Technical Session

Standardisation & Replication of Lean Well-Head Platform to Accelerate Hydrocarbon Maturation from Exploration to Production for Marginal Field Development

Rusnah Abdul Rahman
Project Manager SK408 Development
Sarawak Shell Berhad
Low Cost Development Journey

• Exploration in the Central Luconia region was declining in 2010, as Unit Technical Cost (UTC) were increasing resulting in high volume thresholds.
• Additionally, most of the remaining reserves in the region are marginal accumulations.
• This led to the Low Cost Development concept to reduce UTC to allow previously unattractive “marginal” reserves to be economically feasible.

Increasing Unit Technical Cost (UTC)
The threshold for exploration was too high to be economical.

Unlocking Marginal Reserves
Remaining reserves in Central Luconia are mostly marginal fields.

Reduce UTC to allow for previously unattractive “marginal” reserves to be economically feasible.
Low Cost Development Success Factors

- Minimum Technical Functionality
- Standardisation and Replication
- Minimum Technical Requirements
- Synergy with Partners
Minimum Technical Functionality

- Through Competitive Scoping, functionalities are reduced to include only minimum functionalities without compromising safety and operability.
- Collaboration with Asset is critical to ensure buy-in of the design and reduced functionality.
- Reduced functionality results in reduced weight by approx. 50% compared with previous topsides.
Design Standardization and Replication

- Design standardization and replication results in acceleration of Front End Engineering Design (FEED)
- By standardizing design, there is opportunity to drive cost down through economy of scale
- The future aspiration is to drive for standardization to “commoditise” a standard well head platform solution across the Malaysian offshore industry to further drive down costs.
Minimum Technical Requirements

- Company standards are prevalent in the Oil & Gas Industry but can lead to difficulty in managing design due to different interpretation of company’s standards.
- There is effort to steer away from prescribing company standards and instead only extract relevant clauses. This is termed “Minimum Technical Requirements”.
- Risk based approached is adopted by the Company where requirements are defined and identified clearly by the Company.
- This provides opportunity to drive down cost instead of generally “gold plating” which is important in the realm of low oil price and is an important step towards standardization of design.
Synergy with Partners and “Cluster” Approach

- Clustering and developing multiple fields with one common brownfield host allows synergy of contracting, fabrication and execution.
- Joint tendering for packages and fabrication drives cost down through economy of scales.
- Synergy of schedule for T&I, HUC and CSU minimizes mobilization and demobilization costs.
The Low Cost Development Journey continues….

• With the current efforts, we are making headways to drive cost down for Wellhead Platforms and this has refreshed the exploration funnel in the Central Luconia Region.

• However, this journey does not end here and there are ambitions to further drive cost reduction and schedule acceleration.

Future Aspiration

- Further Cost Reduction
- Accelerated Schedule
- Catalogue of standardized WHP