

Power tong system can boost control, lift capacity

A HYDRAULIC POWER tong system, **BJ Tubular Services'** Leadhand MK II, was developed specifically to assist in maneuvering hydraulic power tongs to and from the well centerline during casing and tubing operations.

The system is easy to install and maximizes lifting capacity and efficiency.

Since the Leadhand MK II was launched in 1997, the system has performed successfully for a number of major operators in the North Sea.

Over time, **BP** has successfully utilized the system on the *Stena Dee* on Foinaven Field.

It also offered **BP** significant performance benefits on the *Glomar Arctic IV* drilling rig on Bruce phase II, as well as on the *Santa Fe Monarch* on its ETAP Project in the UK.

In addition to **BP**, its predecessor, the Leadhand MK I, operated efficiently for **Deutag** on its T47 drilling rig at Wytch Farm, England.

This past month, **KCA Drilling** commissioned **BJ Tubular Services** to install Leadhand MK II systems on a test basis on behalf of **Shell U.K. Exploration and Production** (Shell Expro) on one of the Brent field platforms, Brent Delta, in the Northern North Sea.

In the past, **Santa Fe International Corp** has also utilized the **BJ Tubular Services** tong manipulating system on its *Monarch* jackup and in the next few weeks, proposes to use the system on its *Britannia* jackup in the Southern North Sea on behalf of **Shell Expro**.

Conventional oilfield tubing and casing operations use hydraulic power tongs suspended from a line attached to the crown block area of the derrick.

These tongs, weighing upwards of 2,000 kg, are difficult to move back and forth

from the well centerline. The process is further complicated by the need to ensure that the tigger line that suspends the tong does not foul the top drive system.

These conditions make moving the power tong to and from the well center very labor intensive, requiring up to 3 crew members.

Given the weight of the power tong, the

The hydraulic power supply can be a self-contained unit or drawn from the existing rig supply.

The arm is mounted in the derrick using brackets that allow the system to be rigged up or down in only 10-15 minutes.

The remote control panel is located on the power tong and allows one operator to move the tong back and forth from the well.



Leadhand provides a safe approach to manipulating a hydraulic power tong. Hydraulic power supply can be self-contained or drawn from existing rig supply.

working environment and repetitive nature of the work, risk of injury is enhanced without a system of this type.

BJ Tubular Services developed the Leadhand MK I to provide a safer more cost-effective approach to manipulating the hydraulic power tong.

The original system incorporates a hydraulically powered articulating arm, hydraulic power supply and remote control panel.

SYSTEM BENEFITS

The Leadhand MK II uses the existing rig's tigger line, requiring low levels of loading into the rig structure, thereby making installation a simple, straightforward procedure. Another benefit of using the existing tigger line is that the lifting capacity is greatly enhanced with any **BJ Tubular Services** tong.

The system can be used with an integrated tong system, which is significant because it reduces the level of manual handling required and results in greater safety for operators and rig crew.

To cope with varying rig floor designs, a greater 5-m extension gives a much wider choice and flexibility when selecting the appropriate approach to installation. Of particular note is the benefit of the system on semisubmersibles where the pitch and roll of the sea can create unstable conditions during power tong movement.

The Leadhand MK II offers a high level of stability, thereby delivering safe control of the tong on semisubmersibles in rough sea conditions.

Operationally, experience has shown that the Leadhand MK II increases the efficiency of casing operations because the time between joint make-up is not increased, while personnel typically assigned to tong handling are available for other duties. ■