

## Quickflange used for spool replacement on live deck

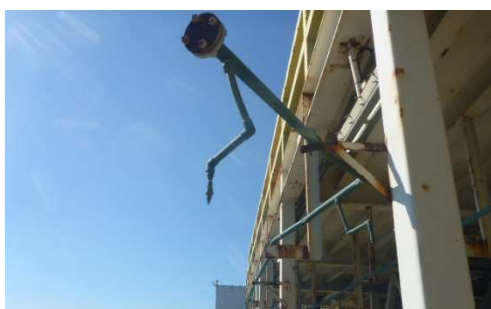
### Overview

A drencher system had suffered significant impact damage in multiple locations on an FPSO. A wide range of spool replacements had to be made without impacting on hydrocarbon production. A combination of spools and cut and installed on site Quickflanges were used to complete the full system cut and renew over 5 days.

### Scope

The repair scope had the following specifications:

Structure	1" and 2" CuNi system
Class Approval	DNV
Design Pressure	16 bar
Design Temperature	90°C
Design Code	ASME B31.1
Schedule / Wall thickness (WT)	2.5mm
Material and Grade	C70600 ASTM B466
Flange materials/specification	EEMUA 145 (CuNi)
Geometry	Various built up on deck
Defect Details	External damage to multiple locations in the system



System condition initially



Replacement spools made up on the deck – as required

### Solution

- Turnkey solution provided with engineering, drafting and spool fabrication completed onshore before offshore Quickflange and spool modification was performed
- Multiple locations were quickly and with reduced cost measured and replaced in one mobilization over 5 days offshore.

### Benefits

- No hot work
- Flexibility in the methodology to address latent conditions and residual stresses in the pipework
- Short time on site, 5 days with 2 technicians to complete 5 spools replacements and 14 flange installations.
- DNV approved and ASME code compliant



Completed replacements