Pretreatment Program Economics – Costs, Fees and Surcharges

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RWQCB Colorado River Board
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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 and 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.

• This charge is necessary to fund sampling and monitoring activities for surcharge calculations and to cover cost of treatment of the excessive strength of 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 (BOD) (5 day)
- Total Suspended Solids (TSS)
- 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

- TSS Surcharge Threshold: 300 mg/L
- Cost of TSS: $0.12 per pound above limit
- Industry Z results for the month:
  - Monthly Average TSS concentrations: 985 mg/L
  - Flow: 3,455,700 gallons

Example Calculation

\[
((985-300) \times 3.4557 \times 8.34) \times 0.12 = 2,369
\]
<table>
<thead>
<tr>
<th>Substance</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>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>200 - 450</td>
</tr>
<tr>
<td>TSS</td>
<td>$0.186</td>
<td>$0.035</td>
<td>$0.68</td>
<td>301</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>200 - 500</td>
</tr>
<tr>
<td>O &amp; G</td>
<td>$0.291</td>
<td>$0.030</td>
<td>$1.05</td>
<td>94</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50 - 200</td>
</tr>
<tr>
<td>Ammonia</td>
<td>$0.561</td>
<td>$0.040</td>
<td>$1.55</td>
<td>25</td>
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<td></td>
<td></td>
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<td></td>
<td>12 - 45</td>
</tr>
<tr>
<td>TKN</td>
<td>$1.170</td>
<td>$0.14</td>
<td>$2.00</td>
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<tr>
<td>Phosphorus</td>
<td>$1.320</td>
<td>$0.64</td>
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<td>10</td>
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<td>COD</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>450 - 800</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 (continued)

• Permit fees may vary based on class of nondomestic user
  – Food Service Establishment (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
  – Lab analysis costs
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
Measuring Successful Pretreatment Programs

- USEPA Performance Measures
Performance Measures 1 - 4

Benefits of preventing:

• Explosions and Hazardous Atmospheres
• pH Problems and Observed Corrosion
• Sewer Collection System Overflows associated with non-domestic Users
• Interference or Pass Through
Performance Measures 5 - 6

Benefits of ensuring:

• Correct Permits and Representative Sampling

• Full Compliance with Local Limits and Categorical Standards
Benefits of promoting:

- High Quality Biosolids
- SUIs Voluntarily at Zero Discharge
- Controls on Emerging Pollutants
<table>
<thead>
<tr>
<th>Environmental, Public Health, and Asset Management Benefits</th>
<th>Performance Measures</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Explosions and Hazardous Atmospheres</td>
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<tr>
<td>Health and Safety Protection</td>
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</tr>
<tr>
<td>Continuity in Service</td>
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</tr>
<tr>
<td>Protection against POTW and Collection System Failure</td>
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</tr>
<tr>
<td>Decreased Costs to Replace and Repair Assets</td>
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<tr>
<td>Protection of Receiving Water Quality (reduced cleanup costs)</td>
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<tr>
<td>Decreased Enforcement Action Costs to POTW</td>
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<tr>
<td>Decreased Possibility of Enforcement Action Against POTW</td>
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<tr>
<td>Cost Savings to Nondomestic Users</td>
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<tr>
<td>Reduced Monitoring and Oversight Costs for POTW</td>
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<td>Cost Savings in Sludge Removal Practices</td>
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<td>Prevention of Litigation From Outside Parties</td>
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</tr>
<tr>
<td>Positive Public Relations</td>
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Questions?