

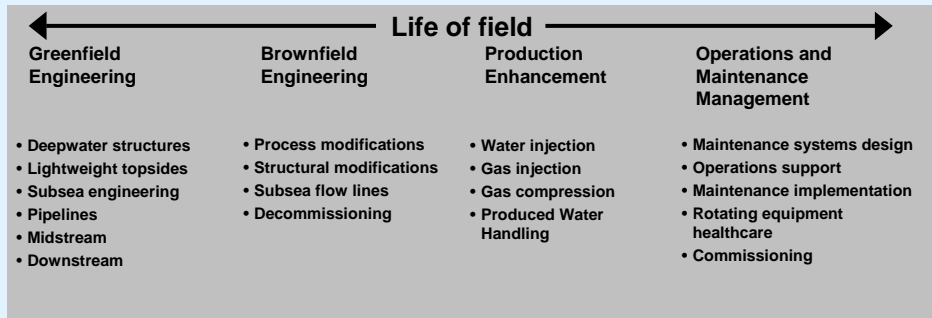


## UK / Norwegian Oil & Gas Industry Collaboration

26th October, 2005

The Technology Challenge

Sir Ian Wood  
Chairman and CEO, Wood Group



← Onshore and Offshore →



BP Clair, UKCS



Shell, Brunei



TOTAL, UKCS



BP Floreña, Colombia

## Technology Challenge?



- **Clair – an example of Breakthrough**
- 2. **Valhall – The Norwegian Clair**
- 3. **The Future**



## Technology Challenge?



- **Technology “pulled through” by business requirement**
- **Not technology for technology’s sake – avoid re-engineering and gold plating**
- **An innovative approach – an open mind , independent of proprietary technology and hardware – aware of the available technology, international experience**
- **A mindset of maximising simplicity, repeatability and standardisation – fit for purpose cost effective design**
- **Working with SMEs on technology**
- **BP Clair – a good example of an innovative approach**

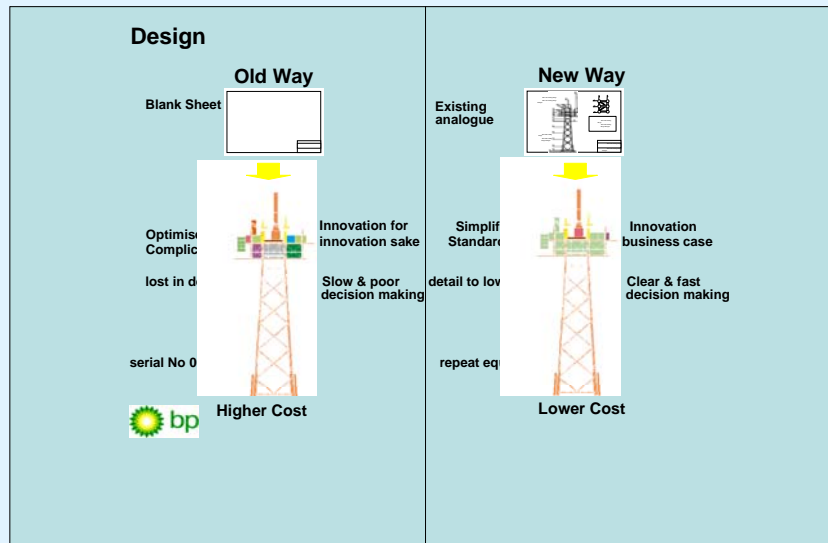
## Clair – an example of breakthrough



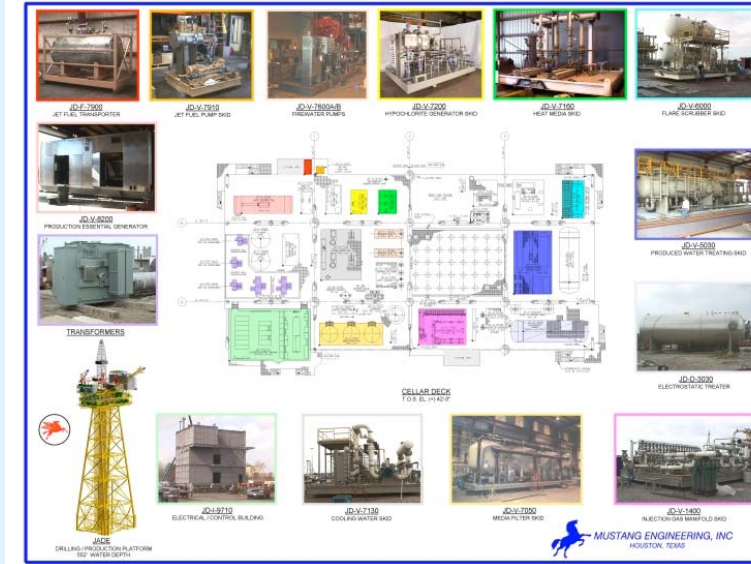
### The challenge

- The largest known underdeveloped reserve at the time
- Complex, heavily faulted reservoir
- A big potential prize, but high risk due to:-
  - Poorly predictable reservoir
  - High facilities capex
- So BP sought solutions to address these issues
- The first was a technology match, with improved well placement and advances in seismic imaging – technology match
- Lessons and experience from the Gulf of Mexico

## The Innovative Approach



## Skid Based Design



## Clair – The Outcome



- **“FEED results benchmark as world class performance” – by IPA**
  - **“Fast efficient installation**
  - **Cost Saving of >35% versus conventional approach**
  - **Excellent safety performance**
  - **Uptime of 95% in first 9 months of production**
  - **Created a new UKCS benchmark**
  - **Enabled a sustainable change**
    - **Capturing and sharing lessons learned**
    - **Engaging with the supply chain**
- ..... So the challenge is to build on this to find the next problem!**



## Valhall – The next opportunity



> BP Valhall Platform



- Not a repeat of Clair – an evolution from Clair
- First application of “enhanced GoM” philosophy in NCS
- Technically complex project
  - ‘Power from Shore’
  - ‘Field of the Future’
- Recognition of the specific Norwegian requirements
- Our goal is to deliver a successful project for the Valhall partners in a way that Norway feels good about

## The Future



- Clair demonstrated the benefits from adopting best practice techniques into the UK
- Valhall will demonstrate the benefits of adapting these techniques to meet Norwegian needs
- Opportunity for UK/Norwegian collaboration to extend the best practice beyond our waters
  - Barents Sea?

