

CASE STUDY NUMBER 2

Partially submerged 26" riser repair

CLIENT:	Nigerian Platform
DATE:	4 May 2010
DESCRIPTION:	Damage to Riser
Service:	Crude
Line Diameter:	26"
Design Pressure:	740PSI
Operating Temperature:	50°C

Anomaly Description:

The Riser had a slight leak and was deformed. (See attached photos 1 & 2 below) Numerous attempts were made by different Vendors to repair damage to a platform riser by means of composite repair systems. The repairs however were unsuccessful.

Picture 1



Picture 2



Root causes:
Riser damage.

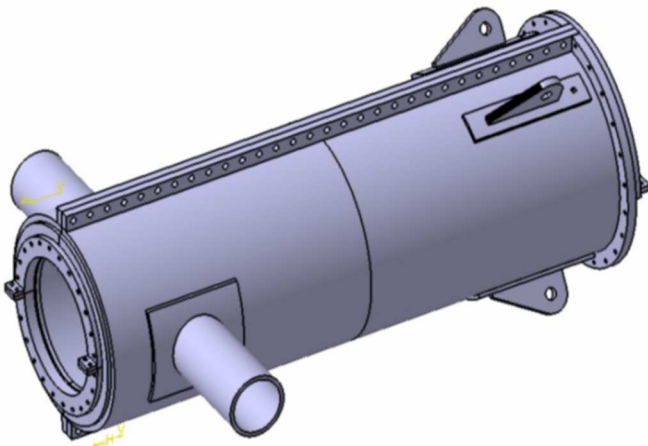
Environmental concerns:
There was a high risk of pollution

BERUSEAL SOLUTION:

Clamp Design:

A very intricate design was made due to the fact the riser was submerged and diver support was required during the live installation, The clamp was designed with large tolerances to enable divers to install the encapsulation in breaker water. A large Mechanical seal was designed for the bottom of the riser encapsulation to ensure a seal over the very rough riser surface caused by marine growth as well as the ovality of the riser. The riser encapsulation also needed to be well supported to the platform itself which mean that precision measuring and designing was required.

Picture 3



Picture 4



Seal:

The encapsulation had a combination of sealing systems; Sealing groove on flanges, mechanical seal at the bottom bore & resin epoxy filling system. The enclosure was installed, mechanical sealed was activated, the grooves were injected and the encapsulation was sealed from seawater entering the clamp, the encapsulation was dried out and filled with 1.2 Tons of a 2 part epoxy resin which secured the line from deterioration and stabilized the riser. The riser repair was a huge success and we have done numerous similar riser repairs successfully with none unsuccessful attempts to date. (See Picture 5)

Picture 5

