Application of Efficient Practice in Marginal Fields

Dr Mariesha Jaffray (Continuous Improvement Manager Oil & Gas UK)
Phil Simons (Subsea 7, ETF Chair)

Subsea Expo, 7th February 2019
Agenda

1. Efficiency Task Force
   – Overview & key learning points
   – Strategy for 2019

2. Application of learning to Marginal Fields
   – Proof of concept
   – Recommendations & summary

3. Questions
1. Efficiency Task Force

Dr Mariesha Jaffray, Continuous Improvement Manager, Oil & Gas UK
Efficiency Task Force (ETF)

About the Efficiency Task Force

The Efficiency Task Force (ETF) was formed in 2015 and aims to ‘seek out, promote and provide access to efficient practice across the oil and gas industry while maintaining safe operations’ by:

- **Developing** tools and guidelines to drive improvements in business processes.
- **Promoting and sharing** good practice, lessons learned and opportunities for improvement.
- **Improving our key metrics** and reporting, acting on feedback to improve industry-wide performance.

Focus Areas

- **Business Processes** – Promote cross-industry collaboration to improve efficiency in Inventory Management, Procurement, Logistics, Maintenance and Compression Systems processes.

- **Standardisation and Simplification** – Develop guidelines and tools to promote the simplification and standardisation of Subsea Development Projects and Engineered Products.

- **Co-operation, Culture and Behaviours** – Lead the cross-industry effort to drive improvements in culture and behaviours, by promoting the Industry Behaviours Charter, the Efficiency Champions Network, the roll-out of Efficiency Roadshows across industry and sharing Case Studies on the Efficiency Hub.
A key enabler for cultural change

➢ Driving collaboration;
➢ Seeking, promoting and providing access to efficient practice while maintaining safe operations;
➢ Delivering transformational change across industry.

ETF Roadshows held to date, engaging over 70 employees

200+ Efficiency Champions driving change

70+ companies involved in the continuous improvement network

Over 600 guideline downloads

More than 80 companies involved in projects

120+ case studies submitted online

Visit the Efficiency Hub to get involved! https://oilandgasuk.co.uk/efficiencyhub/
Aims for 2019 are to...

- **Sustain efficiency** gains by maximising the impact of existing initiatives:
  - Awareness campaign utilising ETF roadshows, Efficiency & CI Networks, Efficiency Hub (dashboard & Industry map), Collaboration Survey feedback sessions

- **Implement change** & encourage **innovation**:
  - Develop support strategies to manage risk
  - Develop & launch mechanisms to share learning from novel contracting models & other industries
  - Increase SME engagement
Key Objectives are to...

- Sustain efficiency gains by maximising the impact of existing initiatives:
  - Contribute towards optimising unit operating costs and global competitiveness;
  - Optimise business processes including logistics, contracting (tendering & procurement) and maintenance;
  - Maximise the impact of existing good practice;
  - Promote a culture of collaboration & knowledge sharing;
  - Facilitate alignment of industry efficiency initiatives to avoid duplication and maximise impact.
Key Learning Points & Outputs

**Project Design**
- Standardisation (up to 25% project cost savings)
- Early engagement

**Contracting**
- Tendering Efficiency
- Novel contracting
- Early engagement

**Project Delivery**
- Standardisation
- Collaboration/partnership approach (ECITB, PCT)
2. Application to Marginal Fields

Phil Simons, VP, Subsea 7, ETF Chair
Venture - Delivering Marginal Fields from 2005

- 15 EPIC projects, >30 concept, feed & pre engineering studies;
- 200km of rigid pipelines fabricated, installed;
- 30km flexible flowlines procured, installed;
- 100km of control umbilicals, procured, installed;
- Approx. 900,000 Project Management, Design and Installation Engineering hours expended;
- 1,750 vessel days; avg. 150 days per year;
- >20 (1,000te) of subsea manifolds and protection structures.

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Why did Venture Choose a Partnership in 2005?

• Response to ongoing challenges presented by the energy sector since 2003/4;
• Mutual desire to establish long term strategic collaborative partnership;
• Alignment between business models, companies, individuals; longevity of the relationship; and flexibility;
• Desire to keep ahead of the market.
Subsea 7/Chrysaor Lomond Pipeline

7 months from project sanction to introduction of first condensate. Export 2 months prior to the schedule at project sanction.

95 days from start of construction offshore to mechanically complete.

Seven Navica installed 26km pipeline within 100 days from “cold” stack.

Became Operator

Project sanction

Linepipe ordered

Offshore construction started

Linepipe delivered

Mechanically complete

Export restarted
Key to the success of this approach...

• Fostering key leadership, behavioural & efficiency principles:
  – Trust & empower
  – Bringing everyone along
  – Standardisation & simplification
  – Embrace & anticipate challenges
  – Continuous Improvement

• Delivered maximum value for all stakeholders
# Project Deliverables

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<th>Key Variables</th>
<th>Complexity</th>
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<td><strong>Project Specifications</strong></td>
<td><strong>Fit for Purpose Approach</strong></td>
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<td>• State functional requirement.</td>
<td>• Significant number of project specific</td>
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<td>• Subsea 7 and supplier fit for</td>
<td>and operator global specifications (potential</td>
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<td>purpose specs</td>
<td>for ambiguity)</td>
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<td><strong>Materials, Testing and Qualification</strong></td>
<td>• Bespoke and onerous requirements</td>
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<td>• Minimum (per code or risk based)</td>
<td>• Full scale qualification tests</td>
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<td>approach</td>
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<td>• Use of pre qualified where available and</td>
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<td>standardised materials</td>
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<td><strong>Subsea 7 and Supplier Documentation</strong></td>
<td>• Bespoke requirements, supporting</td>
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<td>• Only drawings and documents required to</td>
<td>documentation, significantly more</td>
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<td>complete the work</td>
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<td>• Minimal documentation reviewed by client</td>
<td>• 6 week review cycle. Multiple cycles</td>
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<td>• Internal discipline check</td>
<td>and comments</td>
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Buzzard Phase II

Definition: Win – Win; Trading on issues developing value in the contract for both parties

Outcome focused contracts supported by shared KPIs

Integrated and fully co-located team

Key Project Management roles filled by Supply Chain

Transferring/sharing of delivery risk with our supply chain

Incentivised – performance incentive + gain share

Removes profit associated with later delivery

Partnership Joint Problem Solving

Relationship Building

Bartering

Haggling / Bidding

Concession Trading

Dealing

Win Win
Although the Supply Chain are contractually responsible for delivering their scopes, Operators have legal obligations that can’t be transferred.
Summary

- Marginal fields can only be unlocked if they are cost efficient;
- With increasing market activity, the application of new technology alone is insufficient;
- While new approaches to project delivery (e.g. Standardisation) can help, the adoption of new contracting models is key;
- These new contracting practices should:
  - Move away from lump sum contracting;
  - Include novel approaches (e.g. alliance/win-win/long-term partnerships);
  - Encourage innovation & new ways of working;
  - Build on trust, empowerment, shared goals & opportunities
- The ETF aims to help support this throughout 2019.
“What if we don’t change at all ... and something magical just happens?”