



**STATS GROUP**  
Managing Pressure, Minimising Risk

## **Subsea Tie-In & Pipeline Reconfiguration in the North Sea**

Using a Remote Controlled Isolation Plug & Hot Tapping Operation

# Overview



- ❖ Tyra Redevelopment Project Summary
- ❖ Continuing Production during 2 Year Shutdown
- ❖ 26" Subsea Pipeline Reconfiguration
  - ❖ Remote Tecno Plug® Isolation
- ❖ 8" Pipeline Tie-In
  - ❖ Mechanical Hot Tap Fitting
  - ❖ SureTap® Hot Tap Machine







# Continuing Production During Tyra Field Shutdown



- ❖ During the 2 year redevelopment the Tyra hub was closed in, including six satellites
- ❖ In order that Southern fields could continue producing during the Tyra shutdown a new 26" bypass pipeline was installed, connecting them to the Dutch sector
- ❖ Safe and efficient installation of the subsea bypass valve skid was facilitated by double block isolation of the 26" subsea pipeline using a Remote Tecno Plug®
- ❖ During the Tyra shutdown fuel gas to Gorm was supplied via a New 8" Pipeline - the 8" pipeline was tied into the subsea pipeline using a STATS Mechanical Hot Tap Fitting and SureTap® Hot Tapping Machine

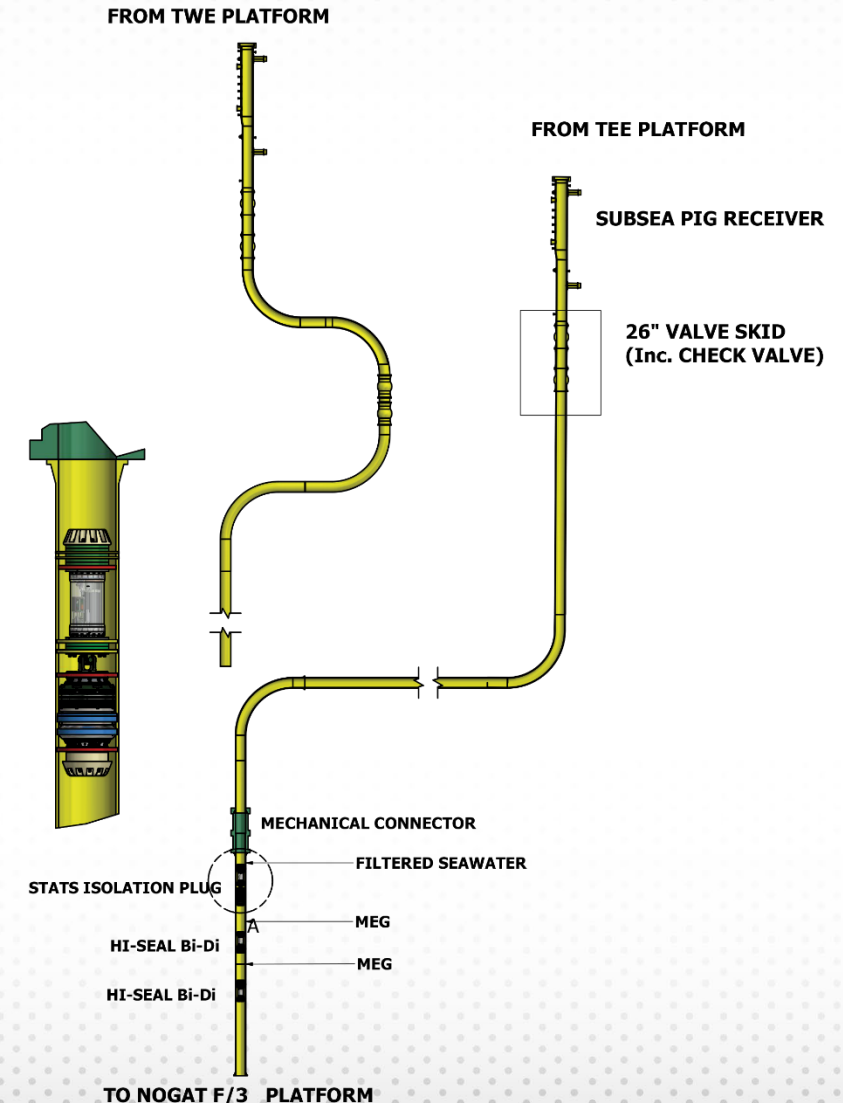


Pipelay of the new 26" bypass pipeline in early 2018. The pipeline will ensure export from Southern oil fields during shutdown

# 26" Subsea Tecno Plug® Isolation

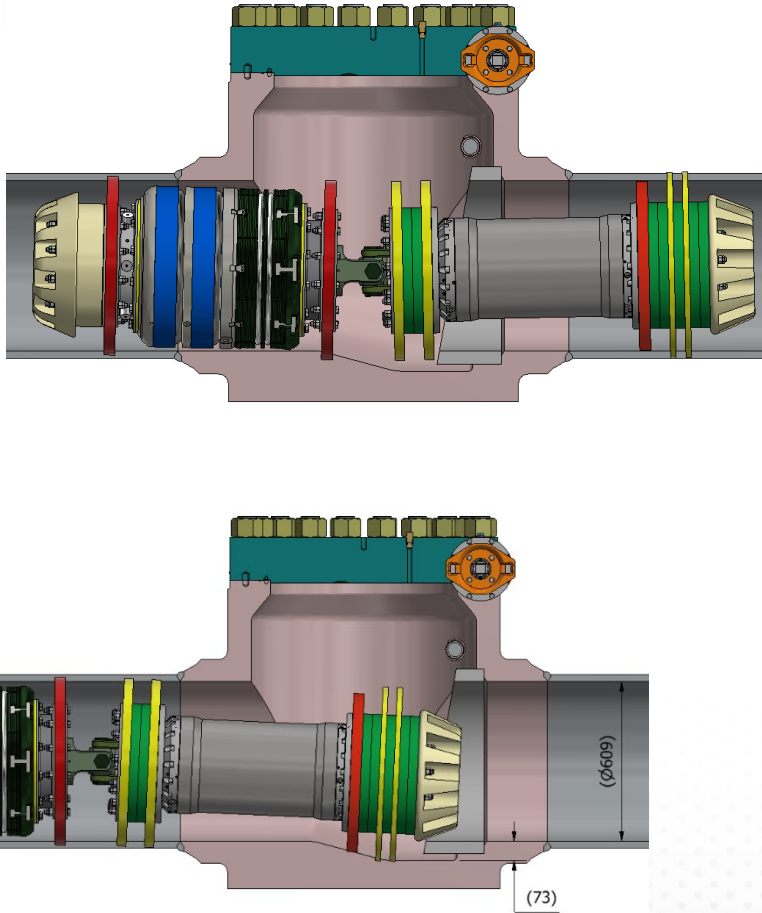


- ❖ Subsea isolation train comprised, two dewatering Bi-Di pigs and a Remote Tecno Plug® - pigged 620m from Tyra West E platform
- ❖ Remote Tecno Plug provided a safe, fully-proven double block isolation from the pressurised 26" gas pipeline (99km, 85bar) – so containment could be safely broken – allowing tie-in operation
- ❖ Divers then cut the pipeline and installed a mechanical pipeline connector to tie the pipeline into the new subsea valve skid
- ❖ Upon completion of the tie-in and leak testing the Remote Tecno Plug was unset and the new 3.5km pipeline section was dewatered by propelling the Tecno Plug and both Bi-Di pigs into a temporary receiver connected to the new subsea valve skid.





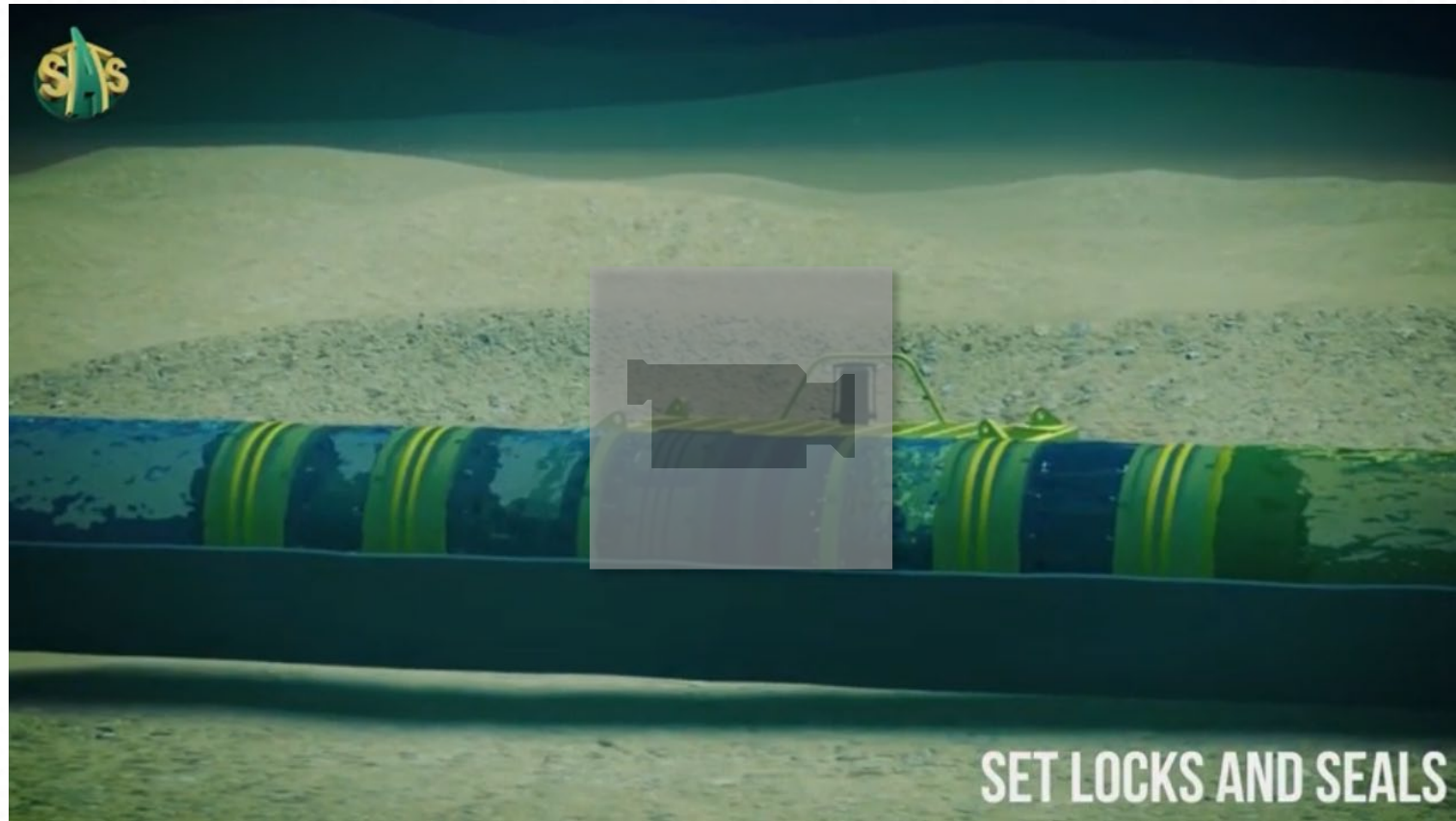
# 26" Tecno Plug® Check Valve Piggability Assurance



## Check Valve Piggability Assurance

- ❖ 3D Model Engineering Review
- ❖ Piggged through full-scale check valve geometry test fixture

# 26" Subsea Tecno Plug® Isolation



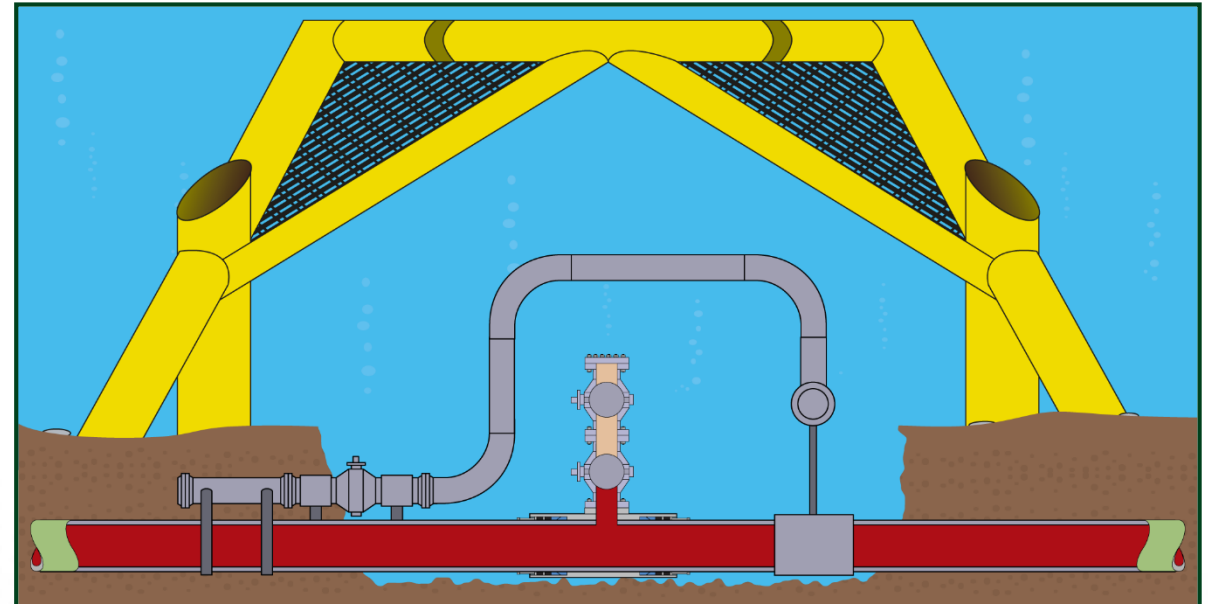
[Watch Video](#)



# 8" Subsea Hot Tap Pipeline Tie-in



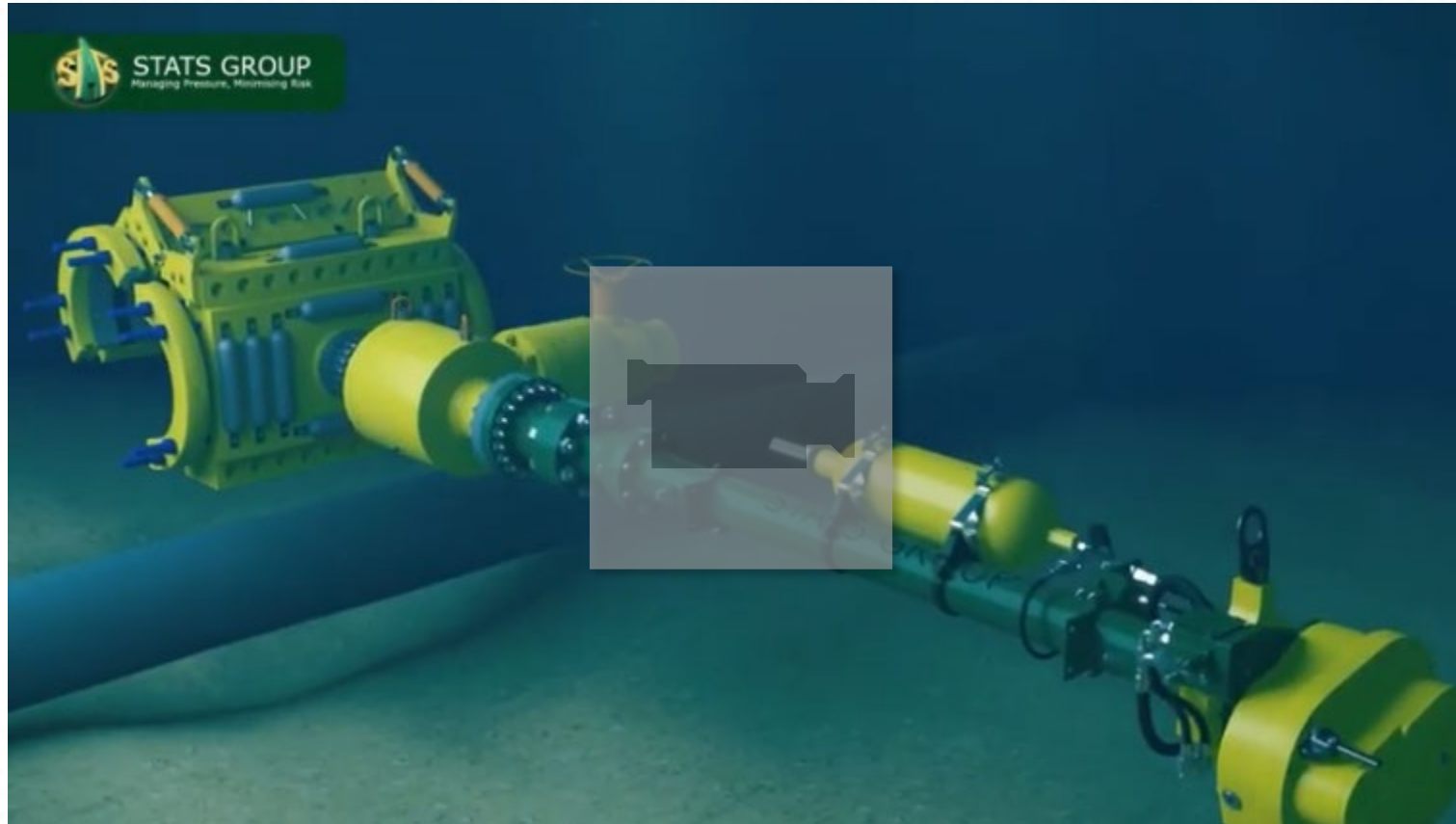
- ❖ 8" Pipeline Tie-In: 24" x 8" #900 Mechanical Hot Tap Fitting
- ❖ SureTap® ST410-90 Hot Tapping Machine



Hot tap assembly deployed horizontally then rigged into vertical under the protection structure for 12 o'clock hot tap



# 8" Subsea Hot Tap Pipeline Tie-in



[Watch Video](#)

# Summary



- ❖ The project was completed safely with no incidents
- ❖ The isolation bypass and hot tapping were both completed on time and on budget
- ❖ Project Planning, Engineering & Testing
- ❖ Project Alignment – Client, Contractor, DNVGL & Pumping Contractor all at SIT
- ❖ Lessons Learnt & Project Close Out highlighted communication and teamwork to be essential







**Thank You For Your Attention  
Questions?**

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[sales@statsgroup.com](mailto:sales@statsgroup.com)  
[www.statsgroup.com](http://www.statsgroup.com)**

