



● COOLING TOWER

Great Lakes Cooling Tower Case Study **USA**

HydroFLOW® enabled higher conductivity operation at a 700MW power plant, reducing blowdown water demand, chemical usage and operating cost.

 Client details have been anonymised at their request.

200M

Gallons Saved / Year

60%

Blowdown Reduction

75.5%

Inhibitor Reduction

\$350K

Annual Cost Savings



BEFORE & AFTER

● BEFORE

- High blowdown water demand
- Heavy chemical dosing required
- Scaling risk necessitated low concentration cycles

● AFTER

- ✓ Blowdown reduced by 60%
- ✓ Treatment chemicals reduced
- ✓ Cooling performance maintained



OVERVIEW

A 700MW power plant in the Great Lakes region operated a recirculating cooling system with a 10-cell cooling tower. The site used large volumes of water and treatment chemicals to control scale, corrosion and biological activity. HydroFLOW® enabled reduced blowdown demand and chemical usage while maintaining cooling performance.



CHALLENGE

The plant needed to reduce water and chemical use while maintaining system condition.

- Cooling tower used large volumes of water
- Chemical treatment created high operating cost
- Scaling risk necessitated low concentration cycles
- Cooling reliability had to be maintained

SOLUTION

HydroFLOW® Multihead units were installed on large cooling tower pipework to support higher conductivity operation and reduce blowdown water demand and chemical usage.

UNIT INSTALLED

2x HydroFLOW® Multihead 60" + Custom 24"

PLANT TYPE

700MW power plant

COOLING SYSTEM

10-cell recirculating cooling tower

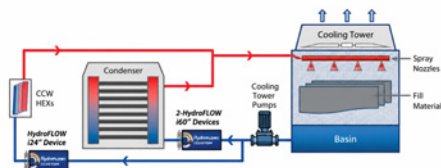
ASSESSMENT PERIOD

Typical 8–12 week site evaluation



INSTALLATION

Multihead unit on large cooling pipe



DIAGRAM

Cooling tower treatment configuration



RESULTS



Water Savings Increased

Annual water savings reached 200 million gallons



Blowdown Reduced

Blowdown water use fell by 60% during assessment



Inhibitor Use Reduced

Scale and corrosion inhibitor use reduced by 75.5%



Biological Control Maintained

Biocides and dechlorinator were reduced by over 70%



Cooling Stability Maintained

Cooling differential and condenser vacuum remained stable



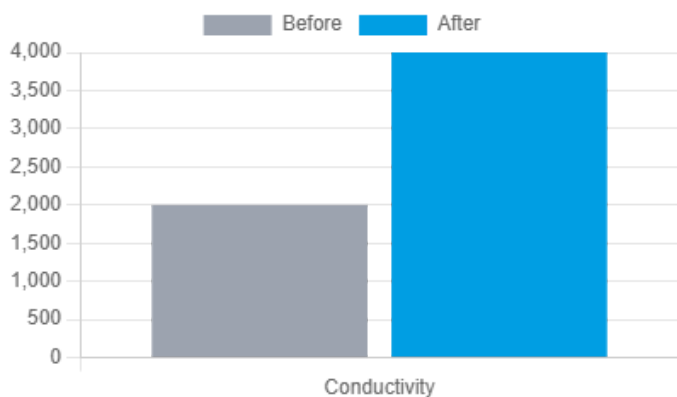
Annual Cost Savings

Estimated annual savings reached \$350K at the plant



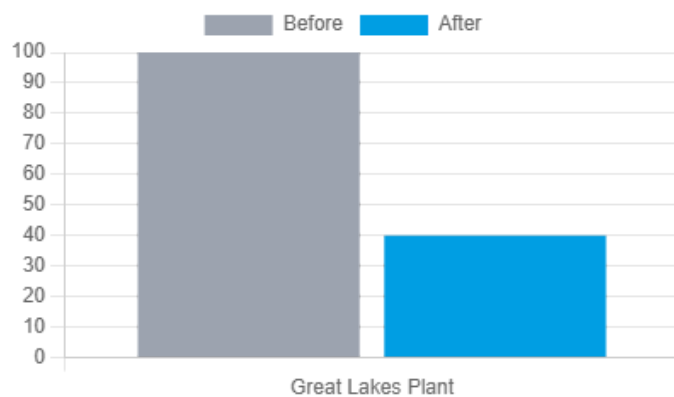
GRAPHS

Great Lakes Plant Conductivity ($\mu\text{S}/\text{cm}$)



Conductivity increased with no additional scaling.

Blowdown Reduction (%)



Blowdown water demand reduced during assessment.



TESTIMONIAL

"I would recommend evaluating HydroFLOW® for cooling tower water management applications."

— Plant Manager

KEY TAKEAWAY

Summary

HydroFLOW® enabled higher conductivity operation at the Great Lakes power plant while reducing water and chemical demand. The evaluation demonstrated stable cooling performance under reduced blowdown conditions, with lower inhibitor demand and significant operational water savings achieved during assessment.

200M

GALLONS SAVED / YEAR

60%

BLOWDOWN REDUCTION

\$350K

ANNUAL SAVINGS

RELATED CASE STUDY

Midwest Cooling Tower Case Study

USA

Hydropath technology supported higher conductivity operation at a 500MW power plant with an 8-cell cooling tower. The evaluation reduced blowdown water demand and chemical usage while maintaining cooling performance and clean heat transfer surfaces.

60M Gallons Saved

Annual water savings reached 60 million gallons during the evaluation.

48.6% Blowdown Cut

Blowdown water use fell by 48.6% while conductivity was increased.

74% Inhibitor Reduction

Scale and corrosion inhibitor use was reduced by 74%.

HYDROPATH 

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