Moving Toward Monthly Billing: Measure of Improvements to Cost-of-Service Equity

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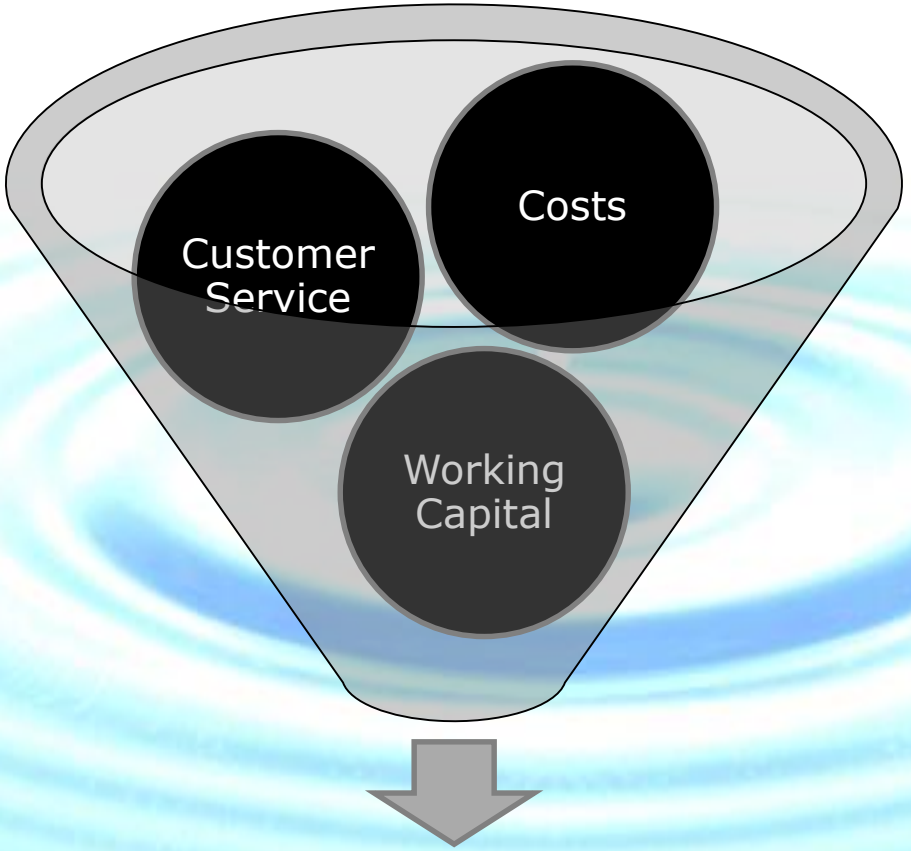
Reasons to Move to Monthly Meter Reading

Customer Service	• Identify leaks • Improve budget-ability • Reduce delinquency • Send sharper price signal
Cash flow	• Reduce unbilled water
Bill half as much twice as often	• Pressure of higher customer bills

Evaluating Monthly Billing Cycle Changes



Feasibility

Purpose for Today's Talk

Hope to Do

- Spark interest in questions of equity
- Add to the pros and cons list

Don't Intend to Do

- Recommend a billing frequency
- Provide a basis for decisions at your utility

Cost-of-Service Equity

Inter-Billing Cycle Equity

- Equity among customers on differing meter reading cycles, etc.

Monthly vs. Bi-monthly Equity

- Equity between bi-monthly and monthly customers

Policy Question

How will our customers be affected by moving to monthly billing? How can I measure that if I only read meters bi-monthly?

Answer

Find a utility that reads its meters monthly and use its data.

Cost-of-Service Equity

Inter-Billing Cycle Equity

- Equity among customers on differing meter reading cycles, etc.

Monthly vs. Bi-monthly Equity

- Equity between bi-monthly and monthly customers

Inter-Billing Cycle Equity

	May	Jun	Jul	Aug	Sep	Oct	Units in Excess of Block 1*
Customer A							
Monthly Use	5	5	15	15	5	5	
Bimonthly Bills		10		30		10	**10**
Customer B							
Monthly Use	5	5	15	15	5	5	
Bimonthly Bills	NA		20		20	NA	**0**

*Assumes a bi-monthly block threshold of 20 Units

Monthly vs. Bi-Monthly Equity

If I double my tier thresholds, am I treating both monthly and bi-monthly customers fairly?

Methodology

Select 500 Random Accounts From 3 Water Utilities

- Central Texas
- Southern California
- Eastern Colorado

Calculate 2 Mock Bills

- Bill 1: Add consumption together and apply tiered rate structure with twice the tier threshold
- Bill 2: Calculate the monthly bills and add them together

Compare Two Mock Bills

- Difference in Bill values indicates potential inequity

Assumption

Hypothetical Rate Design

- 3-tier rate design
- Bi-monthly threshold 2 X Monthly
- Selected common rates for bills

Use Statistics for Utilities

Utility	(Hundreds of Cubic Feet) Average Monthly	Peak Season
Central Texas	12.1	18.5
Southern California	19.6	27.2
Eastern Colorado	13.3	25.1

Percentage of Bills Affected

Bi-Monthly Tier 2 Threshold (CCF)	Central Texas Utility	Southern California Utility	Eastern Colorado Utility
20	20.3%	10.0%	22.7%
32	14.6%	15.1%	18.1%
40	10.9%	14.4%	14.5%

Central Texas

Bi-Monthly Tier 2 Threshold	Bi-Monthly Tier 1 Threshold												
	2	4	6	8	10	12	14	16	18	20	22	24	26
4	7.2%												
6	11.1%	11.1%											
8	14.2%	14.2%	14.2%										
10	17.6%	17.6%	17.6%	17.6%									
12	18.6%	18.6%	18.6%	18.6%	18.6%								
14	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%							
16	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%						
18	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%					
20	20.3%	20.3%	20.3%	20.3%	20.3%	20.3%	20.3%	20.3%	20.3%				
22	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%			
24	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%		
26	17.6%	17.6%	17.6%	17.6%	17.6%	17.6%	17.6%	17.6%	17.6%	17.6%	17.6%	17.6%	
28	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%
30	15.7%	15.7%	15.7%	15.7%	15.7%	15.7%	15.7%	15.7%	15.7%	15.7%	15.7%	15.7%	15.7%
32	14.6%	14.6%	14.6%	14.6%	14.6%	14.6%	14.6%	14.6%	14.6%	14.6%	14.6%	14.6%	14.6%
34	13.7%	13.7%	13.7%	13.7%	13.7%	13.7%	13.7%	13.7%	13.7%	13.7%	13.7%	13.7%	13.7%
36	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%
38	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%
40	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%

Southern California

Bi-Monthly Tier 2 Threshold	Bi-Monthly Tier 1 Threshold												
	2	4	6	8	10	12	14	16	18	20	22	24	26
4	0.5%												
6	0.8%	0.8%											
8	1.5%	1.5%	1.5%										
10	2.4%	2.4%	2.4%	2.4%									
12	3.7%	3.7%	3.7%	3.7%	3.7%								
14	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%							
16	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%						
18	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%					
20	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%				
22	11.5%	11.5%	11.5%	11.5%	11.5%	11.5%	11.5%	11.5%	11.5%	11.5%			
24	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%		
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38	14.8%	14.8%	14.8%	14.8%	14.8%	14.8%	14.8%	14.8%	14.8%	14.8%	14.8%	14.8%	14.8%
40	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%

Eastern Colorado

Bi-Monthly Tier 2 Threshold	Bi-Monthly Tier 1 Threshold												
	2	4	6	8	10	12	14	16	18	20	22	24	26
4	6.4%												
6	10.5%	10.5%											
8	13.9%	13.9%	13.9%										
10	17.9%	17.9%	17.9%	17.9%									
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38	15.2%	15.2%	15.2%	15.2%	15.2%	15.2%	15.2%	15.2%	15.2%	15.2%	15.2%	15.2%	15.2%
40	14.5%	14.5%	14.5%	14.5%	14.5%	14.5%	14.5%	14.5%	14.5%	14.5%	14.5%	14.5%	14.5%

Central Texas

Tier	Bi-Monthly Threshold (CCF)	Rate (per CCF)	Average % Bill Impact
1	22	$2.00	
2	32	$3.00	
3	>32	$4.00	
Total Bill			4.23%

Southern California

Tier	Bi-Monthly Threshold (CCF)	Rate (per CCF)	Average % Bill Impact
1	16	$2.00	
2	32	$3.00	
3	>32	$4.00	
Total Bill			3.73%

Eastern Colorado

Tier	Bi-Monthly Threshold (CCF)	Rate (per CCF)	Average % Bill Impact
1	10	$2.00	
2	20	$3.00	
3	>20	$4.00	
Total Bill			3.28%

Findings

Billing frequency maters

Impacts vary by region and rate structure

Moving to monthly meter reading and cutting your tier thresholds in half can generate more revenue

Utilities should consider cost-of-service equity in considering billing frequency

Remember the Caveats

Hope to Do

- Spark interest in questions of equity
- Add to the pros and cons list

Don't Intend to Do

- Recommend a billing frequency
- Provide a basis for decisions at your utility

Questions

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