

REFRIGERATION PLANT OPTIMISATION REDUCES OPERATIONAL COSTS FOR LSM REEFERS

London Ship Managers (LSM) has made substantial savings across its fleet of 9000gt refrigerated cargo vessels following an extensive refrigerant plant optimisation programme carried out by Oceanic Technical Solutions.

An engineering team from the Asia division of the UK-based refrigeration specialist carried out complete marine refrigeration inspections aboard the *Cala Portese*, *Cala Piana*, *Cala Pevero* and *Cala Piccola*.

LSM Technical Fleet Manager Mike Seymour said: “We found we were spending substantial time and resources looking and checking for gas leaks which were still not being efficiently detected, in order to try and remove any environmental impact our vessels were making. This, along with losses of refrigerant obviously had a monetary impact, which we also wanted to reduce.” We operate large direct expansion-type reefer plants, with a substantial amount of pipe work penetrating decks and bulkheads, so gas monitoring and detection is a highly complex task for us.

“We transport bananas and pineapples so maintaining a 13.3°C temperature is crucial to our operations. If we lose refrigerant, not only does it result in unnecessary expenditure, it puts undue stress on the compressors and it could result in cargo loss. Although our vessels operate outside of European F-Gas rules, its good practice to ensure our ships operate in an economically and environmentally-sustainable way.”

Taking just three days to inspect the entire plant on each ship, the Oceanic Technical Solutions team carried out a full system evaluation and performance test, finding substantial gas leaks from corroded pipe work in bulkhead penetrations.

Dave Lloyd, Oceanic Technical Solutions’ Technical Director said: “Two of the vessels were found to have major refrigerant leaks, but they had proven very difficult to find. You get a lot of moisture building up around insulated pipes and bulkhead penetrations and this can corrode the pipe work, resulting in substantial refrigerant loss.”

Once Lloyd’s team found the source of the leaks, the plant was shut down and isolated so repairs could take place. Additional isolation valves were fitted and when the plants were running to optimum, shipboard crews were shown how best to carry out routine inspections.

“The catalyst for inspection was to reduce the amount of refrigerant being used and to prevent gas escaping to the environment. We achieved that,” said Lloyd.

While LSM has made annual savings of about 15% year-on-year with replacement of refrigerant cylinders, frequent refrigeration inspection and optimisation prevents compressor wear and tear and increased loads on generators as they compensate for systems with reduced refrigerant.

“Oceanic got our refrigeration plants back to their design specifications. The savings we have made in refrigerant costs alone have more than paid for the cost of inspection and maintenance,” said Seymour. “That’s a very good return on investment.”

Robert Chesters, Oceanic Technical Solutions’ Managing Director, added: “With vessel movement and vibration, it is inevitable that refrigerant leaks will occur, with seals breaking down and valves coming loose and so on; but the key is to carry out frequent performance tests and to keep on top of the maintenance. Simple measures, such as regular oil changes, replacing filters and tightening valves and flanges, can make a huge difference.

“LSM has shown that even though their vessels do not fall under the F-Gas regulations for mandatory inspections they **have** taken control of refrigerant consumption and the overall impact of operations on the environment. This is responsible ship management.”

Pictures/Captions:

Cala Pevero (left) and *Cala Piccola* (right) are to LSM vessels to have been inspected by Oceanic Technical Solutions



About Oceanic Technical Solutions

Supported by nearly three decades of experience within the marine refrigeration sector, Oceanic Technical Solutions was established in December 2014 to provide high quality

refrigeration service, inspection, compressor overhauls, spare parts and refrigerant retrofits to all vessels in the global fleet.

With rapid response teams located at service hubs across Europe, Asia & the UAE, the UK headquartered company is committed to ensuring the owners and operators get the best operational and cost efficiencies from their refrigeration systems, whilst improving environmental footprints in line with existing and future regulations.

Oceanic Technical Solutions has fully stocked warehousing and logistic capability to provide spare parts to locations right across the globe. It includes new and reconditioned compressors, packaged air conditioning units, refrigeration controls and all key refrigeration equipment and spares.

About London Ship Managers

London Ship Managers (LSM) manages **a fleet of refrigerated cargo vessels all of which are currently registered with one Flag State**. Its ship management extends far beyond the normal limits of a standard ship management contract, embracing all aspects of ship owning, such as insurance, surveying and inspection, new building research, development and supervision, as well as sale and purchase.

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