

WATER UTILITY REFERENCE MANUAL

Revenues

Common Types of Metered Sales

For water utilities, the majority of revenue comes from metered customers. The most common type of customer falls under the definition of Account 461, Metered Sales to General Customers. The four customer classifications used by the PSC are defined below.

- Residential (Account 461.1) – customers that have water service provided for residential or domestic purposes. Sales to multiple-dwelling buildings through a single meter serving three or more family units are classified as commercial.
- Commercial (Account 461.2) – business entities and institutions (except governmental) that provide goods or services. Also, buildings comprised of multiple dwellings with three or more units served through a single water meter. Churches and parochial schools are not governmental and are classified as commercial.
- Industrial (Account 461.3) – those customers engaged in the manufacture or production of goods.
- Public Authority (Account 464.4) – an agency of the local, state or federal government, or a local, state or federal entity. Since public schools are governmental, they are classified as public authority.

When the water is unmetered, Account Sales 460 should be used. The accounting of Residential, Commercial, Industrial and Public Authority is 460.1, 460.2, 460.3 and 460.4 respectively.

RATE FILE

Sheet No. 1 of 2

Schedule No. Mg-1

Amendment No. 22

Public Service Commission of Wisconsin**Brookfield Municipal Water Utility****General Service - Metered**

Quarterly Service Charges (All Customer Classes):

5/8 -inch meter - \$	13.35	3 -inch meter - \$	114.00
3/4 -inch meter - \$	13.35	4 -inch meter - \$	189.00
1 -inch meter - \$	23.25	6 -inch meter - \$	333.00
1 1/4 -inch meter - \$	30.00	8 -inch meter - \$	465.00
1 1/2 -inch meter - \$	36.60	10 -inch meter - \$	519.00
2 -inch meter - \$	60.00	12 -inch meter - \$	681.00

Plus Volume Charges:

Residential Customers – Single Family:

First 10,000 gallons used per quarter - \$2.32 per 1,000 gallons

Next 20,000 gallons used per quarter - \$3.04 per 1,000 gallons

Over 30,000 gallons used per quarter - \$3.67 per 1,000 gallons

Residential Customers – Duplex:

First 18,000 gallons used per quarter - \$2.32 per 1,000 gallons

Next 36,000 gallons used per quarter - \$3.04 per 1,000 gallons

Over 54,000 gallons used per quarter - \$3.67 per 1,000 gallons

Non-Residential Customers:

For all water used each quarter - \$2.66 per 1,000 gallons

Residential Class – Single Family includes customers who have water service provided for residential or domestic purposes, and sales are through a single meter with only one dwelling unit. Sales through a single meter to buildings with three or more dwelling units are classified as commercial.

Residential Class – Duplex includes customers who have water service provided for residential or domestic purposes, and sales are through a single meter for buildings with two dwelling units.

Nonresidential Class includes commercial, industrial, and public authority customers. Commercial customers include business entities and institutions, except governmental entities, that provide goods or services. Sales through a single meter to buildings with three or more dwelling units are classified as commercial. Churches and parochial schools are not governmental and are classified as commercial. Industrial customers include customers who are engaged in the manufacture or

RATE FILE

Sheet No. 2 of 2

Schedule No. Mg-1

Amendment No. 22

Public Service Commission of Wisconsin**Brookfield Municipal Water Utility****General Service - Metered**

production of goods. Public Authority customers include any department, agency, or entity of local, state, or federal government, including public schools, colleges, and universities.

Billing: Bills for water service are rendered quarterly and become due and payable upon issuance following the period for which service is rendered. A late payment charge of 1 percent per month will be added to bills not paid within 20 days of issuance. This late payment charge will be applied to the total unpaid balance for utility service, including unpaid late payment charges. This late payment charge is applicable to all customers. The utility customer may be given a written notice that the bill is overdue no sooner than 20 days after the bill is issued. Unless payment or satisfactory arrangement for payment is made within the next 10 days, service may be disconnected pursuant to Wis. Admin. Code ch. PSC 185.

Combined Metering: For residential customers, volumetric readings from all meters on a single service lateral shall be combined for billing. For nonresidential customers, volumetric readings may be combined for billing if the utility for its own convenience places more than one meter on a single water service lateral. Multiple meters placed for the purpose of identifying water that is not discharged into the sanitary sewer are not considered for utility convenience and may not be combined for billing nonresidential customers. This requirement does not preclude the utility from combining readings where metering configurations support such an approach. Volumetric readings from individually metered separate service laterals may not be combined for billing purposes.

RATE FILE

Sheet No. 1 of 3

Schedule No. Mg-1

Amendment No. 73

Public Service Commission of Wisconsin**City of Waukesha Water Utility****General Service - Metered****Monthly and Quarterly Service Charges: (Residential-Single Family)**

	<u>Monthly</u>	<u>Quarterly</u>		<u>Monthly</u>	<u>Quarterly</u>
5/8 - inch meter - \$	7.73	23.19	3 - inch meter - \$	56.65	169.95
3/4 - inch meter - \$	7.73	23.19	4 - inch meter - \$	77.25	231.75
1 - inch meter - \$	13.39	40.17	6 - inch meter - \$	126.69	380.07
1 1/4 - inch meter - \$	18.03	54.09	8 - inch meter - \$	158.62	475.86
1 1/2 - inch meter - \$	21.63	64.89	10 - inch meter - \$	202.91	608.73
2 - inch meter - \$	33.99	101.97	12 - inch meter - \$	249.26	747.78

Plus Volume Charges:

First	3,333	gallons used per month or
	10,000	gallons used per quarter - \$2.11 per 1,000 gallons
Next	6,667	gallons used per month or
	20,000	gallons used per quarter - \$2.73 per 1,000 gallons
Over	10,000	gallons used per month or
	30,000	gallons used per quarter - \$3.50 per 1,000 gallons

Monthly and Quarterly Service Charges: (Residential-Duplex)

	<u>Monthly</u>	<u>Quarterly</u>		<u>Monthly</u>	<u>Quarterly</u>
5/8 - inch meter - \$	7.73	23.19	3 - inch meter - \$	56.65	169.95
3/4 - inch meter - \$	7.73	23.19	4 - inch meter - \$	77.25	231.75
1 - inch meter - \$	13.39	40.17	6 - inch meter - \$	126.69	380.07
1 1/4 - inch meter - \$	18.03	54.09	8 - inch meter - \$	158.62	475.86
1 1/2 - inch meter - \$	21.63	64.89	10 - inch meter - \$	202.91	608.73
2 - inch meter - \$	33.99	101.97	12 - inch meter - \$	249.26	747.78

Plus Volume Charges:

First	6,667	gallons used per month or
	20,000	gallons used per quarter - \$2.11 per 1,000 gallons
Next	5,000	gallons used per month or
	15,000	gallons used per quarter - \$2.73 per 1,000 gallons
Over	11,667	gallons used per month or
	35,000	gallons used per quarter - \$3.50 per 1,000 gallons

RATE FILESheet No. 2 of 3Schedule No. Mg-1Amendment No. 73**Public Service Commission of Wisconsin****City of Waukesha Water Utility****General Service - Metered****Monthly and Quarterly Service Charges: (Residential-Triplex)**

	<u>Monthly</u>	<u>Quarterly</u>		<u>Monthly</u>	<u>Quarterly</u>
3/8 - inch meter - \$	7.73	23.19	3 - inch meter - \$	56.65	169.95
1/4 - inch meter - \$	7.73	23.19	4 - inch meter - \$	77.25	231.75
1 - inch meter - \$	13.39	40.17	6 - inch meter - \$	126.69	380.07
1 1/4 - inch meter - \$	18.03	54.09	8 - inch meter - \$	158.62	475.86
1 1/2 - inch meter - \$	21.63	64.89	10 - inch meter - \$	202.91	608.73
2 - inch meter - \$	33.99	101.97	12 - inch meter - \$	249.26	747.78

Plus Volume Charges:

First	6,667	gallons used per month or
	20,000	gallons used per quarter - \$2.11 per 1,000 gallons
Next	13,333	gallons used per month or
	40,000	gallons used per quarter - \$2.73 per 1,000 gallons
Over	20,000	gallons used per month or
	60,000	gallons used per quarter - \$3.50 per 1,000 gallons

Residential customers are those that have water service provided for residential or domestic purposes. These include sales to single family, duplex and triplex customers. Sales to multiple dwelling buildings through a single meter serving four or more family units are classified as non-residential.

Combined Metering: For residential customers, volumetric meter readings from all meters on a single service lateral will be combined for billing.

Monthly and Quarterly Service Charges: (Non-Residential Class)

	<u>Monthly</u>	<u>Quarterly</u>		<u>Monthly</u>	<u>Quarterly</u>
3/8 - inch meter - \$	7.73	23.19	3 - inch meter - \$	56.65	169.95
1/4 - inch meter - \$	7.73	23.19	4 - inch meter - \$	77.25	231.75
1 - inch meter - \$	13.39	40.17	6 - inch meter - \$	126.69	380.07
1 1/4 - inch meter - \$	18.03	54.09	8 - inch meter - \$	158.62	475.86
1 1/2 - inch meter - \$	21.63	64.89	10 - inch meter - \$	202.91	608.73
2 - inch meter - \$	33.99	101.97	12 - inch meter - \$	249.26	747.78

Public Service Commission of Wisconsin

City of Waukesha Water Utility

General Service - Metered

Plus Volume Charges:

First	25,000	gallons used per month or
	75,000	gallons used per quarter - \$2.40 per 1,000 gallons
Next	475,000	gallons used per month or
	1,425,000	gallons used per quarter - \$2.26 per 1,000 gallons
Over	500,000	gallons used per month or
	1,500,000	gallons used per quarter - \$2.02 per 1,000 gallons

Billing: Bills for water service are rendered monthly or quarterly and become due and payable upon issuance following the period for which service is rendered. A late payment charge of 1 percent per month will be added to bills not paid within 20 days of issuance. This late payment charge will be applied to the total unpaid balance for utility service, including unpaid late payment charges. This late payment charge is applicable to all customers. The utility customer may be given a written notice that the bill is overdue no sooner than 20 days after the bill is issued. Unless payment or satisfactory arrangement for payment is made within the next 10 days, service may be disconnected pursuant to Wis. Adm. Code ch. PSC 185.

Combined Metering: For non-residential customers, volumetric meter readings will be combined for billing if the utility for its own convenience places more than one meter on a single water service lateral. Multiple meters placed for the purpose of identifying water not discharged into the sanitary sewer are not considered for utility convenience and shall not be combined for billing. This requirement does not preclude the utility from combining readings when metering configurations support such an approach. Meter readings from individually metered separate service laterals shall not be combined for billing purposes.

Non-Residential customers include commercial, industrial and public authority customers.

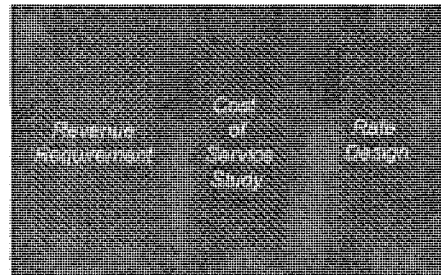
SETTING WATER RATES: MYSTERIES REVEALED

David Prochaska
Public Utility Rate Analyst
Public Service Commission

Madison Water Utility Board
Meeting - January 24, 2012

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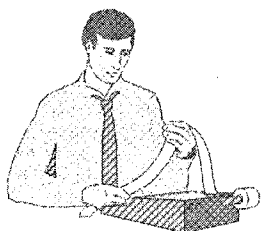
OVERVIEW OF THE RATEMAKING PROCESS



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REVENUE REQUIREMENT



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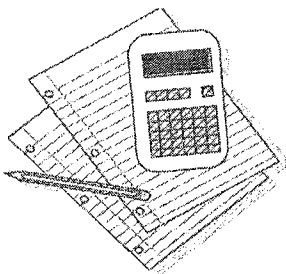
REVENUE REQUIREMENT

- Operating & Maintenance Expenses
- Depreciation Expense
- Taxes and Tax Equivalent
- Return on Net Investment Rate Base

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COST OF SERVICE STUDY



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COST OF SERVICE STUDY

- Tool to help develop equitable rates to the different customers that reflect the cost of providing water service
- Base - Extra Capacity Method (used by the PSC)

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STEPS IN THE COST OF SERVICE STUDY

- 1. Allocate costs to functional components
- 2. Assign functional costs to customer classes

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FUNCTIONAL COST COMPONENTS

- Base
- Extra Capacity
- Customer
- Direct Fire Protection

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BASE COSTS

- Production and delivery costs that vary with the quantity of water used, assuming all water can be delivered at a uniform annual rate
 - Power for pumping
 - Chemical costs

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EXTRA CAPACITY COSTS

- Costs of supplying water at demand rates above the uniform annual rate
 - Larger pipes
 - Bigger pumps
 - More elevated storage

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EXTRA CAPACITY COSTS

- Maximum Day – costs associated with maximum day water demand in excess of average day demand
- Maximum Hour – costs associated with maximum hour water demand in excess of average hour demand

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CUSTOMER COSTS

- Certain costs not related to the quantity of water used
 - Billing and collection expenses
 - Customer accounting expenses
 - Meter reading expenses
 - Costs related to service lines and meters

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DIRECT FIRE PROTECTION COSTS

- Costs applicable solely to the fire protection function
 - Public fire hydrants
 - Related branch mains and valves

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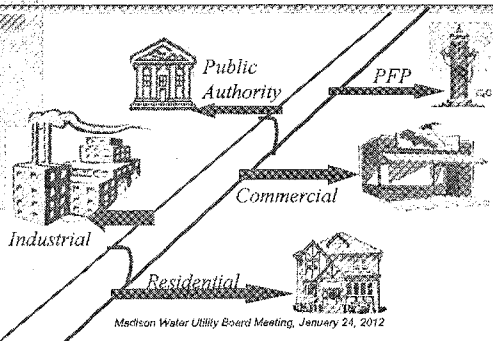
STEPS IN THE COST OF SERVICE STUDY

- 1. Allocate costs to functional components
- 2. Assign functional costs to customer classes

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CUSTOMER CLASSES



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ASSIGNMENT OF BASE COSTS

- Assigned to customer classes on the basis of total water sales to each customer class

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ASSIGNMENT OF EXTRA CAPACITY COSTS

- Assigned on the basis of the Extra Capacity – Maximum Day and Extra Capacity – Maximum Hour demand of each customer class, weighted by average annual consumption

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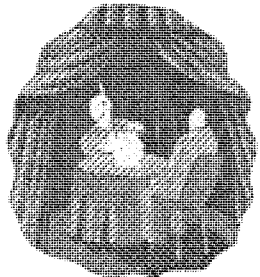
ASSIGNMENT OF CUSTOMER COSTS

- Meter and service costs assigned on the basis of the number of meters, weighted by meter capacity ratios
- Billing and collection, customer accounting, and meter reading costs assigned on the basis of the number of bills issued to each customer class

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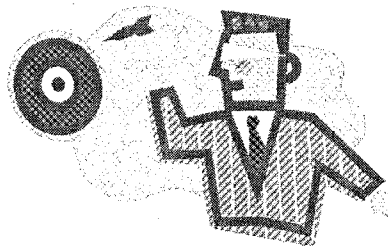
RATE DESIGN



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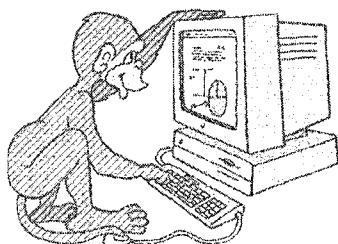
RATE DESIGN



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RATE DESIGN



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RATE DESIGN GOALS

- Practical (simple, understandable)
- Clearly interpreted
- Proper revenue requirement
- Revenue stability
- Rate stability
- Cost of providing service
- Not unduly discriminatory
- Promotes justified use - discourages wasteful use

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DEVIATIONS FROM COST-BASED RATE DESIGN

- Tradition
- Public Reaction
- Special Interest Groups
- Politics

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WATER UTILITY SERVICES

- General Service (water supply)
 - Residential
 - Commercial
 - Industrial
 - Public Authority
- Fire Protection

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GENERAL SERVICE RATE FORMAT

- Two-Part Structure
 - Service charge (or minimum bill) based on meter size
 - Volume charge based on metered water usage

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SERVICE CHARGE

- Recovers customer costs (costs incurred regardless of the amount of water that is used)
- Generally, accounts for one-quarter to one-third of the average residential customer's water bill

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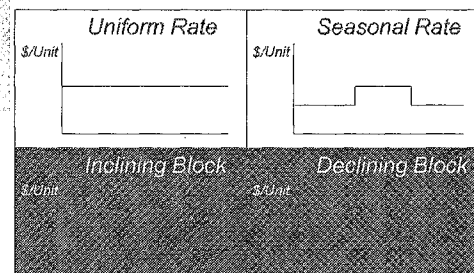
VOLUME CHARGE

- Recovers costs related to volume and extra capacity
- Generally, a declining-block schedule (often with three rate blocks) designed to recover the costs of serving the different classes of customers

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RATE BLOCK FORMATS



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THREE PERSPECTIVES ON RATEMAKING

- Utility's Perspective
- Consumer's Perspective
- Society's Perspective

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UTILITY'S PERSPECTIVE

- Does the rate structure fully compensate the utility so that revenue requirements are met?
- Does the rate structure allow the utility to earn a fair return on its investment?
- Is the rate structure strategically sound for load management, competition, and long-term planning?

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CUSTOMER'S PERSPECTIVE

- Are both the ratemaking process and the rate structure equitable?
- Are utility rates perceived to be affordable?
- Are both the ratemaking process and the rate structure understandable?

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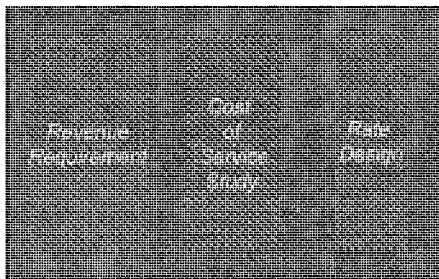
SOCIETY'S PERSPECTIVE

- Does the rate structure promote the appropriate valuation and conservation of resources?
- Does the ratemaking process take into account priority uses of water?
- Does the rate structure promote economic efficiency?
- Are both the ratemaking process and the rate structure just and reasonable?

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REVIEW OF THE RATEMAKING PROCESS



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QUESTIONS ???

- David L. Prochaska
Public Service Commission
P.O. Box 7854
Madison, WI 53707-7854
- (608) 266-5739
- David.Prochaska@wisconsin.gov
- <http://psc.wi.gov>

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