

# CPF Export Crude Oil Quality Improvement

## Client

RAM Energy, Sudan

## Owner

GNPOC, Sudan

## Scope of Work

FEED review  
Detailed design  
Construction documents

## Location

Heglig, Sudan

## Types of Activities

Civil works  
Electrical  
Instrumentation and control  
Piping  
Process  
Rotary equipment  
Static equipment  
Structural

The processed oil in Heglig Central Processing Facility (CPF) is exported to Sudan Port via 28" crude oil export pipeline supported by 6 pump stations as per Greater Nile Petroleum Operating Company (GNPOC) export oil specifications (BS&W  $\leq 0.5\%$ ). Lately, the export oil BS&W was observed to exceed the specifications more frequently.

An efficient method was sought to enhance the CPF processing efficiency keeping in consideration upgrading of CPF facilities including addition of more tanks. As per process design, un-separated emulsion in the Electro-Static Treater (ESTs) should flow to the Off-Spec Tank, and then be recycled back to the ESTs for reprocessing. However, the process gets upsets whenever Off-Spec

Tank contents are recycled to the ESTs. To overcome that, the Off-Spec Tank contents were spiked directly to Crude Oil Storage Tank (COST) after water draining.

ECG scope included design of fixed roof Off-Spec Storage Oil Tank 10,000 BBL capacity with all needed attachments and accessories, sizing selection of an Off-Spec Oil spiking pumps, design of interconnecting piping from & to the Off-Spec Oil Tank / Off-Spec spiking pump including piping layout, stress analysis, pipe supports and isometrics, instrumentation & control of the system, design of fire protection system for the Off-Spec Storage Oil Tank and electrical designs for power, lighting, earthing, lightning & cathodic protection.

