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Energy Industry:

Common Rail creates sea change
WÄRTSILÄ REDUCES SMOKE EMISSIONS

Environmental considerations have forced the shipbuilding industry and shipping companies to pay greater attention to emissions from ships' diesel engines. The EnviroEngines of the Finnish company Wärtsilä have the lowest environmental impact of all the engines on the market.

In order to reduce environmental impact Wärtsilä has developed many new techniques that can have a profound effect on reducing the formation of nitrogen, sulphuric oxides and carbon dioxide in the combustion process of a ship's engine. At the same time the overall operating efficiency is raised when the fuel consumption is reduced, which in turn decreases the number of emissions. The formation of smoke emissions in Enviro-Engines, which are equipped with Common Rail fuel injection and direct water injection, can be avoided by exactly controlled fuel spray. The technique has also been responsible for an enormous reduction in other emissions as well.

Wärtsilä's Sulzer RT-Flex engines are the first low-speed engines on the market to which the Common-Rail technique has been applied. The new engine has deservedly aroused interest on the market. The environment-friendly Sulzer RT-Flex engines are already being used on the world's seas and the order book has been swelling. The emissions are much smaller and the fuel consumption is less at lower loads than with the traditional slow-speed engines. The technique has already been applied to medium-speed engines.

Environmental work without frontiers

Wärtsilä is involved in a project with another leading producer of marine engines, the German company MAN B&W Diesel, which is aimed principally at developing minimal-emission engine technology. The companies are preparing a wide-scale research project under the aegis of the European Union that will focus on the problem of carbon dioxide and emissions that pollute the

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environment. It is being proposed that the project be financed partly by the EU's Sixth Framework Programme, which is expected to start in 2004.

Wärtsilä and MAN B&W head a carefully chosen, wide consortium of various organizations in the industrial R&D project. Its task is to show that global environmental problems can be solved through European research work and international cooperation.

In addition to its partner in the environmental work, Wärtsilä's competitors are the American Caterpillar and its subsidiary M&K, and in propellers Rolls Royce. Wärtsilä delivers turn-key machine-room solutions as well as propulsion and control systems for all types of vessels and offshore applications. Wärtsilä's product range includes main and auxiliary engines, gears, propeller shafts, seals, propellers and rudders, i.e. everything needed to make ships move and produce electricity.

Wärtsilä's marine engines play a central role in the company's business operations, and their market share worldwide in main and auxiliary engines is about a quarter. Engines with the Wärtsilä product brand are manufactured by the company itself, and Sulzer motors are made mainly under licence, because they must be built near shipyards on account of their size. Service and maintenance activities account for about 40 per cent of the turnover. The main market areas are in Europe and Asia: Italy, India, China, Japan and Korea.

Photo: Emissions from the Wärtsilä 46 Common Rail engine are among the lowest on the market.

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