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ALE BREAK SPMT WORLD RECORD DURING COMPLEX SALVAGE FERRY OPERATION IN SOUTH KOREA



ALE has completed the load-in of the Sewol ferry using a record-breaking number of SPMTs, as part of a complex salvage operation in the East China Sea in April. At 17,000t, this is the heaviest piece ever to be transported by SPMTs.

ALE, one of the global leaders in heavy lifting and transportation, was contracted to perform the load-in operations of the high-profile ferry, which tragically capsized two years ago. The operation was followed on-site by the families of the victims and the Korean Government, generating additional pressure on the ALE site team.

Although the ferry was estimated to weigh between 11,000t and 13,000t, the client faced the challenge of moving a ferry in which there was no way of confirming the actual weight and CoG position until it was lifted from the sea and positioned onto the barge. To ensure ALE could lift it up, the client requested to consider a large Centre of Gravity (CoG) envelope of a 3m radius – 2.5m bigger than the usual 0.5m radius.

After the arrival at the load-in location, it was discovered that a significant amount of mud remained inside the vessel, that increased the weight by 4,000t. Based on the results of the first load transfer test with SPMTs, the ferry was later calculated to weigh approximately 17,000t and, as a result, ALE had to re-engineer a load-out solution by their site engineering team which resulted in an increase in the amount of axles from 456 to 600 axle lines at short notice.

Within 24 hours ALE had mobilised the additional 144 axle lines to receive the semi-submersible vessel from the barge onto 600 axle lines of SPMT, in a configuration of 6 x 2 file 80 plus 2 x 2 file 60.

The ferry transport position (laying on the side rather than on the hull) and the widespread damages to the ferry's hull and superstructures, posed an additional challenge to the ALE team, because of the potential unpredictable deformations of the cargo during the load transfer from the grillage beams and then the transport phase.

An accurate and careful shimming tuning phase before the load transfer, enabled ALE to safely perform the load-in operation.

“This was an extremely strategic project, not only for ALE’s South East Asia region, but for the entire ALE group. Despite the short notice for mobilisation, the complete load-in operation was controlled by ALE, included the engineering and project management,” explained Roberto Radicella, General Manager of ALE’s Malaysia branch.

“As the design of the transport beams meant there was no room to add more SPMT lines, this limited our lifting capacity and needed to find a solution and contingency plan to overcome this. By using our global experience and expertise, we were able to overcome the challenge and complete this milestone task, whilst breaking the world record for the most SPMTs ever used during a load-in operation.”

ENDS

Images 1 and 2: ALE loading-in the Sewol ferry from the barge in the East China Sea.

NOTES TO EDITORS

Founded in 1983 by Roger Harries, ALE delivers a highly tailored, end-to-end service covering every aspect of the handling, transportation and installation of heavy, indivisible loads, including lifting, transporting, installing, ballasting, jacking and weighing.

ALE delivers strategic heavy-lift services to a wide range of sectors, including civil, oil and gas, energy, nuclear, offshore, renewables, petrochemical, ports, marine, minerals and metals and mining.

ALE has more than 30 offices across Europe, the Far East, Africa, America, South America, the Middle East and Australia. It is fully compliant with international standards of safety and excellence, including Quality standard ISO 9001:2015, Environmental standard ISO 14001:2015, and Health and Safety Standard OHSAS 18001:2007. ALE is also registered and qualified in the Achilles Norway and Link-up systems, and is a member of both the British Safety Council and the British Standards Institution.

Further information can be found on the ALE website at www.ale-heavylift.com