JACK UP PROJECT SOLUTIONS

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SERVICE
BASED ON
HANDS-ON EXPERIENCE
Core Competency

Project Management

1. Project management for new build rig construction/ refurbishment/ repair/ Conversion of jack up rigs.
   a. We provide project management personnel.
   b. Plan and schedule new projects.
   c. Evaluate and report status of ongoing projects.
   d. Prepare scope of work, cost and time estimates.

2. On-site inspection of rig construction/ refurbishment/ repair/ Conversion.
   a. Supervise ongoing projects.
   b. Inspect and report on projects for clients.
   c. Mechanical completion inspection
   d. Commissioning and handover of rig systems.

3. Review of drawing/procedures to meet class & Operational requirement.
   a. Design drawing reviews
   b. Commissioning procedure reviews
   c. As built drawing reviews
Engineering

1. Engineering solutions for Drilling operation related issues, drilling equipment layout, equipment specification, structural and piping layouts for jack up design and construction.

   a. Basic Design Calculations for:
      i. Drilling mud system capacity
      ii. Bulk mud/cement/drill water/base oil/brine system capacity calculations.
      iii. Tubular handling and storing and capacity calculations.
      iv. Layout of drilling package
      v. Layout of mud treatment and handling equipment’s
      vi. Drilling control system specification.
      vii. Utility system layout.
      viii. Raw water system layout and design.
      ix. Preload piping capacity calculation and tank layout.
      x. Loading condition calculations.
      xi. Jacking and fixation system specification.

2. Engineering solutions for Marine (jacking) operation related issues, jacking system spec and layout, towing/ mooring system layout and other marine system related issues.

3. Drawings and design package for secondary structure on rig using STAAD-PRO.
4. Engineering and fabrication drawings for refurbishment of secondary structure on jack up rig such as:
   a. Shaker house, Mud pits, Mud ditches,
   b. Draw works shed
   c. MWD/Mud lab platforms.
   d. Texas Deck,
   e. BOP Platforms
   f. Conductor tensioning platforms
   g. Cantilever Extensions

5. Piping design and drawing using PDMS (3D) and analysis in CAESARII.


**Rig Inspection**

a. Rig Inspection for new contract, contract renewal, purchase and bare boat charter.
b. Inspection to determine suitability for Class, IADC spec, bid requirement and operational requirement.

**Documentation**

b. Preparation final deliverable documentation package for new build rigs.
c. Review of the rig equipment package and identifying mandatory documents.
d. Documentation for re-certification of rig and its various systems.
Our Vision ..... And Mission

Life Extension for 20 plus year old Jack up Drilling Rigs, with operationally safe, economically viable and practical Engineering

Upgrades that meet the requirements of all stake holders in the drilling industry.

To provide project management and engineering solutions in the field of Jack up rig construction/refurbishment/conversion/repair.

Amalgamate hands on experience with practical engineering to provide client with “workable” solutions.

Provide solutions that optimize client’s resources and are cost effective.
PROJECTS IN HAND

MTCC Jack Up Platform construction

JUPSOL has been awarded engineering services contract to prepare rig move, pre-loading and installation procedure for the Marine Traffic Control Center, jack up platform.

The scope includes review of the following engineering analysis documents.

- Soil coring report
- Seabed survey report
- Spud can penetration analysis
- Marine operations

JUPSOL has been awarded contract for supervision and witness of commissioning being carried out by the shipyard. The work scope includes preparation of commissioning procedures and final deliverable document pack for the vessel.

JUPSOL has been awarded contract for rig move and installation of the Jack Up Platform at Bubyan Island, Kuwait offshore.

Client- TOA Corporation.

Location - Kuwait

Ultimate Client - United States Army Corps (USAC)
Jack Up MOPU Sagar Samrat Commissioning

Mercator Oil & Gas, Singapore, awarded JUPSOL contract for providing engineering services to close out outstanding ABS/IRS comments on engineering issues.

The scope includes review of the following critical engineering documents:

- Marine Operations Manual
- Trim & Stability Book,
- Weight & Moment Control report,
- Transportation Analysis,
- Towing Gear Design,
- Stability Analysis,
- Green water Protection Analysis,
- Major Equipment Foundation Analysis,

The other major work scope includes commissioning of Jacking System, Jacking Trials, moving the vessel to west coast of India and deployment at final location. The scope includes:

- Preparation of Commissioning Procedure.
- Ocean Tow procedure and plan,
- Final deployment procedure and plan,
  Deployment of jacking and rig move crew
Jack Up MOPU Sagar Samrat Inclining Experiment

- Gulf Piping Company (GPC), Abu Dhabi, awarded JUPSOL contract for providing engineering services to carry out the inclining experiment as per ABS approved procedure.

- The scope includes:
  - Carry out Lightship / dead weight survey together with Class (ABS/IRS) and ONGC (RINA/CEIL/MUSTANG). This includes COG calculation of loose gear on board the vessel.
  - Review of GPC provided procedure for pre-ballasting, filling dock, water integrity check, final ballasting and mooring plan.
  - Prepare and Submit Inclining report with calculations of VCG, LCG and TCG to the acceptance of Class and ONGC till approvals.
Jack Up Lift Boat Aryan/Arjun Jacking System Commissioning

- Eversendai Offshore RMC FZE, Dubai, awarded JUPSOL contract for providing Jacking Master services for the commissioning of the jacking system during the hull launching and final sea trials of their two lift boats Aryan and Arjun.

- The scope includes:
  
  i) Providing recommendation for preparation the vessel for jacking system commissioning for trials.
  ii) Carry out pre-jacking survey and inspection.
  iii) Carrying out the Jacking operation.
Engineering Services for Dry Dock World

- Dry docks World LLC, Dubai, awarded JUPSOL a two year contract for providing engineering services for their jack up construction/refurbishment/repair/conversion related projects.

- The scope includes:
  i) Providing engineering services by deployment of designers and discipline engineers to meet their project requirements.
PROJECTS COMPLETED

Training In Jack Up Engineering and Design

JUPSOL awarded contract for providing training to Engineers and designers of PV Shipyard, Vietnam.

The training disciplines include:

- Jack Up Drilling rig Hull structure Design and Engineering.
- Jack Up Drilling rig Hull legs connection, Legs & Spud can structure design and engineering.
- Basis & Detail Design of Process & Piping system.
- Analysis and Calculation Piping system.
- The training is spread over a period of six (6) months and is being carried out at the shipyard, in Vietnam.

Certificate of Training

THIS IS TO ACKNOWLEDGE THAT
Le Huy, Structural Engineer

HAS SUCCESSFULLY COMPLETED THE 17 DAYS TRAINING PROGRAM: MODU MOTIONS & STABILITY ANALYSIS AND TESTING & BUILDING - UP THE STABILITY BOOKLET & OPERATION MANUAL.

09 August 2015

Senthil Kathiravan
Director

Thomas Stephen
Trainer

Arunchalam
Trainer
1. **KS Medstar 1 SPS, Egypt**

Carrying out rig survey for Special Periodic Survey (SPS), preparation of scope of work, material requirement and managing the steel renewal work for crediting the SPS Survey by ABS.

Scope also includes:
Deployment of engineers on board the rig, interaction with ABS and identification of yard to execute critical activities. Most of the steel renewal work was executed while the rig was in operation at Offshore Egypt, Mediterranean Sea.


2. **Engineering Services for Lamprell Energy, Sharjah.**

Engineering Services for New Build Construction at Lamprell Energy, Sharjah. JUPSOL has signed a 2 year contract for providing engineering service with Lamprell Energy, for their new build construction projects taking place in Hamriyah Free Zone. The scope is primarily for structural designing and producing construction drawings for their new build jack up rig project for Shelf Drilling.

Scope included design and drawings for the following piping systems:

- Cantilever and Sub-Structure design drawings,
- Drill floor structure design drawings,
- LP Mud, HP Mud and HP Cement line.
- Fire, Drill, Potable water, Rig air, drain and deluge system for drill floor.

Client: - Shelf Drilling.
3. **Rig Somnath (Hull 351) Pre-Purchase Inspection, Qatar.**

JUPSOL undertook the Pre-Purchase inspection of Jack Up Drilling Rig Somnath, (Letourneau 116- E, 350 ft.) at NKOM Shipyard, Ras Lafan, Qatar.

The scope was to carry out through inspection of the rig structure, equipment installed, commissioning carried out and the progress made by the shipyard in preparing the rig for final delivery. The scope also includes verification of all documents, certificate, ABS survey and classification status.

4. GL- NOBEL DENTON 400ft Rig Basic Design Development

Consultancy for Basic Design development for a 400 ft., harsh environment, high spec Jack Up drilling rig for GL Noble Denton. The scope included preparation of the following documents:

- Project Execution Plan
- Master Equipment List
- General Arrangement
- Short Circuit Calculation
- Fire and Gas Detection
- Preliminary Fire and Safety Plan
- Tonnage Calculation
- Weight Control Procedure
- Emergency Shutdown Philosophy
- Hull geometry plan
- Freeboard Plan & External Openings
- Towing Resistance Calculation
- Motions Analysis Report
- Dry Tow Analysis
- Mooring System Analysis
- HVAC System Documents
- Electrical Load Analysis
- Overall Single Line Diagram
- Preliminary Cable Routing
- Building Technical Specification (BTS)
5. **Rig Jindal Pioneer**

Commissioning Supervision for Jack Up drilling rig Jindal Pioneer, at Lamprell Yard, Sharjah, including mechanical completion and commissioning of all rig equipment’s, drilling equipment’s and accessories. Preparation of Commissioning Reports and submission to Rig Owners.

Client: - Dev Drilling Pte Ltd. Singapore.

6. **Rig Strategic Excellence**

Project Management for reactivation of Strategic Excellence (Ex-GSF 134) Jack Up drilling rig and conversion into a 250 men accommodation Jack Up at Hamriyah Free Zone, Sharjah.

Scope included design and drawings for the following:
- New LQ Support structure, under-deck strengthen
- Pot water, black and gray water pipe line for new accommodation.

Client: - Dragon Offshore Industries LLC, Sharjah. (2014-15)
7. **Rig Thule Power**

Project Management for Reactivation and complete commissioning of Jack up drilling rig UIE-1 (Ex Thule Power, Ex Arab drill 19) and preparing it for drilling operations.


8. **Rig Wave Sierra**

Project management of Jack up rig Wave Sierra major refurbishment and Five Yearly Renewal Survey by DNV, at Hamriyah Free Zone.

Scope included:

- 730 Tons of steel renewal,
- 3572 meter pipe renewal,
- Refurbishment of all main and auxiliary machinery, drilling equipment’s, jacking system, etc.
- All three Leg fatigue analysis for DNV.
- Jack House structure analysis.

9. Project estimation, planning and budgeting for reactivation of rig Thule Power, (rebuilt 250 feet BMC 200 rig). Scope also included complete re-commissioning of rig systems and completion of construction work in accommodation, fire and gas detection system.

Client: Atlantic Marine Services, BV.


- Initial review and finalization of contract and builders construction agreement.
- Review and acceptance of General Arrangement and basic design drawings.

17. Feasibility study, basic design engineering, design of general layout arrangement, equipment specification finalization, material take off (MTO) for conversion of Liftboat, Titan 2 into a Mobile Offshore

18. Document control for new build Jack Up drilling rig Construction project of Jindal Pipes Singapore (offshore division) at Lamprell, Sharjah, UAE.


   Client: Jindal Pipes offshore division), India.

20. Life Boat davit foundation structure modification for GSP offshore, Romania


26. Leg extraction analysis of KS Medstar 1, for KS Drilling Egypt (2012).

27. Rig inspection of jack up rig Thule Power for Atlantic Marine Services, BV (2012).


33. Structural Modifications Engineering on Jack Up Drilling Rigs for GSP offshore, Romania

34. Modification of BOP platform structure for accommodating higher capacity well control system.

35. Design and Engineering for a new Texas Deck on the transom of the rig to accommodate a conductor tensioning unit.

36. Design and engineering for addition of an escape hatch in mud pump room water tight bulk head to meet class requirement as a result of fire plan upgrade.

37. Feasibility study for cantilever reach extension, in order to facilitate work over on addition well heads.