

Vortex CHC

MAKING CAVITATION WORK FOR YOU

EcoWater CHC Case Study

Customer / Project:

Tyndall Air Force Base

Website:

<http://www.tyndall.af.mil>

Location:

Tyndall, FL

Industry:

Military

Challenges:

Worker safety

Bacterial control

Solution:

20-GPM unit and 100-GPM automatic backwashing filter

Results:

Water savings: > 500,000 gal annually

Improved personnel safety

Vortex CHC

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The Challenge:

A military base uses cooling water for the operation of a centrifugal chiller. The cooling water system includes a 200-ton composite cooling tower with plastic fill along with the chiller. The total water volume is about 1,800 gallons and has a recirculation rate of 750 gpm.

A chemical program had been applied to treat the cooling water. However, microbiological control was not consistent and a worker had developed skin sensitivity to the biocide used. In addition, the maintenance department did not want to handle the hazardous treatment chemicals and recently had to change the inhibitor product due to discharge concerns over molybdates.

The Solution:

A CHC 20-GPM unit and a 100-GPM automatic backwashing filter were installed on the cooling system in January 2004. A conductivity controller and a corrosion coupon rack were also installed.

Significant improvement in water quality was noticed within two weeks. Bacteria counts average less than 4,000 CFU/ml. Corrosion rates are less than 2.4 mpy on mild steel and less than 0.16 mpy on copper. There has been no sign of scale build up either on the plastic fill or any indication of chiller inefficiencies.

The cycles of concentration were raised to 6 with the CHC system compared to 3 during chemical treatment. This equates to a reduction in makeup water consumption of 20% and blowdown of 60%. The estimated annual water savings is over 500,000 gallons. Personnel no longer must handle harmful chemicals.