



Headworks[®] Continues Petrochemical-Related Sales Growth with High Profile Contract for SABIC Plant

Introduction

Headworks confirms its leading edge in wastewater treatment technologies and solutions for the petrochemical industry with its recent contract award for one of the largest petrochemical sites in Jubail, Kingdom of Saudi Arabia, operated by Saudi Basic Industries Corporation (SABIC).

Whilst the last 12 months have seen a sharp drop in oil and petrochemical prices resulting in a slowdown of projects in the industry, the same period has seen Headworks further strengthen its presence in offering biological treatment process solutions for petrochemical wastewater treatment such as moving bed biofilm reactor (MBBR).

Wastewaters from the oil and gas industry that are to be treated in a biological system vary greatly from process to process as well as by location. The concentration of organic matter (COD) within the wastewater for refineries ranges from a few 100 mg/L to around 1,000 mg/L COD for chemical plant effluent, and even higher for some special chemical process waters. The discharge limits for the treated waters also vary due to local regulations, customers and sensitivity of the receiving environments.

Customer: SABIC
Industry: Petrochemical

This wide diversity of wastewaters and effluent water quality requirements call for different treatment solutions. The biological wastewater treatment solutions offered by the team at Headworks are designed to meet the specific needs of each of our customers.

KEY FACTS

- **Wastewater Flow:** 164 m³/hr (1.04 MGD)
- **BOD₅:** Design influent 2430 mg/L
- **COD:** Design influent 5400 mg/L
Effluent < 1450 mg/L
- **TSS:** Design influent < 20 mg/L
Effluent < 50 mg/L
- **NH₃-N:** 120 mg/L
- **pH:** Influent 8 – 9
Effluent 5 - 11
- **Temperature:** 38 – 40 °C (50 – 53.6 °F)

Challenges

The Headworks MBBR is an ideal process for refinery applications where biological treatment is required. This technology provides effective removal of high concentrations of BOD, COD and VOC. Our robust systems are extremely stable and not upset by high variations in loading.

The most recent contract win in April 2015 for the SABIC Petrochemical complex, was executed between Headworks Inc., based in Houston, Texas, and Intecsa Industrial based in Madrid, Spain. Since 2008, Intecsa Industrial is the EPC contracting division of ACS Group (the largest construction company in Europe) for the Hydrocarbon sector.

SABIC is the Saudi Basic Industries Corporation, headquartered in Riyadh, Saudi Arabia. It is the second largest global diversified chemical company in the world. Seventy percent of the SABIC's shares are owned by the Saudi Arabian government, with the remaining 30 % held by private investors in Saudi Arabia and other countries of the Gulf Cooperation Council.

The following list of recent projects exemplify Headworks treatment solutions' applicability for wastewaters from the oil and gas industry:

Location	Project
<i>SABIC, Kingdom of Saudi Arabia</i>	Treatment of wastewater from a petrochemical complex. 164 m ³ /hr of industrial wastewater treatment of high COD load.
<i>Olean, Malaysia</i>	Treatment of wastewater from IPA ester (Isopropanol) production. A two-stage IFAS system for COD removal as high as 33,000 mg/L.
<i>Abu Dhabi National Oil Company (ADNOC), UAE</i>	Several compact systems (package plants) with a three-stage MBBR process for nitrification of wastewater. The Systems are installed on off-shore platforms and on an island.
<i>Majis, Oman</i>	A retrofit of an existing activated sludge plant treating wastewater from petrochemical industry for TN removal, with installation of a denitrification zone with our proprietary ActiveCell ₉₂₀ carriers.