Rice Global E & C Forum

Loïc des Déserts
Chairman and CEO
DORIS Engineering

Paris, 19 March 2013
Abstract

• As hydrocarbon development projects become larger and larger, sound ways of executing these projects must be followed to maximize their level of success

• Simple guidelines to meet schedule & cost are further discussed
  – Engineering & definition
  – Resources, interfaces
  – Cost & schedule
  – Contractual strategies
An **independent** engineering company with:

- More than 45 years of experience in the offshore industry
  - More than 200 major contracts since 1965
  - Specialized in conceptual and FEED studies
  - Significant effort in Research & Development
  - Many world “firsts” since 1965
  - 2006 OTC Distinguished Achievement Award

- **Strong resources**
  - Almost 1,000 people working worldwide
  - Network of Partners all over the world
  - Skills in every discipline used for offshore field development
  - Ability to mobilize either reduced or large teams worldwide
  - Many specific analysis and design tools developed
Who Is DORIS?

• Established track record of international development work
  – Large commitments in international markets
  – Majority of revenue comes from outside of France

• A company culture valuing long-term business relationships
  – Orientation towards services to oil companies
DORIS’ Market

• Offshore Industry
  Fixed and Floating facilities, Topsides, Subsea, Pipeline, Umbilicals, Flowlines, Risers, Mooring systems, Living Quarters in all kind of environment (swamp area, shallow water, deepwater, arctic area …)

• Onshore Industry
  Onshore field development, onshore Pipelines, Terminals for offshore facilities, LNG Terminals.

• Others
  Coastal engineering, Defence, Space.
DORIS Revenues per Type of Clients
(5 Years)

- Oil & Gas Projects for Oil Companies: 60%
- Oil & Gas Projects for Contractors: 35%
- Non Oil & Gas Projects: 5%
DORIS Revenues per Type of Activity
(5 Years)

- Basic Engineering: 40%
- Detailed Engineering: 25%
- Conceptual Studies: 9%
- Technical Assistance: 12%
- Project Management Services: 2%
- Turn Key: 12%

19 March 2013
Financial Data – Revenue

Nota: Data for 2012 are estimated

DORIS Engineering (Paris)
Worldwide DORIS Group

Millions of Euros
Main Projects

19 March 2013
Current Technology & Industry Trends

• Offshore
  – Deepwater
  – Arctic conditions
  – FLNG
  – Unmanned installations
  – Subsea production
    • Separation
    • Multiphase pumps
    • Compression
  – Long subsea tiebacks
  – Subsea to beach concept
Current Technology & Industry Trends

• Onshore
  – Dangerous zones (Iraq, Yemen, Nigeria, Sudan(s), …)
  – Difficult access (jungle, deserts, …)

• Environmental policies
  – Gas flaring
  – CO\textsubscript{2} reinjection
  – Produced water disposal
  – Drill cuttings disposal
Constraints on Resources & Personnel

- Cyclic market
  - Activity level highly related to oil & gas price

- Bad image of the industry in the public
  - The industry is perceived as being dirty, corrupted & manipulating weak governments
  - A generation of engineers went to the finance industry
Constraints on Resources & Personnel

- Projects become larger and larger
  - Large majority of experience personnel are then hired by the operating companies
  - Smaller outfits have therefore more difficulties to hire experienced personnel
  - That forces them to hire junior people, train them and often lose them to the benefit of larger companies
Constraints on Resources & Personnel

• Local content and worldwide market
  – Requires companies to have places of work in many different places
  – Host countries request for high proportion of projects being executed locally
  – Some countries do not have the appropriate workforce
  – Necessity for the experienced personnel to be highly mobile to guarantee adequate transfer of experience
General Trend for the Years to Come

• Shale gas production in the US is a game changer for the entire gas industry
  – Cost of MBTU is around US$ 3.5 (3.49 on 27 Feb. 2013) in the US while it is around US$ 16.5 (17.30 on 31 Jan. 2013) in Japan
  – Will US become a large gas exporter?

• Presalt discoveries (Brazil, West Africa, …) may change the game
General Trend for the Years to Come

- Nuclear industry in big doubts since Fukushima event

- Large focus on natural and renewable energy sources
  - Very high production cost
  - Low efficiency
  - Limited capability
General Trend for the Years to Come

• World demand for oil & gas will remain strong for the next years to come
  – After the start of the world crisis in 2008, production grew again after few months only, even though the crisis was still prevailing

• World economy situation may alter this trend
  – If China starts to develop the shale gas in place, that will be an other game changer
Some Tools to Cope with this Situation

• Overall management
  – Have the right actors to do what they know and only what they know
  – Use multidisciplinary team gathering people having worked together and with a common experience
  – Keep the same team all along the execution phase of the project
Some Tools to Cope with this Situation

• Execution
  – Clearly document the selection process between the available options
  – Have the interfaces managed by the end user and not by one of the contractors
  – Compared to entire CAPEX, cost of initial engineering activities is small enough to be properly undertaken as this is the best time to influence the overall cost
Some Tools to Cope with this Situation

- **Maximum Influence**
- **Minimum Impact**
- **Maximum Impact**

**Impact on Cost & Schedule**

**ABILITY TO INFLUENCE**

**COST OF CHANGES**

**TIME**

- Studies
- Scope defined
- Estimate
- Start construction complete
- Engineering complete
- Project complete

19 March 2013
Some Tools to Cope with this Situation

• Contracting
  – Define a clear and efficient contract strategy for project execution, considering in particular any local content rules
  – Be prepared (i.e. have the adequate budget) to pay the fair price for any required task: a contractor that is not properly paid (i.e. that doesn't make profit) cannot properly perform
Thank you very much

Any questions?