CHEMTEX
INTERNATIONAL CHEMTEX CORPORATION

Technical Topics

Cooling Tower Sewer Credit Worksheet

TT-019-0192

As a user of water, you are charged a fee to bring water into your facility as well as a fee to return the water to the city. Often water is used in your facility and not returned to the sewer. The city however assumes that all water that enters your facility is returned and bases your sewer costs on the total amount that enters your facility via the water meter. By monitoring the amount your "use", the amount not returned, you may be able to reduce you water costs.

In cooling tower, evaporation of water takes place and is often more than fifty (50) percent of the total amount used in that system. The following calculations will estimate the amount of water that is evaporated from your system and therefore the estimated sewer cost savings. The actual amount of sewer reduction will be determined through the use of a water meter attached to the make-up and bleed off line of the cooling tower. The difference between the two will be reported to the city to provide them with the evidence they require to reduce your sewer charges.

EVAPORATION CREDIT CALCULATIONS

System Tonnage	200
Circulation Rate	600 gpm
Cycles	3
Hours per Day	24
Days per Year	365
Load Factor	60%
Evaporation Rate	5,184 Gallons per Day
Bleed-off Rate	2,592 Gallons per Day
Make-up Rate	7,776 Gallons per Day
Sewer Costs	$0.62/100 cu ft = $0.83/1000 gal
Sewer Reduction	5,184 gpd x 365 days = 1,892,169 gpy
Yearly Savings	$1,570
Water Meter Cost	$ 325.00 X 2 = $ 650.00
Water Meter Payback Period	151 Days
On-Going Savings	$ 1,570.00 Annually