

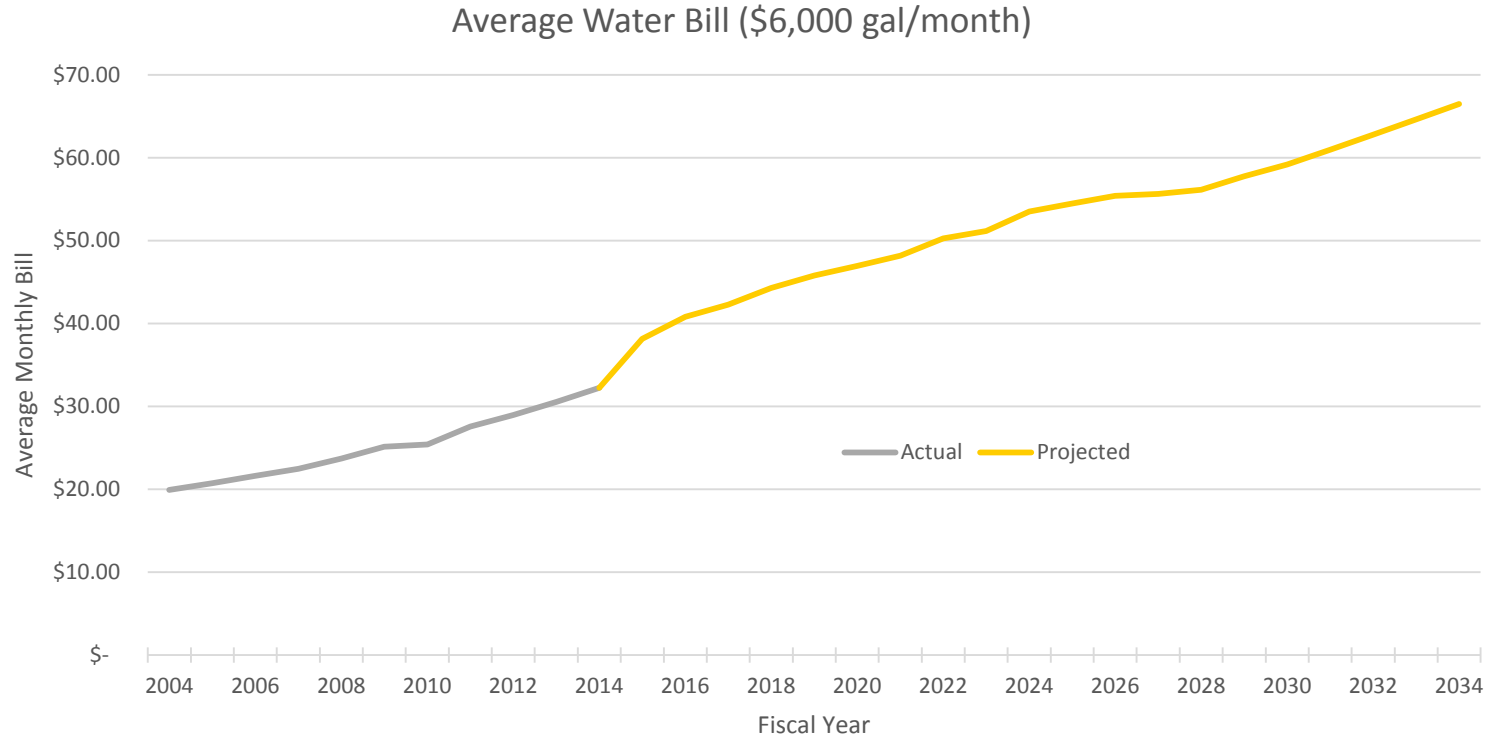
Water Rate – Calculations



Council Presentation
April 28, 2015



Current Rate Projection





Discover, Discuss, Decide





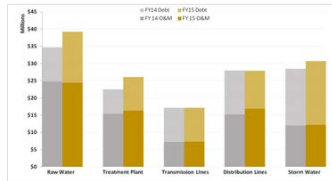
Rate Review Schedule

Date	Topic
March 10, 2015	Projected Rate Water System Components Utility Bill Breakdown Costs – Operation and Maintenance (O&M)
March 24, 2015	Costs - Current and Future Debt
March 31, 2015	Consumption Trends Customer Trends Inclined Block Rate
April 21, 2015	Adjustments Rate Calculations
April 28, 2015	Rate Calculations
May 12, 2015	Additional Week of Discovery
May 19, 2015	Alternatives Evaluated
May 26, 2015	Additional Alternatives Evaluated 1
June 9, 2015	Additional Alternatives Evaluated 2
June 16, 2015	First Reading Proposed Rate
June 23, 2015	Adoption of New Rate

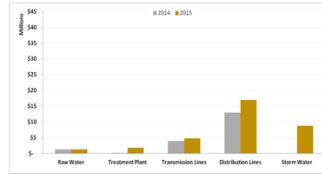


Calculation for Unit Cost

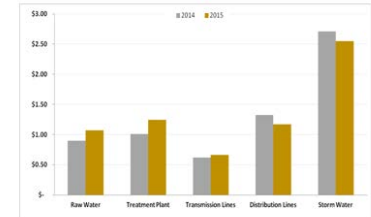
Cost



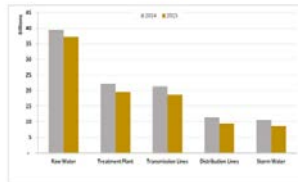
Adjustments



Unit Cost



Volume





Raw Water Rate Payer Inputs

- Costs
 - Operation & Maintenance = \$24,376,860
 - Debt Service = \$16,513,289
- Adjustments
 - Rentals = \$275,000
 - Minimums = \$13,803
 - True-up = \$1,349,858
 - Choke Canyon Reserve Fund = \$1,274,163
 - Debt Coverage = \$0.00
- Volume
 - 37.2 Billion Gallons
- Water Supply Development Fee
 - \$0.05/1000 Gallons



Unit Cost for Rate Payer

$$\frac{\text{(Cost - Adjustments)}}{\text{Volume}} = \text{Unit Cost}$$

$$\left(\begin{array}{r} \text{Cost} \\ \$39,251,486 \end{array} - \begin{array}{r} \text{Adjustments} \\ \$1,274,163 \end{array} \right) = \text{Unit Cost}$$

$$\frac{\text{Volume}}{37,192,000} = \$1.02 + .05 = 1.07$$



Raw Water Diversion Inputs

- Costs
 - Operation & Maintenance = \$852,500
 - Debt Service = \$1,110,321
- Adjustments
 - Minimums = \$0
 - True-up = \$90,250
 - Debt Coverage = (\$256,798)
 - System Losses = (\$123,384)
- Volume
 - 20.3 Billion Gallons



Unit Cost for Diversion

$$\frac{\text{(Cost - Adjustments)}}{\text{Volume}} = \text{Unit Cost}$$

$$\left(\begin{array}{r} \text{Cost} \\ \$1,962,821 \end{array} - \begin{array}{r} \text{Adjustments} \\ -\$289,932 \end{array} \right) = \text{Unit Cost}$$

$$\frac{\text{Volume}}{20,285,300} = \$0.111$$



Treatment Inputs

- Costs
 - Operation & Maintenance = \$15,422,714
 - Debt Service = \$5,515,046
- Adjustments
 - Minimums = \$19,402
 - True-up = \$1,634,052
 - Debt Coverage = (\$1,961,978)
 - System Losses = (\$919,312)
- Volume
 - 19.5 Billion Gallons



Unit Cost for Treatment

$$\frac{\text{Cost} - \text{Adjustments}}{\text{Volume}} = \text{Unit Cost}$$

$$\left(\begin{array}{r} \text{Cost} \\ \$20,937,760 \end{array} - \begin{array}{r} \text{Adjustments} \\ -\$1,227,836 \end{array} \right) = \text{Unit Cost}$$

$$\frac{\text{Volume}}{19,473,300} = \$1.138$$



Transmission Inputs

- Costs
 - Operation & Maintenance = \$7,312,796
 - Debt Service = \$8,460,173
- Adjustments
 - Minimums = \$4,782,231
 - Debt Coverage = (\$994,748)
 - System Losses = (\$373,102)
- Volume
 - 18.6 Billion Gallons



Unit Cost for Network

$$\frac{\text{(Cost - Adjustments)}}{\text{Volume}} = \text{Unit Cost}$$

$$\left(\begin{array}{r} \text{Cost} \\ \$15,772,969 \end{array} - \begin{array}{r} \text{Adjustments} \\ \$3,414,381 \end{array} \right) = \text{Unit Cost}$$

$$\frac{\text{Volume}}{18,595,200} = \$0.665$$



Distribution Inputs

- Costs
 - Operation & Maintenance = \$16,857,598
 - Debt Service = \$8,532,007
- Adjustments
 - Minimums = \$12,142,314
 - Non-Rate Revenue = \$5,674,800
 - Unbilled City Water = (\$888,716)
 - Debt Coverage = (\$215,863)
 - System Losses = (\$3,347,854)
- Volume
 - 9.3 Billion Gallons



Unit Cost for Distribution

$$\frac{\text{(Cost - Adjustments)}}{\text{Volume}} = \text{Unit Cost}$$

$$\left(\begin{array}{r} \text{Cost} \\ \$24,504,441 \end{array} - \begin{array}{r} \text{Adjustments} \\ \$13,364,681 \end{array} \right) = \text{Unit Cost}$$

$$\frac{\text{Volume}}{9,338,100} = \$1.193$$



Storm Water Inputs

- Costs
 - Operation & Maintenance = \$12,204,091
 - Debt Service = \$16,539,144
- Adjustments
 - Minimums = \$0
 - From Storm Water Fund Reserve = \$8,600,000
 - Debt Coverage = (\$1,926,764)
- Volume
 - 8.6 Billion Gallons



Unit Cost for Storm Water

$$\frac{\text{(Cost - Adjustments)}}{\text{Volume}} = \text{Unit Cost}$$

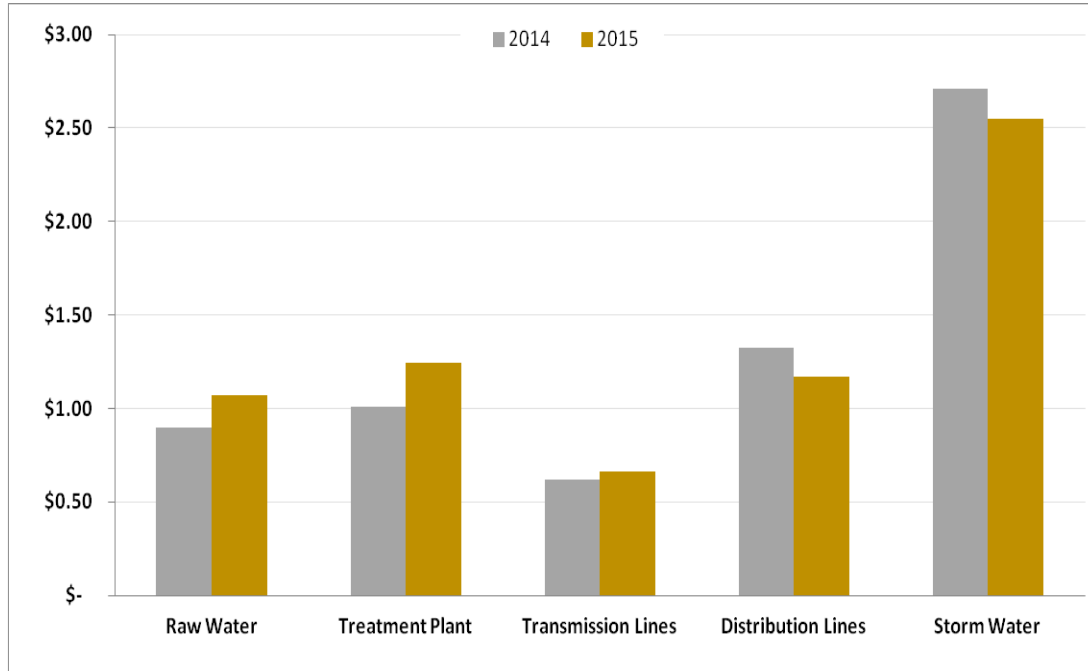
$$\left(\begin{array}{r} \text{Cost} \\ \$28,743,235 \end{array} - \begin{array}{r} \text{Adjustments} \\ \$6,673,236 \end{array} \right) = \text{Unit Cost}$$

$$\frac{\text{Volume}}{8,601,000} = \$2.566$$



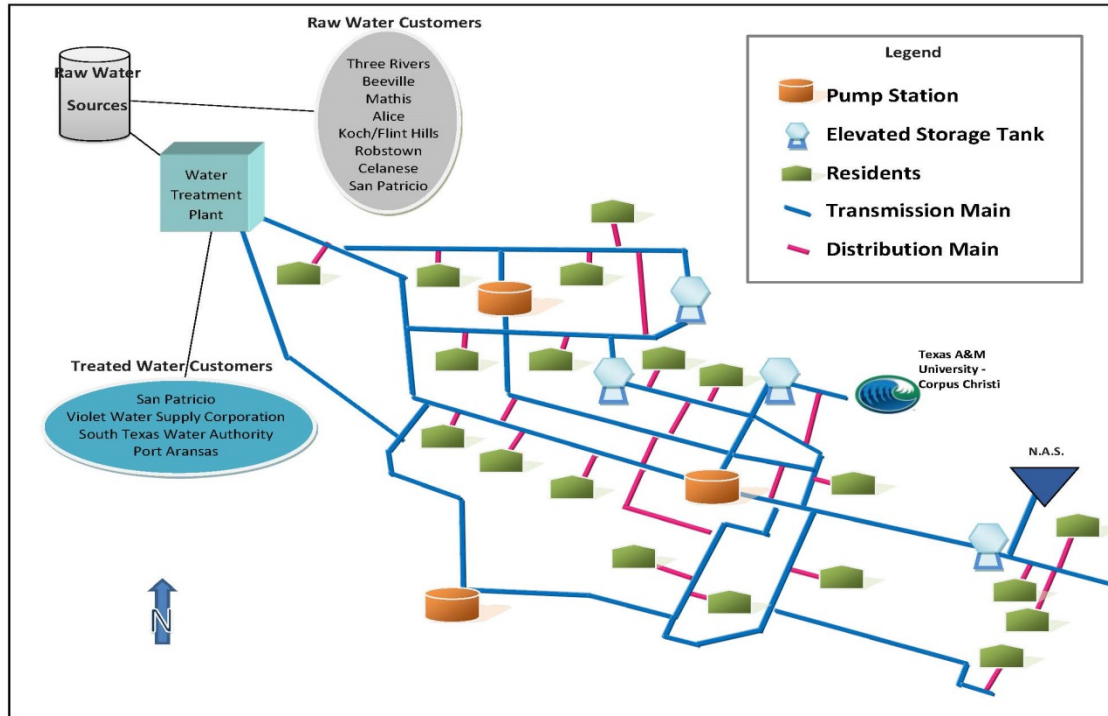
Unit Cost

$$\frac{\text{(Cost - Adjustments)}}{\text{Volume}} = \text{Unit Cost}$$





Water System Components





Utility Rate Breakdown

	Raw Water	Treatment	Transmission	Distribution	Storm Water
Inside City Limits					
Residential and Commercial	•	•	•	•	•
Outside City Limits					
Residential and Commercial	•	•	•	•	
Industrial customers	•	•	•		
Port Aransas & Violet Water Supply Corporation	•	•	•		
San Patricio Municipal Water District	•	•			
South Texas Water Authority	•	•			
Raw Water Customers	•				



ICL Residential Unit Cost

$$\frac{\text{(Cost - Adjustments)}}{\text{Volume}} = \text{Unit Cost}$$

$$\begin{array}{ccccccc} \text{Diversion and} & & & & & & \\ \text{Treatment Plant} & & \text{Transmission Lines} & & \text{Distribution Lines} & & \text{Storm Water} \\ \\ \$1.25 & + & \$0.66 & + & \$1.19 & + & \$2.57 \\ \\ & & & & \text{ICL Residential Unit Cost} & & \\ & & & = & \$5.67 & & \end{array}$$



ICL Commercial Unit Cost

$$\frac{\text{(Cost - Adjustments)}}{\text{Volume}} = \text{Unit Cost}$$

$$\begin{array}{ccccccc} \text{Diversion and} & & \text{Transmission Lines} & & \text{Distribution Lines} & & \text{Storm Water} \\ \text{Treatment Plant} & + & & + & & + & \\ \$1.25 & & \$0.66 & & \$1.19 & & \$2.57 \\ & & & = & & & \\ & & & \text{ICL Commercial Unit Cost} & & & \\ & & & \$5.67 & & & \end{array}$$



ICL Large Volume Unit Cost

$$\frac{\text{(Cost - Adjustments)}}{\text{Volume}} = \text{Unit Cost}$$

$$\begin{array}{rcccl} \text{Diversion and} & & & & \\ \text{Treatment Plant} & + & \text{Transmission Lines} & + & \text{Storm Water} \\ \$1.25 & & \$0.66 & & \$2.57 \\ & & & & \\ & & & & \text{ICL Large Volume Unit Cost} \\ & & = & & \\ & & & & \$4.48 \end{array}$$



OCL Large Volume Unit Cost

$$\frac{\text{(Cost - Adjustments)}}{\text{Volume}} = \text{Unit Cost}$$

Diversion and
Treatment Plant

\$1.25

+

Transmission Lines

\$0.66

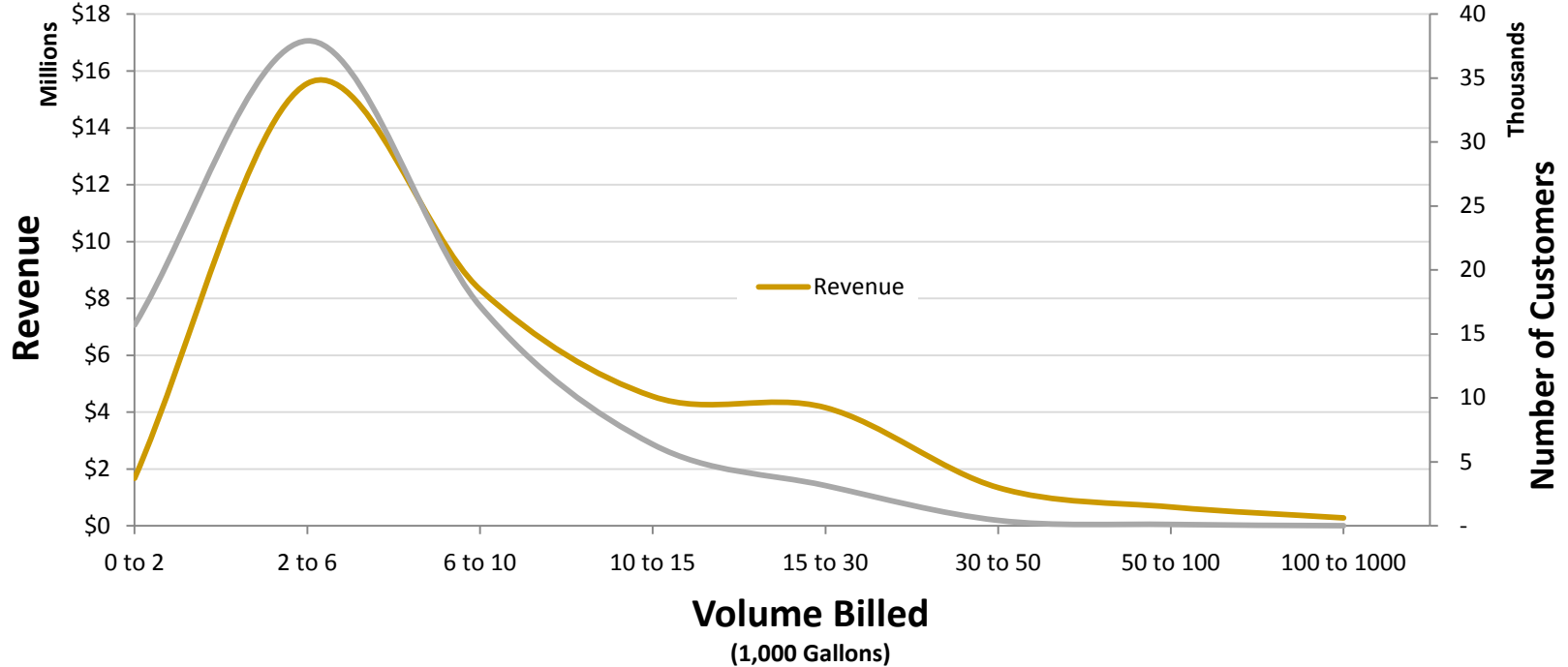
OCL Large Volume Unit Cost

=

\$1.91



ICL Residential Trend





Calculate Block Rates

Volume Used (Gallons)	Unit Cost	% of Unit Cost	Block Rate
Minimum (2,000)	\$5.67		\$9.33
2,001 to 6,000	\$5.67	80%	\$4.75
6,001 to 10,000	\$5.67	100%	\$5.94
10,001 to 15,000	\$5.67	115%	\$6.83
15,001 to 30,000	\$5.67	140%	\$8.31
30,001 to 50,000	\$5.67	170%	\$10.09
50,001 to 100,000	\$5.67	200%	\$10.99



Calculation of Water Rate

Volume = 6,000 Gallons

- $6 * \$1.07$ (Raw Water Unit Cost) = \$6.43
- Minimum (2,000 Gallons) = \$9.33
- $4 * \$4.75$ (4,000 Gallons) = \$19.00

Total = \$6.43 + \$9.33 + \$19.00 = \$34.76



Take Aways

- O&M Costs really not variable with volume
- Capital Improvement Program is primary driver for Cost increases
- Median Residential Usage between 4,001 and 5,000 gallons/month
- Minimums for ICL are less than cost
- Storm Water is 54% of ICL Residential rate for customers between 2,001 and 6,000 gallons/month



Questions?