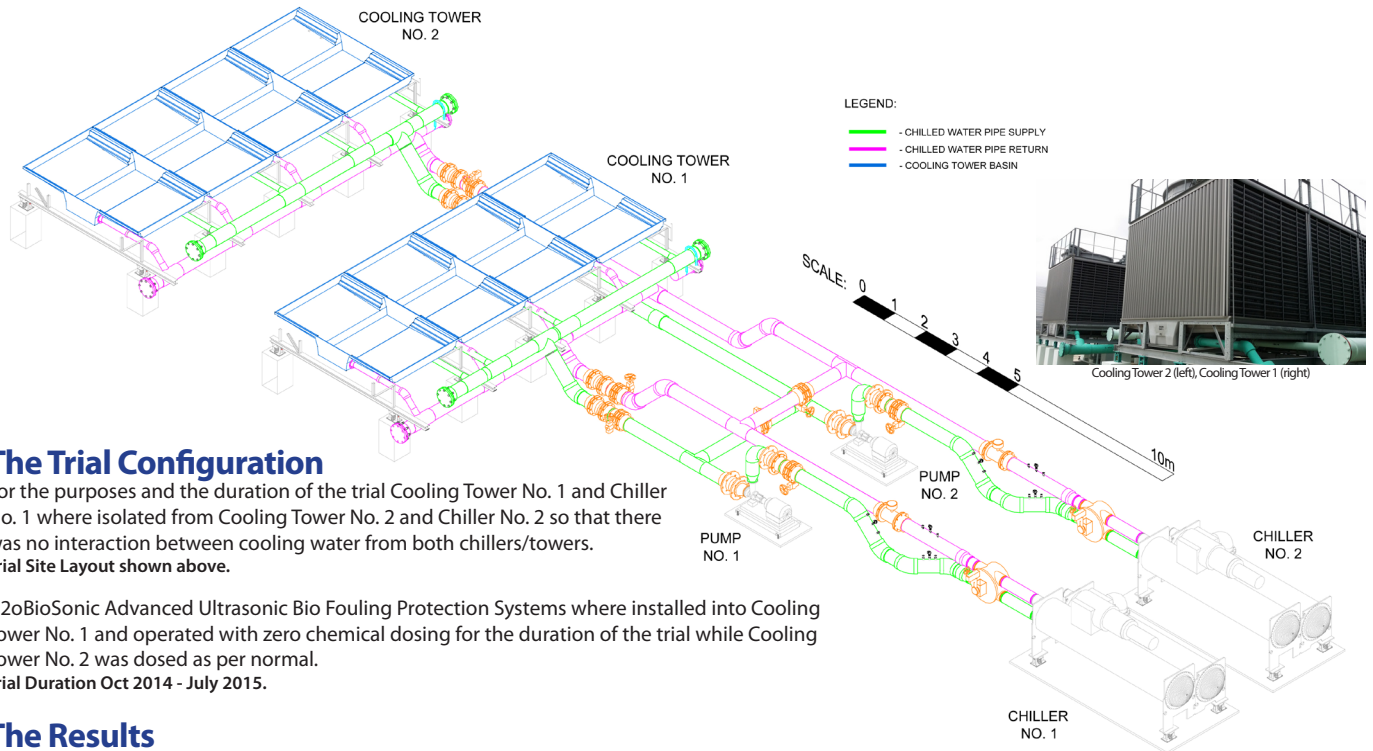


# H2oBioSonic.com

## Advanced Ultrasonic Bio Fouling Protection Systems HVAC Cooling Tower Trial Results - 2014 - 2015

Trial Demonstration Performed in Singapore as outlined below.



### The Trial Configuration

For the purposes and the duration of the trial Cooling Tower No. 1 and Chiller No. 1 were isolated from Cooling Tower No. 2 and Chiller No. 2 so that there was no interaction between cooling water from both chillers/towers. Trial Site Layout shown above.

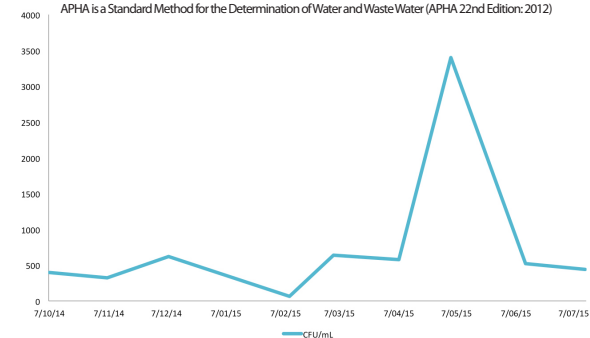
H2oBioSonic Advanced Ultrasonic Bio Fouling Protection Systems were installed into Cooling Tower No. 1 and operated with zero chemical dosing for the duration of the trial while Cooling Tower No. 2 was dosed as per normal. Trial Duration Oct 2014 - July 2015.

### The Results

Throughout the trial the water from Cooling Tower No. 1 was sampled at regular intervals and tested for Standard Plate Count cfu/mL and Legionellae cfu/mL the results of which are outlined below.

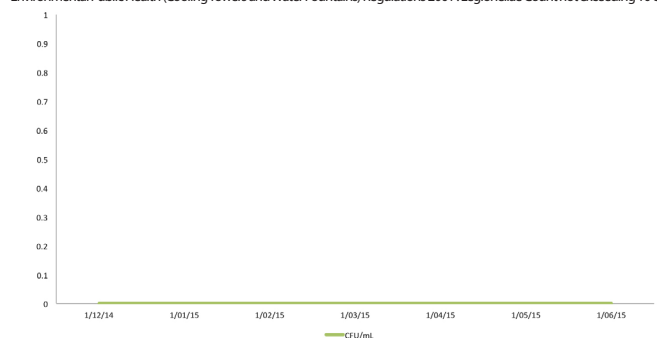
#### Standard Plate Count cfu/ml

Test Method: Standard Plate Count: APHA: 22nd Edition 2012: Pt 9215B (37°C for 24 hrs)  
Environmental Public Health (Cooling Towers and Water Fountains) Regulations 2001 guidelines < 100000 cfu/mL  
APHA is a Standard Method for the Determination of Water and Waste Water (APHA 22nd Edition: 2012)



#### Legionellae Count cfu/ml

Test Method: Legionellae: BS 6068-4.12: 1998 / ISO 11731: 1998  
Environmental Public Health (Cooling Towers and Water Fountains) Regulations 2001: Legionellae Count not exceeding 10 cfu/mL



### Conclusions

The purpose of this trial / demonstration was to show the effectiveness of the H2oBioSonic system as an environmentally friendly alternative to chemical dosing of cooling tower water in the control of algae, bacteria and legionellae formation in cooling tower water. As demonstrated in the monthly Standard Plate Counts the system was successful in maintaining suitably low values of cfu/mL without the use of any chemical treatment. It was also observed that during the regular basin clean outs (surface clean and vacuum, system remaining operational) the tower protected with H2oBioSonic Ultrasonic Protection was drastically cleaner with much less surface buildup of sessile bacteria than that of the chemically dosed tower, which required cleaning more often.

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