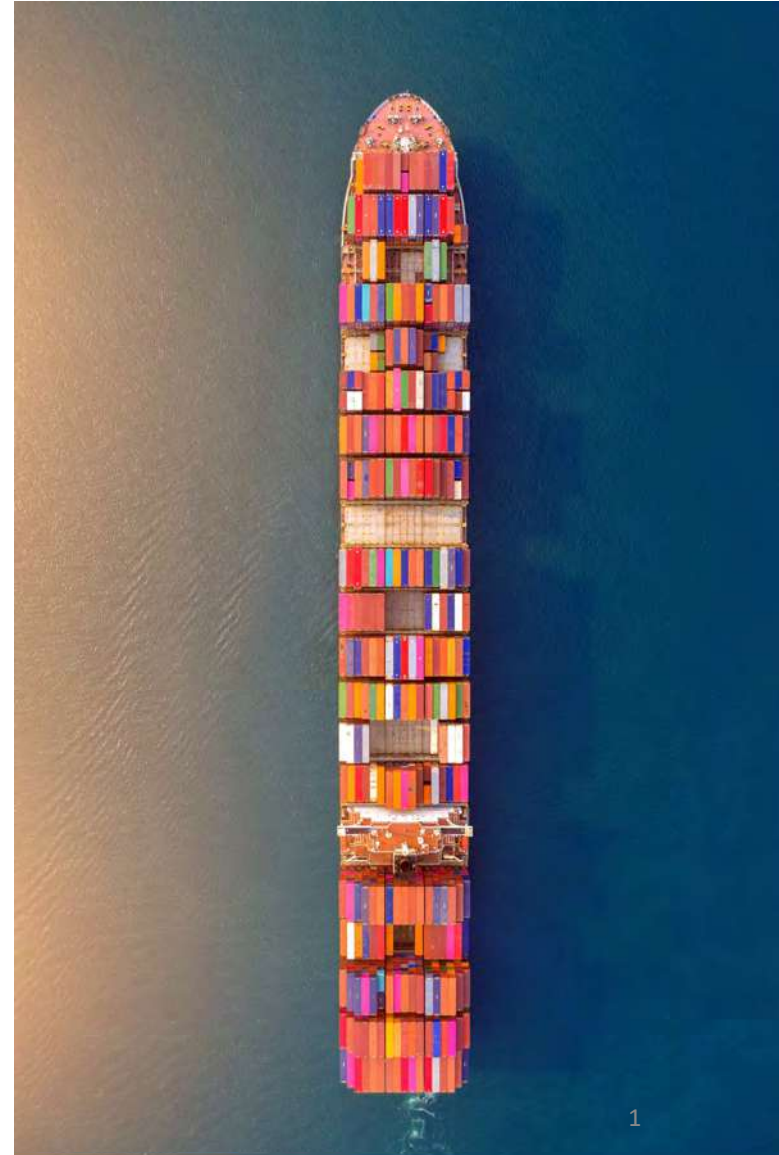


CHM GLOBAL

*WE LOOK AT IT FROM
A DIFFERENT POINT OF
VIEW TO DELIVER YOUR
EXPECTATIONS*



Our Offshore Oil & Gas Engineering Services

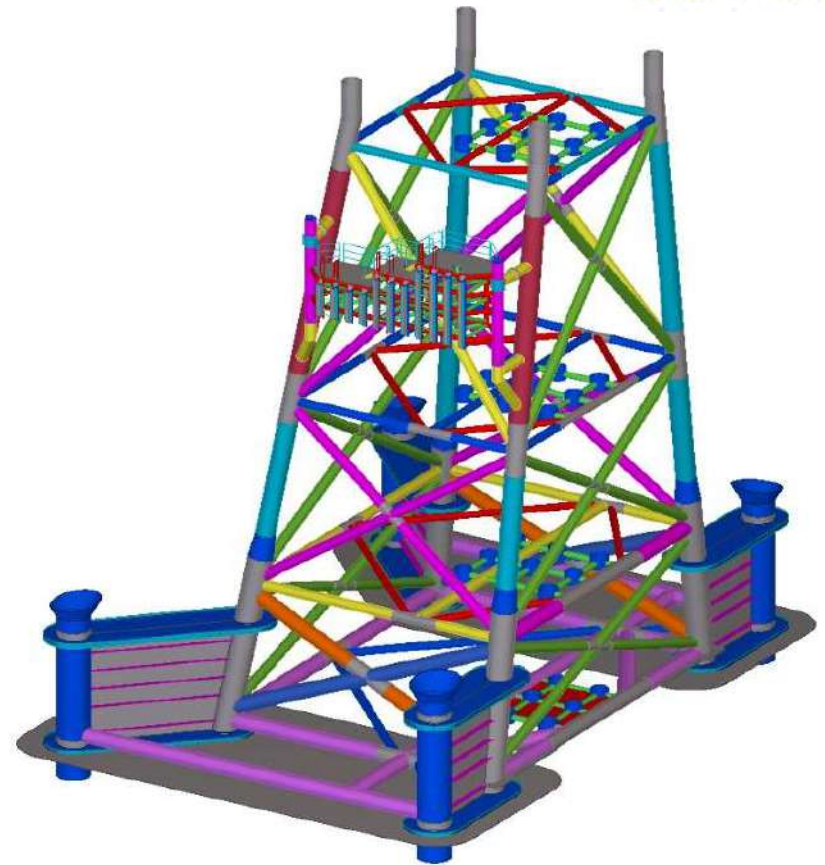
ENGINEERING, SAFETY, PROJECT & COST MANAGEMENT FOR OIL AND GAS SUPPLY CHAIN.



- ✔ Tender Evaluation
- ✔ Conceptual Design
- ✔ Feasibility Study
- ✔ Basic & Detailed Engineering
- ✔ Offshore Structural Design and Engineering Analysis
- ✔ Transportation Analysis - Pipes & Heavy Equipment
- ✔ Supervision - Offshore Pipeline Installation & Inspections
- ✔ Offshore Installation Engineering
- ✔ HSE Case/Control - Major Hazards Study
- ✔ Fire and Explosion Risk Analysis
- ✔ Escape, Evacuation and Rescue Analysis
- ✔ Emergency System Survivability Analysis
- ✔ Quantitive Risk Assessment
- ✔ Hazard and Operability of Control Systems
- ✔ Surge Analysis Study
- ✔ FEMA & FMECA
- ✔ FEED for FPSO, MOPU
- ✔ Detail Engineering - Complete Field Development
- ✔ Hull 3D Modelling
- ✔ CFD Analysis
- ✔ Tow Analysis
- ✔ Sea Fastening/Tie-down design
- ✔ HVAC Design
- ✔ Subsea Architecture Development

Fixed Structures

- ❖ Our team provides basic and detailed design services for offshore fixed structures, such as turbines and offshore substations.
- ❖ Facilitate the design and development of offshore structures by consulting with the offshore industry.
- ❖ Provide support to governments and private organizations in the development of marine infrastructure.
- ❖ Implement a field development plan and a feasibility study for engineering systems installation.



Floating Structures & Moorings

- ❖ Our experience includes the detailed design of floating structures and moorings suitable for wind turbines and floating substations located in deeper locations.
- ❖ Major Services:
 - Mooring and Riser Analysis
 - Load-out Calculations
 - Float-over Analysis - Topside Installation
 - Riser Analysis
 - Cable/Umbilical Installation Analysis
 - Jacket Launch, Upending and Docking Analysis



Jack-Up Barge & Work Platform Design

- ❖ Our SME team led the design of the Wind Osprey, a 24,586 tonne jack up work barge capable of operating in up to 70 m of water area.
- ❖ Detailed engineering completed for topside and jacket, multidisciplinary engineering works for jacket structure Seagreen to be used in Seagreen Offshore Windfarm.
- ❖ Completed GA layout modifications, hull structural design, hull detailed design, piping & electrical drawing preparation of accommodation jack up Arjun in AVEVA.
- ❖ Detailed design & engineering services for construction of Jack Up Cylindrical Barge for offshore field for Sun Petrochemical Limited.



Concept Studies

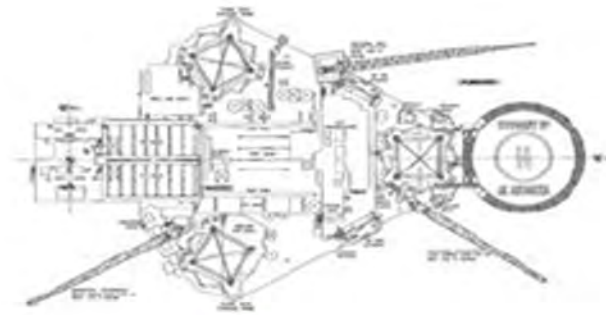
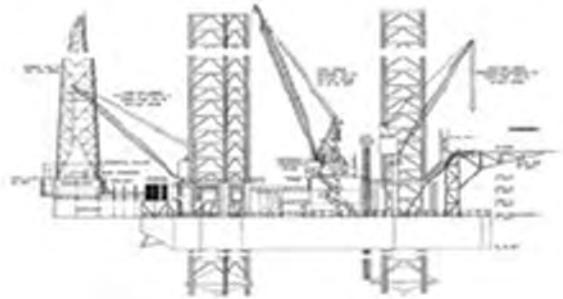
✓ Major Services:

- Feasibility Study for offshore and onshore field
- Installation Engineering Feasibility Studies
- Resource Modelling & Performance Estimates
- Electrical Concept Design
- Structures Concept
- Logistics Concept
- Approvals Pathway
- Capex and Opex Estimates
- Financial Model & Schedule

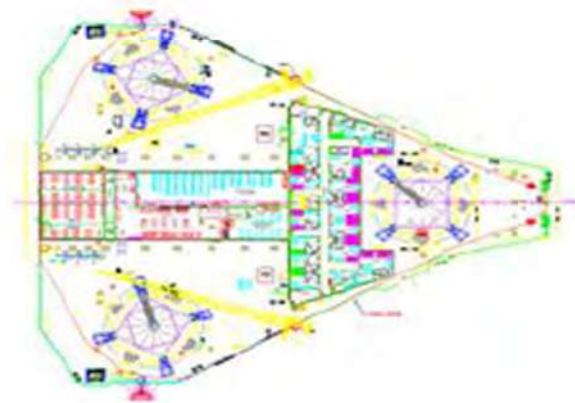
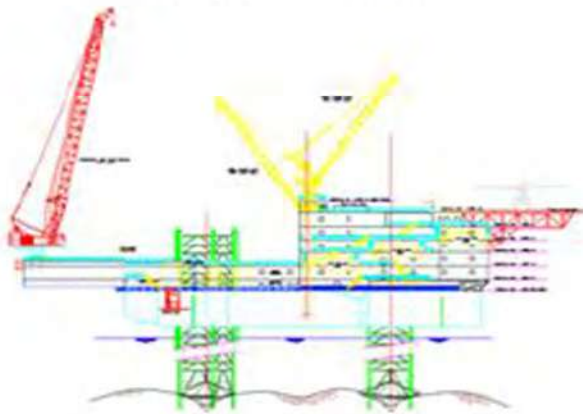


Key Work :

Conversion - Drilling Rig to 290 POB Accommodation Jack-up



Typical Views
(Pre Conversion)



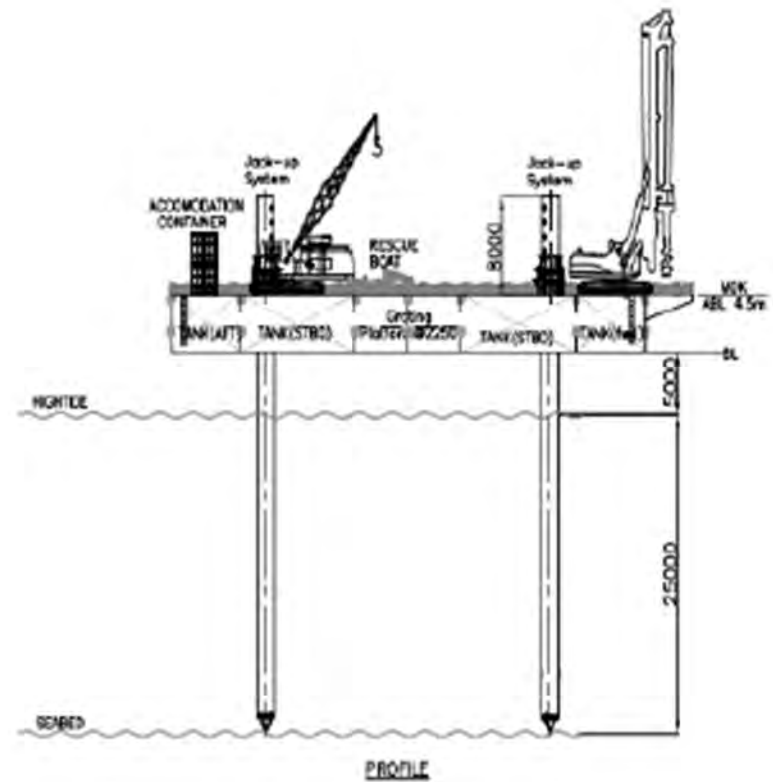
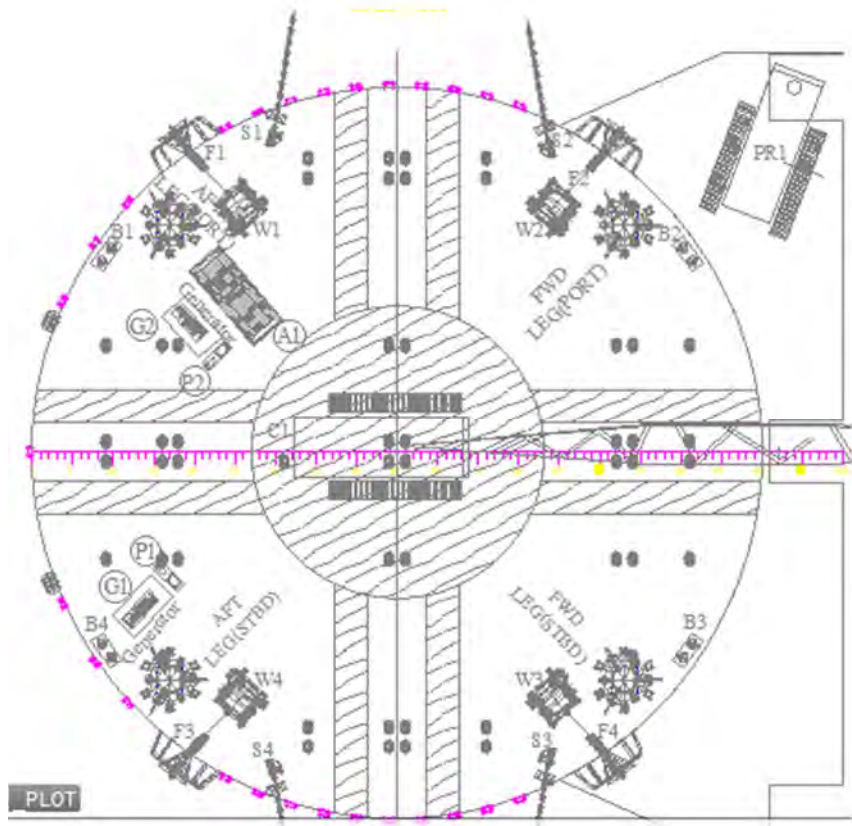
Typical Views
Post Conversion



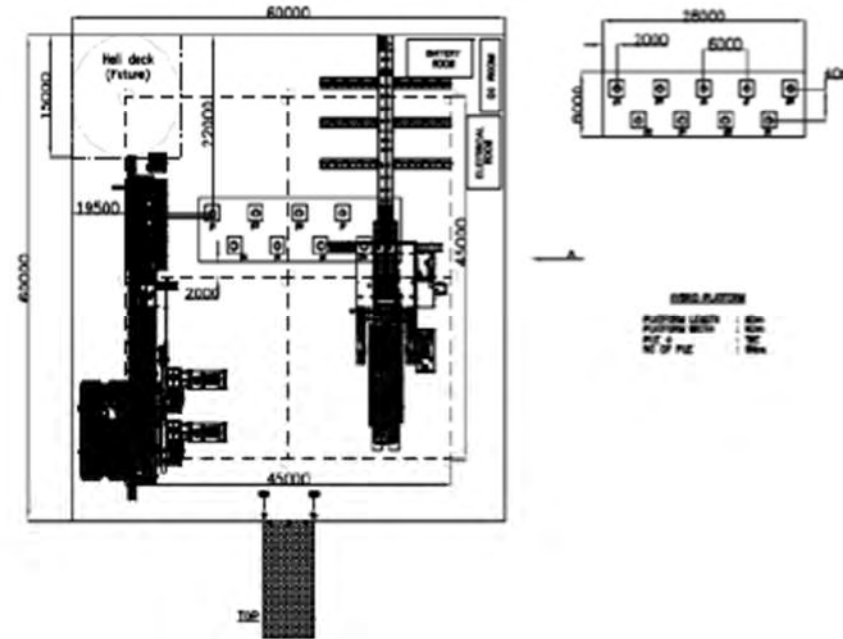
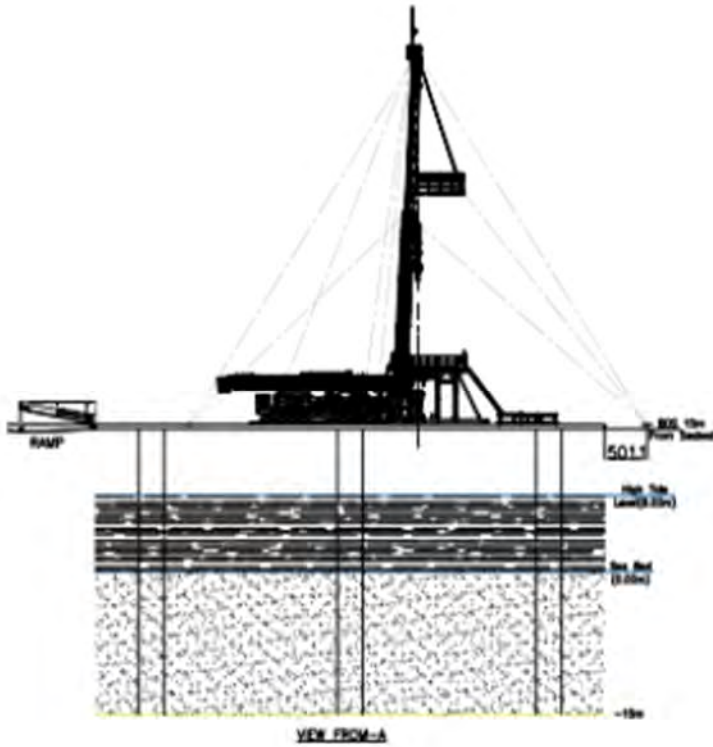
Key Work :
Conversion – MODU to MOPU (Sagar Samrat)



Key Work :
Circular Jack-up Barge Design (Ravi Kiran)



Key Work : Design of Hybrid Platform



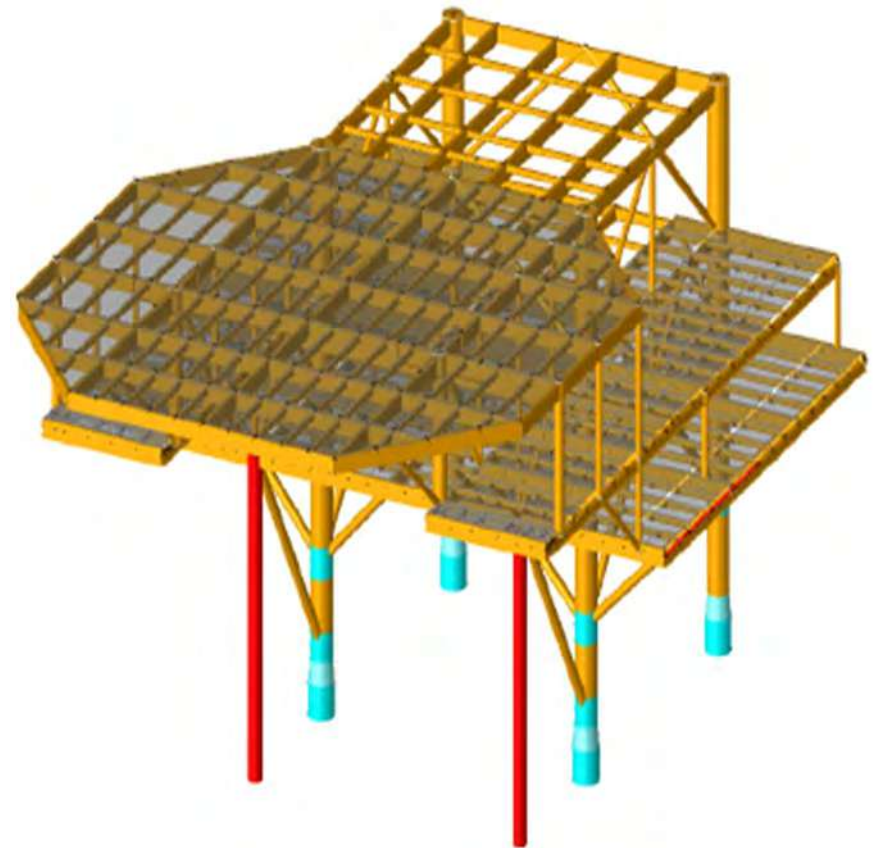
Key Work : Design of Well Head Platform

❖ Structural Engineering (Major Work):

- Design of platform jacket structure (Concept development to approved for construction status).
- Design of platform deck structure (Concept development to approved for construction status).
- Detailed Structural Engineering Deliverables – Jacket, Deck and Helideck.
- Preparation of MTOs & MRs.

❖ Topside Engineering (Major Work):

- Detail Engineering Deliverables - Process, Mechanical, Electrical, I&C and Piping
- Construction Drawings and BOMs.



Key Work : GAP Analysis & Detail Engg. - Central Processing Facility

❖ GAP Analysis Study (Major Work):

- Process flow scheme is generated using HYSYS simulation.
- Simulation study is performed in HYSYS to verify the adequacy of existing CPF for 12000 BOPD.
- Existing equipment adequacy checked using in-house sizing software.

❖ Detail Engineering (Major Work):

- Design Basis - All Disciplines.
- Adequacy Check - Existing Instrumentation and Control, Electrical & Piping System.
- SOW, SOR & MTO - Multidisciplinary & Civil Contractor.
- Detail Engineering Deliverables - Process, Mechanical, Electrical, I&C and Piping.
- Pre-commissioning and commissioning check lists and procedures and SIMOPS Study Report.



Key Work : Dynamic Stability Analysis - Jack Up Platform

26-11-21 17:59:22
GHS 16.10

STABILITY CALCULATIONS
OPERATE CONDITION
13.1234 FEET Draft

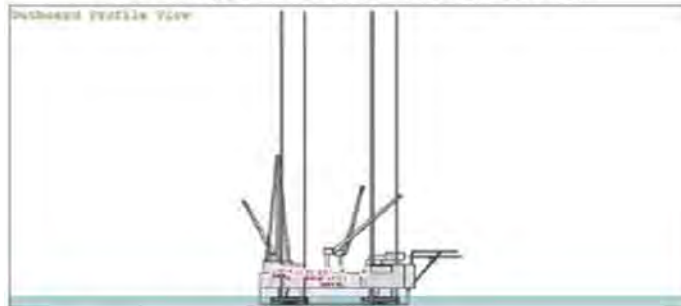
Page 2
OPERATE

INITIAL TRIM: 0.00 DRAFT: 13.1234 FEET without wind at nominal VCG

WEIGHT and DISPLACEMENT and WATERPLANE STATUS						
Baseline draft: 13.123						
Trim: zero			Heel: zero			
Part	Weight(KP)	LCG	TCG	VCB		
WEIGHT	28,843.02	140.63a	0.00	25.17		
	SpGr	Displ(KP)	LCB	TCB	VCB	
HULL C	1.025	28,843.02	140.63a	0.00	0.70	
Righting Arms:			0.00	0.00		
Part	SpGr	WPA	LCF	TCF	BML	BMT
Total Waterplane	1.025	37048	140.24a	0.00	319.1	237.85
		KP/Inch	Ft-KP/In	GML	GMT	
		197.56	3055.57	300.7	219.44	

Distances in FEET

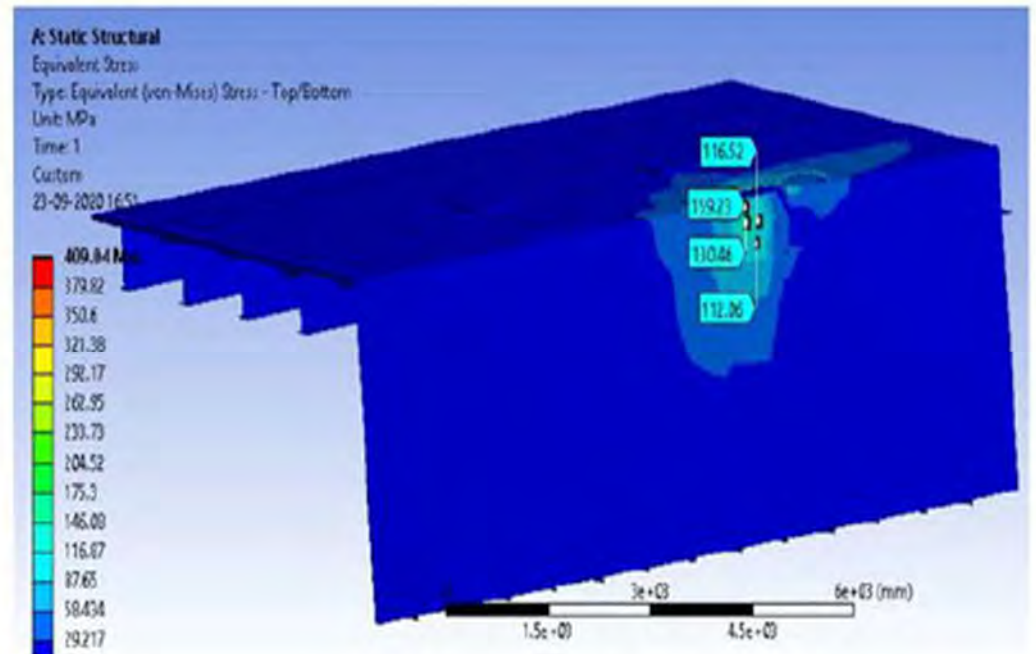
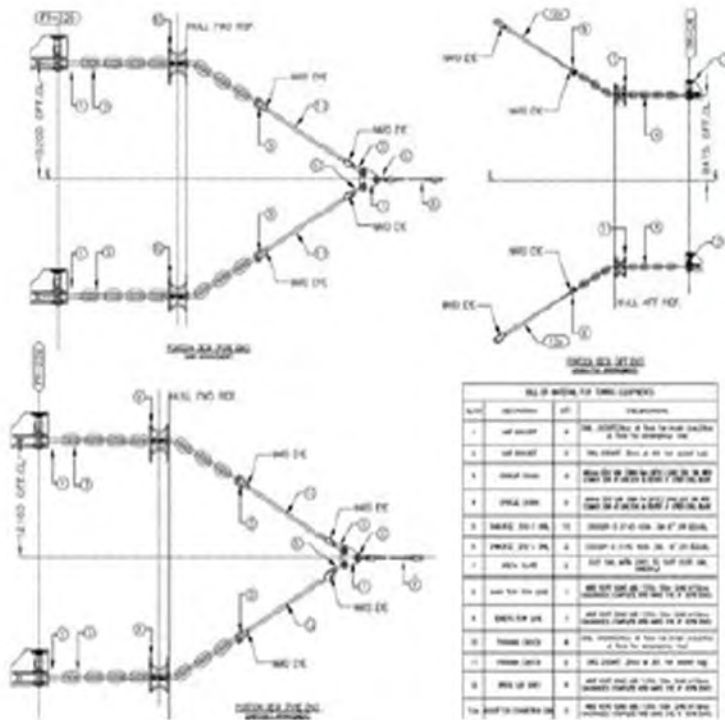
Condition Graphic - Draft: 13.123 Trim: zero Heel: zero



Critical Points						
sp1 A1	sp1 A2	sp1 A3	sp1 A4	sp1 A5	sp1 A6	sp1 A7
sp2 B1	sp2 B2	sp2 B3	sp2 B4	sp2 B5	sp2 B6	sp2 B7



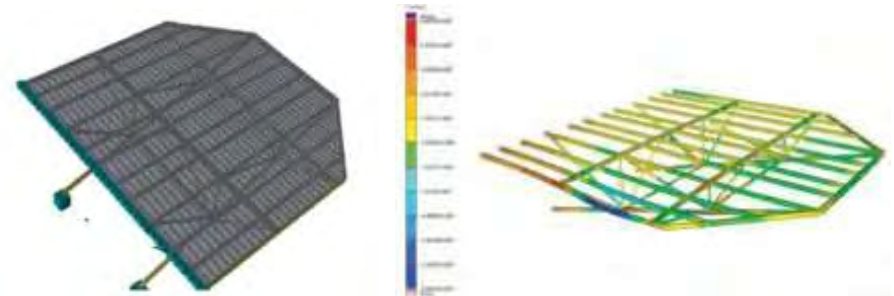
Key Work : Strength Analysis - Floating Dock Towing Equipment



Key Work : Life Extension Study

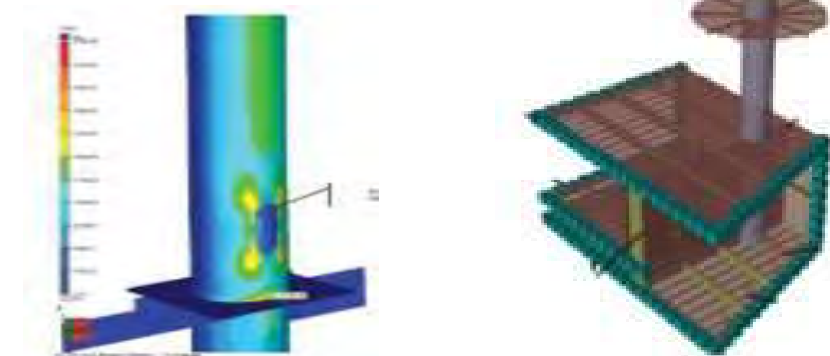
✔ Life Extension Study - Old Offshore Units:

- Oil major ask for life extension study for units older than 30 years for assurance on remaining life of unit.
- Life extension study is prepared as per JUIMS for ADNOC Offshore.



✔ Major Services:

- Site Specific Global Inplace Analysis.
- Fatigue Strength of Structure.
- Crane Pedestal Strength and Fatigue.
- Helideck & Ocean and Field Tow analysis.



Key Work : Offshore Engineering

SR. No.	PROJECT NAME	CLIENT	YEAR OF COMPLETION	SERVICES
1	Engineering consultant for Field Development and FEED for D-18 field	Ganges Geo Resources Pvt. Ltd.	Ongoing	Feasibility study, FPSO FEED study, FPSO selection, Cost time analysis, Monitor drilling programs, prepare concept layout of field, FPSO conversion specification preparation and identification of suitable yard for conversion.
2	Structural Design of Well Head Platform for Bhaskar III field	Sun Petrochemicals Pvt. Ltd.	Ongoing	Design of Jacket Structure & Piles, Design of Deck Structure, Preparation of MTO for procurement.
3	Detail Design of Well Head Platform for Bhaskar III Field	Sun Petrochemicals Pvt. Ltd.	Ongoing	Complete detail design of platform to approved for construction status, Preparation of MTO for Procurement Enquiry, TBE, Contractor Scope Preparation etc.
4	Inspection of Crude Oil Production Facility Rubicon Intrepid plying in GALOC Field, Philippines	InVenire Petrodyne Ltd.	2020	Topside equipment verification of design, verification of FPSO for min and max handling of production, Review of environmental, field data for FPSO suitability, Review of turret design and mooring arrangement, Load testing of engines, Hull and machinery survey
5	Design, Engineering analysis of crane pedestal, boom rest using FEA on jack up	SeaFox	2020	FEA analysis of crane pedestal, boom-rest of 60 ton swivel crane on a jack up platform
6	Basic & Detail Design of Cylindrical Jack Up for Bhaskar Field	Sun Petrochemicals Pvt. Ltd.	Ongoing	Basic & Detail Design, Bill of Materials, 3 D Model, Production / CNC Drawing.
7	Concept, detailed design of load out structure for subsea installation	Yojaka Pvt. Ltd.	2021	Design of interconnected pontoons with 200 tons lift capacity crane for subsea installation via moonpool, towing analysis.

CHM GLOBAL

Qatar | Bahrain | Oman | UAE | India | UK

www.chm-global.com

CHM Global LLC, Qatar

Email: info@chm-global.com

CHM Global WLL, Bahrain

Email: bahrain@chm-global.com

CHM Global SPC, Sultanate of Oman

Email: oman@chm-global.com

CHM Global LLC, UAE

Email: uae@chm-global.com

CHM Global Pvt Ltd, India

Email: india@chm-global.com

CHM Global UK Limited, United Kingdom

Email: uk@chm-global.com