An Integrated Super Major’s View for the Gulf of Mexico

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Topics

• GOM Pipeline Network
• View Point on Tanker Shuttling
• Issues to be Better Understood
• Conclusions
Extensive GOM Pipeline Network

- Extensive Shell GOM pipeline network was built primarily for Shell projects.
- Extensions into deepwater have been supported by Shell projects.
- Already extensive pipeline network continues to grow in the deepwater.
- Pipelines are not being ruled out for ultra deepwater projects.
Extensive GOM Pipeline Network

- Pipeline network allows for market flexibility and reliability
- Pipeline competition in GOM has resulted in attractive transportation pricing
- Significant experience in GOM with pipelines results in high comfort level
View Point on Tanker Shuttlings

• Seek the solution that makes the most economic sense across the entire value chain
• Insure that all risks are fully defined and mitigated
• Tanker shuttling is an option for ultra deepwater development and areas with limited pipeline infrastructure
View Point on Tanker Shuttling

- Market flexibility is a plus
- Once established it could aid economical development of smaller discoveries
- Tanker shuttling will occur in the GOM
Issues to be Better Understood

- **Cost**
  - Can Jones Act vessels be built at the estimated cost?
  - Must understand all cost elements
    - More than just capex and transportation rates
    - Need to define all costs from development through ultimate delivery to customer
  - Availability of shipyards and impact on cost
Issues to be Better Understood

• Cost
  - Limited market for Jones Act vessels – ability to optimize?
  - How will production volume risk be viewed by the tanker shuttling?
Issues to be Better Understood

• Technology
  – FPSOs versus typical GOM deepwater facilities
    • TLPs, SPARs, semi-submersibles
    • Storage for typical facilities
  – Gas transportation solution
  – Other technology hurdles for tanker shuttling?
  – What are the actual technology limitations for pipelines?
Issues to be Better Understood

- Project Schedule
  - Regulatory impact on project schedule
    - permit process
  - Can Jones Act tanker shuttles be built on time
    - Availability of shipyards
Issues to be Better Understood

• Marketing
  – How will it change the oil marketing strategy
    • Flexibility
    • Selling to multiple buyers
    • Known transportation rate schedules
  – Market flexibility appears to be a positive
  – Crude quality
    • Blending and segregating opportunities
    • Dealing with contaminants such as methanol
  – Changes in supply/demand balances on crude pricing in various markets?
Issues to be Better Understood

• Competition
  – How long will it take to develop a competitive market for shuttle tankers in the GOM?
  – How many players will surface to create competition
    • Barriers to entry seem significant
Issues to be Better Understood

• Other
  - Environmental risks
  - Partnership issues - pipeline vs. shuttle tanker
  - Weather and reliability
  - Vessels required to insure non-interruptible service
Issues to be Better Understood

• Other
  – Ability to own shuttle tankers to maintain integration along value chain
    • Investment economics
  – Public perception
  – Impact on external stakeholders
Conclusions

- Shuttle tankers will be utilized in the GOM
- Pipelines will continue to extend into the deepwater GOM
- Many significant issues need to be better understood
- Support will need to be industry-wide