4th National Congress IPMA Italy

Contract Risk Management and portfolio management: Issues and trends in Oil & Gas industry

Alberto Marcuzzo
Bain & Company

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international project management association

Contract Risk Management: an emerging priority for O&G Companies (1/4)

- Main industry trends in the Oil & Gas industry reflect an **increasing level of risk** that companies need to manage and mitigate and highlight the **needs for new capabilities and supplier interaction models**

Contract Risk Management: an emerging priority for O&G Companies (2/4)

- In such a riskier environment, **Contract Risk Management has become more essential than ever,** to make sure that Companies entering into contracts are **optimally insulated against risks** through proficient risk management/allocation processes

Contract Risk Management: an emerging priority for O&G Companies (3/4)

- Bain research shows that Oil Co's and Contractors in their **contractual relationships and internally** are placing a growing attention to Contract Risk Management, adopting **processes and tools to manage main contract risks**

Contract Risk Management: an emerging priority for O&G Companies (4/4)

- An effective contract risk management process is needed, but **rather than focusing only on allocating risk through contracts**, players in the industry should adopt an approach that leverages each parties' **capability to manage specific risks** and creates opportunities to **streamline project activities**, thus **reducing overall risk**....and time to market!

Contents

- **Global Oil & Gas industry: top challenges and risks**
- Contract Risk Management in Oil & Gas

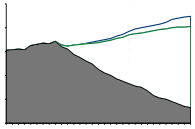
New challenges in the O&G industry determine a higher risk for all players

OIL & GAS INDUSTRY CHALLENGES

1. **Increased tech complexity**
2. **Increased capital and operating costs**
3. **Workforce supply and demand**
4. **Tighter regulatory environment**
5. **Strategic role of OFS providers**

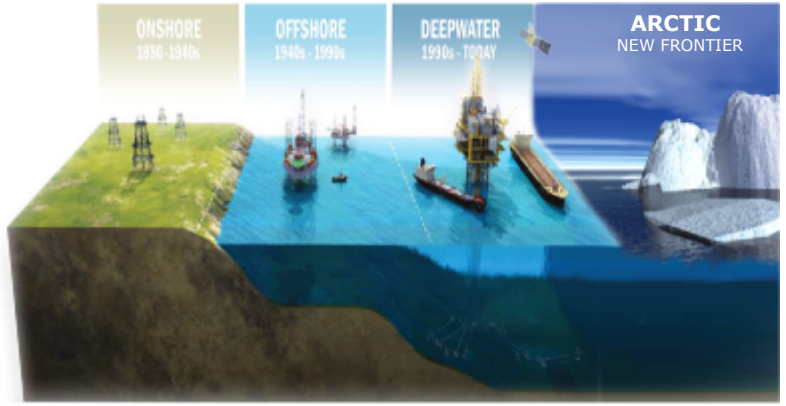
1. Increased tech complexity and changing asset maturity needs driven by next generation assets…

NEXT GENERATION OF ASSETS



Need to add 43 -48 MM bpd by 2020

INCREASED TECH COMPLEXITY



Technical expertise sought after by NOCs and Governments

Leading in Gas, building fast in Unconventionals

IOCs on top in Deepwater and Arctic

Long term risk: IOCs only have access to costly barrels

...and sometimes still too complex and risky!

FINANCIAL TIMES

September 17, 2012 8:10 pm

Shell's Arctic ambitions dented by mishaps

By Guy Chazan and Ed Crooks

Shell, Europe's largest oil company by production, had hoped its Arctic campaign would be a showcase for its technological prowess, highlighting its ability to operate at the frontiers of oil exploration.

But the programme has so far failed to take off. Shell originally planned to drill five Arctic wells this summer but cut that down to two in July: now it will not complete any.

Petrobras Completes Well Drilling at Transfer of Rights Area

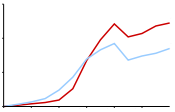
Source: www.gulfoilandgas.com 9/19/2012, Location: South America

Petrobras announces it has completed drilling the fourth well at the transfer of rights area in the pre-salt of Santos Basin. This discovery was previously announced on August 21st, 2012, when the well was still being drilled and had reached depths of 5,656 meters.

The well, which is called 3-BRSA-1053-RJS (3-RJS-699), and is unofficially referred to as Franco SW, is located at water depths of 2,024 meters, 210 km from the city of Rio de Janeiro and 17 km south of discovery well 2-ANP-1-RJS (known as Franco). The total depth of 5,973 meters was reached in a stratigraphic horizon established in the transfer of rights exploratory program.

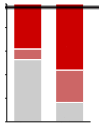
2. Capital and operating costs constantly increasing; inflation and complexity key drivers of CAPEX growth

INFLATION HAS REPERCUSSIONS ACROSS SUPPLY CHAIN



- Rate increases **high on suppliers agendas**
- **Supplier industry consolidation** potentially driving pricing power

INFLATION & COMPLEXITY DRIVING CAPEX GROWTH



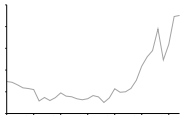
Revenue driver	Observed mitigation
✗	• Commodity hedging • Fostering competition between suppliers to drive down prices • Scale and SCM standards strategy • Demand management through SCM
✗	• Standardised models – 'design one, build many' • Standardised SCM processes
✓	

Note: *Post Macondo regulations impact (not factored here) may add additional CAPEX increases over long term; Oil and gas CAPEX includes oil and gas mining and refined petroleum products; Industry consolidation includes all types of transactions (Corp M&A and PE) and all investment sizes

Source: IHS M&A Database; Bain PE LBO Database; IHS Global Insight Mar2010; EIA, IHS Herolds; Illinois Basin Oil Prices; ODS Petrodata

3. Workforce supply and demand remains impacted by sustained underinvestment in the 1980's and 1990's

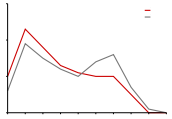
VOLATILE OIL PRICE HAS CONTRIBUTED TO HIRING/FIRING CYCLE



May 11, 2012 - $112

1998- $13

VOLATILE OIL PRICE HAS CONTRIBUTED TO HIRING/FIRING CYCLE



Majority of workforce will have had <10 years experience…

…and workforce will have 10% less experienced professionals

- **Expected critical skill shortages:**
  - Well Engineering, Project Management, HSE experts, energy efficiency, logistics, procurement, remote location staff, reservoir management, IT, Finance

"**Behind this global energy challenge lies a HR challenge** … transforming the world's energy system will require a deep pool of talent deployed on a truly global basis"

H Mitchell, Chief HR & Corporate Officer, Shell 2012

Source: BP Statistical Review; Datastream; SBC Human Resources Benchmark Study, 2010 & 2011

4. Workforce and workplace regulations will continue to evolve to meet local and industry requirements

- Increasing need to meet **local content regulation** on workforce composition and training and development needs (Brazil, Angola, Russia)
- Investments in **latest safety and environmental systems** are required. Changed operational and work practices **in the wake of Macondo** that will shift approvals contents, sequence, supervision and contractor coordination. Current Elgin / Franklin problems will likely drive further change
- G20 working **new offshore and open seas regulation** for debate in the 2013 Moscow round
- **Emissions reduction and monitoring requirements** will see a raft of new legislation to accommodate unconventional oil and gas exploitation with closer monitoring of fracking operations and water management

4. Tighter regulatory environment as a prime risk for O&G

TOP 10 RISKS IN OIL&GAS*

1. Competition for Access to Reserves
2. Regulation and compliance
3. Cost Containment
4. Worsening Fiscal and Contractual Terms by Host Countries
5. Health, Safety, and Environmental (HSE) Risks
6. The Great Crew Change
7. Operational Challenges in New Environments
8. Growing Public Concern Over Climate Change
9. Volatility of Oil Prices
10. Competition from New Technologies

- Political unrest within the oil-rich MENA region (Egypt, Iraq, Iran, Syria, Pakistan,...) impact on costs and production rates

- The Deepwater Horizon spill could increase the cost of exploration and development by as much as 10%

Note: *EY - Turn risks and opportunities into results - 2012

4. Ability to respond to regulatory changes, operate effectively in regulatory environment impacts cost position

EXAMPLE: ADDITIONAL COSTS DUE TO REGULATORY CHANGES IN THE US

*"...Estimate that there will be **an addition $185M cost per operator** in the OCS as a result of the Drilling Safety Rule and Workplace Safety Rule"*

SPE, 2011

*"...**Price rises of US$5-10 per barrel** over next few years are likely **due to regulatory impact**"*

DB, 2011

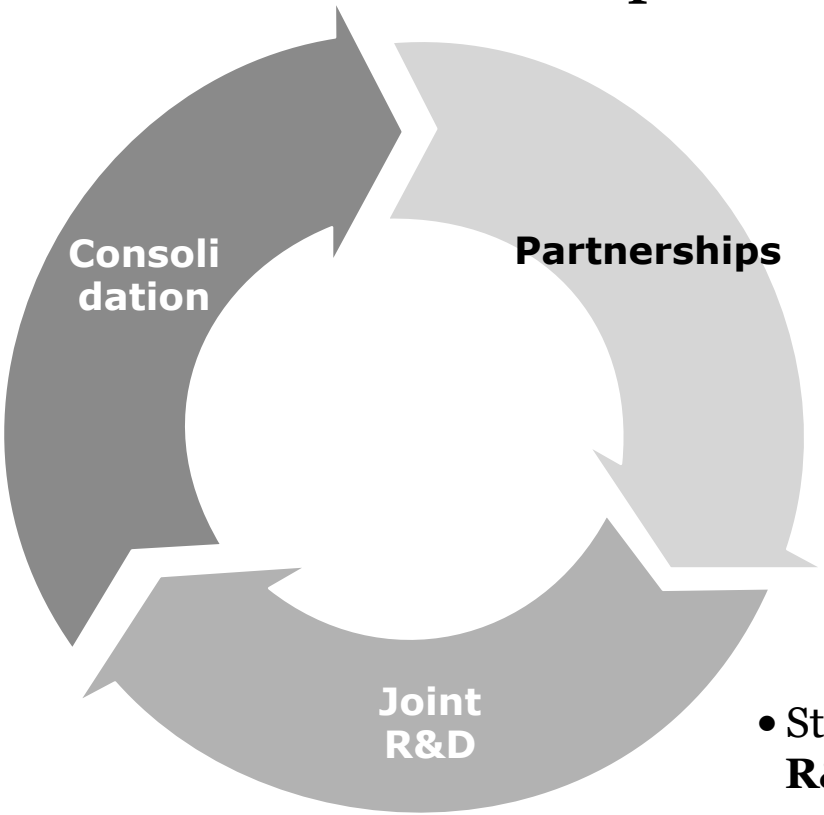
NCS HAS STRICT HSE REQUIREMENTS VS. INTERNATIONAL REQUIREMENTS

Management regulation	• Additional environmental goal setting, monitoring and planning • Identification and description of work processes
Information duty regulation	• Greater volume of documentation
Facility regulation	• Greater level of design analysis • Fiscal standard oil metering • Closed flare system and flaring scenarios
Activity regulation	• Lower max noise exposure levels • Wind chill to be simulated • Maximum weight for manual handling

Source: SPE Consequences of Macondo, 2011; A Sieminski (Chief energy economist), DB, 2011; Poyry FPU Rules and Regulation Gap Analysis

5. Strategic role of Oil Field Services providers

- **Industry consolidation** as investors expand into the sector



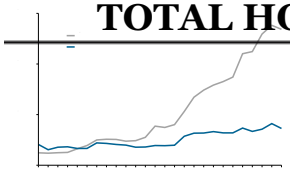
- **Increased number of partnerships** to meet complex project needs

- Strategic **commitment to R&D** and **investments** to upgrade existing facilities

IOCs relying more and more on OFS providers

5. Supervision ratios have grown from under 1:1 to over 1:3.5, contractor hours continue growing close to 10% pa

TOTAL HOURS WORKED (MILLIONS OF HOURS)

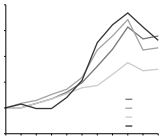


- Increased importance of **HSE standard compliance** in contractor management
- Man hour charges **increased salaries** to attract and retain talent

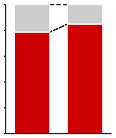
Source: OGP – Safety Performance Indicators (2010 data)

5. Contractors are significant contributors to cost and HSE incident rates

SUPPLIER PRICES HAVE TRIPLED SINCE 2000



AND HAVE HIGHER EXPOSURE AND INCIDENT RATES



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Source: IHS M&A Database; Bain PE LBO Database; IHS Global Insight Mar2010; EIA, IHS Herolds; Illinois Basin Oil Prices; ODS Petrodata

Bottom line: in riskier environments with a larger role of contractors, contract risk management is becoming a top priority

"*Uncertain economic conditions and increasingly risky operating environments have made* ***contract risk management a high priority for the upstream oil and gas industry***"

VP Legal Affairs, IOC

"*The blowout in the Gulf of Mexico has changed the face of the oil and gas industry forever, as did the ensuing battle between BP and its contractors.*
In this post-Macondo world, ***companies have refocused their efforts on contract risk management****, not least because of the cost the incident accrued*"

President of the IADC

"*With those kind of losses fresh in the mind,* ***it has become more essential than ever that oil and gas firms entering into contracts are optimally insulated against risk through proficient risk management and risk allocation***"

T. Haidar, O&G IQ

"We are also starting to see reallocation of certain risks under joint operating agreements and beyond, ***more time spent negotiating indemnities and liabilities*** *(particularly in relation to negligence and nuisance claims), and we expect that there will be even fewer instances of commercial arrangements being left undocumented"*

Legal firm Barlow Lyde and Gilbert

In the longer term, experts believe companies will be looking to use the contract process to cover their backs more than ever before, making it essential for those in the industry to keep up with all the latest developments

Contents

- Global Oil & Gas industry: top challenges and risks
- **Contract Risk Management in Oil & Gas**

The stake at hand are large enough to justify strong risk management efforts

'88: Piper Alpha

Fatalities: 167
Cost: ~£2B

'89: Exxon Valdez

Cost: ~$5B

'01: BP-Texas city

Fatalities: 14
Cost: ~$2B

'10: Macondo

Fatalities: 11
Cost: ~$40B

Injury reporting & hardware design…

- **Safety Case Regulations**
- **Focus on injury statistics,** safety training
- **Revamping of platform designs**
- Hardware & safety culture

- **Oil Pollution Act: stricter liability & unlimited compensation**
- Double hull designs
- Exxon safety refocus – platform for current performance

…asset integrity and process safety…

- Baker Panel Report - **industry wide focus on process safety & asset integrity**

…major accident risk

- **Stricter requirements** (Drilling and workplace safety)
- **Emerging industry shift from injury risk focus to major accident focus** (e.g. PSA's major incident index) –yet to be reflected in HSE KPIs
- Major incidents response and resolution in collaboration – affects whole industry
- Increased attention to JV requirements, liabilities and contractor management

Note: Cost figures include cleanup costs, losses, settlements, and fines
Source: Consequences of Macondo (2011), Company websites, Lit. search

Main common outcome of major accidents: key messages

- The reported cases are usually related to **leaks**, significant **stop production** or **project delays (*time to market* as a main issue)**
- Problems in equipment occur **not only in frontier projects**, with a high degree of innovation and risk involved
- It is almost **always impossible to determine the root cause of problems in equipment; typically a combination of effects is identified**
- **Insurance are often not fully effective** as a mitigation strategy

Given recent experiences, Oil Companies and contractors are becoming more and more aggressive on contract risk management

Contract Risk Management: different industries, different players and approaches

Different project complexity, risks, contractors and amount of investments

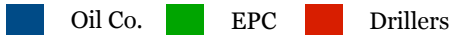
Depending on market conditions

	Upstream	Downstream
Oil Companies	• *Capability granting- oriented negotiation* • *Legal and compliance as a binding boundary*	• *Strong bargaining power* • *Cost oriented negotiation*
EPC Contractors	• *Bargaining power depending on specific items* • *Insurance as an important mitigation tool*	• *Take on most of the risk* • *Insurance as a main mitigation tool*
Drillers & Ancillary Services	• *Strong bargaining power* • *Process oriented approach (flexybility)*	*n.a.*

Widespread competences

Most critical items to be negotiated – Overall Liability Cap and Pollution

How does the Company set the Overall Liability Cap?



- Among "Others", more than 70% of respondent Oil Companies relate the Cap to a **percentage of Contract value between 50% and 90%**
- The 3 Oil Companies which set not cap (unlimited responsibilities for contractors) are **National Oil Companies** mainly operating in their domestic market (no IOC)

- The cap for Contractor's aggregate liability shall always exclude:
  - **Gross Negligence and Wilful Misconduct**
  - **pollution liabilities**

Often a Golden Rule, both for Oil Companies and Contractors

Contract Risk Management: from pure risk allocation to joint risk management optimization

Main risk areas

Contractual
- Operator group and contractor group property and personnel
- Project works
- Pollution
- Third parties
- Consequential losses
- Warranty obligations Unlimited liability/damages at large
- Insurance cover
- Force majeure and suspension
- Delay
- Variation orders
- Free access to worksite
- Intellectual property rights
- Termination by operator for convenience
- Operator's obligations to pay contractor

Political
- Interference
- Disturbance
- Confidentiality
- Permits and licences

Operator
- Operator areas of influence
- Insurance
- Problems which impact the operator and can impact the contractor

Financial
- Profitability
- Value of contract (size)
- Balance sheet debt
- Level of exposure
- Foreign currency exsposure
- Terms of payment
- Operator creditworthiness
- Insurance

Technical
- FEED quality
- New technology
- Weather
- Soil and foundations

Performance
- Scope, nature and duration of work
- Schedule interactions
- Size
- Safety and environmental performance
- Weather
- Soil and foundations
- External influences
- Operator and influences at time of bid

Geographical
- Location of the work

Effective Contract Risk Management helps dialogue between the parties to understand, mitigate and manage risk appropriately to the benefit of all the parties.

Its aims are to:
- improve dialogue
- improve risk apportionment and understanding in contracts and projects
- improve efficiency and project delivery
- improve operator/contractor relations
- save money
- avoid litigation
- increase opportunities
- facilitate the development of alternative solutions
- sustain the industry

Internal issues for companies to implement Contract Risk Management

	Key questions
Escalation process	• Who is the decision maker with reference to contract risks? • Which functions are involved in the process? • Which information are to be provided to the decision maker for a proper decision? • How to guarantee that the information is timely available?
Risk evaluation / risk tolerance	• How to evaluate contractual risks (qualitative and quantitative)? • What's the level of risk that the company can tolerate? At what level (single contracts vs. consolidated)? • How to monitor contract risks?
Mitigation actions	• Which are the most effective mitigation actions? • Who is in charge to define them? • Who is in charge to implement them? • How to measure the effectiveness of mitigations actions?

Contract Risk Management – Way forward

- Rather than simply allocating risks between counterparts, an effective **Contract Risk Management is about contributing to projects completion**, timely and efficiently
- Many players report **lengthy negotiations** with EPC/Drilling contractors (up to 6-9 months long), that end up signing contracts which are only slightly different from the initial ones: this causes **costly delays** without adding a lot of value to the project itself or reducing risk significantly
- Companies should be aware that **some risks are to be taken on** and no contractual provision or negotiation will prevent them completely from being responsible in case of accident; **a structured and robust contract risk management process is needed**, **but** rather than focusing only on allocating risk through contracts, **players in the industry should promote also an approach that**:
  - **leverages each parties' capability to manage specific risks**
  - **creates opportunities to streamline project activities**
- It would be **mutually beneficial** for Oil Companies and Contractors worldwide **to establish a general contractual framework**, that defines upfront the most critical items of the contractual scheme (e.g. pollution, liabilities, ….) and leaves open for discussion only issues which are related to specific projects (e.g. performance guarantees, ….)
- By doing so, companies would:
  - **reduce development time considerably** and, consequently, **increase NPV of projects**
  - be able to **focus on certain risks** and **build up appropriate mitigation strategies**
  - **improve planning ability,** as many elements of uncertainty would be wiped out

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