

*Mission Statement:*

*The UTC protects consumers by ensuring that utility and transportation services are fairly priced, available, reliable, and safe.*



# Washington Utilities and Transportation Commission

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## Revenue Requirements Example

Prepared for the Kyrgyz Republic SEA

Thomas Schooley, Regulatory Analyst  
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# Putting the Pieces Together

## -Adjusted Results of Operations 1



- Revenues

	BIG ELECTRIC COMPANY					
	Electric Utility Results of Operations					
	for the twelve months ended March 2003					
	(1)	(2)	(3)	(4)	(6)	(7)
	Unadjusted	Weather	Political	Wage	Working	Adjusted
	Results	Normalized	Contribution	Increases	Capital	Total
Operating Revenues:						
General Business Revenues	248,000	(1,400)				246,600
Sales for Resale	190,000	(103,000)				87,000
Other operating revenues	20,000					20,000
Total Operating Revenues	458,000	(104,400)	0	0	0	353,600

# Putting the Pieces Together

## -Adjusted Results of Operations 2

- Expenses

	(1)	(2)	(3)	(4)	(6)	(7)
	Unadjusted	Weather	Political	Wage	Working	Adjusted
	Results	Normalized	Contribution	Increases	Capital	Total
Operating Expenses:						
Production Expense	70,000	(5,500)		210		64,710
Purchased Power	180,000	(82,000)		35		98,035
Distribution	35,000			100		35,100
Customer Accounting	15,000	(7)		30		15,023
Administrative & General	30,000		(300)	100		29,800
Total O&M Expense	330,000	(87,507)	(300)	475	0	242,668
Depreciation	35,000					35,000
Taxes Other than Income	20,000	(56)				19,944
Income Taxes: Federal	23,800	(5,893)	105	(166)	0	17,846
Deferred Income Taxes	(5,000)					(5,000)
Total Operating Expenses:	403,800	(93,456)	(195)	309	0	310,458
Operating Revenue for Return:	54,200	(10,944)	195	(309)	0	43,142

# Putting the Pieces Together

## -Adjusted Results of Operations 3

- Rate Base

	(1)	(2)	(3)	(4)	(6)	(7)
	Unadjusted	Weather	Political	Wage	Working	Adjusted
	Results	Normalized	Contribution	Increases	Capital	Total
Rate Base:						
Electric Plant in Service	1,200,000					1,200,000
Working Capital	0				1,000	1,000
Total Electric Plant:	1,200,000	0	0	0	1,000	1,201,000
Deductions:						
Accum. Prov. for Depreciation	(400,000)					(400,000)
Accum. Deferred Income Tax	(65,000)					(65,000)
Total Deductions:	(465,000)	0	0	0	0	(465,000)
Total Rate Base:	735,000	0	0	0	1,000	736,000
Return on Rate Base	7.374%					5.862%

# Weighted Average Cost of Capital

- WACC is the proportional level of each component times its cost or interest rate.
- The sum of the components is the rate of return.

	BIG ELECTRIC COMPANY			
	Weighted Average Cost of Capital			
		Percent of		Weighted
	Amount	Total	Cost	Average
Long-term Debt	\$ 3,000,000	52.6%	8.0%	4.211%
Preferred Stock	\$ 200,000	3.5%	9.0%	0.316%
Common Stock	<u>\$ 2,500,000</u>	<u>43.9%</u>	<u>11.0%</u>	<u>4.825%</u>
Total	\$ 5,700,000	100.0%		9.351%

# Conversion Factor Example

	BIG ELECTRIC COMPANY		
	Conversion Factor Calculation		
1	Gross Revenue Change		100.00%
2	less: Uncollectible Revenue		0.50%
3	State Utility Tax		4.00%
4	WUTC fee		0.20%
5	Change in Taxable Income	L.1-2-3-4	95.30%
6	Federal Income Tax Rate		35.00%
7	Net FIT Rate	L.5 * 6	33.36%
8			
9	Change in Net Operating Income	L. 5 - 7	61.95%
10	Gross Revenue Conversion Factor	= 1 / L.9	1.6143

# Putting the Pieces Together

## Revenue Shortfall



	BIG ELECTRIC COMPANY		
	Incremental Revenue Requirement		
1	Rate Base	\$ 736,000	
2	Desired Return	9.351%	
3	Operating Income Required	\$ 68,822	L. 1 * L. 2
4			
5	Current Operating Income	\$ 43,142	
6	Net Operating Income deficiency	\$ (25,680)	L 5 - L 6
7			
8	Conversion Factor	1.6143	
9	NOI times Conversion Factor	\$ (41,457)	L 6 * L 8
10			
11			
12	Revenue Deficiency	\$ 41,457	

# Putting the Pieces Together

## Results with Increase

- Net Operating Income

	BIG ELECTRIC COMPANY			
	Electric Utility Results of Operations			
	for the twelve months ended March 2003			
	(1)	(2)	(3)	(4)
	Adjusted	Revenue Increase	Results with	Percent
	Results	Change	Price Change	Increase
Operating Revenues:				
General Business Revenues	246,600	41,457	288,057	16.8%
Special Sales	87,000		87,000	
Other operating revenues	20,000		20,000	
Total Operating Revenues	353,600	41,457	395,057	
Operating Expenses:				
Steam Production	64,710		64,710	
Hydro Production	98,035		98,035	
Distribution	35,100		35,100	
Customer Accounting	15,023	207	15,230	
Administrative & General	29,800		29,800	
Total O&M Expense	242,668	207	242,875	
Depreciation	35,000		35,000	
Taxes Other than Income	19,944	1,741	21,685	
Income Taxes: Federal	17,846	13,828	31,674	
Deferred Income Taxes	(5,000)		(5,000)	
Total Operating Expenses:	310,458	15,776	326,234	
Operating Revenue for Return:	43,142	25,680	68,822	



# Putting the Pieces Together

## Results with Increase (continued)



	(1)	(2)	(3)	(4)
	Adjusted	Price	Results with	Percent
	Results	Change	Price Change	Increase
Rate Base:				
Electric Plant in Service	1,200,000		1,200,000	
Working Capital	1,000		1,000	
Total Electric Plant:	1,201,000		1,201,000	
Deductions:				
Accum. Prov. for Depreciation	(400,000)		(400,000)	
Accum. Deferred Income Tax	(65,000)		(65,000)	
Total Deductions:	(465,000)		(465,000)	
Total Rate Base:	736,000		736,000	
<b>Return on Rate Base</b>	<b>5.862%</b>		<b>9.351%</b>	

# Revenue Requirements

## Example Conclusions

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- The calculation of revenue requirements requires the application of skills in accounting, engineering, and finance to rate making principles.
- Controversy is expected as the monopoly status of an investor-owned utility may allow it to earn excessive profits in the absence of fair and reasonable regulation.

# The Next Steps in Determining Rates



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- So far, we have calculated the total required revenues. The complicated part is still to come.
  - How shall the increase be spread among the customers?
  - Much controversy exists between the customer class representatives. But the utility is somewhat indifferent to the answer. It is most interested in having the total equal 100% of the revenue requirement.
  - Ms. Joelle Steward will address these topics in her presentations.

# Ready to Regulate

- With a giant cup of coffee in hand, Commissioner Oshie arrives for a day of tough decision-making.

