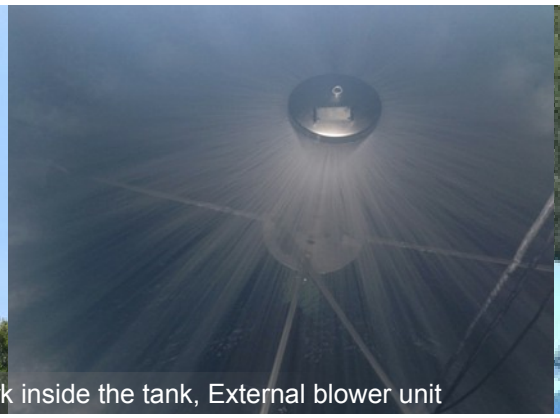
Case Study

Medora Corporation

Potable Tank Mixing & THM Removal

USPAPW-LOC2019.001

Topics: potable, THM reduction, TTHM, stratification/water age, chloramine


Tank view, GridBee® SN5 unit at work inside the tank, External blower unit

Customer:Information is available upon request from Medora Corporation. 866-437-8076 info@medoraco.com

Overview: This tank is a multi-leg, torus-bottom tank with a capacity of 300,000 gallons. Overall tank height is 84 ft.; the wet riser height is 49 ft. and the height of the bowl is 35 ft. The maximum fill rate is 560 GPM, and typical inflow is estimated at 300,000 GPD. The water source for the treatment plant is a river, and the disinfectant utilized in this system is chloramine. The system is owned and operated by the area's Municipal Authority, which serves the potable water needs of 23 communities in this area.

Conditions / Objectives: Water quality problems included excessive trihalomethane (THM) concentrations, and thermal stratification creating uneven water age issues. To ensure full EPA compliance and to optimize the community's potable water quality, area's Municipal Authority sought a reliable, affordable means for removing THMs. After three consecutive quarters of non-compliant TTHM testing results, engineers were hired to provide help in getting them back into compliance. Since this is a key tank in their system to provide water to one of their 'bulk customers', it was decided that when this tank was taken out of service for painting (summer 2013) that the GridBee® system would be installed in order to provide water with as low a TTHM content as possible to this customer. The area's Municipal Authority consulting engineer, provided specifics on the installation of the GridBee® SN-5 Floating Spray Nozzle THM Removal System for the Tank. The area's Municipal Authority supplemented that with a GridBee® GS-12 mixer to prevent stratification and icing problems.

Solution: One (1) GridBee® SN-5 Floating Spray Nozzle THM Removal System was placed in this tank. In addition, a GridBee® GS-12 mixer was installed for supplementary mixing purposes. Deployment Date: Fall of 2013

Results: THM testing was done for four consecutive quarters. The area's Municipal Authority consulting engineer was asked to compile the data for presentation to the area's Municipal Authority. The initial agreement was that the GridBee® equipment needed to show 40% THM reduction or greater for four consecutive quarters, in order to show substantial improvement and justify the equipment purchase. The data compiled by the area's Municipal Authority consulting engineers showed the following positive THM reduction results:

4th Qtr. 2013= 58.45% THM Reduction

1st Qtr. 2014= 59.3%

2nd Qtr. 2014= 57.5%

3rd Qtr. 2014= 59.2%

In September 2014 the equipment was purchased by the area's Municipal Authority after the strong positive and documented results. Medora Corporation had met all the requirements for the job and had provided all the back up service needed.