DISTRICT ENERGY
ST. PAUL™
AA/EEO Employer/M/F/Veterans/Disability

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Chilled Water Flow Efficiency

At District Energy St. Paul, we make every effort to keep our costs low and our equipment running at peak efficiency. We look to our customers to assist in these efforts by providing guidelines for how to send the return chilled water back to the system from their building. The chilled water guidelines help your operations to use energy efficiently and to save money.

Why is flow efficiency important?

Excessive chilled water flow indicates that your building is utilizing more gallons of flow from the district system than is necessary to accomplish the cooling for the building. In this situation, your building is not efficiently displacing heat from your building back into the District Energy chilled water loop, therefore requiring more gallons of chilled water being pumped by the district system to accomplish the cooling for the building. Optimizing and minimizing the amount of system flow is so important to our operations and overall system efficiency, that it is included as a requirement in the District Cooling Service Agreement, found in Section 8.4. It states that a customer's "allowable chilled water flow" during any billing period shall be equal to or less than 103 gallons per ton-hour. This statement applies only to June 1 through September 30 of the year. If you are having challenges with flow efficiency, it may be an indication of a problem that needs to be addressed. By reaching the acceptable flow ratio, your building will operate more efficiently, the overall district system will operate more efficiently, and your operations may be eligible for a flow efficiency credit.

How is flow efficiency calculated?

If your actual chilled water flow during a billing period exceeds 110 gallons per ton-hour of total energy used, a flow efficiency charge of 60 cents per thousand gallons above the allowable chilled water flow will appear on your bill in order to offset the extra system costs required to serve your building.

On the other hand, if your actual chilled water flow is less than 75 gallons per ton- hour of total energy used, a flow efficiency credit of 60 cents per 1,000 gallons below the allowable chilled water flow will appear on your bill in recognition of your contribution to improved overall district system efficiency to a threshold limit of 32 gallons per ton-hour for the credit.

Below 75 gallons/ton-hour to 32 gallons/ton-hour	improved flow efficiency credit of $0.60/1,000 gallons
75 – 103 gallons/ton-hour	within allowable chilled water flow guidelines
Above 110 gallons/ton-hour	flow efficiency charge of $0.60/1,000 gallons over 103 gallons/ton hour

Example Flow Efficiency Credit

During June, your building used 10,000 ton-hours of energy, which equals between 750,000 and 1,100,000 gallons of allowable chilled water flow.

10,000 ton-hours of energy used x 75 gallons = 750,000 gallons of allowable chilled water

Your actual chilled water flow to deliver the 10,000 ton-hours of energy is 670,000 gallons, which is below your allowable flow. You will receive a flow efficiency credit of 80,000 gallons.

750,000 gallons allowable – 670,000 gallons used = 80,000 gallons of credit-eligible savings

The reduced flow credit is determined by multiplying 80,000 gallons times 60 cents and then dividing the result by 1000. In this case, the reduced flow credit will be $48.00.

80,000 gallons below allowable flow x $0.60/1,000 gallons = $48 flow efficiency credit.

Example Flow Efficiency Charge

During June, your building used 10,000 ton-hours of energy, which equals 750,000 – 1,100, 000 gallons of allowable chilled water flow.

10,000 ton hours of energy used x 103 gallons = 1,030,000 gallons of allowable chilled water

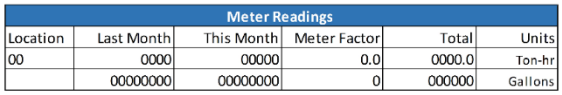
If your actual chilled water flow to deliver the 10,000 ton-hours of energy is 1,180,000 gallons, there is an excess flow of 150,000 gallons (1,030,000 gallons minus 1,180,000 gallons).

1,030,000 gallons allowable - 1,180,000 gallons used = 150,000 gallons of excess flow

The excess flow charge is determined by multiplying 150,000 gallons times 60 cents and then dividing the result by 1,000. In this case, your flow efficiency charge will be $90.00.

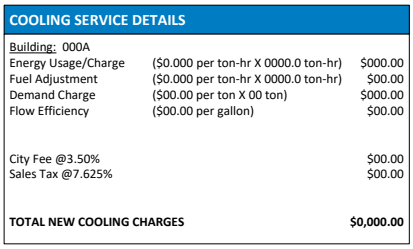
150,000 gallons above allowable flow x $0.60/1,000 gallons = $90 flow efficiency charge

Where would I see this on my bill?



Meter Readings					
Location	Last Month	This Month	Meter Factor	Total	Units
00	0000	00000	0.0	0000.0	Ton-hr
	00000000	00000000	0	000000	Gallons

On your chilled water service bill, you will see a section for Meter Readings that is used to calculate flow efficiency. Your meter reading will include information for your current billing period as well as the pervious billing period for your use of energy (ton-hour) and flow (gallons). Under the Cooling Service Details section of your bill, you may see the line item for flow efficiency that is either a credit for reduced flow or a charge for excess flow. If these line items don't appear on your bill, it means that your chilled water flow is within the allowable requirements set in the District Cooling Service Agreement.



COOLING SERVICE DETAILS		
Building: 000A		
Energy Usage/Charge	($0.000 per ton-hr X 0000.0 ton-hr)	$000.00
Fuel Adjustment	($0.000 per ton-hr X 0000.0 ton-hr)	$00.00
Demand Charge	($00.00 per ton X 00 ton)	$000.00
Flow Efficiency	($00.00 per gallon)	$00.00
City Fee @3.50%		$00.00
Sales Tax @7.625%		$00.00
TOTAL NEW COOLING CHARGES		$0,000.00

Additional Questions

District Energy welcomes inquiries about our service, rates, and billing. Please direct your questions to our team at 651.297.8955.