The Canadian shipping company Algoma Central Corporation’s gearless dry bulk carrier Tim S. Dool had started to behave abnormally immediately after a refit period. The vessel’s shaft line began to vibrate badly following the overhaul by a competitor, and the company had no option but to take the ship out of service. Algoma approached Wärtsilä, which supplied its new modern, composite water-lubricated sterntube bearings in tandem with shaft alignment expertise.

– Thanks to Wärtsilä’s solution, our vessel no longer suffers from vibrations and is now back in operation, says Graham Lindfield, Director, Operations at Algoma Central Corporation.

Algoma Central Corporation, established in 1899, began as a railway company. Since then Algoma has developed into the leading Canadian shipping company, owning and operating the largest Canadian flag fleet of dry bulk carriers and product tankers operating on the Great Lakes - St. Lawrence Waterway. The fleet includes 18 self-unloading dry bulk carriers, six gearless dry bulk carriers and seven product tankers. Today, Algoma Central Corporation comprises four operating segments: domestic dry bulk, product tankers, ocean shipping, and real estate.

The gearless dry bulk carrier Tim S. Dool, originally built in 1967 under the name Senneville, measures 225.5 metres in length with a beam of 23.7 metres. She typically carries about 27,500 Mt of grain (wheat, corn, barley) from either Thunder Bay, Ontario or Duluth Minnesota to transhipment ports, such as Baie Comeau and Port Cartier, in the Gulf of St. Lawrence. The vessel usually reloads pelletized iron from Port Cartier in the Sept. Isles for the steel mills in Hamilton, Ontario. This is a repeat route for the Tim S. Dool.
KNOWLEDGEABLE TECHNICIANS MANAGE THE REPAIR

The reliable dry bulk carrier had new polymer bearings installed at the initial dry docking. Shortly after this installation, severe shaft line vibrations occurred, causing the ship manager enough concern to take the ship out of regular operation. The vessel had to be docked and Algoma asked if Wärtsilä could provide alignment services.

– The original bearing company did not have this technical expertise in-house. However, Wärtsilä was able to offer an alignment and vibration specialist, who was willing and able to attend the vessel, says Graham Lindfield.

The repair was done at a dry-dock facility in Thunder Bay, Ontario; the same yard where the original retrofit was undertaken. The project was almost impossible to schedule, as the root cause for the vibration was far from evident.

– The repair requirements were developed ‘on the fly’ as more alignment and bearing loading data and analysis became available, says Graham about the repair work.

– We had three technicians attending at various stages of the repair: an alignment and vibration technician from Denmark, a bearing specialist from the UK, and a local Wärtsilä seal technician. They were all very knowledgeable and excellent to work with and they put a lot of extra effort into keeping the project moving forward.

THROUGH CHALLENGES TO NEW ORDERS

Graham Lindfield says that in a project such as this, challenges are inevitable. The vessel is rather old and was re-engined 7 years ago. The root cause of the problem was not evident, which particularly made the alignment portion subject to speculation. With input from both Algoma’s in-house expertise and Wärtsilä’s technical viewpoint, a logical repair strategy was gradually developed, to the satisfaction of all parties. Graham points out that Wärtsilä’s solution was technically very strong and that Algoma always got quick responses and clear communication. In his opinion, this kind of expertise is quite high-end, but in return you get high-quality products and services.

When asked about the benefits that Algoma gained through this conversion, Graham highlights the conversion process itself.

– Conversions are now being taken much more seriously. Since we have six more projects to complete, all aspects of the original alignment and torsional vibration are studied before committing to the project, says Graham and adds:

– We are in the process of building eight new bulk carriers for service in the Great Lakes. They will all be equipped with Wärtsilä’s composite water-lubricated sterntube bearings.

SUPPORTING ALGOMA’S GOAL FOR ENVIRONMENTAL EXCELLENCE

As environmental leadership is one of the cornerstones of Algoma’s strategic plan, they are investing substantial sums in new ships and technologies. Environmental protection, however, is viewed by Algoma as only one component of their broader sustainability commitment.

Graham says that this was the fifth oil to water-lubricated sterntube bearing conversion undertaken by Algoma.

– One of our core environmental values is ‘don’t spill anything’. The fleet wide project of moving away from oil-lubricated sternstubes is a strategic initiative aimed at achieving that goal. Would I recommend other ship owners with similar needs to hire Wärtsilä for a conversion? Yes, without reservation, concludes Graham Lindfield at Algoma Central Corporation.