



Bonga Produced Water Upgrade

Shell Nigeria Exploration & Production Company (SNEPCo)

The Bonga FPSO, operated by Shell Nigeria Exploration and Production Company (SNEPCo.) experienced operational challenges that resulted in reduction of production output by 5Mbopd.

The first challenge stemmed from sludge formation and solid deposition upstream of the Produced Water Impact Gas Floatation Unit (IGFU) which significantly increased the amount of oil-in-water at discharge and reduced overall performance of the produced water system. Similar challenges faced were the slugging of the riser/flowline system when production dropped below certain minimum stable rates and the badly corroded Methanol header on the starboard side of the FPSO which fed methanol to the medusa heads and required a total changeout.

Ariosh Performed Detailed Engineering Design (DED) and Construction Support for the following;

- Installation of 35Mbwpd Hydrocyclone and 70Mbwpd CFU to boost PWS capacity to 80Mbwpd
- Conversion of redundant subsea Chemical injection pumps to Topside pumps for biocide, Corrosion, scale and Napthanate Inhibitors injection
- Installation of 2 smart choke valves on PM05 to mitigate against slugging
- Changeout of the Methanol header
- Dimension Control (Fabrication Assurance) during the fabrication of over 300 spools in fabrication contractor yard. All spools were certified before load out.

Results

Project was completed within schedule and fabricated spools were installed during the Q4 2016 shutdown window.

All modifications have been commissioned and all performance requirements were well exceeded.

Services

Detailed Engineering Design (DED) & Construction Support

Location

Lagos, Nigeria

Total Man-hours

Over 4,000

Safety Record

Zero LTI, Zero MTI

Status

Completed Q4 2016