

ENERGY
ENVIRONMENT
ECONOMY

IMPROVED PROPULSION INCREASES FISHING VESSEL EFFICIENCY

Wärtsilä sold a propulsion improvement package to Talley's Group Ltd of New Zealand. This is the first to a fishing vessel in the Australasia region. The order was for a new nozzle and propeller blades for the trawler, the Amaltal Atlantis, and the installation was carried out in June 2012.

– Wärtsilä guaranteed that the upgrade would increase the efficiency of our vessel, and indeed it did, says **Andy Smith**, Operations Manager at Talley's Group.



Talley's Seafood Division is the oldest division of Talley's Group, being established in 1936 in New Zealand. Talley's Group Limited is a family-owned private company. Talley's Deep-Sea Division in Nelson specializes in freezer trawler operations and frozen-at-sea products, and operates out of the Port of Nelson. Talley's Group also operates Meat, Vegetable and Dairy Divisions.

Andy Smith explains that Talley's deep-sea fleet presently consists of five freezer trawlers, two long-line factory vessels in partnership with another NZ company, one large purse seine vessel, and one fresh-fish trawler.

– Talley's deep-sea factory freezer trawlers are all approximately 60 to 70 metres long and go to sea for six weeks at a time with

a crew of around 35 men and women. They process fish into fillets within hours of catching them. The catch is processed onboard into frozen-at-sea fillets, blocks or head and gutted form according to the customers' specifications. The onboard fishmeal plants process the waste product so that everything is utilised.

The 64-metre-long Amaltal Atlantis and her sister vessel, the Amaltal Columbia, are equipped with world-leading technology. The ship has extensive capabilities to process all waste products for recycling or non-polluting disposal. Even the ship's boilers are able to run on waste fish oil. The Amaltal Atlantis can single or twin trawl.


WÄRTSILÄ

EFFICIENCY GAIN TO REDUCE FUEL CONSUMPTION

The Amaltal Atlantis' production facilities are among the most up-to-date in any fishing vessel and the vessel continues to achieve a high production-quality standard. However, the vessel, originally equipped with a Wärtsilä VASA 6R32E main engine as well as a Wärtsilä Wichmann controllable pitch propeller and 19A nozzle, was in need of an efficiency upgrade.

NEW ZEALAND CONTROLS THE WORLD'S FOURTH LARGEST FISHING ZONE.

– When our vessels go out for up to six weeks at a time, the fuel consumption is significant. Therefore, we were interested in potential options for fuel savings – achieving more with less, Smith says.

Wärtsilä proposed a solution where the original 19A nozzle would be replaced by a high efficiency HR nozzle. This, in combination with new propeller blades, would count for an efficiency gain of approximately 5 per cent for both free sailing and trawling. The new propeller blades were specifically designed with this gain in focus.

– The quote from Wärtsilä was competitive and the vessel already had Wärtsilä equipment, so it was quite easy to go for the Wärtsilä solution.

PERFORMANCE GUARANTEES FULFILLED AFTER TROUBLE-FREE INSTALLATION

The installation work was done in June 2012 by Lyttleton Engineering under Talley's

management, with direction from Wärtsilä's skilled and trustworthy team, and all went according to plan and schedule. There were no major problems or challenges during the project.

– This was the first propulsion improvement package installed on a fishing vessel by Wärtsilä in New Zealand, so we all learned a lot.

The calculated average efficiency gain for this conversion was approximately 5 per cent. Now, after one year with the improved propulsion system, Talley's are experiencing benefits such as fuel savings and less vibration in the vessel. Wärtsilä's performance guarantees have been reached and even exceeded the expected level. A bollard pull test prior and post modification have estimated the increased efficiency to be above 7 per cent.

MORE VESSELS TO GAIN EFFICIENCY

Andy Smith points out that the progress in shipbuilding, blade and nozzle technology in the 20 years since these fishing vessels were built has improved to a level where fuel savings can be made just by installing new modern designs.

The support from Wärtsilä continues even after the installation, and Andy Smith can easily recommend Wärtsilä for these kinds of efficiency improvements.

– We are in touch with Wärtsilä on a regular basis as a supplier of parts and service to our vessels. And today Wärtsilä has also just fitted a new nozzle and blades to Atlantis' sister ship, the Amaltal

Columbia, with further belief in the product and efficiency savings Talley's have just ordered new blades and nozzle for the Amaltal Enterprise with efficiency studies underway for 2 other vessels with a view to doing more vessels, he concludes.

Challenge

- The customer needed an increase in their fishing vessel's efficiency both for trawling and free sailing
- First propulsion improvement package in the Australasia region
- Performance guarantees for the upgrade

Solution

- Replacing the original 19A nozzle by a high efficiency HR nozzle
- Installing new propeller blades

Results

- Clear fuel savings
- Less vibration in the vessel
- Efficiency increased by more than 5 per cent
- Performance guarantees exceeded