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OLT-OFFSHORE LNG TOSCANA | PROFILE

FSRU Toscana - The Pride of Italy

In June 2013, the former LNG carrier, named Golar Frost, made a journey of nearly 5,000 nautical miles from Drydocks World - Dubai (DDWD) shipyard, to its new home off the Italian coast between Livorno and Pisa. This would be the commencement of its new purpose, having undergone a vast conversion, as the new regasification terminal, FSRU Toscana. Georgina Warren spoke with Peter Carolan, Managing Director of OLT Offshore LNG Toscana, the company that owns and operates the terminal, about how the company was formed and how important the terminal is for Italy and Europe.





OLT was set up by two major industrial companies in the national and international energy sector: E.ON Group (46.79 per cent) and Iren Group (46.79 per cent), as well as two minor shareholders: OLT Energy Toscana SpA (3.73 per cent) and Golar LNG (2.69 per cent). It was Golar LNG that sold the former LNG carrier, Colar Frost, to OLT in 2008, and conversion works started in 2009.

"The regasification module was constructed at the Lamprell Energy Ltd shipyard in Jebel Ali, while the bow of the LNG carrier was removed," said Peter Carolan, Managing Director of OLT Offshore LNG Toscana. "A new front section was built at DDWD, which included the yoke-type turret, and then the re-gasification module was towed from Jebel Ali to DDWD and lifted on board the terminal."

The conversion of the LNG carrier into a floating storage and regasification terminal was a large-scale operation and required the installation of three vaporisers necessary to re-gasify LNG, a Wobbe index module in order to allow the terminal to re-gasify most types of LNG through the injection of

nitrogen, as well as other equipment necessary for the transfer of LNG from the carriers to the terminal.

Flexibility is key with this terminal as it is able to receive cargoes from 65,000m³ up to 155,000m³, which allows scope for over 80 per cent of the current worldwide LNG carrier fleet. The terminal has also provided a significant contribution to the territory in terms of employment. 121 people are employed in Livorno, with 19 people in OLT's onshore office. OLT also appointed ECOS, a joint venture between Exmar Ship Management and Fratelli Cosulich, in order to crew and technically manage the terminal. This joint venture includes 63 employees and benefits from the experience emanating from both companies, including international knowledge of LNG transportation and over 150 years in the shipping industry. A further 39 people were employed to manage the marine supports vessels that service the terminal by the company Fratelli Neri, a Livorno-based group operating in logistics, terminal operations and port towage activities.

National Pride and International Advantages

Following a commissioning phase, whereby four LNG ship-to-ship offloading operations were concluded successfully, the terminal started commercial activities on 20th December 2013. To date, OLT has injected around 200 million standard cubic metres of natural gas into the national grid.

"The OLT terminal was realised using safe and well-proven technology," stated Mr Carolan proudly. "From an engineering point of view, the terminal is technologically innovative whilst fully respecting the strict environmental limitations of our operating permit."

Mr Carolan also discussed how the European Commission's aim to reduce pollutant emissions from sulphur-releasing fuels has led to the realisation of SECAs (Sulphur Emission Control Areas) in the North and Baltic Seas, from 2015, and how this will affect operations.

"In these areas the use of marine fuels with a high level of nitrous and sulphuric emissions will be forbidden. Moreover, the Italian Parliament is discussing the possi-





bility to anticipate the entrance of the Adriatic Sea in the SECA by the end of 2017. This is a great opportunity for the development of LNG, widely recognised as the cleanest fuel and as a safe and convenient source of energy, which guarantees excellent environmental performances for maritime and land transport."

This opportunity could be of significant importance as the terminal could represent an important infrastructure for the launch and development of the use of LNG as a clean fuel for maritime and land transport in Italy and the Mediterranean as a whole. The terminal already has the great advantage of being able to receive LNG from carriers up to 155,000m³ and, through minimal interventions on the design of the terminal, it could receive small LNG barges that would load the amount of LNG necessary to supply the refuelling facilities installed on the main ports of the Mediterranean Sea.

Speaking at SIGTTO's (The Society of International Gas Tanker and Terminal Operators) 35th anniversary panel meeting in Livorno in early October 2014, SIGTTO General Manager Andrew Clifton, highlighted the importance of the project.

"The people of Livorno and the Italian nation, as a whole, should be truly proud of the world class asset that they now have. The pioneering offshore FSRU Toscana is designed and operates to the very highest safety and environmental standards and ensures the nation has security of energy supply for the foreseeable future."

This statement is, said Mr Carolan, something that OLT is understandably proud of and is indicative of the great achievements that have been made since the conversion began.

Ensuring Quality and Guaranteeing Security

Environmental standards, as well as quality assurance and health and safety, is not only of utmost importance to OLT, but it is also the driving factor for its success in the industry. OLT has obtained all the necessary authorisations in terms of environmental sustainability. Mr Carolan explained that in particular, the EIA (Environmental Impact Assessment) and the IPPC (Integrated Pollution Protection and Control) authorisation highlighted the possibility of a real co-existence of the terminal with the environment.

"The IPPC authorisation allowed OLT to begin the operative phase of the terminal,





considering different environmental aspects linked to the re-gasification activities (such as waste and noise pollution) and prescribing the continuous monitoring of the emissions in the sea and air."

The terminal will undergo stringent monitoring operations for the duration of its lifespan (20 years). "The Ministry for the Environment has prescribed a constant monitoring procedure for the whole life of the terminal, a Monitoring Plan of the Marine Environment, in the area around the terminal in order to keep under control the potential environmental effects. That requires four monitoring campaigns per year related to water column, sediments, biological environment, measuring undersea noise and morphology of the seabed."

OLT is also certified by Bureau Veritas, one of the most influential independent agencies in the industry, worldwide, as well as being certified with ISO 9001, ISO 14001, OHSAS 18001 (Health and Safety

of Workers), and SA 8000 (Social Responsibility). Furthermore, the joint venture company ECOS has also obtained ISO 9001 and ISO 14001 certifications, while the OSHAS 18001 certification process is ongoing.

Emergency Measures

Mr Carolan explained how OLT is involved with the Peak Shaving Service, which is one of the emergency measures established by the Ministry of Economic Development, within an emergency plan to face unfavourable events for the national gas grid that could happen during the winter period of the thermal year 2014 - 2015 and to guarantee the security of the Italian gas system. This service would allow the company, from January 2015, to insert previously unloaded and stored LNG into the network, at short notice, with the aim to face peak requests of the gas system for a short period of time. OLT launched a tender

for this in October 2014 and Mr Carolan explained how this service will operate.

"The first unloading operation will be done, with reference to the first LNG carrier, by 31st December, 2014 for LNG volumes between 60,000 cubic meters and 100,000 cubic meters."

This is a huge and important step for the terminal and for the company. It is clear that OLT has established an important place for this terminal within the Italian gas system and this service adds to its scope in terms of functionality.

The terminal FSRU Toscana is playing an important role in the Italian gas system but the success that OLT has secured also shows the scope of this terminal in terms of functionality and has provided an important blueprint for the way in which re-gasification terminals should operate. OLT continues to make big strides in the oil and gas industry, representing a great success for its own nation. ■

