

## Wastewater Treatment: FOG Removal

Oil Processor achieves Fat, Oil and Grease reduction goal with Dissolved Air Flotation (DAF).  
Stuart Ward of *Process Engineered Water Equipment* explains system design...

### Case Study

Wilmar Oils & Fats, LLC was formerly known as Wilmar-Gavilon as the result of its acquisition by WONA, Inc. Wilmar operates as a subsidiary of WONA Inc and the company is based in the United States. The acquisition included a new facility being developed in Stockton, CA.



Wilmar Oils & Fats, LLC offers vegetable oil storage and processing services. The primary product is refined palm oil. Oil arrives dockside from Asia and is held until processed. The new EPA regulated facility required wastewater treatment prior to discharge to the local POTW. PEWE was subsequently contacted to provide equipment for this project.

### DAF WWT System

With water characterization data given by Wilmar, PEWE was able to design a system to best fit their needs. A dissolved air flotation or DAF unit was selected for removal of fats, oils and grease (FOG) from the waste-stream. PEWE soon determined that with careful use of available space, a complete wastewater treatment plant would neatly fit between the EQ tank and chemical containment area.

The new system entailed a mixed EQ balance tank with pH control, flow proportional feed, a PEWE *PolyAccu Dose<sub>TM</sub>* chemical make-down unit, a stainless steel PEWE *HD<sup>2</sup>XLRator<sub>TM</sub>* DAF unit complete with modern Rogue *MAX RGT<sub>TM</sub>* regenerative turbine aeration. As a bonus the new operation featured a custom mezzanine for easy operator access. The PEWE equipment was delivered ahead of schedule and the PEWE installation technical support team arrived on site to work with the construction crew.

The local Wilmar chemical representative performed jar tests to determine optimal polymer dosage. He then tuned in the chemical treatment program and the system was off and running.

### Final Results

Upon start-up the new wastewater pretreatment system produced results. The reductions exceeded 99% for fats oils and grease, FOG. The chemical dosing system effectively conditioned




the water for removal of oil solids by the downstream *HD<sup>2</sup>XLRator<sub>TM</sub>* DAF system.

### Pay Off



Wilmar Oils & Fats, LLC is satisfied with the new wastewater treatment system and depends upon the clean discharge as a requirement for continued operation. Green mission accomplished, the WONA, Inc. facility is a welcome addition to the local economy in Stockton.






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