

O²ctopus System Installed at American Proteins to Enhance Nitrification Via Thermal Transfer

American Proteins operates a large rendering facility in Cumming, GA, for the purpose of converting millions of tons of chicken by-products into usable commodities. The plant is designed to handle a flow of several million gallons per day. Wastewater is channeled through an enormous anaerobic treatment basin which produces an average of 900,000 ft.³ of methane per day. Supernatant from the anaerobic basin is flowed into two parallel SBRs with surface aerators (splashes) and downdraft mixers for aerobic treatment.



Customer says these do more harm than good!

Through the use of nearly 1400HP of surface splashes, the plant has been able to meet aeration objectives in the SBRs – but at the cost of cooling the water near the nitrification end-point during cold weather periods. To prevent this cooling effect of the surface splashes, FBC installed a 12 unit O²ctopus system in each SBR basin that uses one 200HP blower per system.



Through the thermal transfer of the large blowers, warm air is passed through the water – actually warming the water and protecting nitrifiers during periods of very cold weather. In addition, the plant has reduced electrical costs by turning off splashes.

Each basin is now enhanced and supported by a single 200HP O²ctopus system. Total horsepower has been significantly reduced in each basin as the operator finds that improved oxygen transfer through the O²ctopus system has enabled him to reduce the use of splashes. While saving substantial utility costs with the O²ctopus system, the plant has improved its operation by removing the hazards of floating electrical equipment (only air lines are used to feed an O²ctopus system) and reduced the high maintenance costs associated with floating splashes. By using a high volume of coarse air diffused at a depth of eight feet, nitrification is enhanced and system stability is improved.



O²ctopus system efficiently diffuses air 8 ft. below the surface.