation and complements the electric utility's financial condition
2. Steam financial results can be more cash flow focused
3. Steam rates should provide cash flow for operations and capital additions on a pay as you go basis
4. A rate increase of 10% - 15% (varied among the customer classes) will bring the steam utility cash flow to break even

Water Utility

Financial summary – Water Utility

	2023	2024	2025 - Present Rates
Total Operating Revenues	$ 2,996,720	$ 2,950,624	$ 2,926,933
Total Operating Expenses	$ 2,609,423	$ 2,492,021	$ 2,748,921
Operating Income	$ 387,296	$ 458,603	$ 178,012
Net Investment Ratebase	$ 18,680,658	$ 22,544,787	$ 34,852,916
Rate of Return on Ratebase	2.07%	2.03%	0.51%

Water – Average residential monthly bill



Water – Considerations

1. A 5-year phased-in approach will smooth implementation of new rates

2. Considerations should be made for lower/fixed income customers
   - Some utility programs offer discounts on 5/8” meter charge (up to 50% per month) based on income eligibility or enrollment in LIHEAP

Successful implementation of new rate structures

1. Board and management support is key

2. Public presentations at Board meetings

3. Information campaigns
   a) Website
   b) Included with customer bills on rate changes
   c) Social media
   d) Signage in pay stations
   e) Local media

4. Once rate structures are implemented, ongoing information should be part of the process

Discussion

Findings and Recommendations

Thank you!

We appreciate the opportunity to serve you.

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HPU HIBBING PUBLIC UTILITIES

Unit/Option	Option 1:	Option 2:	Option 3:	Option 4:
	HPU TG3	LSPI TG6	VPU TG5	New Turbine
Ownership	Hibbing Public Utilities	Lake Superior	Virginia Public Utilities	

Specifications

Manufacturer	Dresser Rand	Turbodyne	Dresser Rand	
Manufacture Date	1964	1995	1965	
Rotor Manufacture Date	1964	2015	2015	
Rebuilt Date		2015		
Turbine Rating	9,375 KW	9060 KW	7,500 KW	
Generator Rating	12,000 KVA	11,700 KVA	9,375 KVA	
Design Inlet	600P / 750F	820 / 720F	800P / 825 F	
Extraction	15P	100P	50P	Match TG3
Exhaust	2”		1.5”	
Capacity				
Capacity Accreditation Potential	12 MW	10 MW	10 MW	
Evaluated/Determined	11.6 MW	8.5 MW	NA	
Cogeneration (CHP)	No	Yes	No	
Condensing Type	Condensing	Non-Condensing	Condensing	

Option Cost Model

Acquisition Cost	NA	$500,000	$1,400,000	$10,000,000
Demo TG3	NA	$200,000	$200,000	$200,000
Estimated Retrofit Cost	$1,700,000	$2,350,000	$1,000,000	$4,000,000
Optimization Cost	$1,000,000*			
Contingency Costs	$250,000	$300,000	$300,000	$500,000
Estimated Engineering Cost	NA	$400,000	$400,000	$750,000
Total Estimated Cost:	**$2,950,000**	**$3,750,000**	**$3,300,000**	**$15,450,000**

Project Factors, Conditions, and Risks

Turbine Condition	Unknown	Good	Mid	New/Excellent
Retrofit Confidence	Mid - High	Mid	Low	High
Anticipated Life until Major Servicing	10-Year or 30-Years*	20-30 years	10-Year	30+ Years
Potential for additional Costs	Mid	Low-Mid	High	Low
Inspection and Maintenance interval	5-Year	5-Year	5-Year	5-Year

Schedule	3 Months	3-6 Months	6+ Months	1 Year or more

**Pending selection of Optimization Option to improve Capacity*

Revised Date: 11/12/2024