Pretreatment Program Economics – Costs, Fees and Surcharges

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CALIFORNIA
Water Boards

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) x 3.4557 x 8.34) x 0.12 = $2,369

Surcharge Survey Results- U. S. EPA Region 4 (38 WWTPs)

	Average $ per lb.	Range of $ per lb		Average Concentration for start of surcharge (mg/L)	Concentration Range for start of surcharge (mg/L)
BOD5	$ 0.232	$0.030	$ 0.68	281	200 - 450
TSS	$ 0.186	$0.035	$ 0.68	301	200 - 500
O & G	$ 0.291	$0.030	$ 1.05	94	50 - 200
Ammonia	$ 0.561	$0.040	$ 1.55	25	12 - 45
TKN	$ 1.170	$0.14	$ 2.00	39	30 - 60
Phosphorus	$ 1.320	$0.64	$ 2.00	10	10
COD	$ 0.107	$0.05	$ 0.15	672	450 - 800

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

Performance Measures 7 - 9

Benefits of promoting:

- High Quality Biosolids
- SUIs Voluntarily at Zero Discharge
- Controls on Emerging Pollutants

Environmental, Public Health, and Asset Management Benefits	Performance Measures								
	Explosions and Hazardous Atmospheres	pH Problems and Observed Corrosion	Sewer Overflows Associated with Nondomestic Users	Interference or Pass Through	Correct Permits and Representative Sampling	Full Compliance with Local Limits and Categorical Standards	High Quality Biosolids	SIUs Voluntarily at Zero Discharge	Controls on Emerging Pollutants
Health and Safety Protection	√	√	√	√	√	√	√	√	√
Continuity in Service	√	√	√	√	√	√			
Protection against POTW and Collection System Failure	√	√	√	√	√	√			
Decreased Costs to Replace and Repair Assets	√	√	√	√	√	√			
Protection of Receiving Water Quality (reduced cleanup costs)	√	√	√	√	√	√	√	√	√
Decreased Enforcement Action Costs to POTW	√	√	√	√	√	√	√	√	√
Decreased Possibility of Enforcement Action Against POTW	√	√	√	√	√	√	√	√	√
Cost Savings to Nondomestic Users						√	√	√	√
Reduced Monitoring and Oversight Costs for POTW								√	
Cost Savings in Sludge Removal Practices							√		
Prevention of Litigation From Outside Parties	√	√	√	√	√	√	√	√	√
Positive Public Relations	√	√	√	√	√	√	√	√	√

Questions?