Cost-of-Service Rate Study 2007

Public Involvement Committee

Workshop 5: Customer Classifications

Austin Water Utility

February 19, 2008
Tonight’s Agenda

1. Welcome
2. Decisions by Executive Team
3. PIC comments from last meeting
4. Presentation on customer classifications
5. PIC member comments and discussion
6. Summary of decisions and agreements
7. Public comment period
Decisions by Executive Team

Public Involvement Committee Workshop
February 19, 2008
Executive Team Decisions

- **Water Cost Allocations Issue 1** – Base / Extra-Capacity Method will be used
- **Water Cost Allocations Issue 2** – Peak day and peak hour will be used to allocate extra capacity costs
- **Water Cost Allocations Issue 3** – a separate charge will not be developed for private fire connections
- **Water Cost Allocations Issue 4** – deferred (public fire charges)
PIC Comments From Last Meeting

Public Involvement Committee Workshop
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Comments from PIC Members

- I/I costs should not be allocated to wholesale and industrial customers because these customers are metered and typically discharge into interceptors.
- I/I costs should be allocated based on customer connections, not volume.
- AWU should use actual measured BOD and TSS loadings to determine allocations to customer classes.
- Some PIC members supported the introduction of TKN and phosphorous, others did not.
- Additional information is requested following detailed application of the allocation methodologies.
Customer Classifications

Public Involvement Committee Workshop
February 19, 2008
Purpose of Customer Classification

- Identify groups of relatively similar customers that share common costs of service
- Allow for effective rate design
- Other management requirements
Factors for Classifying Customers

- General service requirements
- Demand patterns or usage characteristics
- Geographical locations for wholesale and outside-city customers
Customer Classification and Equity

- Interclass Equity
- Intraclass Equity
- Intergenerational Equity
Rate Design and Customer Classes

- Rate design and classification should be consistent to enhance equity
- Provide conservation incentives
- Complex rate designs may enhance equity with fewer classes
Wastewater Rate Designs and Customer Classification

- Surcharge approach
- Strength-based classification or Quantity/Quality approach
Common Customer Classes

- Single-family residential
- Multifamily residential
- Commercial
- Industrial
- Wholesale
Less Common Classes

- Institutional
- Schools
- Parks
- Hospitals
- Business parks
- Government
Estimating Customer Characteristics

- Water
  - Peak-day factor
  - Peak-hour factor

- Wastewater
  - BOD concentrations
  - TSS concentrations
Prorating Peaking Factors

Class Peak Day Factor = \( \left( \frac{\text{Class Peak Month Demand}}{\text{Class Average Month Demand}} \right) \times \left( \frac{\text{System Peak Day Demand}}{\text{System Peak Month Demand}} \right) \)

Class Peak Hour Factor = \( \left( \frac{\text{Class Peak Month Demand}}{\text{Class Average Month Demand}} \right) \times \left( \frac{\text{System Peak Hour Demand}}{\text{System Peak Month Demand}} \right) \)
## Preliminary Findings on Peaking Factors

<table>
<thead>
<tr>
<th>Customer Class</th>
<th>Estimated Peak-Season Factor</th>
<th>Estimated Peak-Day Factor</th>
<th>Estimated Peak-Hour Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside City Residential</td>
<td>1.28</td>
<td>1.64</td>
<td>2.54</td>
</tr>
<tr>
<td>Inside City Multi-Family</td>
<td>1.11</td>
<td>1.36</td>
<td>2.11</td>
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<tr>
<td>Inside City Commercial</td>
<td>1.23</td>
<td>1.56</td>
<td>2.41</td>
</tr>
<tr>
<td>Inside City Industrial</td>
<td>1.06</td>
<td>1.28</td>
<td>1.98</td>
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<tr>
<td>Inside City Golf Courses</td>
<td>1.52</td>
<td>2.00</td>
<td>3.42</td>
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<tr>
<td>Utility</td>
<td>1.05</td>
<td>1.41</td>
<td>2.18</td>
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<tr>
<td>Outside City Residential</td>
<td>1.29</td>
<td>1.64</td>
<td>2.55</td>
</tr>
<tr>
<td>Outside City Multi-Family</td>
<td>1.16</td>
<td>1.42</td>
<td>2.20</td>
</tr>
<tr>
<td>Outside City Commercial</td>
<td>1.32</td>
<td>1.77</td>
<td>2.74</td>
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<tr>
<td>Outside City Golf Course</td>
<td>0.67</td>
<td>8.39</td>
<td>13.00</td>
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<td>Anderson Mill</td>
<td>1.20</td>
<td>1.47</td>
<td>2.27</td>
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<td>Creedmore-Malta</td>
<td>1.18</td>
<td>1.55</td>
<td>2.40</td>
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<td>High Valley</td>
<td>1.13</td>
<td>1.35</td>
<td>2.09</td>
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<td>Lost Creek</td>
<td>1.34</td>
<td>1.77</td>
<td>2.75</td>
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<tr>
<td>Manor, City of</td>
<td>1.12</td>
<td>5.08</td>
<td>7.88</td>
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<tr>
<td>Manville WSC</td>
<td>1.33</td>
<td>1.75</td>
<td>2.71</td>
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<td>Marsha Water</td>
<td>1.16</td>
<td>1.39</td>
<td>2.15</td>
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<tr>
<td>Nighthawk</td>
<td>1.14</td>
<td>1.36</td>
<td>2.11</td>
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<tr>
<td>North Austin MUD</td>
<td>1.31</td>
<td>1.63</td>
<td>2.53</td>
</tr>
<tr>
<td>Northtown MUD</td>
<td>1.24</td>
<td>1.53</td>
<td>2.37</td>
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<tr>
<td>Rivercrest</td>
<td>1.31</td>
<td>1.65</td>
<td>2.55</td>
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<td>Rollingwood</td>
<td>1.42</td>
<td>1.94</td>
<td>3.01</td>
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<td>Shady Hollow</td>
<td>1.40</td>
<td>1.91</td>
<td>2.96</td>
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<td>Sunset Valley MUD</td>
<td>1.37</td>
<td>1.66</td>
<td>2.57</td>
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<tr>
<td>Water District 10</td>
<td>1.34</td>
<td>1.76</td>
<td>2.72</td>
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<tr>
<td>Wells Branch MUD</td>
<td>1.21</td>
<td>1.46</td>
<td>2.26</td>
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<tr>
<td>Windermere</td>
<td>2.06</td>
<td>5.05</td>
<td>7.82</td>
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<tr>
<td><strong>System-Wide Peaking Factors</strong></td>
<td><strong>1.22</strong></td>
<td><strong>1.55</strong></td>
<td><strong>2.40</strong></td>
</tr>
</tbody>
</table>
Mass-Balance Analysis

- Use known and estimated concentrations to assign loadings to particular classes
- Balance the residual loadings to the other class(es)
- Published data by economic activity is often used
## Preliminary Findings for Austin

### Treatment Plant Inflow (MG) BOD Lbs BOD mg/L TSS Lbs TSS mg/L

<table>
<thead>
<tr>
<th>Treatment Plant</th>
<th>Inflow (MG)</th>
<th>BOD Lbs</th>
<th>BOD mg/L</th>
<th>TSS Lbs</th>
<th>TSS mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walnut</td>
<td>20,795</td>
<td>23,573,719</td>
<td>136</td>
<td>34,652,639</td>
<td>200</td>
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<tr>
<td>South Austin Regional</td>
<td>15,845</td>
<td>30,578,479</td>
<td>231</td>
<td>40,206,260</td>
<td>304</td>
</tr>
<tr>
<td><strong>Total System</strong></td>
<td><strong>36,641</strong></td>
<td><strong>54,152,198</strong></td>
<td><strong>177</strong></td>
<td><strong>74,858,898</strong></td>
<td><strong>245</strong></td>
</tr>
</tbody>
</table>

### Industrial Customers

<table>
<thead>
<tr>
<th>Company</th>
<th>BOD Lbs</th>
<th>BOD mg/L</th>
<th>TSS Lbs</th>
<th>TSS mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freescale Semiconductor, Inc.</td>
<td>588.5</td>
<td>446,864</td>
<td>91</td>
<td>63,838</td>
</tr>
<tr>
<td>Freescale Semiconductor, Inc.</td>
<td>323.2</td>
<td>318,282</td>
<td>118</td>
<td>234,665</td>
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<tr>
<td>Samsung Austin Semiconductor</td>
<td>464.6</td>
<td>279,125</td>
<td>72</td>
<td>116,302</td>
</tr>
<tr>
<td>Spansion LLC</td>
<td>607.9</td>
<td>106,520</td>
<td>21</td>
<td>65,941</td>
</tr>
<tr>
<td>University of Texas</td>
<td>0.9</td>
<td>604</td>
<td>80</td>
<td>785</td>
</tr>
<tr>
<td>University of Texas</td>
<td>26.8</td>
<td>8,060</td>
<td>36</td>
<td>3,582</td>
</tr>
<tr>
<td><strong>Total Industrial Customers</strong></td>
<td><strong>2,012</strong></td>
<td><strong>1,159,455</strong></td>
<td><strong>69</strong></td>
<td><strong>485,114</strong></td>
</tr>
</tbody>
</table>

### System Less Industrial Customers

<table>
<thead>
<tr>
<th></th>
<th>Inflow (MG)</th>
<th>BOD Lbs</th>
<th>BOD mg/L</th>
<th>TSS Lbs</th>
<th>TSS mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System Less Industrial Customers</strong></td>
<td><strong>34,629</strong></td>
<td><strong>52,992,743</strong></td>
<td><strong>183</strong></td>
<td><strong>74,373,785</strong></td>
<td><strong>258</strong></td>
</tr>
</tbody>
</table>
Policies Reviewed

1. Should the large-volume customer class be disaggregated?
2. Should the threshold for inclusion in the large-volume class be adjusted?
3. Should an irrigation customer class be created?
Issue 1: Disaggregation of Large-Volume Class

- Maintain one class*
- Separate classes for each large-volume customer

* AWU’s current methodology
### Historical Monthly Peaking Factors

<table>
<thead>
<tr>
<th>Industrial Customers</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>Average Peak Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Materials</td>
<td>1.54</td>
<td>1.34</td>
<td>2.20</td>
<td>1.56</td>
<td>1.66</td>
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<tr>
<td>Freescale</td>
<td>1.24</td>
<td>1.15</td>
<td>1.11</td>
<td>1.82</td>
<td>1.33</td>
</tr>
<tr>
<td>Samsung Austin Semiconductor</td>
<td>1.18</td>
<td>1.13</td>
<td>1.31</td>
<td>1.22</td>
<td>1.21</td>
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<tr>
<td>Sematech</td>
<td>1.12</td>
<td>1.14</td>
<td>1.23</td>
<td>1.46</td>
<td>1.24</td>
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<tr>
<td>Spansion</td>
<td>1.11</td>
<td>1.23</td>
<td>1.18</td>
<td>1.18</td>
<td>1.17</td>
</tr>
<tr>
<td>University Of Texas</td>
<td>1.33</td>
<td>1.26</td>
<td>1.34</td>
<td>1.53</td>
<td>1.37</td>
</tr>
<tr>
<td>Hospira Inc</td>
<td>2.72</td>
<td>2.07</td>
<td>1.40</td>
<td>1.35</td>
<td>1.88</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>1.46</td>
<td>1.33</td>
<td>1.39</td>
<td>1.45</td>
<td>1.41</td>
</tr>
<tr>
<td><strong>Standard Deviation</strong></td>
<td>0.573</td>
<td>0.333</td>
<td>0.368</td>
<td>0.222</td>
<td>0.265</td>
</tr>
</tbody>
</table>
Maintain One Large-Volume Class

- AWU’s current methodology
- Less administrative burden
- More common in the industry
- Less equitable among large-volume customers (intraclass equity)
Disaggregate Large-Volume Class

- Slightly higher administrative burden
- Improves intraclass equity
- Less common in the industry
- Potential increase in water conservation
- Recommended by consulting team
Issue 2: Large-Volume Class Threshold

- 85 MG per year*
- 100 MG per year
- 50 MG per year

*AWU’s current methodology
Usage per Large-Volume Customer
Issue 2 Evaluation

- Reducing threshold may increase administrative burden
- Reducing threshold may increase water conservation
- Consulting team recommends maintaining threshold of 85 MG per year
Issue 3: Irrigation Class

- Do not implement irrigation class*
- Implement irrigation class

*AWU’s current methodology
No Irrigation Class

- AWU’s current methodology
- Less administrative burden
- May benefit customers without irrigation meter
- May not encourage additional water conservation
- Increased revenue stability
- New billing system may allow rate design that makes separate irrigation class less important
- Recommended by consulting team
Implement Irrigation Class

- Increased administrative burden
- More acceptable to public and elected officials—consistent with Water Conservation Task Force recommendations
- May increase or decrease intraclass equity
- Possible rate shock for irrigation customers
- Increased water conservation
- Reduced revenue stability
PIC Member Questions, Discussion, and Comments

Public Involvement Committee Workshop
February 19, 2008
Next Steps

- Written comments on tonight’s meeting due 2/26 (to Mike Castillo)
- Rate Design issue paper to PIC on 2/25
- Next PIC Workshop on 3/3 (Monday)
Summary of Decisions and Agreements

Public Involvement Committee Workshop
February 19, 2008
Public Comment

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