

Jigsaw: The North East Oil and Gas Decommissioning Consortium

Presented By: Ed Brown
Hardy AVARR Ltd

Overview

- The problem with the current decom model
- Why form a Consortium?
- The Oil and Gas Decom Landscape
- Why the North East?
- How will the Consortium operate?
- Current Status
- Summary

What are we trying to achieve today

- To update attendees on progress developing an Oil and Gas Decommissioning Consortium based in North East England
- To demonstrate our market differentiation:
 - The purpose of the Consortium is to provide a complete turnkey solution that offers value to the operators and the tax payer (you and me) to achieve ‘Clean Seas’

The Problem with Decom processes

- Multiple Contracts managed by different companies
- Lack of co-ordination between operators
 - Supplier resources inefficiently deployed
 - Lack of continuity inhibits investment and innovation
 - Lack of learning from projects
 - Multiple contractual interfaces increase risks and costs

Why are we considering a Consortium?

- North East has enough yards to support several projects at once and this will create a larger resource pool
- To become acknowledged as **the** Centre of Excellence in Decommissioning
- We will assist local growth and competition which will drive innovation and increase our overall competitiveness
- The nuclear industry spent 15 years learning the lessons we are seeking to capitalise on in 2-3 years
- By sharing data we will develop a large knowledge pool which will position us as “experts” in an area where none yet exist

What are our drivers?

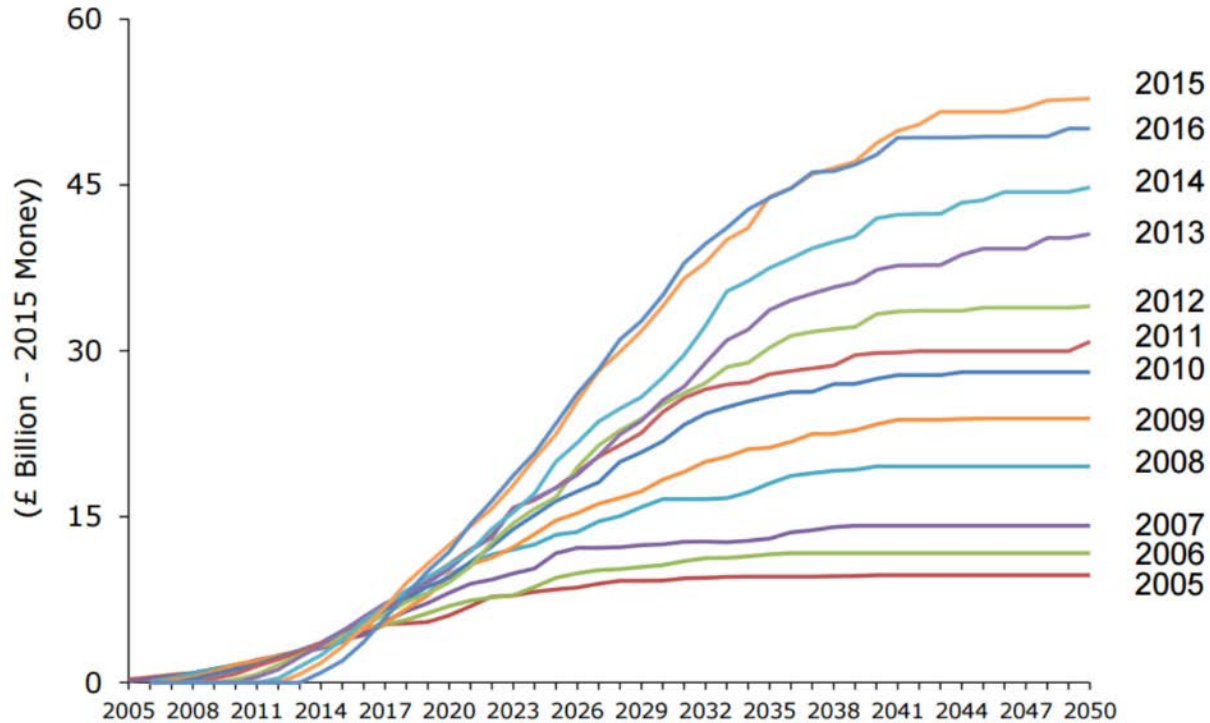
- No 'single' company can do this
- Turns a disjointed supply chain into a turnkey solution
- Single contract for operators – simplify their process and ease their pain
- We will win more together because we can take on larger projects and campaigns
- This is what owners and operators have said they want

What can a Consortium achieve?

- Drive improvement and change
- Innovate and manage risks between phases
- Better planning and joined up thinking
- Delivering a better and cheaper solution which in turn will help safeguard the North Sea O&G industry by making lifecycle costs better.
- Reintroduce the learning into new improved designs for the future
- Achieve savings for the operators and tax payer
- Improve Safety
- Deliver the “Clean Seas” demanded by current regulation

How big is the decom market?

Cumulative Decommissioning Spend



Source: Oil & Gas UK



Reality is more expensive...

Examples of the Escalation in Decommissioning Cost Estimates for Offshore Oil & Gas Installations 1996 to 2010 From Public Domain									REVERSE ENGINEERING SERVICES™
Project	Facilities	Weight (mt)	1996 Estimate* (Million \$)	Notes	Removal Dates (Excluding Well P&A)	Removal Contract Value (Million \$)	% Escalation	Cost increase for inflation @3% per year	% Escalation Corrected for Inflation
Maureen	Steel Gravity Base Platform	110,000	\$60	Well P&A Excluded	1998 to 2001	\$225**	375%	\$64	354%
Frigg	7 platforms, 1 concrete GBS (topsides only), subsea cleanup	85,000	\$328	Well P&A Excluded	2002 to 2010	\$635**	194%	\$387	164%
Ekofisk CAT 1 & CAT 2	9 platforms, 7 flare towers & bridges	112,000	\$391	Well P&A Excluded	2005 to 2013	\$1000**	256%	\$496.57	201%
Ekofisk 2/4T	Topsides only	25,000 (Topsides)	\$103 Total Topside only \$38m	Includes GBS & wall	2005 to 2007 (Topsides only)	\$90** (GBS Base & wall left on seabed)	237% on Topside	48.26	186% (Topside Only)
Indefatigable	6 platforms	13,000	\$78 (Ex wells \$48)	Includes wells	2009 to 2011	\$100 excluding wells	208%	\$67	150%

* REF: "A Technical Review of the possible Methods of Decommissioning and Disposing of Offshore oil and gas Installations", Prepared for the European Commission DG XI and DG XVII, November 1996. CO-Authored by John Brown E&C BV; Kvaerner-John Brown UK Ltd; Kvaerner Installation a.s.; Moret Ernst & Young; Netherlands Energy Research Foundation (ECN); RF-Rogaland; Cordah Environmental Management Consultants Ltd; GOPA Consultants; Advi-Safe etc.

** REF: not converted to 2010 costs

Why Now?

- DECC have received a committed work programme of £6bn over the next 3 years
- The low oil price means majors have little option
- Many fields at the end of their economic life
- HM Treasury has now given clarity on taxation
- Strong public sector support in NE:
 - £10m being requested with strong support from the LEP
 - £40m agreed in principle by RGF

What is the prize?

IF we could win 20% of the work we could:

- Put £500m+ pa into the regional economy for 30 years
- Create 7200 direct jobs
- Train the next generation of engineers
- Become THE preferred location for decom work
- Enhance our chances of success in other engineering activities, such as platform construction

OGUK View on Decom Issues

- Through its annual survey, OGUK ask members what they believe the issues and barriers to decommissioning are. Two issues keep being identified:
 - A lack of heavy lift vessels for the number of assets to be removed
 - A lack of onshore yards around the North Sea basin which are capable of the final dismantling and safe removal of these assets
- Our Consortium will address both these issues

Why the North East?

- Lower cost base compared to other countries (Norway, Germany, Denmark)
- Yards are available in an excellent central location for North Sea
- Government, LEP and local councils are very supportive
- Public opinion supports this type of work in our region
- Skills and experience of construction and marine
- Experience of decommissioning is abundant from nuclear ties

Current Investment Activities

- We aim to revitalise 3 of the region's rivers:
 - Tyne
 - Wear
 - Blyth
- We need facilities for deep water vessels to offload assets to barges
 - Then ensure river depths are suitable for these barges to deliver onshore
- We need to ensure quayside locations are strong enough to bring topsides and jackets ashore
- We need to ensure we can move these assets to suitable laydown areas for dismantling and removal
- We need to ensure no wastes leach into the water table

How will it work?

What are the key issues?

- Risk – how will it be shared?
 - How will our balance sheet give confidence to operators?
 - How will liabilities flow down?
 - How will rewards be shared?
- Governance – how will we ensure transparency and fairness to all members?
- Compliance – how will we ensure our operations meet both competition and environmental regulations?
- Jigsaw has developed solutions to these issues which have the support of our initial members

Consortium Model

- Jigsaw is an LLP where risk and rewards are shared across the founders.
- “Founder” Members have developed an approach where liabilities and risks are clear and fair.
- By the start of the new financial year we will have a balance sheet capable of engaging with operators directly
- We will develop a “superport” location capable of facilitating the decom needs of multiple operators
- Our offering will be a single contract to deliver ALL phases of decom. We will manage the interfaces, risks and liabilities between offshore and onshore players.

Current Status

Where are we now?

- All Local Authorities signed up
- MPs and MEPs engaged and supportive
- Ports of Tyne, Blyth and Wear signed up
- Producing a business case and submission for £50m public funding to get rivers and yards ready for business
- 40+ local and national O&G businesses keen to join so far
- OGA will sit as observer on Steering Committee
- Well located offices gifted by Shepherds Offshore as HQ for Consortium

Timescales?

- Form Jigsaw Consortium Jan 31 2017
- Secure Government funding Mar 21 2017
- Start Bidding for Decom Projects - April 2017
- Infrastructure projects – commence April 2017 for 18 months
- Engineering elements of Decom projects start as soon as contracts secured
- Rivers ready to receive oil and gas assets - November 2018

- **Members confirmed: Baker-Hughes, Rosen, Shepherd's Offshore, KDC, Asbuilt Decom, HAL**

Our Brand



JIGSAW

ENGINEERING POTENTIAL

Summary

- £100bn of decom work will be awarded over the next 30 years
- This will happen whether we are ready or not
- By forming a consortium we will provide oil operators with something they desire – A SINGLE CONTRACT
- These consortia have become the norm in the nuclear industry which took many years to “get it right”
- The region is well placed geographically and we have strong public sector support
- No-one yet is an “expert” in this area...

Q&A

Any questions?