

CASE MAGNOLIA MARINE TRANSPORT: WÄRTSILÄ'S SHAFT SEALS – THE RELIABILITY ENHANCER ON INLAND WATERWAYS



THE WÄRTSILÄ ENVIROGUARD PSE SEAL BENEFITS:

- Water lubricated = non-polluting
- Zero shaft wear
- High radial and axial shaft movement tolerance
- Fully serviceable with the shaft in-situ

The harsh abrasive waters of the Mississippi River in the USA are a challenge for the workboats operating there. Magnolia Marine Transport (MMT) was all too familiar with the high costs associated with replacing shaft sleeves on their fleet of vessels due to such abrasion. In 2007, MMT began to counter the problem by testing Wärtsilä's water-lubricated Enviroguard PSE shaft seals on their towboat, M/V Mari Lampton.

– Since then we have installed the seals in 16 different vessels, says **Barney Huskey**, Director of Marine Engineering at MMT.

Magnolia Marine Transport Company, founded in 1968, operates one of the largest inland waterways petroleum transportation fleets in the United States. The company owns 20 towboats and more than 75 barges, which are used for the transportation of asphalt, crude oil, process oils, fuel oil and additional products on the Mississippi River and intra-coastal waterways of the Gulf of Mexico.

“The seal worked flawlessly. Since then we have installed the seals in 16 different vessels.”



■ ■ ■ **A HIGH-QUALITY SHAFT SEALING SOLUTION**

The Enviroguard PSE shaft seal - launched by Wärtsilä more than ten years ago - is now recognised as one of the most cost-effective, high-quality shaft sealing solutions for water-lubricated installations on the market. The product was initially developed specifically for the inland waterway market, where Wärtsilä Enviroguard PSE's environmental benefits and reliability helped to pave the way for its success. In the US, the seal has been installed in over 300 vessels to date.

The abrasive-laden waters of the Mississippi River cause rapid wear and tear to shaft sleeves, which increases maintenance costs and repairs. Costs also arise from the disposal of bilge water accumulated due to leaks. When Magnolia Marine Transport wanted to reduce their lifecycle costs, enhance the reliability of their seals, remove shaft wear and reduce the maintenance of existing packed glands, they turned to Wärtsilä for a solution.

The solution presented by Wärtsilä's Account Manager was the Enviroguard PSE shaft seal, a seal partially split with a unique bellows design. This design meant that the seal could tolerate up to 5 mm of radial and 8 mm of axial movement without damaging either the seal or the shaft. The

Challenges	Solution	Benefits
<ul style="list-style-type: none"> – Reducing lifecycle costs associated with gland packing – Ensuring a trouble-free, reliable operation – Minimising shaft sleeve wear 	<ul style="list-style-type: none"> – Installation of the Wärtsilä Enviroguard PSE shaft seals 	<ul style="list-style-type: none"> – Zero shaft wear – High radial and axial shaft movement tolerance – Water lubricated = non-polluting – Virtually maintenance free – No costs for disposal of bilge water

result is successful operation in all marine conditions. In addition, with its silicon carbide face and seat, the seal is very durable and able to last more than 15 years, even in the harshest conditions. Moreover, since Wärtsilä Enviroguard PSE seals are water lubricated, there is no pollution risk.

Because Magnolia Marine Transport was unfamiliar with the Wärtsilä Enviroguard PSE shaft seal solution, they requested a test period to see for themselves just how well the seal would perform.

– We started using Wärtsilä Enviroguard PSE seals in 2007 on the M/V Mari Lampton. After a test period we found the seal to work flawlessly. Since then we have installed the seals in 16 different vessels ranging from

harbour boats to towing vessels, says Barney Huskey.

When asked about the benefits of Wärtsilä Enviroguard PSE shaft seals, Mr Barney Huskey of Magnolia Marine Transport did not have to think long before replying:

– The seals are easy to install and service and you don't have to pay to dispose of the bilge water from packing. There are virtually no maintenance costs, so the seal pays for itself pretty quick, because you don't have to spend time and money on costly packing and repairs to shaft sleeves from wear. I would certainly recommend Wärtsilä Enviroguard PSE shaft seals to anyone on the inland river system.