

Angus Flexible Pipelines Case Study on Off Shore Fuel Transfer

Takeaways: Flexibility, Environmentally sound total system, ease of operation

Following delays in the completion of the loading jetty in Monrovia Port, Liberia; The Liberian Petroleum Storage Company (LPSC) approached Angus Flexible Pipelines with a view to finding a solution to the problem of offloading fuels from a vessel due to arrive within 4 Months.

In close cooperation with LPSC the design parameters were set:

- The system should be rapidly deployable in order to reduce the time on station for the tanker
- It had to be capable of delivering a range of fuels a distance of 800m with flows up to 8,000lpm
- It should be light weight to reduce manpower and special handling required
- It should be mobile to allow it to be taken to a place of safe storage after operations were complete
- The package should include a method for removing all the residual fuel from the lines

AFP designed a **Trailer Based Hose Deployment and Retrieval Unit (HDU)** with a self-contained diesel hydraulic power based around the use of their lightweight, high end tensile strength **Offshore 850 Fuel Transfer Hose** which, with its built in anti-static wires and inherent buoyancy is ideal for use as a floating hose in marine fuel transfer applications.

A portable **Pig Launching System** was designed which could be carried on the hose towing launch, to the vessel and craned onboard for installation in the hose line and, using the ship's compressed air system, drive the pig through the hose to remove all the residual fuel prior to switching products (from diesel to gasoline) to prevent cross contamination.

A **Pig Catcher** was also supplied for permanent installation in the shore side pipework. **Dry-break Couplings** and **Hose Clamping Equipment** completed the package.

The complete order was designed, manufactured, tested and ready for shipment within 12 weeks, much sooner than the 4 month period. The system has been successfully used to transfer both petrol and diesel.



The customer's comments on the system were:

“Discharging & Pigging 2 x Petroleum products (12,000MT) through 800 metres of very strong & durable 6" Angus Offshore 850 floating hose from vessel to shore tanks, stretching across the bay at the Port of Monrovia, Liberia, It was all new to the West African Country, resulting in bone dry hoses and not a litre lost after completion, It was a great satisfaction & achievement for all concerned”