



February 19, 2018

To Whom It May Concern,

We have been providing service for the HVAC system of a large medical device manufacturer in the Phoenix Arizona Metro Area, who has had an interest in reducing blowdown in their cooling towers to save water. Operating the tower at higher cycles of concentration provides significant water savings but also places the tower and chiller at risk of forming scale to the detriment of efficiency. We had learned that *HydroFLOW*, a physical water conditioning product, would allow for the operation of cooling towers at higher cycles of concentration without the risk of scale forming.

HydroFLOW offered to perform a three-month trial at this manufacturer's facility so we would have a firsthand opportunity to evaluate the *HydroFLOW* product in a real-world situation. In March of 2017 we installed a *HydroFLOW* unit on the cooling tower condenser loop between the pump and the chiller. Over the first month, the tower's chemical water treatment was gradually reduced, while the chiller's approach temperature was closely monitored. Observation showed that existing scale within the tower was being removed and that the chiller approach temperature indicated the chiller was remaining scale-free. With these positive observations, the blow-down conductivity set point was raised from 4,000 to 10,000 $\mu\text{S}/\text{cm}$ and the chemical treatment was discontinued.

Three months after the installation of the *HydroFLOW* device, we conducted our annual chiller inspection and cleaning, expecting some hard scale deposits to be noticeable inside the tubes. To our pleasant surprise, the chiller tubes were found to be clean and free of scale. As mentioned above, the system had been operating for two months without chemicals!

The tower and chiller continued to operate for another six months at this high conductivity set point and without chemicals. The tower remained scale-free and the chiller approach temperature continued to be within industry standards, indicating the chiller tubes stayed scale free. The trial clearly showed that the *HydroFLOW* device was superior to chemicals at keeping the chiller/tower system clean and scale-free.

Best Regards,

A handwritten signature in black ink, appearing to read "George Kotselas". The signature is fluid and cursive, with a long horizontal stroke at the end.

George Kotselas - Trane Southwest District
HealthCare and Industrial Account Manager