

Dufferin-Peel Catholic District School Board Greater Toronto Area, Canada



OVERVIEW

A Municipal School Board wanted to reduce operating costs, demonstrate environmental responsibility and create a safe environment for staff and students by eliminating the risks of handling and storing toxic chemicals on-site for treating cooling tower water.

COOLING SYSTEM CHALLENGES

The 250 Ton **BAC** cooling tower (induced draft cross-flow) & **Trane** Chiller, at the chosen site had experienced significant scaling and corrosion.

- The cooling tower had 1/4 inch of scale over most of the interior and exterior fill surface
- Water turbidity obscured the 15-inch deep sections of the sump reservoir
- A persistent layer of muddy silt coated most surfaces at or below sump water level
- Evidence of leaks in the sump caused by "white rust"

SOLUTION

The **EnviroTower** system was installed at the initial site in 1995. As well, a complete startup and results monitoring program was initiated, including:

- Flush and recharge of the recirculating condenser water system
- Resetting the automatic blowdown discharge cycle
- Weekly monitoring to observe tower circulating water appearance, log water usage and measure water quality

RESULTS

Significant improvements in the condition of the cooling tower were realized within weeks and validated by **independent testing**:

- Elimination of almost all the old scale formed on the tower surfaces, with several bucket loads of scale removed during the first 6 weeks of operation. The fill was restored to new appearance within 4 months.
- Minor sump "holes" were revealed upon removal of scale and were repaired
- Biofouling evidence was absent, no slime or algae growth was visible in the tower
- Third-party, coupon-demonstrated tests, conducted over the **past 11 years** show consistently low corrosion rates (below 2 mpy for steel and 0.07 mpy for copper)

- Significant energy and water savings are estimated to have resulted from installing *EnviroTower's* system:
 - Water consumption reduced by up to 25% with increased cycles of concentration compared with chemical treatment
 - Thousands of KW hours saved due to elimination of scale and fouling on condenser tubes
 - Health and Safety liability was greatly improved by eliminating the need for chemical storage and handling

With these strong results, the School Board decided to install *EnviroTower's* system on **40 additional schools** across its jurisdiction in the Great Toronto Area (Ontario Canada). The Environmental Verification Program (Canadian Government, recognized by the EPA in the United States) confirmed the system's claims, based on extensive testing of 12 cooling towers at 9 different sites.

ABOUT THE TECHNOLOGY

EnviroTower, a clean technology industry leader, provides a proven, reliable solution for maximizing energy and water efficiencies while minimizing environmental impacts of cooling towers. The company enables commercial, institutional and industrial customers to drive down their energy and water costs through a clean, comprehensive water treatment system that delivers consistent, measurable results.

See www.scalebuster.com/envirotower for more information

