

Value Proposition

OFFSHORE PLATFORM

Increased Productivity

OFFSHORE OIL PRODUCTION

More Oil Recovery By Replacing Diesels Gensets

Challenge

Primary oil recovery typically recovers about 30% of the oil in any given oil well. Falling pressure in the well requires the oil to be pumped out using Electrical Submersible Pumps (ESPs). These pumps must operate continuously or else face backfilling with mud and sand which requires the well to be shut in for pump repair. Reliability of the power supply for these pumps and drive systems is of primary importance. Each ESP typically requires from 45 to 110kW of power to function. This power has traditionally been provided by diesel-fired reciprocating engine generators with relatively poor reliability due to their frequent need for maintenance of the many moving engine parts and cooling systems. In addition, regular transportation of diesel fuel to the remote platform poses many issues such as safety, logistics, and cost.

Solution

Remove the diesel engines and install two 250 kW microturbines fueled by associated gases pulled directly from the oil well to provide 24/7 electrical power for the ESPs. The microturbines supply all of the electrical power needs of the platform independent of any other source of power. The microturbines are designed to operate in hazardous area locations, incorporate type X or Z purging of electrical and control components, and are packaged in stainless steel enclosures to resist the corrosive offshore environment.

Benefits

The associated gases that originally were vented or flared are now used as fuel thus reducing the amount of vent/flare gas from the platform. Eliminating the need to bring diesel fuel to the platform dramatically saves logistics costs and improves HSE records. And because the microturbine's reliability is much higher than that of typical reciprocating engine generators, the company reduces pump repair costs and oil production is significantly improved.

Opportunities

Additional oil recovered: Typical microturbine 95% reliability yields up to 40 days added production

Elimination of diesel fuel: Each 250kW microturbine eliminates up to 345,000 liters/year diesel fuel avoiding fuel and transportation costs.

Health, Safety & Environment (HSE): Microturbines stop diesel transport & fueling incidents while less maintenance means fewer chances for service personnel to get hurt working in severe environments.



Located in ocean sites all over the world, oil and gas recovery companies operate thousands of offshore platforms drawing from hundreds of fields. A typical platform supports up to thirty wellheads.

Oil Recovery Platform

For more information, contact your local Ingersoll Rand office or email power@irco.com

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