

PRESS RELEASE

October 2002

At this year's SMM in Hamburg CIMAC has organised another successful CIMAC Circle on

'INTERACTION BETWEEN ENGINE DESIGN, CYLINDER LUBE OIL DESIGN, AND CYLINDER CONDITION'

With more than 230 registered participants it was again a well-attended two hours' event with expert panelists from users, engine designers and lube oil designers giving up-to-date information on the development. The CIMAC Circle was chaired by **C-E Egeberg**, member of the CIMAC Council.

The Panel

Carl-Erik Egeberg (chair)	MAN B&W Diesel, Denmark
Jørn Dragsted	A.P. Moeller, Denmark
Stig Jacobsen	MAN B&W Diesel, Denmark
K. C. Lim	BP, UK
Carl-Erik Røsgren	Wärtsilä, Finland
Keith Saddler	Exxon Mobil, USA

The session was opened by Prof. **N Kyrtatos**, president of CIMAC.

As representative for the CIMAC working group "lube oil" the first presentation was given by **K C Lim**. He gave an overview of the working group, its results, and pointed out the newly issued CIMAC Recommendation 'Guidelines for diesel engines lubrication – Lubrication of large high speed diesel engines'.

J Dragsted showed a number of statistical figures, e.g. piston ring material/coating related to liner wear indicating that there still exists a development potential especially for the two stroke engines. He furthermore presented graphs with cylinder lube oil brand relative to liner wear, showing that the cylinder lube oil developers also have the task to improve their oils.

The four stroke development was highlighted by **C-E Røsgren**. He showed the geometry and coating of the piston rings, which together with the anti polishing ring APR reduced the wear rates of liners and piston rings and increased the interval for filter change. He also presented how the lube oil consumption was reduced. Additionally he gave a short summary of the combustion chamber development of the Sulzer two stroke engines.

S B Jakobsen introduced the combustion chamber features and continued with the latest development related to cylinder lubrication and how to control the feed rate in relation to engine load and fuel sulphur content. These control possibilities have been made available with the electronic controlled lubricator introduced on all larger engines. This system offers much lower lube oil consumption, maintain higher margins against abnormal wear in the liner and in general lower wear figures of the combustion chamber components.

From a lube oil manufacturer's point of view **K C Lim** explained some of the potential problem areas related to the oil and described the relation between S% and the BN Number i e lower S% means lower BN Number, which might be obtainable by onboard mixing. To better understand the lubrication conditions in the liner he described a full scale test measuring lube oil film thickness. He concluded the presentation by mentioning scrape down analysis as a mean to adjust the lube oil consumption.

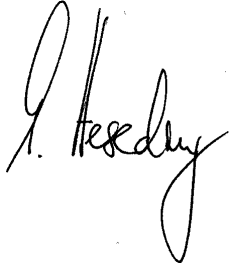
Finally **K Saddler** gave his views starting with the definitions of cylinder oil feed rate optimisation. He continued mentioning a number of key-measurements, which are important for adjusting/controlling the lube oil feed rate and how to determine the limits for BN and iron. An onboard iron analyser for scrape down analyses was shown, being an assistance in the adjustment process. He concluded that feed rate optimisation is here to stay and is a dynamic ever changing process with a huge number of parameters involved.

After a lively discussion, the chairman's closing remarks can be summarised as follows:

This meeting has shown that a very intensive engine development as well as a cylinder lube oil development takes place to reach the goals, high reliability (no unpredictable wear), low wear rates, long time between overhaul, and a low cylinder lube oil consumption. Much has been reached, but with all the factors influencing the cylinder condition still a

number of questions have to be answered. The industry still has potential for improvements.

Further information and the presentations from Wärtsilä, MAN B&W, BP and ExxonMobil can be obtained from our website: www.cimac.com / Congress&Events / CIMAC Events.

A handwritten signature in black ink, appearing to read 'M. Heseding', with a large, stylized initial 'M'.

Markus Heseding
CIMAC Secretary General