



CASE STUDY



MARINE SCOTLAND:
USING A TEMPORARY SHAFT
POWER MEASUREMENT
SYSTEM TO COMPLY WITH
LATEST REGULATIONS



BACKGROUND STORY

None of the Earth's resources are infinite. For centuries, people have fished to feed their families, and today we are at the point where the population of the fish stock needs to be actively managed to prevent further depletion.

marine scotland



The only way to manage the reduction and possible decay of many fish species, is to develop and follow sustainable fishing policies, while offering stable economic and social conditions for those involved in the fishing industry.

More and more countries around the world are establishing sustainable fishing policies and the EU Common Fishery Policy (CFP) developed by the EEA (European Environmental Agency) is just one example of managing fishing fleet capacity and conserving fishing stocks.

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THE CLIENT

Scotland is amongst the largest sea fishing nations in Europe with Scottish fishing vessels landing around two-thirds of the total fish caught in the United Kingdom.

Our client, Marine Scotland, is responsible for monitoring and controlling the activities of all fishing vessels operating within Scottish waters as well as the activities of Scottish vessels wherever they may fish, and their fishing capacity, defined in terms of tonnage and engine power of the actual fishing vessels.

Under European Commission Regulations they are obliged to verify the declared engine power of fishing vessels to ensure compliance with the rules of the Common Fisheries Policy. The engine power of a fishing vessel (usually in kW) has to be recorded for the Maritime Coastguard Agency (MCA) Registry and fishing vessel licencing, and it is prohibited to fish with a vessel that is equipped with an engine whose power exceeds the one specified on the fishing licence.

What we needed was a temporary and relatively inexpensive system to carry out physical engine power testing within our verification process.





THE CHALLENGE

As part of the three stage inspection process, a visit is arranged to each of the chosen vessels to inspect the engine installation and carry out testing of engine power of a fishing vessel and is performed using temporary measurement equipment that is not usually included on-board of the vessel. Collecting the data and taking it ashore for analysis is also useful, so what Marine Scotland really required was a temporary and relatively inexpensive system that can be easily configured and able to collect data in the field, also logging all data at the same time for analysis later if required.

Working in marine conditions requires a certain level of protection for any test equipment, fishing vessels propeller shafts often do not have lots of available space to fit test equipment, so Marine Scotland needed a solution which was robust enough for the task and could be installed in areas where there is not much room. More than that, the kit would have to be reusable for multiple installations throughout this particular project. Due to the nature of the testing, any equipment should be simple enough to be installed, tests run, and all kit be easily removed by the attending fisheries representative in the same day of testing.

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THE SOLUTION

Unlike the competition, the SPMK system from Datum Electronics is easily temporarily installed and able to meet the requirements and demands of working in a marine environment. It's portable and can be installed on site with minimal skills in a few simple steps in less than an hour (support and documentation is also available and provided by Datum Electronics). The hardware has been designed to be re-used for multiple tests on a range of shaft sizes, giving Marine Scotland the flexible solution they needed.

Datum Electronics are UK based, have had extensive experience working in this particular field. They also offer training for their product and make technical advice available either by a phone call or email.

A pilot trial was carried out to assess the proposed power measurement equipment. The results of the trial, which involved nine different fishing vessels, showed that the engine power of fishing vessels can be verified using the Datum Electronics shaft power measurement kit, chosen by Marine Scotland. The kit uses a simple strain gauge fitted to the prop shaft, and a software package, which accurately measures the vessels engine power.



THE IMPACT

I would recommend Datum Electronics as they have experience in working with several European member states involving fishing vessel engine power measurement.

Datum Electronics was the first company Marine Scotland used for this kind of work, and the project turned out to be a major success. The small size of the transmitter unit made it possible to take the system onboard, collect and analyse data on site, resulting in a substantial decrease in the time and costs needed to perform an engine power verification procedures.

Furthermore, as the SPMK system has performed well and with accurate readings, this has given Marine Scotland confidence to apply the power readings achieved during the test to any corrective action put to the owner/operator (for example, acquiring extra kilowatts or de-rating).



CONTACT DATUM

Whether you're looking for an opportunity to increase efficiency of electrical and mechanical equipment or work to discuss torque and shaft power measurement in general and how it can help your business, give our sales team a call on 01983 28 28 34

or drop them an email to: web@datum-electronics.co.uk

