43RD ANNUAL ECC CONFERENCE
engineering and construction contracting association

JOURNEY INTO UNCHARTED TERRITORIES

September 7-10, 2011
JW Marriott Desert Ridge, Phoenix, AZ

How are owners, contractors and suppliers adapting to successfully execute projects and reposition their businesses in the ever evolving project environment?

REPOSITIONING THE PROJECTS BUSINESS IN A WORLD WITH CHANGING BOUNDARIES
Maximizing Project Value Beyond Cost Cutting

Bob Lewis
Petroleum Engineer
Project Management Professional
30 Years Experience
Operations and Projects
Upstream and Downstream

Project Services Manager
Noble Energy, Inc

Journey Into Uncharted Territories
Breakout Forum

Repositioning the Projects Business in a World with Changing Boundaries
Noble Energy, Inc. is a leading independent energy company, with a diverse portfolio of high-quality assets, committed to delivering value to our investors, business partners and employees.
Noble Energy
Current Areas of Operations

• Offshore – Deepwater Assets
  – US GoM
  – Eastern Mediterranean
  – Western Africa

• Onshore – Shale Assets
  - Niobrara – Rocky Mountains
How does Noble Energy deliver Value?

• We create Value by discovering and monetizing hydrocarbons quickly in a safe and responsible manner.

• We optimize Value through Lower Costs and Faster Schedules.

• We prevent Value destruction with an emphasis on Quality Management.
How do YOU deliver Value?

• Do YOU create Value by discovering and monetizing opportunities quickly in a safe and responsible manner?

• Do YOU optimize Value through Lower Costs and Faster Schedules?

• Do YOU prevent Value destruction with an emphasis on Quality Management?
Our Components of Value

Quality

Value

Cost

Schedule
Managing Quality for Value

- Quality preserves Value

- Cost Cutting on Quality is accepting a short term gain for a long term loss

- Quality should not be compromised
Quality Components of Value - Examples

- Contractor Availability
- Efficient Work Processes & Systems
- Health & Environmental Awareness
- Integrity & Reputation
- Risk Management
- Safety Record, Practices, and Programs
- Workmanship
Net Present Value can be used to evaluate incremental changes to Cost and Schedule:

$$NPV = \frac{CF_1}{1+r} + \frac{CF_n}{(1+r)^n} \ldots$$

- $CF_1 = \text{Cash Flow in Year 1}$
- $CF_n = \text{Cash Flow in Year } n$
- $r = \text{discount rate}$

Optimizing Cash Flow is the key to Managing Cost and Schedule for Value.
Owner’s Cash Flow

Cumulative Cash Flow

Project Implementation | Production Operations

$ (Project Schedule) | $ (Total Revenue)

$ (Periodic Cost) | $ (Revenue Schedule)

$ (Total Cost)
Impact of Cumulative Cash Flow Changes on NPV

Project Implementation

Production Operations

$ Project Schedule

Periodic Cost

Total Cost

Periodic Revenue

Revenue Schedule

Total Revenue
Contractor’s Cash Flow

Project Implementation
Revenue Generation

Periodic Revenue
Total Revenue

Revenue Schedule

Project Schedule

Periodic Cost
Total Cost

Time
Contractor’s Cash Flow

Project Implementation
Revenue Generation

Total Revenue
Revenue Schedule
Net Cash Flow

Periodic Revenue
Project Schedule
Periodic Cost

Total Cost

Time
Contractor’s Cash Flow

Cumulative Net Cash Flow

<table>
<thead>
<tr>
<th>Periodic Cash</th>
<th>Cash Schedule</th>
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<tbody>
<tr>
<td>Project Schedule</td>
<td>Total Cash</td>
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Time
Misaligned Values of Time and Money?

Cumulative Cash Flow

<table>
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<tr>
<th>Project Implementation</th>
<th>Production Operations</th>
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<td>Periodic Cash Flow</td>
<td>Cash Flow Schedule</td>
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<td>Contractor</td>
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Total Cost
Conclusions

Our common goal: Maximize Project Value

How?

• Understand the Drivers of NPV
• Optimize Quality
• Accelerate Schedules
• Reduce Costs