

Info Item 2: Industrial **Waste Incentive Program**

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Issue

- Company in Shakopee wants to increase its high strength discharge
- Blue Lake Treatment Plant loading issue
- Some strength charge options:
 1. Status quo
 2. Increase Strength Charge to Full Cost
 3. Offer incentive to encourage high-strength industrial customers to reduce strength of their discharges

Agenda

- Review Strength Charge Formula
- Strength Charge Rate comparison to peer agencies
- Impact of adding debt service to formula
- Incentive program idea

MCES Strength Charge

- Retail (end user) fee
- Fees to connected industries for additional treatment costs caused by industrial wastewater with more pollutants than typical residential wastewater
- Based on concentration of pollutants and volume of discharge

Charge Type	2011	2012	2013
Total Suspended Solids (TSS) Rate	\$0.155	\$0.160	\$0.172
Chemical Oxygen Demand (COD) Rate	\$0.0775	\$0.080	\$0.086

- \$ per lb. of excess strength

Top 10 S.C. Customers in 2011

Customer	Strength Charges*	% of Total	Cumulative % of Total
Waldorf (Rock Tenn)	\$1,243,264	14.9%	14.9%
FilmTec	\$1,016,978	12.2%	27.1%
Twin City Tanning	\$1,005,355	12.0%	39.0%
Northern Star	\$1,000,377	12.0%	51.1%
Dakota Premium Foods	\$535,092	6.4%	57.5%
Agropur Inc.	\$310,611	3.7%	61.2%
Twin City Hide	\$268,694	3.2%	64.4%
Sanimax USA	\$221,609	2.7%	67.0%
Kemps	\$214,499	2.6%	69.6%
Kohler Mix Specialties	\$177,731	2.1%	71.7%

* Total of \$8,355,272 in 2011

Rate Comparison to Peer Agencies

Agency	TSS rate	Threshold
Memphis	.0716	300
Cleveland	.0950	266
Fort Worth	.1010	250
St. Louis	.1090	300
Austin	.1090	200
Sacramento	.1100	?
MCES	.1580	250
Denver	.1690	250
Boston	.1900	400
Chicago	.2000	?

Agency	TSS rate	Threshold
Milwaukee	.2000	370
Seattle	.2860	400
Virginia B.	.3030	250
Philadelphia	.3150	350
Cincinnati	.3607	300
Phoenix	.4116	?
Columbus	.4600	300
Rochester _{NY}	.5050	300
San Diego	.5860	250
San Antonio	1.500	250

Source: NACWA survey of 2010 rates. Peer agencies are those treating more than 100MGD.

2013 Strength Charge Calculation

Total MCES Budgeted Expenses	\$226,475,000
Less Debt Service	\$(100,245,000)
Less PAYG	\$(1,500,000)
Less Non-wastewater EQA	\$(908,000)
Less Interceptor Program	<u>\$(13,458,000)</u>
“Treatment Works O&M”	\$110,364,000
10-year average flow	92.494BG
TW O&M per MG	\$1,193.21
$1193.21 \times .5^* \times .6^{**} / (250 \times 8.34) =$	\$.172 per lb. of excess TSS
$1193.21 \times .5^* \times .6^{**} / (500 \times 8.34) =$	\$.086 per lb. of excess COD

* 50% of solids treatment expenses are for TSS and 50% for COD

** 60% of total expenses are for solids (40% to treat liquids)

2009 S.C. Formula Study

2009 internal work group to studied MCES' strength charge formula; *The Consultant Report* (Environmental Financial Group) stated:

“We advise that the Council consider including a capital component in the calculation of the strength charges. Customers who routinely, periodically, or occasionally discharge higher strength wastewater into the MDS should pay both the operating and capital cost of system capacity sized to accommodate such high strength wastewater.”

With Debt Service Included

Total Budgeted Expenses	\$226,475,000
Less Debt Service*	\$(83,234,000)
Less PAYG*	\$(1,245,000)
Less Non-wastewater EQA	\$(908,000)
Less Interceptor Program	<u>\$(13,458,000)</u>
Treatment Works O&M	\$127,630,000
10-year average flow	92.494BG
TW O&M per MG	\$1,379.88
$1193.21 \times .5 \times .6 / (250 \times 8.34) =$	\$.200 per lb. of excess TSS
$1193.21 \times .5 \times .6 / (500 \times 8.34) =$	\$.100 per lb. of excess COD

Rate would be 16% higher

* Debt service included is non-SAC portion (71%) of solids treatment portion (24%) of total debt service = \$17 million.

Incentive Program Idea

- Offer rebates for portion of cost to install pretreatment technology (e.g. 30% of new digester)
 - Paid over several years
 - Based on measurable, sustained reduction in high strength
- Goal: Reduce Industrial customer's strength to domestic strength (then no subsidy exists)

Incentive Program Idea (Estimated Savings to Ratepayers)

- O&M savings
 - Energy
 - Polymer
- Possible energy utility rebates
- Plant expansion delay savings

Other Agencies: Cincinnati, OH

- Provides credit if component of discharge strength is less than 80% of normal strength
 - E.g., credit would be given for discharge with TSS strength less than 200 mg/L (80% of our 250 domestic threshold); credit would be applied to cost of COD part of formula

Other Agencies: Riverside, CA

- Provides incentives for up to 50% of cost to install pretreatment technology
 - Not to exceed \$150,000 per year per customer
 - Also limited to 50% of customer's total preceding 12-month sewer service charges

Incentive Program Idea (Example Applied to Largest Customer)

- Assumptions:
 - Digester costs customer \$7.1M
 - 30% incentive costs MCES \$2.1M (\$.3M/yr. over 7 years)
 - After digester is installed, customer achieves domestic strength (no longer pays strength charges to MCES)
 - Solids capacity avoided cost = \$2 per gallon reduced
 - For every dollar strength charges are reduced, O&M costs decrease about 35 cents

Example Applied to Largest Customer

Total cost and benefits to MCES over 7 years:

	<u>\$ in Millions</u>
Incentive paid to customer	\$2.1
Lost Strength Charge Revenue*	<u>\$9.8</u>
Total Cost	\$11.9
Avoided capital cost (to increase capacity)**	\$11.4
O&M cost savings (from reducing strength)***	<u>\$3.5</u>
Total Benefit	\$14.9

* Assumes the strength charge rate increases 4% per year

** Correct cost estimate for future capacity needed

*** Marginal savings only (no overhead included)

Other Considerations

- Direction to develop incentive?
- Limits on eligibility?
- Maximum dollar amount?
- Payment over XX years based on measured reduction in strength?