

Case study

Pipeline free span remediation



tolerances and physical features of the pipe, and a 40-year design life solution coupled with an aggressive time frame for completion. The solution also required the VIV mitigation device to have a low drag profile due to the prevailing high currents which would result in unacceptably large lateral load scenarios.

SOLUTION

Matrix engineers, in conjunction with Oceaneering, used patented LGS® Drag and VIV reduction technology to create a wrap-based shroud for pipelines. This is a fully ROV installable system. After extensive third-party scrutiny, our client and their review bodies were satisfied of an acceptable reduction in fatigue inducing VIV motions.

OUTCOME

The system that was developed featured:

- Greater linear coverage on the flow line due to LGS's® low profile
- A more robust and benign profile with relative immunity to seabed interactions
- A much lower drag profile compared to helical strakes
- No moving parts
- An economically superior solution compared to other potential rectification methods
- Effectively reduced VIV and fatigue
- Subsea installation at a rate of approximately 2m every 10 minutes.

LGS is a registered trademark of AMOG Technologies Pty Ltd.

Client

Operator

Project location

North West coast of Australia

Product

ROV installable (Vortex Induced Vibrations) VIV and drag reduction covers

Time period

July - December 2017

Key achievements

- A new VIV and drag reduction technology product application
- Rapid installation rate
- 40 year design life

CHALLENGE

Seabed scour had elongated the free span lengths at buckle initiator (sleeper) locations along the production flowlines of our client's asset. Engineering assessments showed that due to the uneven nature of the seabed, unacceptably long spans at some of the sleeper locations had resulted in spans not meeting the fatigue limit criteria due to excessive VIV.

The project involved several challenges including inconsistent and low clearances with the seabed, unique dimensional

