

ENVIRONMENTALLY FRIENDLY BEARING SOLUTIONS

THORDON COMPAC INTEGRAL IN NEW, ULTRA-QUIET FISHERIES SURVEY VESSEL (FSV)

Anglers understand the need to run quietly, as to not scare the fish away. That's relatively easy for a small boat with a trolling motor. But what about a mid-sized diesel-electric powered ship with a 4.3 m (14 ft.) diameter propeller? Such was the challenge faced in building the new Fisheries Survey Vessel (FSV) for the U.S. National Oceanic and Atmospheric Administration (NOAA). To ensure that fish populations could be studied effectively, the specifications featured the most advanced noise suppression technologies in the world - including Thordon COMPAC Water Lubricated Propeller Shaft Bearings.

Built by VT Halter Marine of Mississippi, U.S.A., the newly christened *Oscar Dyson* FSV will play a vital role in maintaining the health of the northern Pacific fishing industry. The ship will use a variety of techniques - including hydroacoustic surveying - to collect the essential data

required to establish accurate quotas.

At 64 m x 15 m x 8.5 m (210 ft. x 49 ft. x 28 ft.), a powered ship of this size would normally generate enough background noise to hinder surveying operations. Therefore, achieving a low acoustic signature was a critical design parameter right from the start. "One of the areas where a lot of noise infiltrates the water is in the propulsion system," says Thordon Bearings distributor, Jim Bright, Sales Manager for Marine Industries Corporation. "So Thordon COMPAC was the obvious choice for the bearing material. In fact, it was written into the vessel specification."

According to the specifications, the stern tube bearing needed to be "of environmentally safe and acoustically inefficient materials". Thordon COMPAC Propeller Shaft Bearing Systems have a proven track record in Naval and Coast

Guard applications featuring:

- Pollution free water lubrication (a renewed innovation pioneered by Thordon);
- No use of oil and, therefore, zero risk of oil pollution from the stern tube;
- An expected 10-year bearing wear life or longer; and
- A low coefficient of friction and superior hydrodynamic performance at lower shaft speeds resulting in quiet operation.

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U.S. NOAA FSV Oscar Dyson equipped with Thordon COMPAC Water Lubricated Propeller Shaft Bearings



ALLEN TAYLOR'S MANAGEMENT FOCUS - AN UN-YIELDING COMMITMENT TO CUSTOMER SATISFACTION

Allen has worked with Thordon Bearings since 1990 when he came to work for one of our oldest distributors, Marine Industries Corporation. In 1996, he formerly joined Thordon Bearings working as an Area Sales Manager for the United States, and later South America. In 2001, Allen and wife, Anne took time off for a long awaited sabbatical and cruised the Gulf of Mexico and the Eastern Caribbean in their 12 m (38 ft.) sailboat. After this 2½ year adventure, he has returned to rejoin Thordon Bearings as Commercial Director. His primary role will be to continue to build Thordon Bearings into a world class bearing manufacturing company.

Lessons learned from his experiences as a Thordon end user, a Thordon distributor, and a Thordon Sales Manager have reinforced a simple but often unpracticed management principle: **An UNYIELDING COMMITMENT TO CUSTOMER SATISFACTION must be the most important mission!** This encompasses

the customer's experience from the day they discover Thordon and it's unique environmentally friendly products forward, including initial discussion of projects, quoting at reasonable and consistent prices, follow up to technical issues, production, timely delivery,




Thordon's New Commercial Director, Allen Taylor, at Helm of S/V Anicca with friends in Gulf of Mexico

installation, and ongoing operation, as well as world class support if a problem arises.

Obviously, many companies say this, but only a few truly do it to such an extent that their name stands out in their given market and their customers become almost fanatically loyal. This is the level of satisfaction that Thordon, as

a cohesive efficient team (company and distribution network), must strive to provide.

Thordon Bearings has continued to add technical expertise, new products, and innovative approaches to marketing in order to constantly build toward this ultimate goal! Thordon's R&D and engineering team is second to none as evidenced by the scope of projects that they now are involved in as well as the companies that come to Thordon for technically innovative solutions to their difficult bearing problems.

Thordon must, at the same time, realize that it operates in an ever shrinking and more competitive world and as such, must work to provide truly cost effective solutions to our customers. Through this commitment and constant ongoing improvement, Thordon will continue to both grow and improve the world we live in for decades to come. Allen (allent@thordonbearings.com) and the entire Thordon team look forward to working for you and solving your bearing problems! 

Thordon COMPAC Integral... (continued from page 1)

In addition to being acoustically stealthy, *Oscar Dyson* is also equipped with a Dynamic Positioning (DP) System to help the ship hover at a fixed point on the ocean. This allows the vessel to more accurately monitor undersea activity.

"Of course keeping a large ship in one place isn't as easy as coming to a full stop," says Bright. "The DP coordinates the thrusters and main shaft to effect the station keeping duty and hold the vessel in one position. Starts, stops and low shaft speeds are necessary to maintain the vessel at a precise geographical coordinate.

When a ship operates in this manner, shaft squeal - or "stick slip" as it is colloquially referred to in the industry - is the noise generated when the shaft is operated at slow speeds and is literally trying to stick to the bearing. This noise will radiate from the vessel into the water. Thordon COMPAC's inherent self-lubricating properties and hydrodynamic design keeps breakaway friction low which helps to eliminate stick slip effects. Thordon engineers also did some further customization as Dave Rickman, Chief Mechanical Engineer for VT Halter, points out: "NOAA specified the Thordon bearing because of its experience showing that Thordon

has a low acoustic signature. We had Thordon modify the standard offering to allow for sustained hydrodynamic operation at very low shaft RPM."

Delivered in October 2003 and due to be operational in the fall of 2004, *Oscar Dyson* will survey Alaskan waters and the Bering Sea in its mission to protect, restore and manage the use of living marine, coastal and ocean resources through ecosystem-based management. NOAA recently announced plans to exercise its option to build a second NOAA FSV at VT Halter Marine with delivery in 2006. 