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SPECIAL REPORT

Milestone Feat

AFCONS has carved a niche for the company by becoming the first Indian EPC contractor for installing a process platform for ONGC using float-over technology on time.

AFCONS Infrastructure Limited (AFCONS) achieved a new milestone in January this year by executing a float-over installation of the HRD Process Platform for ONGC in the west coast of India.

Float-over operation is a new concept which is being recently used in ONGC projects wherein an offshore vessel carrying the heavy topside is made to enter into the slot created between jacket legs and stab the complete topside on the jacket.

With this phenomenal achievement, the Shapoorji Pallonji Group Company became the first Indian EPC contractor to install a process platform using the float-over technology on time. This was only the second float-over operation to be carried out in India.

In offshore oil & gas industry worldwide, most topsides are installed by conventional method of lifting. So far, only 27 topsides have been installed across the world using the float-over technique. AFCONS, the leader in a consortium comprising Technip, India/France and THHE, Malaysia, became the first Indian contractor to adopt the technology and successfully executed it. The design and installation was handled by Technip. The HRD topside was constructed in Vietnam with loading out on the planned date. It was transported on a float-over barge to Heera field (situated 70 km south-west of Mumbai city), Indian offshore by sea all the way from Vietnam.

Meanwhile, the jacket was installed and prepared to receive the topside. On January 15, the HRD topside was mated with the jacket making the process platform a monolithic structure. The entire operation – preparations to complete installation – was completed in 34 hours. It was a phenomenal event where a structure of 8,300 MT got installed in a single attempt.

AFCONS could pull it off with the help of dockwise team, who were subcontractors and owners of the float-over barge. They carried out the ballast operation for the complete float-over in addition to jack operation.

Notably, this was the second back-to-back process platform project that AFCONS did for ONGC. Earlier, AFCONS had installed the ICP-R Process Platform in 2012. Reminiscing the journey, AFCONS Vice Chairman & Managing Director, K Subrahmanian, said: "You don't enter an offshore process platform in your first attempt because that represents almost the upper end. But, in our case, by default, it turned out to be our starting point. We demonstrated strong project management skills. Our relationship management and selection of good vendors, even as first time entrants into offshore Oil & Gas, helped us in delivering the ICP-R Process Platform. This consequently qualified us to quote for the HRD project."

Even though the AFCONS-led consortium bagged the HRD project, there was strong apprehension against the float-over technology.

"In India, there is a lot of hesitation to opt for float-over technology. But we, associated with Technip who had huge experience in float-over operations. With a good procurement network and strong project management, we carved out a story of successful technology transfer between an Indian and an international organisation," Subrahmanian said.

The float-over window is normally very narrow. If the installation is not competed as planned one would be forced to spend a lot of additional time offshore.

"It is a very precision operation. But if you plan it well it's doable, and, we have shown it," Subrahmanian said. The HRD Process Platform installation will inspire prospective contractors to use the float-over technology in future. Using float-over not only saves time, but also cuts down the risk in offshore operations and it is environment friendly.

Elaborating on the advantages of float-over methodology, AFCONS Oil & Gas Director, PK Johri, said: "The advantage of float-over is it reduces offshore hook-up work and mobilisation of barges. The HRD topside was sailed out with 99.5 per cent onshore fabrication completion. The float-over helped in a precise and safe installation of the topside, which is a landmark in Indian offshore."

AFCONS is known for adopting innovative and new technologies. In upstream segment of oil & gas, process platform projects are treated as most complex, high-risk and challenging jobs. AFCONS takes pride in entering this high-risk segment and successfully completing two process platforms back to back. IT

Challenges in float-over methodology

- Identifying the availability of appropriate float-over barge/vessel
- Availability of float-over window both for load out & sail out from yard and installation at offshore
- Detailed engineering to meet client's specific requirement for housing topside packages, equipment etc through various HAZOP/HAZID analysis, during different phases of engineering and construction
- Finding an experienced fabricator not only capable of fabrication & load out structure on selected vessel, but also perform on-site testing (such as string test for PGC, hydro test, leak test etc) to remove the offshore testing cycle, hook up & commissioning
- Transportation of topside in single unit
- Installation of topside with continuous monitoring & analysis