



Shapoorji Pallonji Energy Private Limited
(erstwhile Shapoorji Pallonji Oil and Gas Private Limited)

SP Group Introduction

- **Shapoorji Pallonji Group** an engineering and construction firm with a 157-year history and an unrivaled track record for quality and delivery.
- Shapoorji Pallonji group is owned by Mistry family having a net worth of more than US\$ 16 billion. The diversified conglomerate has an annual turnover of about US\$ 5.5 billion.
- The group is well-represented both domestically and internationally, having completed landmark projects in the Middle East, Africa, South-East Asia, and Caribbean in the fields of infrastructure, oil and gas, marine-off-shore and onshore, transportation, power, water, and industrial sectors.
- The group adheres to best practices, codes, and standards in all of our project-related activities. First construction company in India to receive an ISO 9000 certification, with excellent HSE track record and provide stakeholders with long-term benefits across the value chain



- **Shapoorji Pallonji Energy (SPE)**, formerly Shapoorji Pallonji Oil & Gas, was established in 2010 to concentrate on SP Group's investment in EPCI, leasing, and Operations & Maintenance of Oil and Gas Floaters.
- Three FPSOs have already been delivered by SPE in collaboration with a Malaysian FPSO business using its in-house Floater design, engineering, project management, and O&M teams. Work on the fourth FPSO, VLCC conversion FPSO built for cyclonic conditions, is installed offshore and under final riser installation and first oil activities.
- With a total 100% uptime and zero LTI for cumulative 17 years of operations, SPE has an exemplary operational and safety record.
- Through its affiliate, Afcons, SPE also has experience of executing Fixed Production Platforms and Well Head Platforms

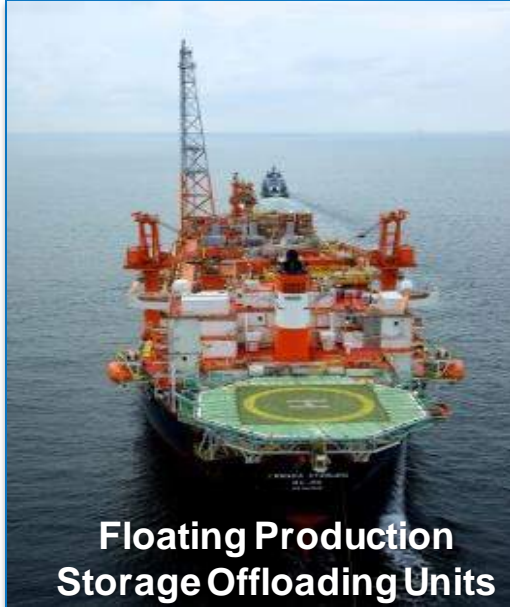


FPSO Armada Sterling V



ICPR Process Platform, India

Lines of Business – SP Energy Engineering & Project Management Services



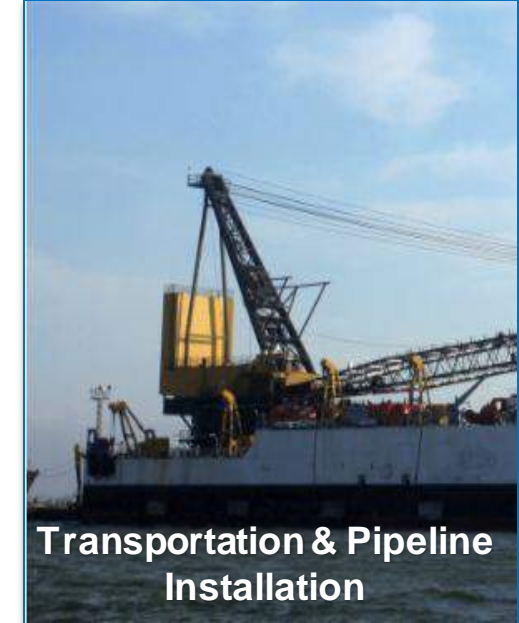
- Basic Design/ FEED
- Detailed Engineering
- Procurement Assistance
- Construction Engineering Assistance
- Commissioning Assistance
- Transportation & Installation
- Operations & Maintenance



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- Subsea Umbilical Riser and Flowlines (SURF) installation
- Mooring installation
- Onshore & Subsea Pipeline laying



Design and Engineering of
Oil & Gas Facilities




EPCIC of Floaters and
Fixed Platforms




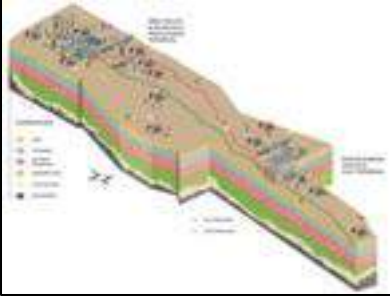








Operation & Maintenance
of Oil & Gas Facilities









SP Energy Engineered Floaters

| | Armada Sterling | Armada Sterling II | Karapan Armada Sterling III | Armada Sterling V |
|---|---|--|---|---|
|  Project |  |  |  |  |
|  Contract Type | Bareboat and O&M Contract | Bareboat and O&M Contract | EPC Contract | Bareboat and O&M Contract |
|  Location | D1, NBP Field, Offshore Mumbai, India | C7, NBP Field, Offshore Mumbai, India | Madura field, Indonesia | KG-DWN-98/2 Eastern Offshore, India |
|  Contract Award Date | August 11, 2011 | February 16, 2013 | August 08, 2014 | July 05, 2019 |
|  First Oil | April 2013 | February 2015 | July 2017 | Q2 2023 |
|  Tenure | Firm up to 2030 + 5 annual Extensions | 9 years (firm) + 7 annual extensions | 10 years (firm) + 5 annual extensions | 9 years (firm) + 7 annual extensions |
|  Capacity | Production Capacity: 60,000 BOPD Gas Processing: 7 MMSCFD | Production Capacity: 30,000 BOPD Gas Processing: 63.5 MMSCFD | Production Capacity: 11,000 BOPD Gas Processing: 122 MMSCFD | Production Capacity: 51,254 BOPD Gas Processing: 2.96 MMSCMD /105 MMSCFD |










O&M of Onshore Facilities

|  Project | Raageshwari Deep Gas field  | Raageshwari Gas Terminal  | Bridge Plant  | Mangala, Bhagyam, Aishwarya  |
|--|--|--|--|---|
|  Contract Type | Integrated O&M Contract | Integrated O&M Contract | Integrated O&M Contract | Integrated O&M Contract |
|  Location | RJON Southern Field, Barmer, Rajasthan, India | Central Basin High, Barmer, Rajasthan, India | Central Basin High, Barmer, Rajasthan, India | Northern Basin, Barmer, Rajasthan, India |
|  Contract Award Date | 1 May 2021 | 13 April 2022 | 13 April 2022 | 27 June 2022 |
|  Operations Commencement | 1 August 2021 | 1 June 2022 | 1 June 2022 | 1 October 2022 |
|  Capacity | Gas Producing: 135 MMSCFD 6000 BOPD condensate | Gas Processing: 60 MMSCFD | Gas Processing: 93 MMSCFD | ~700 producers & injection wells with its associated ~50 well pads |

Experience in Fixed Offshore Oil & Gas Projects

|  Project  Contractor | <p>ICPR Process Platform, India</p>  <p>JV of AFCONS and Gunanusa (Indonesia) Led by AFCONS</p> | <p>HRD Process Platform, India</p>  <p>Consortium of AFCONS-Technip-THHE Led by AFCONS</p> | <p>Offshore Gas Process Platforms & Living Quarters, India</p>  <p>Consortium led by AFCONS with Sapura Fabrication</p> |
|---|--|---|---|
|  Client | ONGC, India | ONGC, India | ONGC, India |
|  Consultant | Aker, Malaysia | NA | NA |
|  Scope | <p>EPC (Engineering, Procurement, Fabrication, Load out, Installation Hook Up, and Commissioning of 4-legged offshore process platform</p> | <p>EPC : Engineering, Procurement, Fabrication, Load out, Installation Hook Up Testing, Commissioning of entire facilities, Bridge connected between HRC Complex and HRD, Modification at Three Existing platforms.</p> | <p>EPC : Engineering, Procurement, Installation and commissioning for KG-DWN-98/2 CPP and LQ **Currently under execution</p> |

Constructed all operational LNG jetties in India & 6 LNG Tanks

| | Kochi LNG Terminal | Dahej LNG Terminal | Hazira LNG Terminal |
|---|--|--|---|
|  Project |  |  |  |
|  Contract Type | LNG Jetty and Tanks | LNG Jetty and tanks | LNG Jetty and other works |
|  Location | Kochi, Kerala, India | Dahej, Gujarat, India | Hazira, Gujarat, India |
|  Client | Petronet LNG, India | Petronet LNG, India | Saipem |
|  Consultant | Whessoe Oil and Gas Ltd, UK | PROES Consultores SA | Tractebel |
|  Scope | LNG Jetty – EPC of LNG Offloading Jetty 155,000 KL capacity, with IHI as the main contractor | Engineering, Procurement, Construction & Commissioning of Marine Facilities For Standby Jetty, Jetty Head Structure will consist of 1 Unloading Platform, Breasting Dolphins, Mooring Dolphins, 2.5 Km long Approach Trestle | Procurement of civil, painting and insulation materials, civil & structural fabrications and erection work, installation of process equipment and facilities, piping, painting, insulation and E&I installation works |



Civil & Structural, Mechanical, Electrical & Instrumentation works at RIL J3 Expansion Project, Jamnagar

- **Client:** Reliance Industries
- **Scope:** The works mainly consists of civil / structural / Mechanical / Electrical works in:
 1. Marine tank farm –Refinery tank farm Corridor
 2. Sea Water Intake Structure & Stilling Basin
 3. Modification in Marine Works
 4. SWRO Unit & Marine tank farm process System



Export Refinery & Petrochemical Complex for Reliance at Jamnagar-J2

- **Client:** Reliance Industries
- **Consultant:** Bechtel
- **Scope:** Equipment Erection, Civil and Structural Works, Piping works for Diesel Blending Unit, Cryogenic Unit, Marine Tank farm, Refinery Tank Farm, CDU/VDU



Civil & Structural Steel Work at OPAL Dahej - ONGC

- **Client:** OPAL
- **Scope:** Civil and Structural works of LLDPE/HDPE (Swing) Plant & Polypropylene Plant of ONGC Petro Additions Limited (OPAL) at Dahej SEZ , Gujarat



Installation of Process Gas Compressors at Kakinada (Block KGD6)

- **Client:** Reliance Industries
- **Scope:** Installation of Process Gas Compressors, Other Equipment & Process, Packages along with associated Construction and Modification Works at Kakinada (Block KGD6)



Jetty & Pipeline modification work

- **Client:** Reliance Industries
- **Consultant:** Tecon
- **Scope:** Fabrication and erection, testing and commissioning of Hydro Carbon pipelines, auxiliary mooring platforms, berth modifications works etc



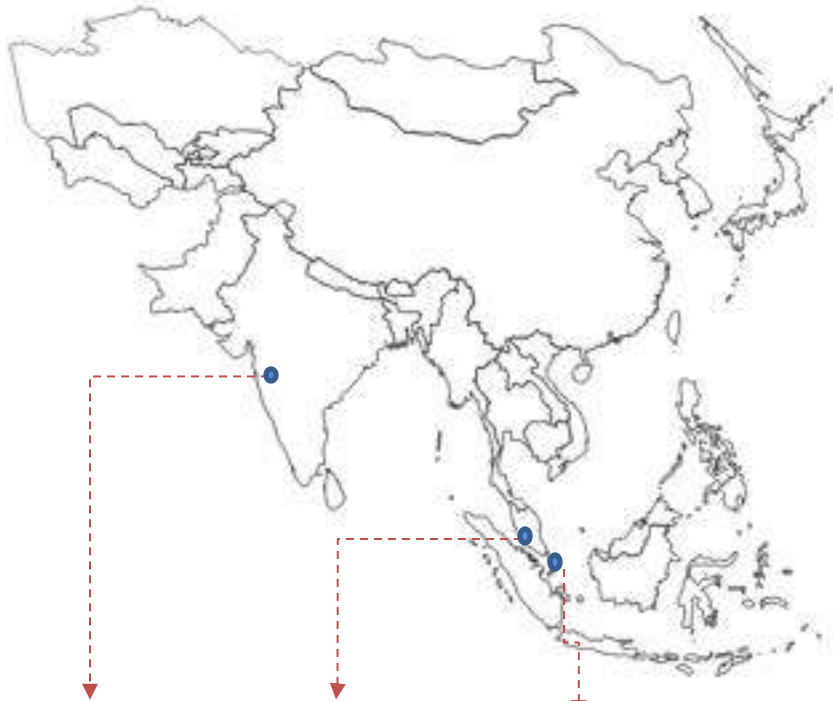
Jetty & Pipeline modification work

- **Client:** Chennai Petroleum Corporation Ltd
- **Consultant:** Engineers India Ltd
- **Scope:** Construction of 1100 m long jetty along with pipelines, crude pipelines, firefighting pipelines and approach road



- **Project Management**
- **Construction Management**
- **Project Planning**
- **Supply Chain Management**
- **Commissioning**
- **Engineering**
- **Transportation & Installation**
- **Operations & Maintenance**

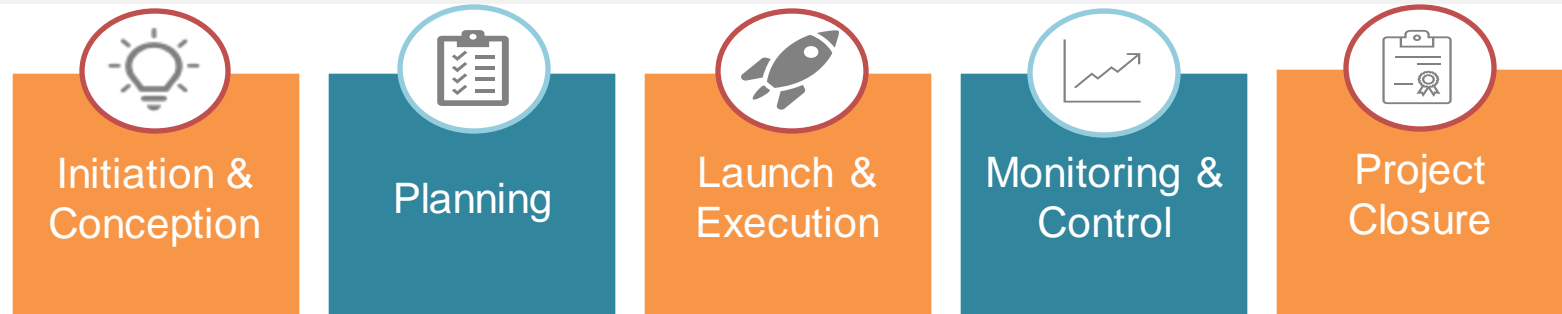
Project Management Capabilities



Project Management Team


PMT, Procurement, Construction, Installation and Commissioning
(Team of 180 based in Malaysia, Singapore and India)

- ❖ The Project Management Team (PMT) comprises of highly qualified and Industry experienced Project Leaders, Managers, Coordinators, Controllers and Engineers
- ❖ Executed Projects of more than ~ 40.5 million manhours
- ❖ SP Energy received 'Business Excellence' at the 4th ASEAN-INDIA Business Award 2019 in Manila Philippines.
- ❖ SP Energy received Excellence Performance Award of FPSO Contractor of the year at the 6th FPSO, FLNG & FSRU Asia Pacific Summit, 2019.
- ❖ SHARP Award – Safety Health Award Recognition Project from Ministry of Singapore for the past two consecutive years.
- ❖ FPSOs Armada Sterling I & II was awarded Globe of HONOR from British Safety Council in Oct 2022. And also declared as the only global organization to achieved 5 STARS in the 3 HSE Domains.



Construction Management Capabilities

- ❖ Construction Core Team having average experience of min. Two FPSO full life cycle & average of 15 years' experience.
- ❖ Ensuring safety at work maintaining the construction productivity (Target Zero LTI).
- ❖ Ensure highest quality standards are achieved across Projects.
- ❖ Latest FPSO Armada Sterling V:
 - ✓ LTI (20.5 million manhours): Zero
 - ✓ Near Miss Incidents : 11 Nos
- ❖ Other Projects
 - ✓ LTI (20 Million Manhours): Zero
 - ✓ Near Miss Incidents : 26 Nos




CONSTRUCTABILITY Review

- Repair, Life Extension & Conversion
- Pre-Fab installation
- Modules / Turret / Panels Installation



Resource Management

- Monitor SPI & productivity
- Monitor Skill sets & manpower
- Monitor facilities
- Negotiate resources



Module Integration

- Conduct Sequence Analysis
- Soft & Hard Clash Analysis
- Model Review solutions
- Systemized completions



Pre-Fabrication Modularization

- Use Pre-fab modularized optimization within resource capability
- Monitor & track execution Sequence



HSE Management

- Target Zero LTI
- Conduct Safety Audits, drill & trainings.
- Initiate Safety KPI awards
- Promote STOP WORK culture
- Safety Mentor



Quality Control

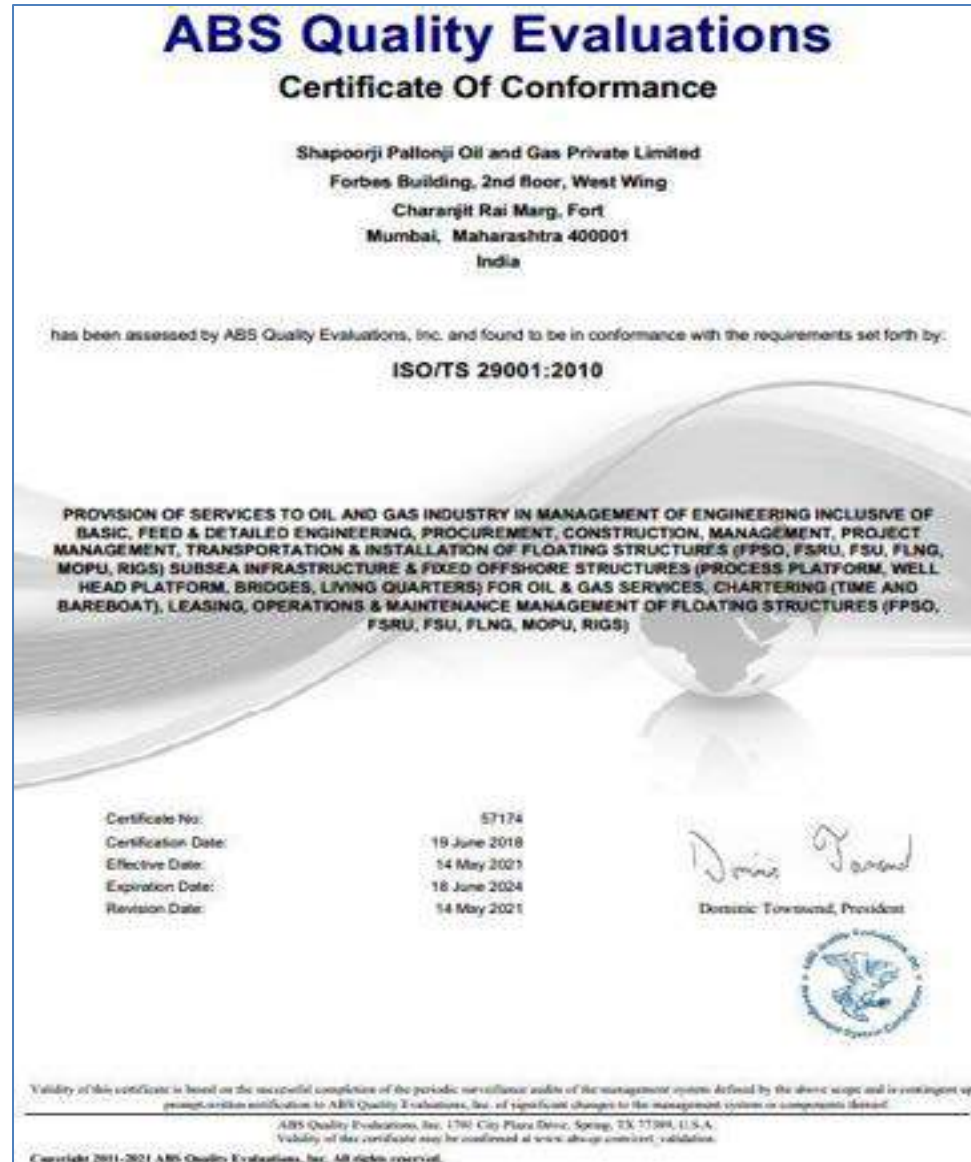
- Zero tolerance.
- Monitor thorough vigilance.
- Conduct audits
- Induct 3rd party NDT audits
- Monitor resource

SP Energy SHARP Award & ISO Certification

SHARP: Safety Health Award Recognition Project



Ministry Of Singapore
(Consecutive 2 years)



- ISO 18001
- ISO 29001
- ISO 14001
- ISO 9001
- ISO 45001



- ❖ Experienced Planning team with average experience of 15 years across.
- ❖ Flexibility to monitor planning processes at site and remotely.
- ❖ Real Time Schedule Performance Index (SPI) and development of Critical Path Activities.
- ❖ Global Enterprise Planning System for Project monitoring and Control
- ❖ Software capabilities:
 - ✓ Primavera 6 Professional Version 21.12.7.
 - ✓ Primavera Risk Analysis.

❖ Supply Chain Resource Capability

- ✓ Average Procurement Experience of 15 Years & minimum 2 Floater Project experience.
- ✓ Key Core Team Members (Among 6 verticals)
- ✓ Lean Supply Chain principle to work with required agility & knowledge share across projects.

❖ Annual Purchase Volume

- ✓ Annual Purchase Spend ~US\$ 350 Million
- ✓ Approx 500 Purchase Orders & Contracts.

❖ Strategic Global Vendor Network

- ✓ Across 5 Continents
- ✓ 18 Nations

❖ System and Standards

- ✓ SAP R5 ERP System (Procure to Pay)
- ✓ Logics UK – Contract T&Cs

Supply Chain Management (Key Verticals)



FPSO Conversion Shipyard

- ❖ Keppel Shipyard, Singapore
- ❖ Sembcorp Rig & Floaters, Singapore
- ❖ Malaysia Marine & Heavy Engineering Sdn Bhd, Malaysia
- ❖ Drydocks World, Dubai

Gas Turbine Generators & Process Gas Compressors

- ❖ Baker Hughes (Nuovo Pignone), Italy
- ❖ Siemens, USA
- ❖ Solar Turbines – USA

Topsides Module (Process & Utility)

- ❖ Dyna-Mac Holdings, Singapore
- ❖ Sembcorp Rig & Floaters, Singapore
- ❖ National Oilwell Varco, Malaysia & Indonesia (PT Profab-Batam)
- ❖ VME Process, Malaysia & Indonesia
- ❖ WASCO, Indonesia (Batam)
- ❖ Jord Oil & Gas, Netherlands

E-House Module

- ❖ ABB, Singapore
- ❖ Kongsberg, Singapore
- ❖ Siemens, Singapore
- ❖ General Electric, Singapore

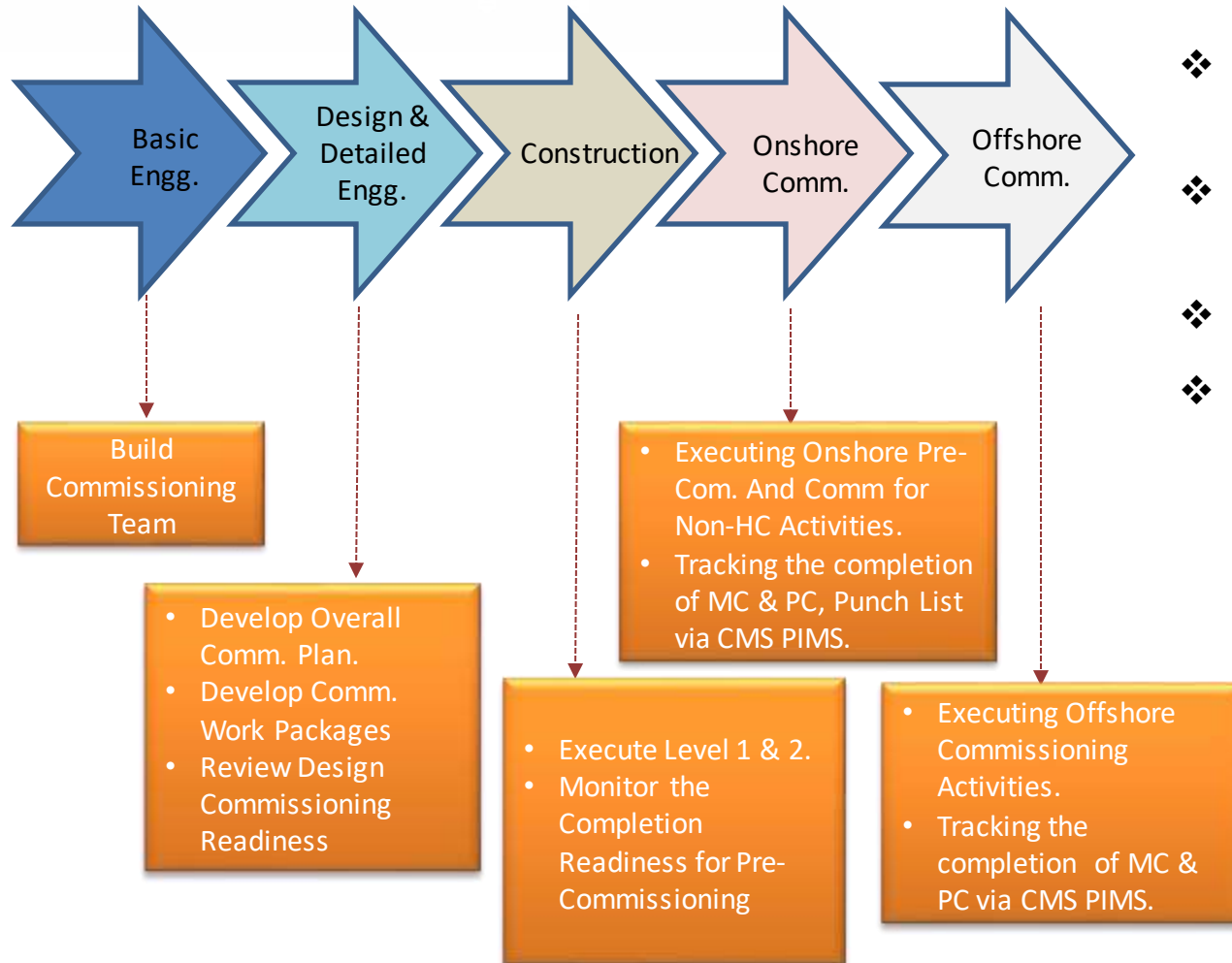
Turret & Mooring System

- ❖ National Oilwell Varco, Norway
- ❖ London Marine Consultant, UK
- ❖ Bluewater Energy Services, Netherlands
- ❖ SOFEC, Norway & Singapore

Transport & Installation Service

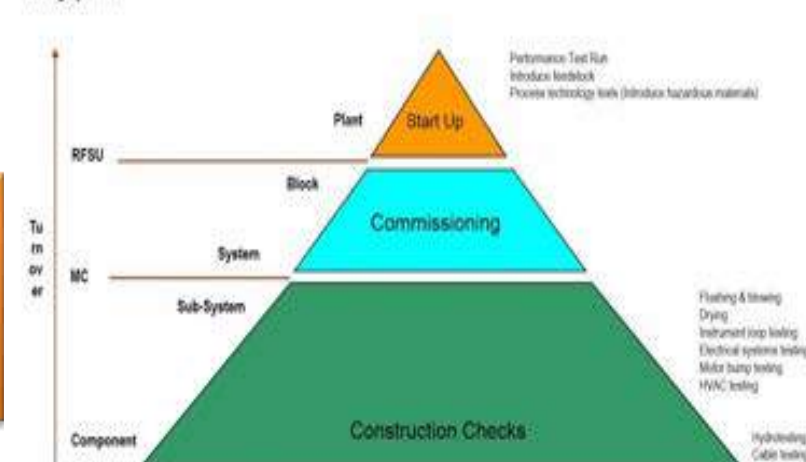
- ❖ Boskalis Marine, Netherlands
- ❖ Franklin Offshore, Singapore
- ❖ Intermoor, USA
- ❖ Jumbo Offshore, Netherlands
- ❖ DOF Subsea, Australia

Commissioning by Phase



- ❖ Commissioned FPSO Process Systems, Marine Systems and Habitation.
- ❖ Commissioned complex rotating equipment – GTGs, Gas Compressors, etc.
- ❖ Commissioned FPSO with well fluids and achieved Final Acceptance. Handover of FPSO to the Operations Team
- ❖ Systems Completion
- ❖ Software capabilities
PIMS Completion Management Software

Testing Pyramid





- Center of excellence with State of Art automation and software tools, including ERP, EDMS, IT systems.
- Concept to Detail Design capabilities.
- Provides entire range of Offshore Engineering Services - Topsides, Technical Safety, Naval, Marine, Turret & spread mooring, Transportation & Installation



- Core Engineering Personnel (> 26 %) have engineering execution experience of 4 FPSOs (Complete project execution lifecycle).
- All Engineering Leads have EPCIC & work experience with renowned FPSO Operators in the region.
- Workforce of young and dynamic talent with rich international offshore engineering experience.
- Subject matter experts. (Technically Qualified with Analytical skills)
 - ✓ Doctorates
 - ✓ Master's Degree
 - ✓ TÜV Functional Safety
 - ✓ Project Management Professional (PMP)
 - ✓ Post Graduate Project Management &
 - ✓ Business Finance

PROCESS & PROCESS SAFETY

TECHNICAL SAFETY

MECHANICAL

ELECTRICAL

INSTRUMENTATION

TELECOMMUNICATION

STRUCTURAL

MARINE

NAVAL ARCHITECTURE

PIPING AND 3D MODELLING

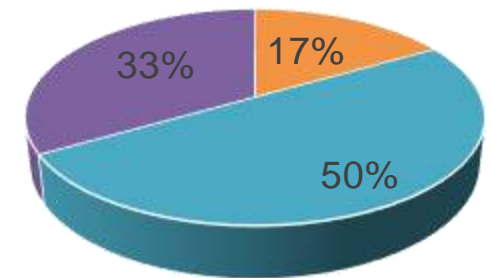
TURRET AND MOORING SYSTEM

ENGINEERING QA/QC

PROJECT INTERFACE MANAGEMENT

Engineering Resource Experience Blend

Nos. of Years of Experience



■ < 10 years ■ 10 to 20 years

Engineering Overview

2011 to 2012

FEED, Basic and Detail Engineering for FPSO Armada Sterling- D1 field, ONGC, India

2013 -2014

FEED, Basic and Detail Engineering for FPSO Armada Sterling II- Cluster 7, ONGC, India

2014 to 2016

FEED, Basic and DDE for FPSO Karapan Armada Sterling III, Indonesia, HCML

2016

FEED for FPSO for TCTP, Ghana- AKER DW

2017 – 2022

FEED, Basic Engineering and DDE of Armada Sterling V, ONGC, India

2021

- Capacity Enhancement of FPSO Armada Sterling- D1 Field, ONGC, India
- Feasibility Studies, FEED and Basic Engineering for FSRU – Mumbai Port Trust, India
- FEED for Limbayong FPSO, PETRONAS

2021-2022

FEED for Agogo Full Field FPSO - ENI FPSO

2022-2023

Pre-FEED/Bid Engineering Albacora FPSO Project - Petrobras

Engineering Integrated Workshops

Few of the commonly conducted workshops are:

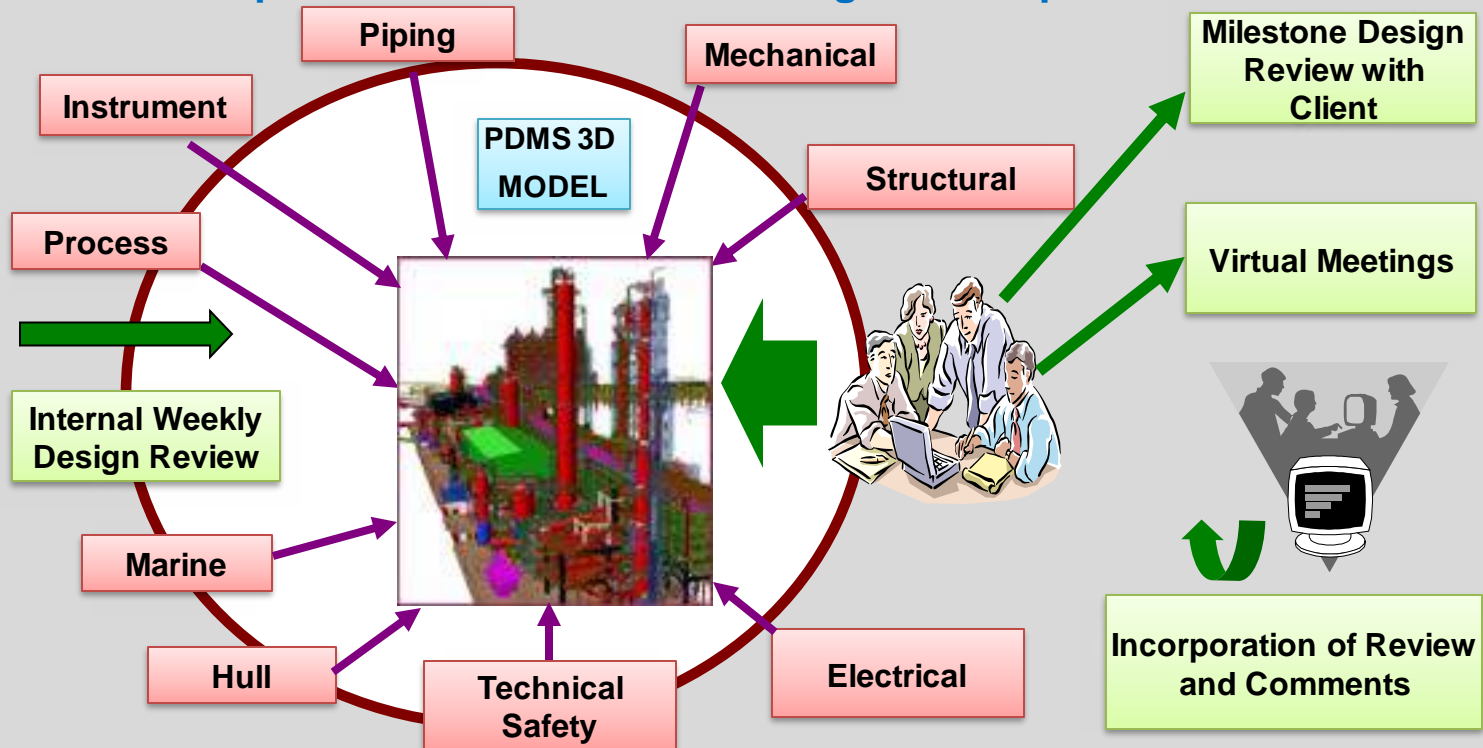
- HAZOP
- C HAZOP
- HAZID
- ENVID
- SIL
- RAM
- 3D Model Review
- ALARP



Typical 3D Model Review Cycle

- P&IDS
- Layout Plants
- Process Requirement
- Human Factor
- Working Environment
- Operability
- Constructability

Workmen/Operation involvement in Design Development





Transportation & Installation

Transportation & Installation Capabilities



- ❖ The team has an average experience of > 8 FPSOs' T&I project lifecycle management
- ❖ The Transportation & Installation (T&I) Team comprises of highly qualified and industry experienced Managers, Engineers and logistics team
- ❖ A broad spectrum of experience and expertise is available within the team, including concept selection, T&I engineering and installation of anchors, mooring lines, risers & umbilical's, dis-connectable/permanent turrets, FPSO tow and hook-up, dredging, subsea pipelines etc.
- ❖ With extensive experience in offshore operations in both shallow and deep waters, the team has delivered offshore installations in challenging harsh environmental & cyclonic conditions.
- ❖ The team has always successfully delivered projects within budget, on schedule, and with impeccable HSE records



Conceptual
Studies



Methods
Selection



T&I
Engineering



Installation
&
Execution



De-
commissio
ning

Transportation & Installation Track Record



- Location: D1 Field, India
- Water Depth: Mid-depth (<100m)
- Mooring System: 3X3 Internal Turret
- Anchoring system: Drag Anchors
- Risers System: Lazy –S Flexibles
- Environment: Very Harsh (Hs 11.5m)

- Location: C7 Field, India
- Water Depth: Mid-depth (<100m)
- Mooring System: 3X3 Internal Turret
- Anchoring system: Driven Piles
- Risers System: Lazy –S Flexibles
- Environment: Very Harsh (Hs 12.1m)

- Location: Madura Field, Indonesia
- Water Depth: Mid-depth (<100m)
- Mooring System: 12 point spread moored
- Anchoring system: Driven Piles
- Risers System: Flexible jumpers
- Environment: Benign (Hs 2.2m)

- Location: 98/2 Field, India
- Water Depth: Deep (<500m)
- Mooring System: 3x3 Int. Dis-connectable turret
- Anchoring system: Suction Piles
- Risers System: Pliant wave flexibles
- Environment: Very Harsh (Hs 12.1m)

- Location: Mumbai port, India
- Water Depth: Shallow (<30m)
- Mooring System: 4x4 spread moored
- Anchoring system: Composit Piles
- Risers System: Floating hose
- Environment: Harsh (Hs 3.6m)

SP Energy has steadily expanded its engineering and T&I project management capabilities from shallow to deep water environments

Deepwater Considerations

Existing know-how and personnel involvement in deepwater projects has culminated in an invaluable knowledge base

- Mooring configuration (Catenary Vs Taut)
- Appropriate anchoring system selection
- Installation/Pull-in load limits
- Shipboard equipment capacity constraints
- Mooring line weight limitations
- Mooring-Riser interface
- Polyester rope selection & creep management
- Model testing
- Torsional effects & Vortex induced vibrations



FPSO

Karapan Armada Sterling III

World's largest floating oil and gas processing facility with Molten Sulphur production and Storage capability.

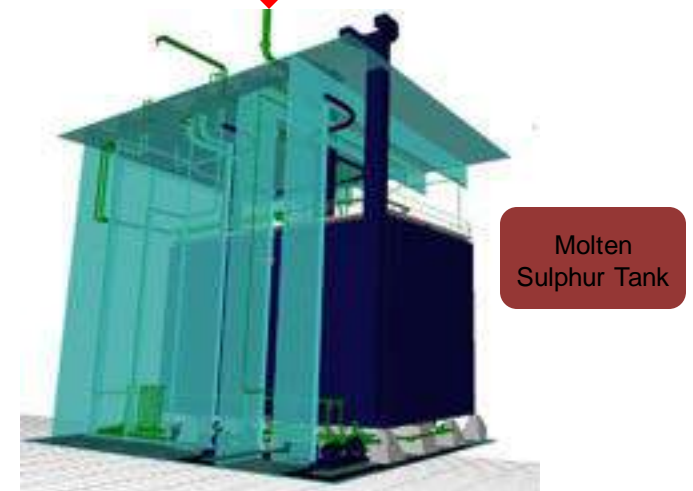
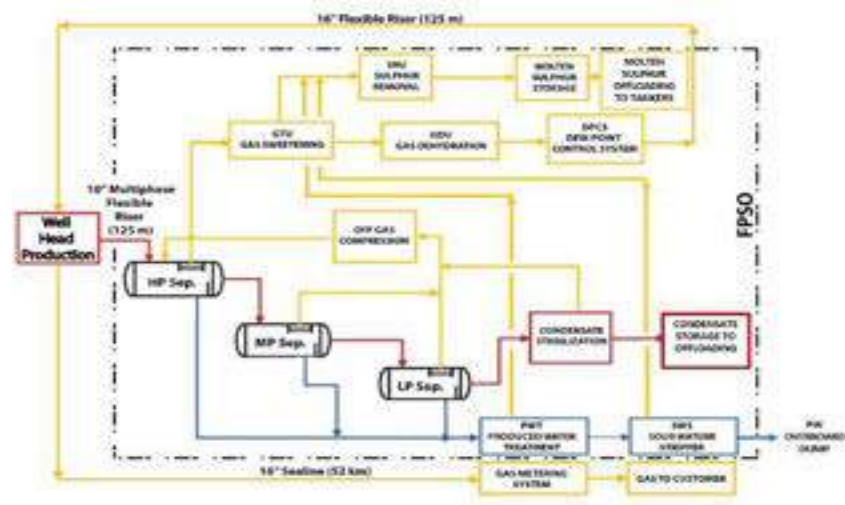
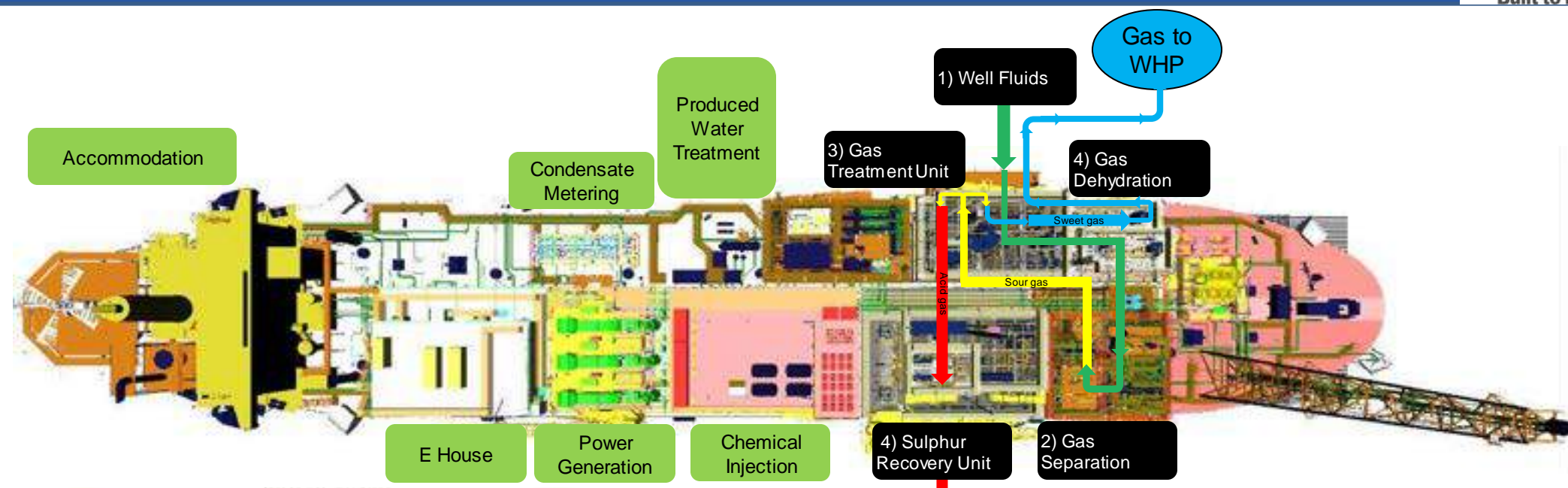
Karapan Armada Sterling III FPSO – Technical Overview



World`s only Floating Offshore Facility with Gas, Oil & Molten Sulphur Production Capability (~ 21.3 T/day)

- Field - Madura Strait Block BD, Indonesia
- Field Owner - Husky CNOOC Madura Ltd (HCML)
- Gas Processing Capacity - 110 MMscfd (Export)
- Molten Sulphur storage - 2700 MT
- Highly Sour Gas with H₂S Conc - 0.45 mole % (~4500 ppmv) and CO₂ Content - 6.5 mole%
- Sour Gas is Amine Treated, Dehydrated, HC Dew pointed and Exported
- Stabilized Hydrocarbon Condensate stored in cargo tanks and Offloaded by Tankers

H2S Removal Facility





FPSO

Armada Sterling V

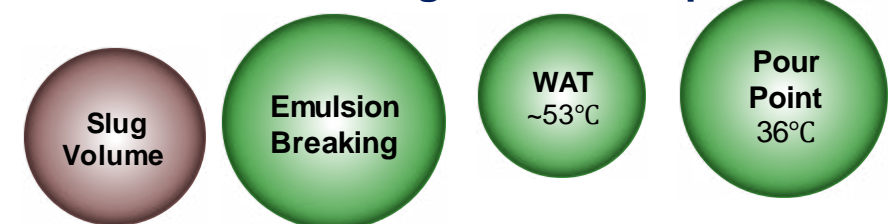
- Deep Water
- Harsh Sea State
- Waxy Crude

FPSO Armada Sterling V – Technical Overview

| Description | FPSO Specifications | |
|------------------------------|--|---|
| Design life | 20 years | |
| Water depth at Turret Centre | 424 m | |
| Plant availability target | 98.1% | |
| Minimum storage capacity | 700,000 barrels (stabilized crude oil) | |
| Oil Handling Capacity* | 51,000 barrels oil per day | |
| Gas Handling Capacity* | 3.0/ 107 MMSCMD/MMSCFD (Associated Gas) 1.72/ 61.2 MMSCMD/MMSCFD (Gas Lift) | |
| Seawater Injection* | 51,000 barrels per day | |
| Produced Water* | 42,580 barrels water per day | |
| Total Liquids* | 52,247 barrels liquid per day | |
| Risers | 6 x Production 2 x Production (spare) 1 x Water Injection | 1 x Gas Lift 1 x Gas Export 2 x Umbilical |
| Turret Mooring System | Internal Non Disconnectable Turret 9 Mooring Lines grouped in 3 clusters | |



Challenging Process Design with high standard of Product guarantee requirements





FSRU

Natural Gas Regasification Project

- Mumbai Port Authority

MBPT FSRU Project (Regasification Terminal at Mumbai Port)

| | |
|------------------------------------|--|
| Project | Set Up, Operate and Maintain Floating Storage and Regasification Unit in Mumbai Harbor on Land License Model |
| Licensor | Mumbai Port Authority |
| Licensee | Consortium of Shapoorji Pallonji Energy Pvt. Ltd. (erstwhile Shapoorji Pallonji Oil and Gas Pvt. Ltd) and Bumi Armada Netherlands B.V. |
| Project Location | South of Karanja, Mumbai Harbor, India |
| License Period | 30 years |
| Construction Period | 3 years |
| LNG Handling Capacity | 5 MMTPA (4 X 250 MMSFD) |
| Date of Award | 18 th February 2021 |
| License Agreement Signed on | 18 th May 2021 |

**Double Banking
Regasification
Terminal**



**Jetty less Regasification
Terminal (Floating Hose
Technology)**

Pre-FEED / FEED Projects – Completed / Ongoing

| Parameters | Albacora FPSO (Petrobras) | Agogo FPSO (ENI) | Limbayong FPSO (Petronas) |
|---------------------------------|---|---|---------------------------|
| Oil Processing Capacity | 120 k BOPD | 120 K BOPD | 40 K BOPD |
| Liquid handling Capacity | 200 K BLPD | 180 K BLPD | 60 K BOPD |
| Water Injection | 138.16 K BWPD | 180 BWPD | 70 K BWPD |
| Gas Handling Capacity | 212 MMSFD | 230 MMSCFD | 18~70 MMSFD |
| Cargo Storage Capacity | ~1.5 MMbbl (Offloading 1.24 MMSCFD) | 1.6 MMbbl | 0.6 MMbbl |
| Depth of water | 670 m | 1650 ~ 1750 m | 900 ~ 1200 m |
| Risers / Umblicals | Slots: 60 nos. (Production, Gas & WI around 38 nos.) . 1 PS Riser balcony | Slots: 11+11 = 22. Riser Balcony Port & Stbd side. | Slots: 11+3 = 14 |
| Mooring | Spread | Spread | External Turret (3X3) |
| Design Life | 27 years | 20 YRS | 20 years |



Other Projects:

- (HESS) FEED for GHANA FPSO.
- (ONGC) Basic Engineering for MOPU.
- (MBPT) Feasibility for FSRU projects.

OPERATIONS Assistance & Solutions:

- Optimization of acid gas treatment & sulphur recovery unit for AS III.
- Engineering related to Life Extension Contract of FPSO AS I at D1 Field.
- Proposal for CO2 removal skid in Armada Sterling FPSO.

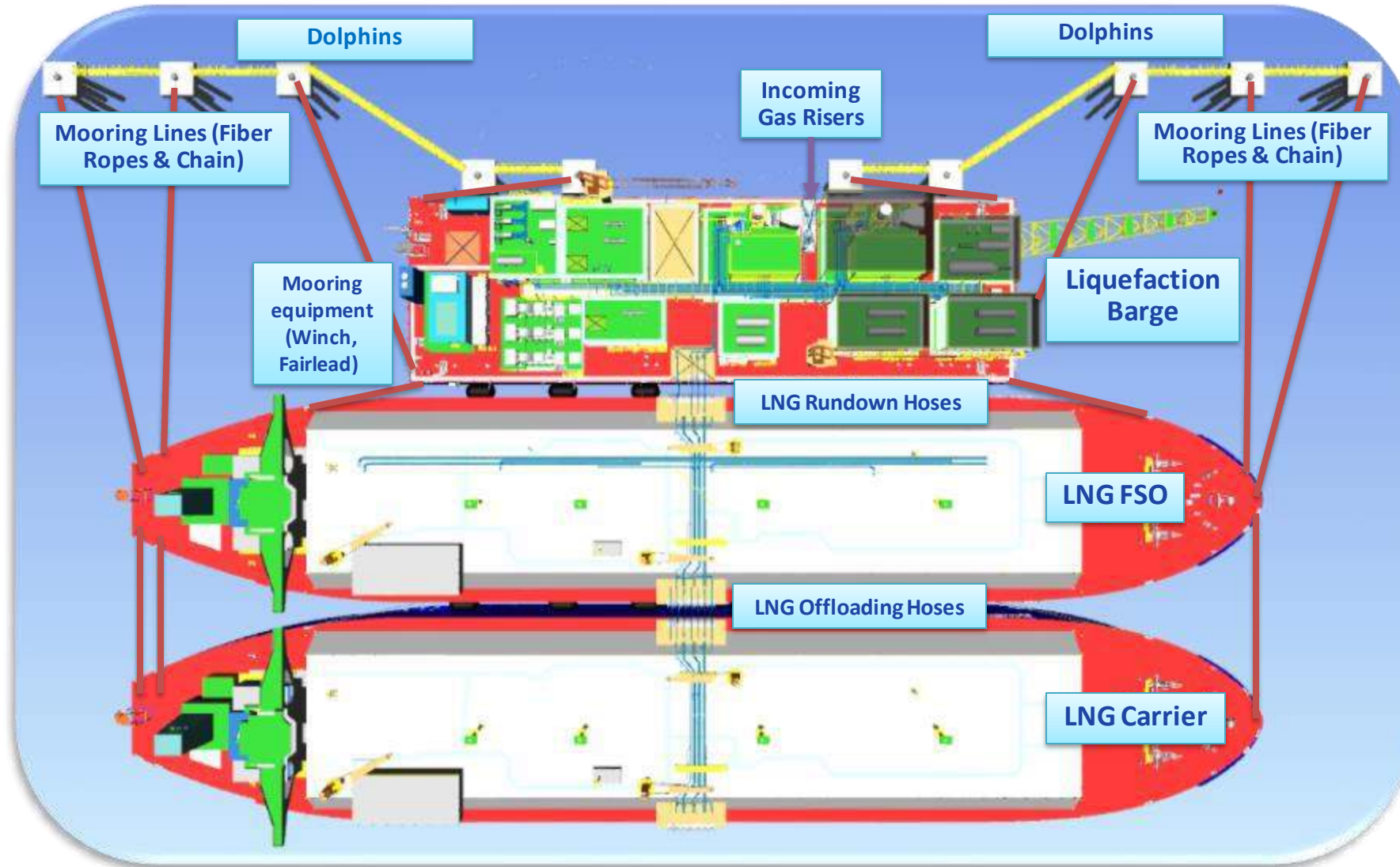


Proposed FLNG

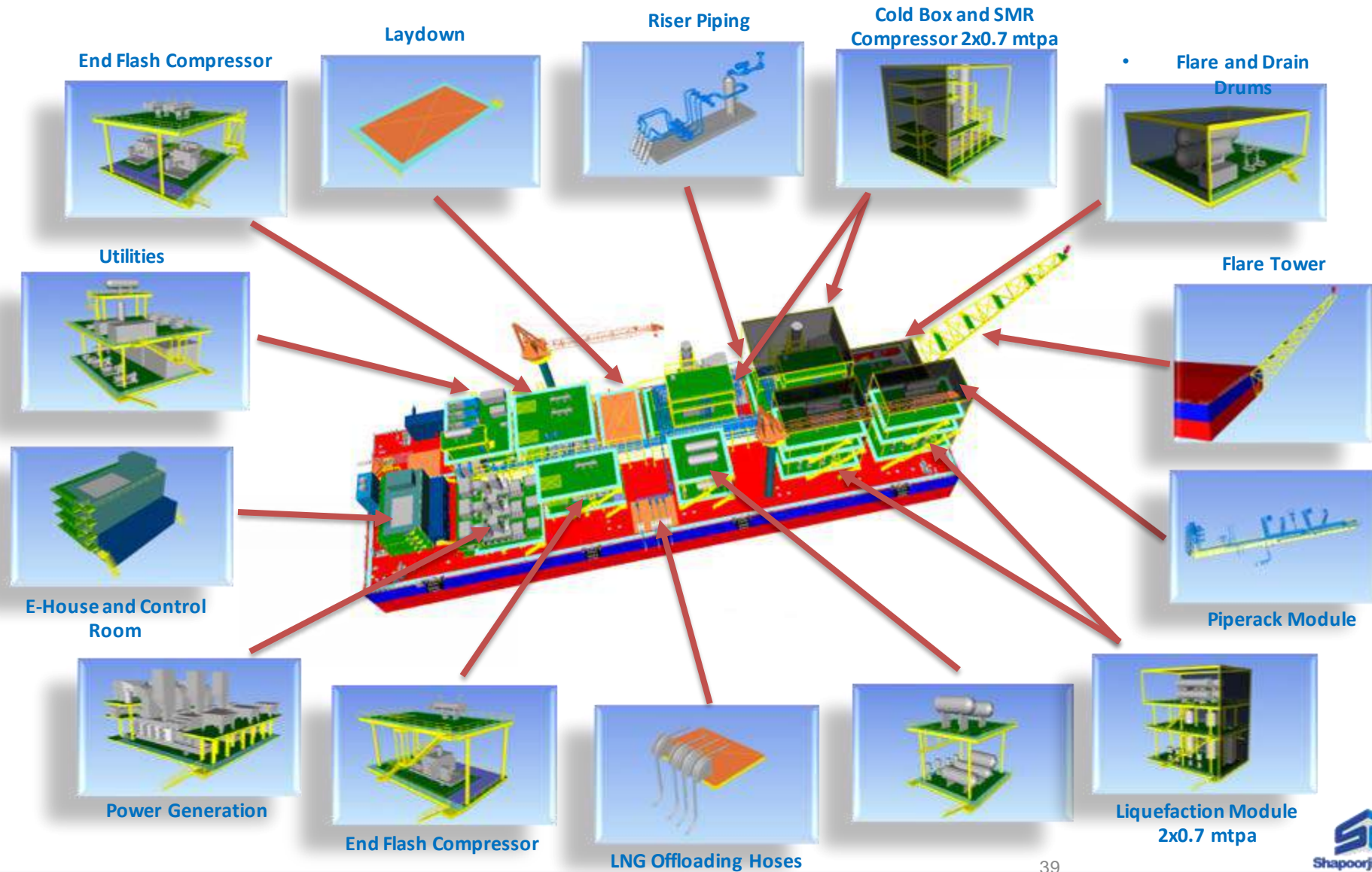
Concept Design Parameters

| Design Parameters | FLNG Design |
|---|---|
| Nominal Hull Design Life | 20 Years – No dry docking |
| Hull Type | New Build Barge |
| Fixed Hull Dimensions | Length 180m; Breadth 55m; Depth 15m |
| Topsides Modules | 15 Modules |
| Topsides Dry Weight | ~12,500 MT |
| Heaviest Topside Module | ~1,500 MT |
| Class | ABS or equivalent |
| Target Production Capacity | ~1.5 Mtpa rundown @ 93% availability |
| LNG Offloading Capacity | > 155,000m ³ of LNG - Membrane Carrier |
| LNG Offloading Arrangement | Side by Side via Composite Cryogenic Hose |
| LNG Offloading Rate from FSO to LNGC | 6500m ³ /hr for 24hr 4 x 10” LNG Cryogenic Hose and 1 x 10” Vapour Return |
| Mooring System | Jetty Moored |
| Living Quarter Capacity | ~60 POB (on FSO) |
| Cooling Method | Seawater Cooling / Closed Loop Cooling Medium |
| Topsides SW/CM Cooling Duty | ~94.0 MW |
| Seawater Flowrate | ~6500 m ³ /h |
| Primary Fuel | Fuel Gas or Renewables (Solar) |
| Total Power Requirement | ~18.0 MW |

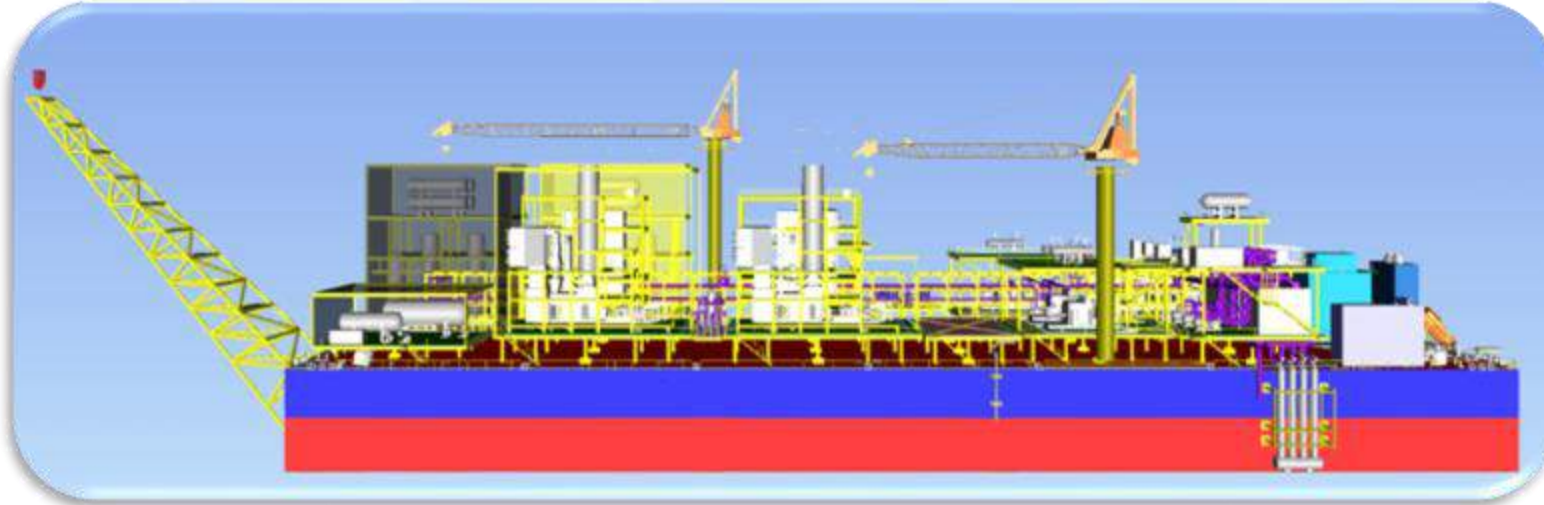
Mooring Concept – Pile / Jetty / Deep Water



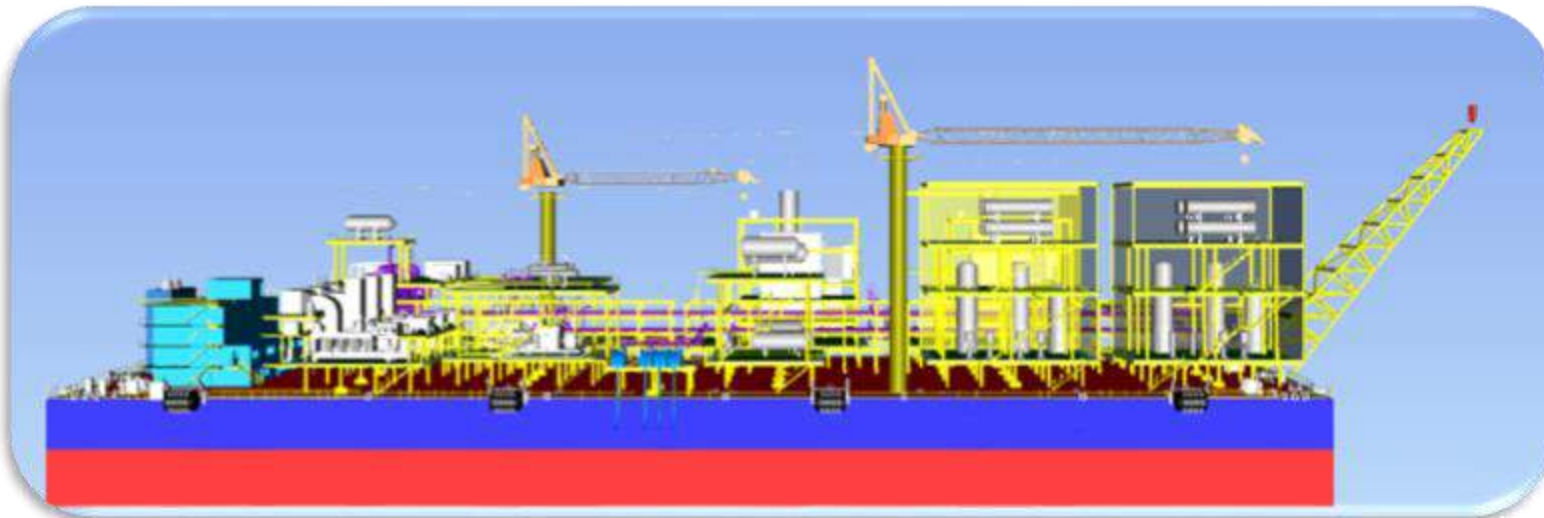
FLNG - Overall Topside Modules



Port view:



Starboard view:





Operations & Maintenance

FPSO Armada Sterling - Production Data & Safety Performance

25,13,132

Total Man-Hours

(up to Jan'23)

We have achieved nine years of safe and successful operations and management of **FPSO Armada Sterling** in the high seas.

Safety Performance

LTIF

0.00

TRIF

0.00

Note: Nil LTIF and TRIF since date of commencement of operations

Abbreviations:

LTIF – Lost Time Injury Frequency

TRIF – Total Recordable Injury Frequency



Oil Production*

81.01 Mn bbls

Oil Off-Loaded*

80.12 Mn bbls

Uptime*

100%

* From First Oil in April 2013 till January 2023

FPSO Armada Sterling II - Production Data & Safety Performance

17,83,104

Total Man-Hours

(up to Jan'23)

We have achieved seven years of safe and successful operations and management of **FPSO Armada Sterling II** in the high seas.

Safety Performance

LTIF

0.00

TRIF

0.00

Note: Nil LTIF and TRIF since date of commencement of operations

Abbreviations:

LTIF – Lost Time Injury Frequency

TRIF – Total Recordable Injury Frequency



Oil Production*

28.32 Mn bbls

Oil Off-Loaded*

27.08 Mn bbls

Uptime*

100%

* From First Oil in February 2015
till January 2023

O&M Capability - Extraordinary Achievements

| Sr. No. | Achievements – Till Jan'23 |
|---------|---|
| 1 | <p>FPSO Armada Sterling & Armada Sterling-II are the only facility in the World to achieve 5 STARS from British Safety Council for three consecutive years.</p> <p>We are humbled to have achieved 5 STARS in all the following 3 domains.</p> <ul style="list-style-type: none"> ▪ Occupational Health & Safety Management System ▪ Process Safety Management System & ▪ Environmental Sustainability Management System |
| 2 | <p>Cumulative LTI free Operations for 17 years (Onshore + Offshore)</p> |
| 3 | <p>Cumulative of 252 Safe Offtake Operations</p> |



SP Energy & EXXON: It's time we did a Floater Together!

Resources

- Complete EPCIC team to execute FLNG & FPSO Project
- Inhouse O&M Team Capability

Capacity

- Execute EPCIC FLNG & FPSO projects.
- Group support to manage large complex project.

Motives

- Group's goal to move towards innovative solutions & reduce Green House Gas Emissions.



Structure

- Project structure to execute complex & mega scale projects.
- Established Systems and Procedures in place.

Information & Data

- Successfully executed mega scale FPSO projects in the past
- Relationships with key business partners

Knowledge

- Acid Gas Recovery design solutions
- T&I installation
- Operations & Maintenance

End of presentation
THANK YOU