WELCOME

PREPARATION IS THE QUAY!
SHELL BRENT DELTA THE STORY SO FAR....

Neil Etherington
Business Development Director
SHELL BRENT

DECOMMISSIONING PROJECT
SHELL BREN'T DELTA MOORED AT ASP QUAY 6
ABLE INTRODUCTION

THE GROUP
THE ABLE GROUP TODAY

• Established 1966
• Privately owned
• Entrepreneurial
• Decisive
• Flexible
• Strong leadership
• Long term view

£483M asset base
£120m+ invested in last 5 years
Extensive funding; No borrowings
Long term strategy

Ernst & Young Entrepreneur of the Year (Peter Stephenson, Able UK Ltd Executive Chairman) 2010
ABLE Group

- Port Development
- Construction – civil and marine
- Demolition
- Marine Recycling / Decommissioning
- Property / Management – UK land bank c. 2,150ha (5,320 acres)
- Land Reclamation
- Landfill
- Waste Management
- Quarrying
ABLE UK LIMITED – HISTORY AND DEVELOPMENT

An evolving process:

- From Plant Hire to Demolition
- to Waste Management to Construction
- and on to Marine Decommissioning and Property Management and Development
THORPE MARSH POWER STATION

- Acquired 1995
- Power Station Demolition Contract
- Site cleared
- Section 36 Approval (to 2021)
- 1,575MW Gas Power Station
- Carlton Power
- Cooling Towers – 2012
- Construction 2018/19
ABLE HAS CONTINUED TO PIONEER NEW TECHNIQUES AND SET INDUSTRY STANDARDS
DECOM NORTH SEA – 29 NOVEMBER 17

DEMOlITION TRACK RECORD

<table>
<thead>
<tr>
<th>Demolished / Dismantled</th>
<th>Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Stations</td>
<td>12</td>
</tr>
<tr>
<td>Refineries</td>
<td>11</td>
</tr>
<tr>
<td>Tank Farms</td>
<td>13</td>
</tr>
<tr>
<td>Bridges</td>
<td>50</td>
</tr>
<tr>
<td>Buildings</td>
<td>770 +</td>
</tr>
<tr>
<td>Structures using explosives</td>
<td>80 +</td>
</tr>
<tr>
<td>Tonnes Equipment</td>
<td>80,000 +</td>
</tr>
</tbody>
</table>
MAJOR DEMOLITION CLIENTS INCLUDE:

• AMOCO
• BASF
• BHP Hamilton
• BP Chemicals
• BP Oil & Gas
• British Gas
• British Nuclear Fuels
• British Steel
• ConocoPhillips
• Ensco
• EON
• ICI
• Innogy plc
• Mobil /Exxon
• NAM-Holland
• Newfield Petroleum
• Nuclear Electric plc
• Petrofac
• Phillips Petroleum - UK
• Phillips Petroleum - Norway
• Powergen
• RWE
• Sembcorp
• Shell UK
• Shell Exploration & Production
• Thames Water
• TotalFinaElf Norway
• TotalFinaElf UK
• UECC
• UK Atomic Energy Authority
From onshore......to Offshore, onshore..... ......Oil Platform Decommissioning..........
TRACK RECORD....THE MARKET LEADER

- Over 80 structures received
- **Undertaken at Able Seaton Port** (initially) at Able Billingham Reach

<table>
<thead>
<tr>
<th>Oil Platforms</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phillips Albusk Jell</td>
<td>1985</td>
</tr>
<tr>
<td>Shell Bravo</td>
<td>1994</td>
</tr>
<tr>
<td>Shell Dunlin</td>
<td>1994</td>
</tr>
<tr>
<td>Shell Cormorant A</td>
<td>1995</td>
</tr>
<tr>
<td>Shell Charlie</td>
<td>1996</td>
</tr>
<tr>
<td>Shell Leman Topsides</td>
<td>1996</td>
</tr>
<tr>
<td>BHP Esmond</td>
<td>1996</td>
</tr>
<tr>
<td>Shell Delta</td>
<td>1997</td>
</tr>
<tr>
<td>Shell Leman Jacket</td>
<td>1997</td>
</tr>
<tr>
<td>NAM K11</td>
<td>1998/9</td>
</tr>
<tr>
<td>TFE Frigg/Froy</td>
<td>2000/1</td>
</tr>
<tr>
<td>NAM K14</td>
<td>2001/2</td>
</tr>
<tr>
<td>Mobil Camelot CB</td>
<td>2002/3</td>
</tr>
<tr>
<td>Grove Platform</td>
<td>2004</td>
</tr>
<tr>
<td>BP North West Hutton</td>
<td>2008/9</td>
</tr>
<tr>
<td>ConocoPhillips Phoenix Module</td>
<td>2016</td>
</tr>
<tr>
<td>Shell Brent Delta Topside</td>
<td>2017</td>
</tr>
<tr>
<td>Shell Brent Bravo Topside</td>
<td>2019</td>
</tr>
<tr>
<td>Shell Brent Alpha Topside</td>
<td>2020</td>
</tr>
<tr>
<td>Shell Brent Alpha Jacket</td>
<td>2021</td>
</tr>
<tr>
<td>Shell Brent Charlie Topside</td>
<td>2022</td>
</tr>
</tbody>
</table>
BP NORTH WEST HUTTON

- One of the largest projects to date
- 20,000t Topside
- 10,000t Jacket
- Reverse engineering
• Heerema
• Multiple barge movements - 22
• Two summer campaigns 2008/9
• Innovative re-use
MODULE SUPPORT FRAME (1,500T)

ADAPTED AND USED IN SEA TRIALS – PIONEERING SPIRIT
MOBILE ACCOMODATION UNIT (MAU)

- 3,116m² of office and welfare accommodation
- Top 2 floors available for office or overnight accommodation

Green Apple Award Winner 2013
MAU – ACCOMMODATION

3,116m² of Office and Welfare Accommodation Kitchen for 120 staff
THE DEMOLITION PROCESS

• Survey (compare to plans)
• Remove Hazardous Material
• Soft Strip
• Re-use; Re-furbish; Re-sale; Recycle (the Best Practicable Environmental Option)
• Sectioned Pull-down
• Transfer to Scrap Handling Area
• Scrap Steel Processing
• Furnace Ready (sized)
• Despatch – Road; Rail; Sea
THE RESULT

• BP NWH - Largest Oil Rig Re-cycling Project at the time
• On-Time
• On Budget
• LSA Removal
• Asbestos Removal
• 98.2% re-used/re-cycled
• No Lost Time Accidents
• A Satisfied Client
SHELL BRENT

UK’s LARGEST OFFSHORE DECOMMISSIONING PROJECT
SHELL BRENT

- 1976
- 4 billion barrels of oil
- 10% of all North Sea output
- 70% of all revenues paid as TAX

Source: SHELL UK
A COMPLEX MAJOR ENGINEERING PROJECT

Cessation of Production
- Delta 2011
- Alpha, Bravo 2014
- Charlie TBC

Alpha, Bravo & Charlie have multiple interconnections & interdependencies

- 140 wells
- 4 topsides (106kT)
- 1 steel jacket
- 3 GBS
- 2 subsea locations
THE SCALE OF THE BRENT FACILITIES

- Nelson’s Column, London
- Sydney Opera House, Sydney
- London Eye, London
- Taj Mahal, Agra
- Seoul Tower, Seoul
- Eiffel Tower, Paris
- Brent Delta, London
PIONEERING SPIRIT

- 382m x 124m
- Single Lifts
- Up to 48,000t
- £2.5b
- World’s Largest Vessel

LENGTH: 382m

6x 747 Jumbo Jets
IRON LADY

- BARGE
- 2014
- 200m x 57m
PIONEERING SPIRIT LIFT AND TRANSFER TO BARGE
ABLE SEATON PORT (ASP)

RIVER TEES, NORTH EAST COAST, UK
THE IDEAL EAST COAST LOCATION
• Shell Brent Field
c. 400 Nautical Miles from ASP
HISTORY – SINCE ABLE OWNERSHIP


Site and Quays

Dock Basin

c. £70m+ invested
- Multi-user Facility
- 51 hectares (126 acres)
- 11 Quays
- Up to 20.5m of water @ MHWS
- Offices
- Workshops
- Fabrication Hall
- Stores
- Shot blast building
- Paint shop
- Extensive range of capital plant
- New Quays
- Quay 1
- Quay 6
- Potential Dry Dock
QUAY 6 CONSTRUCTION

- 1,242 Piles (10,500t)
- 7,000m³ Concrete
- 7,500m²
- Load Capacity 45t/m²
- Line Load 100t/m²
- 120m Quay
- Start – Jan 14
- Finish – Dec 16
- Able Designed
QUAY 6

- Available Q1 2017
- 125m
- c60m @ 45t/m²
- c60m @ 16t/m²
QUAY 6 GROUNDING BED CONSTRUCTION

- Area - 13,860m² (70 tennis courts)
- 16,150t of stone
- 3,000t of gravel
ASP: DECEMBER 2016
ASP COFFERDAM REMOVAL

- 226 sheet piles average 20m long (4,500 linear metres combined)
- 84 tubular piles average 27.1 metres long (2,250 linear metres combined)
- 14,197m³ material (sand) extracted from cofferdam centre
• ABLE construction complete
• ASP capacity to process c. 300,000t steel per year
• The market is set to increase significantly
BRENT DELTA (24,200t) TOPSIDE ARRIVAL PLAN

DECOM NORTH SEA – 29 NOVEMBER 17
TIMELAPSE OF SHELL BRENT DELTA DELIVERY TO ASP
SHELL BRENT DISPOSAL

UK’s LARGEST OFFSHORE DECOMMISSIONING PROJECT
BRENT DELTA (24,200t) LOAD-IN DISPOSAL PLAN

- Survey
- Soft Strip
- Asbestos Removal
- Demolition

Completion within 12 months
BRENT DELTA (24,200t) TOPSIDE DISPOSAL PLAN

SHELL BRENT DECOMMISSIONING ONSHORE DISMANTLING & DISPOSAL OF OFFSHORE STRUCTURES CONTRACT No. 4610043297

Preliminary Destruct Sequence of Brent Delta

Note: The sequence of destruct may change throughout the project. Specific risk assessments, weight calculations and safe working procedures may determine the methodology.

Each section of proposed removal procedure will have its own specific technical methodology and risk assessment, along with all relevant lift plans and structural calculations (as required).

The sequence and nature of demolition shall be finally determined once all surveys are complete and therefore subject to change.
**BRENT DELTA DISMANTLING PROCESS**

**MSFW (Module Deck)**
Small miscellaneous steelwork located below the MSFW platform will be cut and dropped in to the clear drop zone. The main module deck will then be strategically cut then dropped down in to the clear drop zone.

**Air Intake Ducts/Valves**
The ducts will have separation cuts to the bulkhead wall then the structure will be strategically cut then dropped down in to the clear drop zone.

**GT Exhaust Stacks**
The stacks will have separation cuts to the bulkhead wall then the structure will be strategically cut then pulled via wire rope and excavator, down in to the clear drop zone.

**Flare Tower**
Wire ropes will be affixed to the top of the flare tower and fed back down to an excavator at ground level. All pipework will be cut giving a clear segregation between any plant and the flare tower. Topmen will cut the bolts leaving the required bolts on the plant legs. The tower will be pulled over in to the below drop zone. Note: The flare tower may be dismantled in two separate sections.
SHELL BRENT DELTA RE-CYCLING

- Contract target > 97.0% re-used/re-cycled
- Steel
- Non-ferrous
- Opportunities for re-use/re-furbishment
- Examples:
  - Flare Towers: Signage
  - Re-used tubes as piles
  - Helidecks: RoRo pontoon and ramp; bridges (drainage)
  - Switchgear; valves
  - Drill Derrick (training company)
  - Charitable: 1.5t of food: mattresses etc
**WASTE MANAGEMENT**

- c. 1.7%
- Comprises:
  - 1.5% Non-hazardous
  - 0.2% Hazardous

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical (production &amp; drilling)</td>
<td>0.016%</td>
</tr>
<tr>
<td>LSA</td>
<td>0.057%</td>
</tr>
<tr>
<td>Diesel</td>
<td>0.031%</td>
</tr>
<tr>
<td>Hydraulic Oil</td>
<td>0.011%</td>
</tr>
<tr>
<td>Crude Oil</td>
<td>0.050%</td>
</tr>
<tr>
<td>Water (biocide)</td>
<td>0.013%</td>
</tr>
<tr>
<td>PCB</td>
<td>0.001%</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.001%</td>
</tr>
</tbody>
</table>
SEATON MEADOWS LANDFILL

- 600m by road
- Specialist Waste Facility
- Fully licensed
- Estimated life to 2030
CONTRACT CONTRIBUTION (JOBS)

• 50 jobs new/safeguarded

• 3 New Apprenticeships (Hartlepool College):
  – Engineering Maintenance (Level 3 Diploma)
  – Engineering Technical Support (CAD) (Level 3 Diploma)
  – Welding (Level 3 Diploma)
CONTRACT CONTRIBUTION

• **SEATON CAREW MASTERPLAN** £100,000
  – Outdoor Play area

• **SHELL BRENT DELTA EVENTS**
  – VIP EVENT (Tuesday) 90+ (MPs; Mayor; OGA; LEP etc)
  – BRENT STAFF & PENSIONERS  150 + (Wednesday)
  – EDUCATION 150 + students (Thursday)
    • English Martyrs; High Tunstall; St Hilds; Manor Community Academy: Dyke House
  – COMMUNITY  350 + residents (Saturday)
    • 3 Sessions: 104; 114; 125 registered to date
CONTRACT

• Investment - £28m
• Period: 2015-2025
• c. 50 jobs safeguarded/created
• Up to 100,000t – c. 97% + to be re-cycled
• Unique facility
• Re-affirms ABLE as Market Leader