Pretreatment Program Economics - Costs, Fees, Surcharges

California Regional Water Quality Board

Colorado River Basin Training

April 2010
Federal Regulations

- Funding- 40 CFR 403.8(f)(3)
  - The POTW shall have sufficient resources and qualified personnel to carry out the authorities and procedures described
  - Intent of Regulation- Funds must be provided to sustain the pretreatment program
Legal Authority Established?

- City must review its Sewer Use Ordinance to determine the types of fees that can be charged to commercial and industrial users.
- Investigate other possible restrictions on fee assessment.
Types of Funding

- Wastewater Surcharge (excessive strength waste)
- Permit Fees
- Sampling & Monitoring Fees
- Inspection Fees
- Industrial or Commercial Wastewater Rates
  - Based on Facility type
  - Based on Wastewater flow
- Cost Recovery Fees
  - Sewer Line Cleaning
  - Corrosion issues
Wastewater Surcharge

- A charge for compatible pollutants that are above domestic background concentrations or WWTP design capacity.
- These funds are necessary to fund sampling and monitoring activities for surcharge calculations and to cover cost of treatment of the excessive strength compatible waste.
Case Study: Surcharge and Limits

Example:

- WWTP has exceeded hydraulic and organic design capacity of the WWTP.
- BOD5, ammonia, and TSS effluent violations have occurred. A surcharge program for compatible pollutants is in place. The WWTP is scheduled to have a WWTP expansion completed in 2 years. What should the WWTP do?
Pollutants for Wastewater Surcharge

- Biochemical Oxygen Demand (5 day)
- Total Suspended Solids
- Oil and Grease
- COD
- TKN
- Ammonia
- Phosphorus
- Flow (in some cases Cities have permit flow limit, and if exceeded then a surcharge fee occurs, or NOV is issued)
Example Surcharge Calculation

- Total Suspended Solids Limit: 300 mg/L
- Cost of TSS: $0.12 per pound above limit
- Industry Z results for the month:
  - TSS concentration: 985 mg/L
  - Flow: 3,455,700 gallons

Example Calculation:

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\text{Example Calculation:}\nonumber
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\[
((985-300) \times 3.4557 \times 8.34) \times 0.12 = \$2,369
\]
## Surcharge Survey Results - U. S. EPA Region 4 (38 WWTPs)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Average $ per lb.</th>
<th>Range of $ per lb</th>
<th>Average Concentration for start of surcharge (mg/L)</th>
<th>Concentration Range for start of surcharge (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD5</td>
<td>$0.232</td>
<td>$0.030</td>
<td>$0.68</td>
<td>281</td>
</tr>
<tr>
<td>TSS</td>
<td>$0.186</td>
<td>$0.035</td>
<td>$0.68</td>
<td>301</td>
</tr>
<tr>
<td>O &amp; G</td>
<td>$0.291</td>
<td>$0.030</td>
<td>$1.05</td>
<td>94</td>
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<tr>
<td>Ammonia</td>
<td>$0.561</td>
<td>$0.040</td>
<td>$1.55</td>
<td>25</td>
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<tr>
<td>TKN</td>
<td>$1.170</td>
<td>$0.14</td>
<td>$2.00</td>
<td>39</td>
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<tr>
<td>Phosphorus</td>
<td>$1.320</td>
<td>$0.64</td>
<td>$2.00</td>
<td>10</td>
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<tr>
<td>COD</td>
<td>$0.107</td>
<td>$0.05</td>
<td>$0.15</td>
<td>672</td>
</tr>
</tbody>
</table>
Permit Fees

- Industrial User Permit Fees have wide range (*ranges from $50-$2,500, or higher*)
- Permit fees may be due annually or just at time of renewal for permit.
- Considerations:
  - Administration costs
  - Complexity of industrial processes
  - Wastewater Flow characteristics (if not already on commercial or industrial wastewater rate)
Permit Fees

- Permit fees may vary based on class of non-domestic user
  - FSE
  - Commercial
  - Industrial

- For those WWTPs that do charge a FOG permit fee the average annual cost is $120.
Sampling and Monitoring Fees

- Cost Recovery for sampling and analyses
- Cost can be charged annually, at time of sampling and analysis, or with equal payments over a 12 month period.
- POTW must have the following information to determine the fee:
  - Sampling equipment cost
  - Sampling personnel cost
Inspection Fees

- Similar to Sampling and Monitoring Fees, cost recovery for field and administrative time to conduct inspections.
- Some inspection fees are based on the size of the facility, or type of operation.
- Range of inspection fees is $50 to $500.
Cost Recovery Fees

- Sewer Line and Sewer Pump Station Maintenance Costs
- Sewer Line Corrosion
Questions?