

Carigali Samarang EOR Project

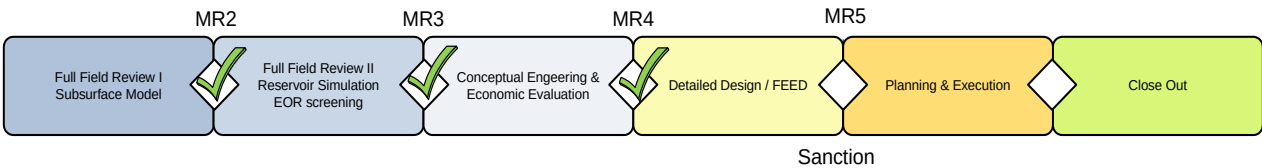
Organizational Assessment



Operator/ Client: Petronas Carigali / Schlumberger
Project/ Location: Samarang EOR Project/ Sabah, East Malaysia
Scope of Services: Project Organizational Assessment

Project at Glance

- ❑ The redevelopment concept calls for implementation of an Enhanced Oil Recovery through alternate injection of water and miscible gas into the formation. To this extent additional processing capacity for water pumping / gas compression needs to be installed in the field as well as additional drilling centers to accommodate the new wells to be drilled.
- ❑ The project engineering & planning follows PCSB Project Management System (PPMS). The conceptual stage gate (MR4) was passed in 2010.



Alliance Responsibilities

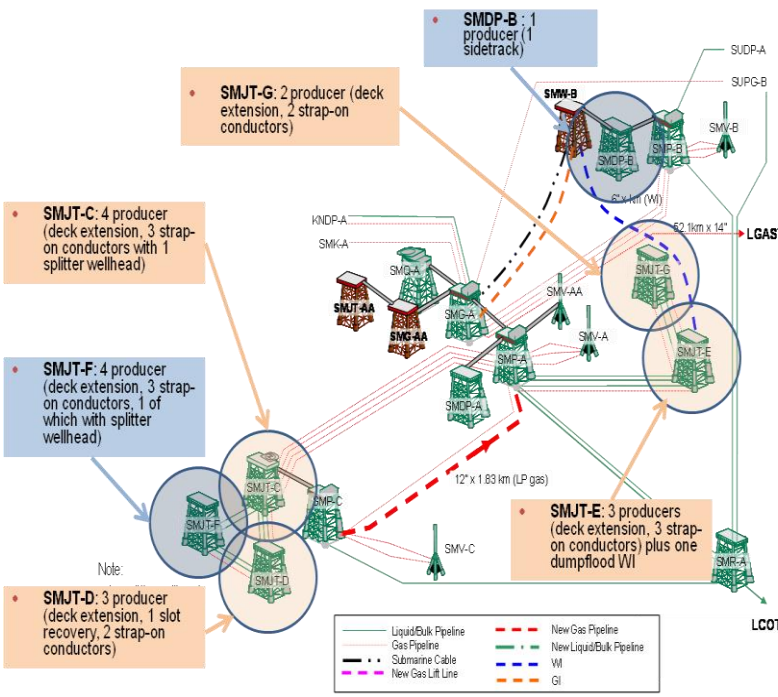
- ❑ Schlumberger is responsible for the technical management of the sub-surface.
- ❑ PCSB is responsible for the Technical Management of the Facilities.
- ❑ Schlumberger to manage the interface between Sub-surface and the Facilities.
- ❑ The interface with the Operation to be managed by a dedicated Team under the Alliance responsibility.
- ❑ Petronas supports a high level of junior engineers assigned for training and development purposes.



Samarang overview of current field facilities

- 3 processing platform (A,B, C)
- 13 platforms
- 39 pipelines
- Oil export system: 150,000 bbl/day
- 20" x 47.7 km pipeline to LCOT
- 14" x 52 km pipeline to LGAST





Samarang re-development work comprises the drilling of 33 wells, and the installation of 3 new platforms, platform deck extensions, new facilities and new pipelines:

- 22 producers, 5 water injection, 6 gas injection wells
- 1 Wellhead / drilling platform
- 1 Wellhead / drilling platform combined with water processing
- 1 Processing Platform with gas compression and power generation
- LP gas infield pipeline
- Water injection infield pipeline
- Gas injection infield pipeline
- Submarine infield electrical cable

Aramis Scope

- Assess and recommend a management organization for the delivery of Samarang new facilities
- Providing for a continuous core team of post FEED staff
 - Alliance Project team located in KL to carry out the Project Planning & Execution
 - Taking account of the different implementation stages of the work to be performed
 - Taking account of client culture and historical precedents
- Advise/propose the functional roles in the recommended organization
- 3 different scenarios leading to different Project Management Team set up

Scenario 1 – Breakdown in 3 Blocs

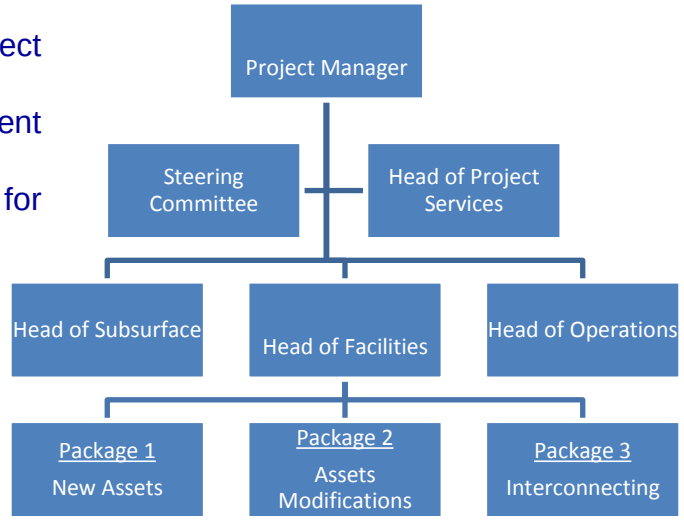
- Green field work, applying standard Project Management System.
- Brown field, need to apply Corporate Management Change Procedure.
- Interconnecting work implies close coordination for interface management.

Scenario 2 – Breakdown by Project Phases

- Phase 1: Concurrent engineering approach
- Phase 2: Installation
- Phase 3: Commissioning
- Phase 4 : Start up and hand over

Scenario 3 – Breakdown by Cluster

- Each Cluster considered as one single block of work and follows the same approach.



Organization chart