Industry Challenges and Solutions

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Introduction

Today I will be talking about what I have learned about equipment reuse during my time in charge of the Subsea Engineering division of SEA, servicing the subsea after-market, and more recently as chair of the reuse group (DLG) within Decom North Sea.

These are my own views and don’t represent DNS strategy.

Reuse and the wider circular economy are complex and evolving issues in the Oil and Gas industry.

I think we need to consider reuse first then circular economy.
This is business; not personal

The Shell Curlew FPSO has ceased production

Initial cleaning and waste disposal has been awarded to Augean and the FPSO will be berthed in Dundee for the duration of that contract.

A separate contract to subsequently dismantle and recycle the Curlew FPSO has been awarded to Leyal/Leyal Demtas in Turkey.
This is business; not personal

In July 2012 approval was given for the ore carrier Oriental Nicety to be beached and dismantled for scrap in the Indian port of Alang, then the world's largest scrap metal yard.

Oriental Nicety had earlier incarnations:
Dong Fang Ocean
Mediterranean
Sea River Mediterranean
Exxon Mediterranean
Exxon Valdez
My own experience

- I have been running the Subsea Engineering division of SEA since 2007
- I have been in a very privileged position
  - To work with subsea engineers in many of the North Sea oil companies
  - To hear their challenges and frustrations
  - To build relationships that have allowed us to change and develop the service we offer by collaborating to solve immediate operational problems

- At Offshore Europe in 2017 we launched Legacy Locker
- Around the same time I became more actively involved with DNS
- As well as chairing the Reuse SIG, I am now vice-chair of the Decom Leadership Group
- I was surprised at what I found
- We are in a very small minority of companies who are in the equipment reuse business in Oil and Gas
Legacy Locker

- Responsive Economical Opex Support: electrics, hydraulics, valves, sensors
- Offshore Support for installation test and commissioning
- SEA Subsea Control Module and Subsea Electronics Module
- Design and manufacture of Subsea Hardware: SDU, EDB, stab plates, flying leads
- Material Analysis
- Equipment Refurbishment, Test, Certification, and disposal
- Reverse Engineering
- Re-purpose
- Circular Economy
- Other Industries and applications
- Disposable

- Our Clients
- Economically and safely developing small pools and maintaining the installed legacy infrastructure
- Our Suppliers
- Obsolescence
- Unused client spares stock
- Offshore decommissioning
- Industry organisations and initiatives: SE, OGA, OGTC, OGIC, ITF, SLSUK, NSRI, DNS, OGUK

Subsea Industry
Decommissioning Kit – what’s happening now
Decommissioning Kit – what we envisage
Legacy Locker in Action #1

- A client lost production through failure of a subsea electrical cable
- We had two connectors, one client had the other two, another client had cable
- We got a phone call on Monday and delivered two cables Thursday afternoon
- Manufacturer lead time for subsea connectors is currently around 24 weeks.
- This field produces 6000 bpd, giving savings of around $70m
- There are added advantages to this approach
- We and all our clients get turnover of stock
- A client may not want a like for like replacement
- In this case the client who released the cable had plenty in stock and decided to replace it with connectors
CNR planned an offshore campaign on the Lyell field which was originally developed in the early 1990s.

The project was to replace existing SCMs for refurbished and reconfigured units.

Connectors, inductive couplers, hydraulics, housings were all refurbished or replaced.

Full SIT was carried out on SEM and SCM.

Post-CoP well monitoring was considered in the design to optimise the configuration for longer term monitoring requirements.
This is business; not personal

“I’d rather gas-axe it than sell it to Acme”

1 Name withheld, Oil Company Asset Manager: On hearing that “Acme” was to be recipient of his equipment that we were trying to acquire - 2016.
Certification
Duty
Status Quo
Traceability
Procurement
Environment
Hassle
Reputation
Duty of Care
Risk
Legislation
Documentation
VAT
Contracts
Legislation  Reputation  Status Quo  Environment  Procurement  Duty of Care
Certification  Duty  Traceability  Documentation  VAT  Procurement  Hassle  Reputation
Environment  Contracts  Risk
What’s the answer?

- Currently the oil companies are doing what is required
- We need to change what is required
  - I believe that it needs a carrot and stick approach
- We need to be able to dislodge all the bricks from the wall
  - There are many interested parties with differing / conflicting priorities
- We need to design for reuse – a truly circular economy
  - We will never be a commodity industry but we can do better
- Do we actually know that this is the answer?
  - Is there a business and socio-economic case for large-scale reuse
- We know it works for SEA and our clients in subsea
- Decom North Sea can be the focal point to drive the change that is needed
This is business; and its personal

“I’d rather sell it to Acme than gas-axe it”
This is business; and its personal

Thank You

Matt Blair,
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