Refinery Oily Run-off – Corpus Christi

Application market	Industrial
Market segment	Oil & Gas
Pumped medium	Oily runoff/ Washdown/ Stormwater
Pump product	Immersible with internal cooling & Prerostal System
Country	USA

Challenge

Large surface lots are magnets for the buildup of gravel, trash, oils and solids. At the Citgo Refinery West Plant in Corpus Christi, TX, these problems are exacerbated by a tremendous amount of paved surface area and the obvious presence of excess oil from the loading and unloading of tankers. The runoff from this lot is collected in a tank for proper disposal. The challenging contents of that tank make for one of the most difficult pumping applications across the entire refinery.

Solution

Hidrostal was commissioned to provide two sizes of immersible **Screw Centrifugal Pumps** to target varying flow ranges. Wet well self-cleaning **Hidrostal Prerostal** basins and deep set bellmouths were also installed to tackle the unique challenges of oil-water mixture. The use of **Screw Centrifugal Pump Technology** enables the refinery to convey the waste-laden, oil-contaminated water – without emulsification – first through screens and then to the oil-water separator. In this way, coarse solids are separated from the wastewater in the first stage and oils in the second stage, and the resulting materials are properly disposed.

Benefits

The unique operation of the Prerostal system enables the owners to skim the floating oil from the top of the tank's water surface, allowing them to pump out the entire well, except for the last few inches of clear water. hanks to screw centrifugal pump technology:

- → bi no emulsions form during pumping, which allows for efficient separation of oil and water
- → no additional equipment, settling times or extra energy consumption are required prior to the oil separation process

Quantity of units sold	2x D03K 3x F10K
Pump type	Immersible with internal cooling & Prerostal System
Motor data	[a] D03K – 7.5 kW (10 hp) / 2-pole [b] F10K – 75.0 kW (100 hp) / 4-pole
Material combination	Cast iron pump body, Hidrohard impeller and wear parts
Duty point	[a] Flow (metric) : 31.5 litres per second / Head : 12.5 meters [a] Flow (US) : 500.0 US gallons per minute / Head : 41.0 feet [b] Flow (metric) : 246.0 litres per second / Head : 17.4 meters [b] Flow (US) : 3'900.0 US gallons per minute / Head : 57.0 feet
In operation since	1994