Decommissioning – Great Opportunity, Wrong Time?
SeaNation – Your Deepwater Technology Provider
Surface – Subsea – Subsurface

• Target Areas
  • Subsea Field development
    • Vessel and system application options
  • Subsea Well operations
    • Stimulation
    • Well intervention
      • Riserless
      • Riser based
  • Decommissioning
    • Subsea well decommissioning
    • Infrastructure preparation and removal

• SeaNation
  • Focused on subsea well operations
    • Consulting opportunities
    • Operators and Contractors
      • Project management
  • Focused on UK subsea SME
    • Technology application
    • Service Provision

• SeaNation – structure
  • Houston based Texas LLC
  • Future employee partnership

• SeaNation – ownership
  • Management Foundation with employee ownership model

• Surface
  • Vessel design and operations
    • Selection
    • Layout
    • Application

• Subsea
  • Hardware and control systems
    • Riserless
    • Riser based
    • Hydraulic intervention

• Subsurface
  • Well services management
  • In-hole operations
Areas of Expertise

SeaNation combines collective operational expertise to apply to the upstream oil and gas market in two areas;

- **Engineering Technology and Services Support**
  - Market development and expansion for primarily UK service and technology companies
  - to enter the upstream and deepwater market on a global basis.

- **Management, Technical and Operation Consultancy and Support**
  - Management, technical and personnel operational support to clients
  - Including operators, service companies and ancillary companies, for all aspects of subsea operations.
Decommissioning
Great Opportunity – Wrong Time

Market Overview and Commentary
Decommissioning market specifics
Operator Challenges
Well and peripheral decommissioning challenges
Technology and Service Supply
Regulatory Issues

Possible paths forwards
Issues to be covered in the conference
Good News Bad News

Oil is up 78% !!
Home Truth’s

Decommissioning – non revenue activity
No upside for investment unless

Minimises Cost
Home Truth’s

Manage risk – balance with minimizing cost

*as opposed to*

Managing risk for future upside

No surprises!
State of play
surprises and coping strategies

• Last 3 downturns
  • 1985 / 86
  • 2008 / 09
  • 2014 .....  

• Peak = 100

• Trough
  • - 65%  33 weeks
  • - 74%  32 weeks
  • - 77%  78 weeks
Well Operations and Decommissioning

Subsea wells producing for more than 5 years

CAGR 8%

Source: Quest - February 2015
Factors in the current market

- Vessel rates and service costs are under pressure even after oil price appears to have bottomed
  - Service pricing to lag oil price firming?
    - How long – 2 years?
- Operators liabilities growing at 13% p.a. (CAGR)
  - Reached 10% market cap in 2014
- BSEE place 20mm USD cost for subsea well P&A

- Major operators spending ca 40mm USD for subsea P&A
- Ability to sell assets and liabilities curtailed
- Financial responsibility issues under review in GoM
Where are the current challenges?
Subsea well population and P&A

Idle iron initiative

Campos Basin
177 subsea P&A

2015 - 2024
596 subsea wells (UK)
14 bn GBP
15 subsea wells (NCS)
Where is the future challenge?
Subsea Well Population
Timing - shape shifting with oil price
UK decommissioning expenditure timing

Source: Oil & Gas UK
What does decommissioning look like?

2003

2010

2020
How to progress operations a rose coloured view

Operators
- Lump Sum
- Delay spend
- Low cost
- Minimise Risk

Service Providers
- High Margin
- Day Rate
- Asset utilisation
- No Risk
Creative tension or collision course?

Operators

Minimise Downside

Ultimate Liability

Maximise Upside

Service Providers

Discrete Operational Liability
Operator Challenges

Information availability
- How much information is lost. Quality of information to hand
- Legacy equipment

Standards of operations – established but;
- Across operators?
- Across regulators – separate issue

Build a back log of work
- Allow for timing of operations

Commercial terms and conditions
- The lesser spotted – Win Win!
What has to be faced?

• Rig alternative approach
• Riser or riserless – function of well configuration and status
  • Through Tubing Operations
  • Production zone isolation
  • Tubing isolation and handling
  • Control lines
  • Annulus Verification, Isolation and Placement
Subsea well decommissioning
The Full Package

• Elimination of the rig
  • If well classification is suitable

• If not what other hurdles?
  • Casing removal – section milling – alternatives
  • Handling improvement
  • Annulus barrier creation
    • Cement the only way?
    • Placement, displacement and sealing
  • Leave in place – tubing, casing – sealing
  • Multi-string logging - verification
Chasing the prize – who is doing what?

Flowline flushing and remediation
Infrastructure preparation and handling
Retrieval / Leave in place
Staying in compliance

- Broad approach to what is acceptable however;
  - Different perceptions of risk to achieve it
    - Default rig
    - Riser based only
    - Riserless is okay
- All wells are different
  - UK Categorisation functions well – risk based?
- DnV – Risk Based Approach
- Is the fog clearing on international agreement?
Operating Environment and Costs

- Offshore expansion and inefficiencies
- Squeeze is / was
  - Lower oil price ✓
  - Stubbornly high costs ✗
  - Ageing infrastructure ✓
  - Large decommissioning bill ✓
- Threat to profitable and unprofitable alike
  - Companies that use pipelines and terminals shut down
    - Bill lands on the survivors
  - Piece of infrastructure breaks or operator goes bust
    - Everyone who uses it is in trouble
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• One solution approach is;
  • AERA Energy
    • Treats well drilling as a manufacturing process
    • Single team from design to implementation
  • Implementing
    • JIT planning
    • Work process mapping
    • Decentralised decision making
    • Standardisation
    • Visual tools to update management
    • Close collaboration with suppliers
Challenge of Economics

• Liabilities are forever?
• Coverage in down market
• Optimising what we have
  • Low rates – vessels and services
  • Spending is curtailed – losing any advantage?
• Operators Piece of mind
  • Low risk
  • Low cost, Fixed cost
• Service Sector
  • Visibility – utilization
  • Liability – minimum exposure
  • Flexibility - optimisation
Great Opportunity

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- Decommissioning Brokerage
  - Regulators as referee
- Operators compete
  - At lease bid – is it over after that?
- Collaborate on decommissioning
  - Align timing
    - Upfront preparation
    - Align flexibility on timing
    - Vertical integration of operations
      - Shift from end date focus
      - Staged decommissioning
        - Advancing the cash layout
- Fill the hopper
- Service companies big grab
  - Allocation of resources and assets
Thank you for listening

Surface – Subsea – Sub-surface

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