



FABRICATION CHALLENGES DURING WTG JACKETS CONSTRUCTION

Shenzhen Chiwan Sembawang
Engineering Co., Ltd





FABRICATION CHALLENGES DURING WTG FOUNDATION CONSTRUCTION

1. To comply with strict offshore specification requirement
 - Double sided welding at TKY joints
 - Prevention of weld cracking during welding
 - Dimension Control
2. Good co-ordination and methodology during assembly of main components such as TPs, Jacket Frames and suction cans
3. Large fabrication and storage area require to meet the tight delivery schedule
4. Compliance to strict HSE requirement

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01

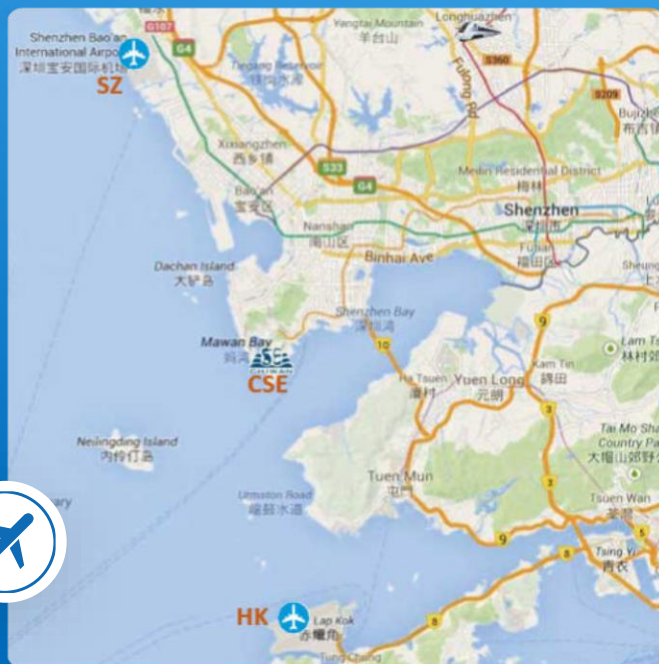
Company Profile

> Date Established

2nd July 1994

> Shareholders

- CNOOC Investment Co., Ltd - 36%
- Shenzhen New Nanshan Holding (Group) Co., Ltd. - 32%
- Chixiao Enterprise Co., Ltd - 32%



> Location

- 30 minutes to Hong Kong Airport
- 20 minutes to Shenzhen Airport
- 2 hours to Guangzhou Airport

Three commercial ports surrounded in the fabrication yard:

- 1 km to Chiwan Port
- 2 km to Shekou Port
- 4 km to Mawan Port



Production Capacity: 50,000ton/year

Max Capacity: 6,000,000Mhrs

Total Area: 185,000m²

Covered Area: 12,500m²

Jetty/Waterfront: 406m

Water Depth: 9m



Our another New Yard with area around 500,000m² is coming soon



02

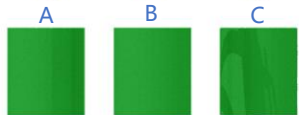
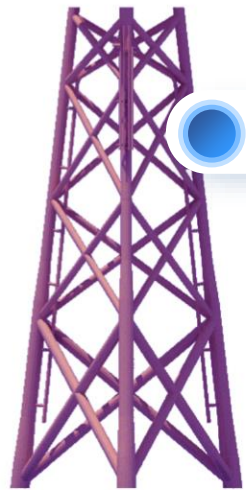
Fabrication Challenges

WTG Jacket

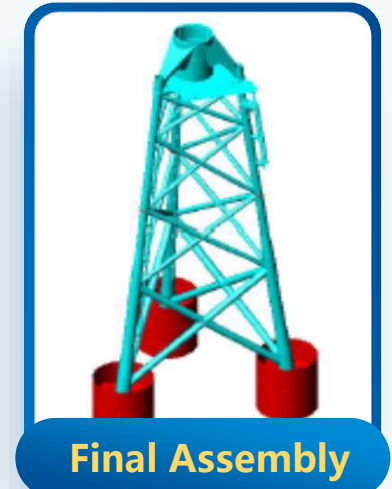
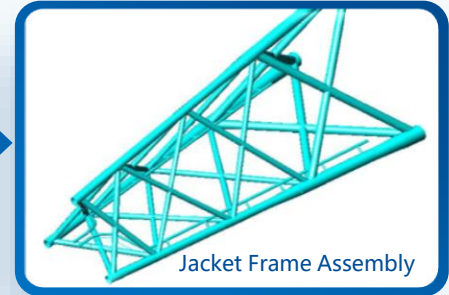
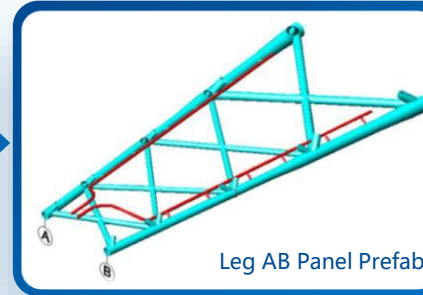
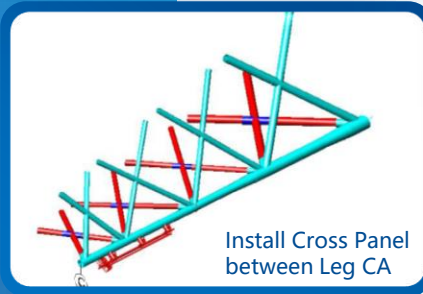
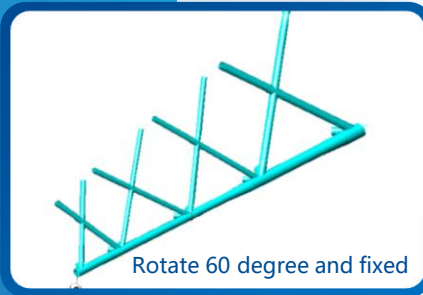
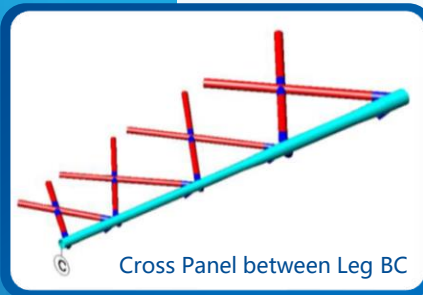
Transition Piece



Jacket Frame



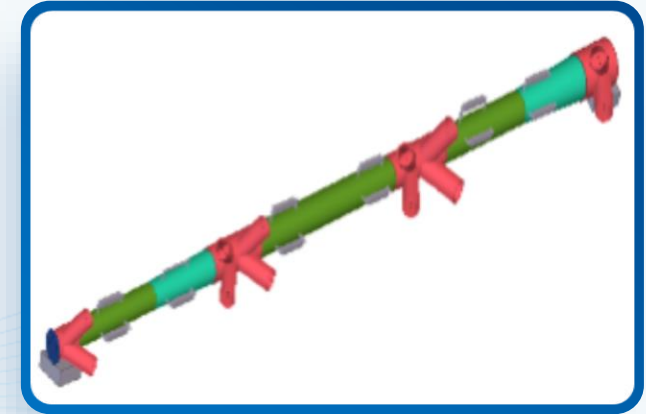
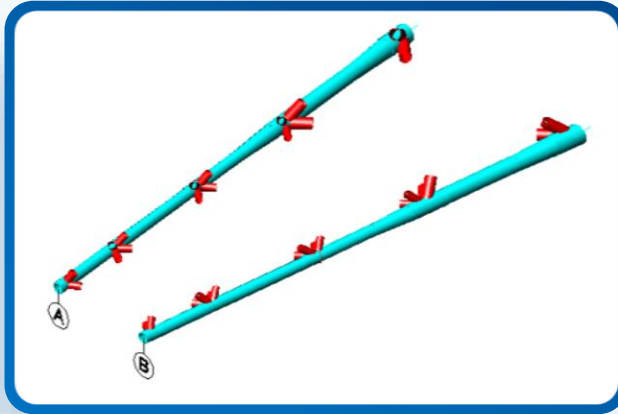
Suction Cans



Stubs welded directly on legs

VS

Prefabricated TKY nodes welded on legs



Advantages:

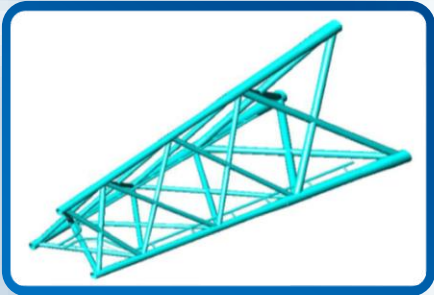
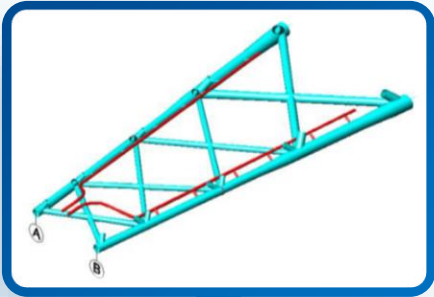
- Better dimensional control
- Shorter fabrication time - fewer fit-up and welding joints
- Better welding quality



Jacket Frame fabricated as one piece

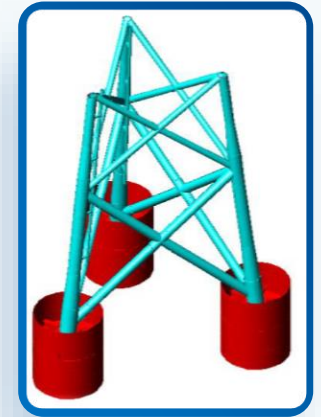
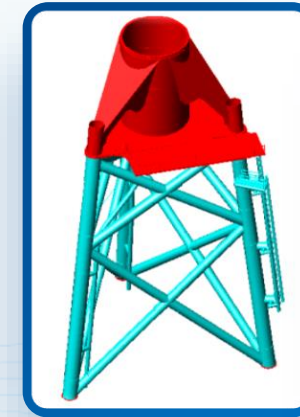
VS

Jacket Frame fabricated as upper & lower parts



Jacket Frames are fabricated horizontally at CSE as one piece. The advantages as compared with 2 jacket frames erected vertically are as follows:

- Shorter fabrication time
- Easier dimensional control
- Better control on welding
- Minimize temporary support
- Avoid aligning two sub-assembly jacket frames
- Minimize work at height and Safer





03

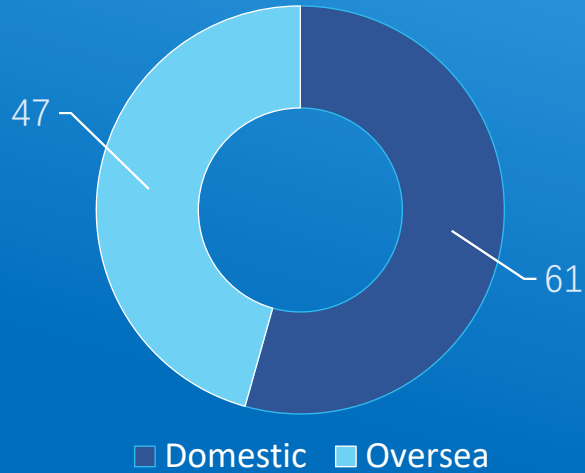
Track Record

> Energy Company

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> EPC Contractor Company

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- 108 sets of Jacket have been successfully delivered including 12 sets with more than 10,000 MT single weight;
- 61 sets of Domestic Jacket distribute in South China Sea (47), East China Sea (10) and Bohai Bay (4);
- 47 sets of Oversea Jacket distribute in Denmark North Sea, Middle East, Australia and Myanmar Water Area;
- 21,000 MT Jacket (excl. piles) is the heaviest one we delivered;
- 200 meters water depth is the deepest one we delivered.



Halfdan HBD Jacket & Piles Fabrication

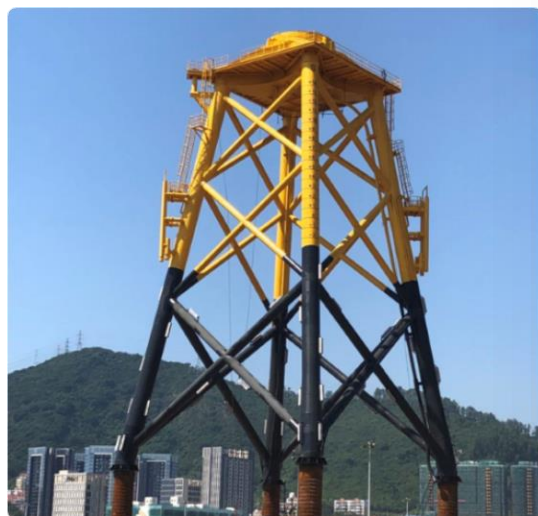
Client / Owner: SMOE / Maersk Oil
Location: North Sea
Total Weight: 6,216 tonnes



SHWE Jacket & Piles Fabrication Project

Duration: Nov.2010~Jan.2012
Location: Myanmar
Record time of 13.5 months.

Client: HHI / Daewoo Intl.
Total Weight: 30,447 MT



Yangjiang Shapa Offshore Wind Farm Jacket Fabrication

Owner: YUDEAN

Location: Yangjiang Shapa

Total Weight: 1,770MT

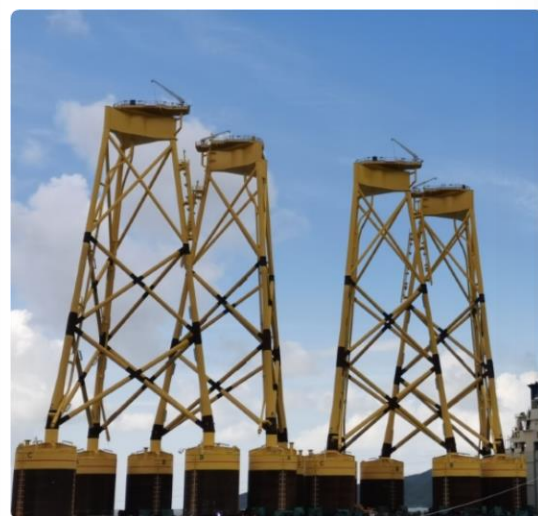


CECEP Yangjiang Nanpeng Island Offshore Wind Farm Substation Fabrication

Client / Owner: COOEC/CECEP

Location: Yangjiang Nanpeng Island

Total Weight: 3,200MT

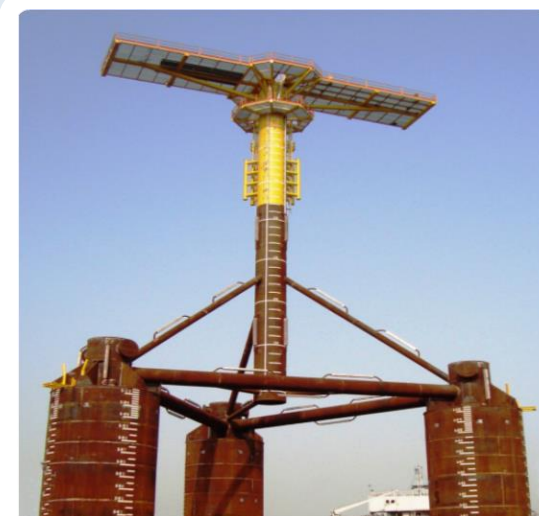


Seagreen Offshore Wind Farm Jacket Fabrication

Client/Owner: CFHI / Seaway 7 / SWEL

Location: Britain

Total Weight: 4,711MT



CLP Met Mast Fabrication

Client / Owner: COOEC / CLP

Location: South-eastern Water of HK

Total Weight: 854 MT

THANK YOU



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