

# Case Study

## Electro Mechanical Services



### Summary



<b>Industry:</b>	Marine
<b>Application:</b>	Condition Monitoring
<b>Actual Saving:</b>	£maintenance and Premature Failures
<b>Payback Period:</b>	Undisclosed



## Azimuth Thruster Case Study

Onboard survey involving expert Condition Monitoring staff

### ISSUE

ERIKS UK are working closely with maintenance and reliability engineers within a large shipping company, specifically with their fleet of offshore diving vessels.

ERIKS UK were invited to tender along with other large condition monitoring companies to supply experience, competent and certified condition monitoring engineers to carry out Vibration Analysis, Thermal Imaging and Acoustic Emissions Surveys onboard their fleet of Diving Support Vessels (DSV) across a variety of machinery. Through our previous and documented experience, knowledge of the industry and quick response times, we were awarded the Frame Work Agreement.

### OUTCOME AND BENEFITS

The continued monitoring and trending of the vessels has allowed downtime to be avoided which could have large financial repercussions.

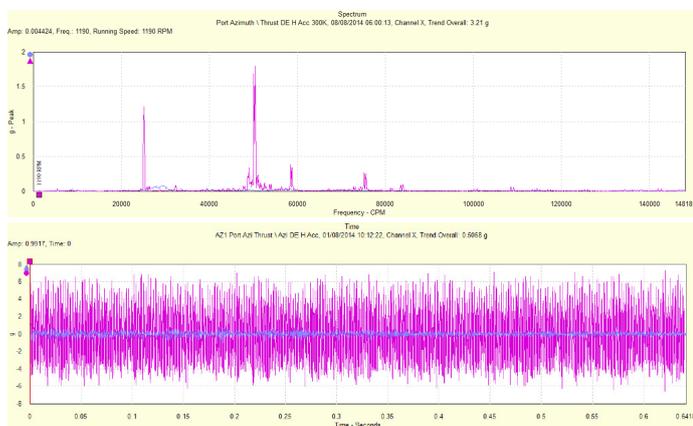
As a result of ERIKS success onboard during the monitoring period, ERIKS UK are now carrying out condition monitoring across the clients fleet and have installed an on-line vibration monitoring system on the main Propulsion Thrusters.



## SOLUTION

Through monitoring and trending the vibration data of the main Azimuth Thrusters it highlighted a significant change in vibration amplitudes and signatures of the port side thruster gearbox.

The analysis of the spectral and waveform data confirmed the presence of frequencies that appeared to be associated with a gear wear/misalignment issue and bearing defects. This was confirmed by calculating the gear meshing frequencies of the gearbox.



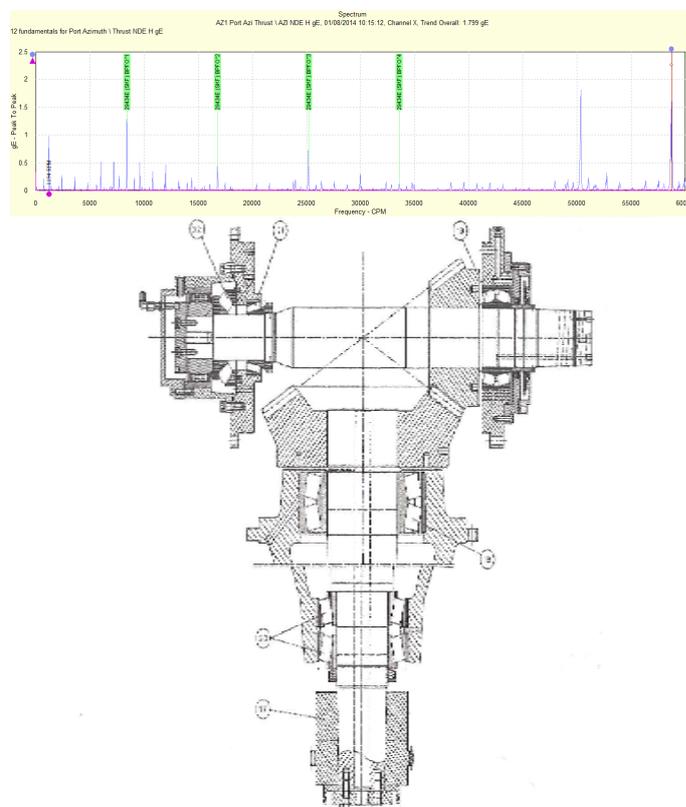
Vibration spectral and overall data before and after investigation and repair

Analysis of Lube oil samples also highlighted an increase in wear particles which are associated with the gear train.

The early detection of faults on critical machines allows the client to plan and schedule work at their convenience. By the use of the correct condition monitoring techniques and experience ERIKS UK help to prevent “off hire” situations which could lead to a possible impact on reputation, allow them to plan and schedule dockings and the foresight to order and arrange spare parts and components.

ERIKS UK is now carrying out condition monitoring across the clients fleet and have installed an on-line vibration monitoring system on the main Propulsion Thrusters.

“For the past eighteen months ERIKS UK has been providing condition monitoring services to our fleet of vessels under a framework agreement. The services



Vibration spectral data highlighting fault frequencies and technical drawing showing Thruster set up and location of bearing with defects (location 21) provided include Vibration Analysis; Acoustic Emissions; and Thermography.

Throughout the period of the framework agreement, ERIKS UK has always been able to provide a Condition Monitoring Engineer on request to attend the vessels, often in remote locations and at short notice.

A particular point of note has been their dedicated point of contact throughout both the initial set-up of the Condition Monitoring program and the ongoing data collection, analysis, trending and reporting.”  
*Gordon Phillip - Bibby*

## MORE INFORMATION

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