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## **ITS 2008: Cat C32 ACERT marine engine with WOSR capability**

**Hamburg, Germany** – Modern high-speed, electronically-controlled diesel engines offer a number of benefits for operators of tugboats, towboats and offshore supply vessels, especially when it comes to transient response and emissions reduction. To cope with ever-decreasing regulatory limits on Nitrous Oxides (NO<sub>x</sub>) and Particulate Matter (PM) emissions, most engine manufacturers are focussing their technology development efforts on improving fuel systems.

The focus of Caterpillar Marine Power Systems (CMPS) goes beyond that. Exploiting the advantages of ACERT™ Technology in other emission-sensitive markets like truck or electric power generation to comply with regulatory marine emissions requirements, research has concentrated on additional engine technology advancements of benefits to customers, in particular on Wide Operating Speed Range (WOSR) capabilities in Cat® high-speed engines.

The Cat C32 ACERT marine engine currently on display at the International Tug & Salvage (ITS) Convention in Singapore, for example, incorporates ACERT Technology as well as WOSR capabilities. The ACERT fuel system allows the engine to comply with today's stringent EPA Tier 2 emissions requirements and provides the foundation to comply with even stricter future emissions standards. The WOSR enables customers to operate their vessels with full power over a wide speed range providing better productivity. Cat C32 ACERT engines with WOSR are available from 492 to 746 kW at 1,800 rpm each. For increased power demand, the electronically-controlled Cat 3512B marine engine offers WOSR capabilities at 1,118 kW (1,800 rpm) while the Cat 3516B offers WOSR at 1,491 kW (1,800 rpm).

The Cat WOSR product is engineered to utilise a nominal 1,600 rpm rated engine and allow power to be maintained at a high level of up to 1,800 rpm in the governor overrun prior to

dropping off to high idle speed. This also provides excellent reserve power for quick vessel acceleration. To take full advantage of the technology, the propeller should be sized as normal at the rated speed of 1,600 rpm. WOSR engines offer a cost-saving alternative to torque converters, multi-speed transmissions or Controllable Pitch Propellers (CPP).

The real advantage comes when the vessel is running free (without passengers, without cargo, or down-river). In this mode, the governor overrun maintains a high power level up to 1,800 rpm and, as a result, the engine and thus the propeller are electronically allowed to run at higher speed resulting in an increased vessel speed. And that is a clear economic advantage only offered by Caterpillar® in its 3500B and C32 ACERT marine engine series.

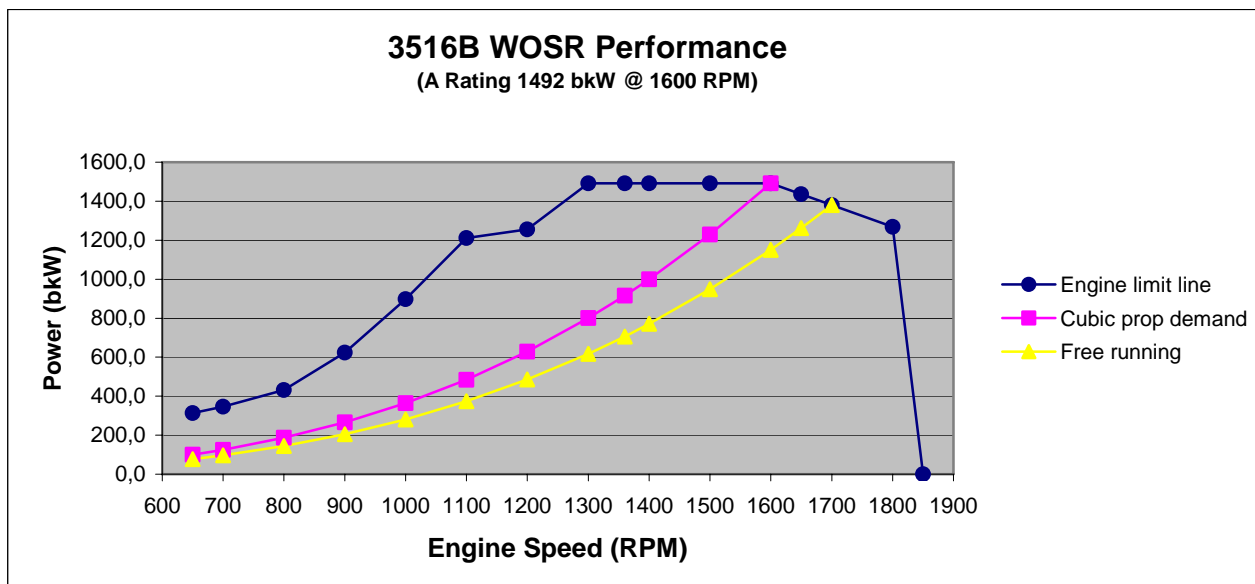
WOSR is also particularly useful for tugs which are not running under tow but need move quickly between locations for salvage or rescue operations. The proposed performance curve is also beneficial for the dredger market where increased productivity is achieved for mobile dredge units regularly facing a variety of different operating conditions. Advantages for fast ferries, crew boats and other fast craft include the ability to increase speed when the passenger levels vary seasonally or during cyclical markets.

Cat high-speed engines are available for the entire spectrum of applications covering high-performance solutions for fast craft as well as rugged solutions for heavy-duty workboats. Another focus being presented at ITS 2008 are diesel-electric propulsion systems for Offshore Support Vessels (OSV), a trend especially driven by dynamic positioning requirements. In all these applications, electronic engine control not only provides better fuel consumption and lower emissions but also enables advanced features like Wide Operating Speed Range. As a result, Cat marine engines are best in class in total ownership costs.

Characters: 4,099

Pictures available on request:

- 1.) Cat C32 ACERT WOSR Marine Engine left side view
- 2.) Cat 3512B WOSR Marine Engine right side view
- 3.) AHT DMS Bluebird with 2x Cat 3512B Marine Engines
- 4.) Tug Tornado with 2x Cat 3516B Marine Engines



**About Caterpillar Marine Power Systems**

Caterpillar Marine Power Systems, with headquarters in Hamburg, Germany, brings together all the sales and service activities for Cat and MaK branded marine products within Caterpillar Inc. This organization provides premier marine power solutions (high and medium speed with outputs from 11 kW to 16,000 kW) and customer service from a single source for the global ocean-going, commercial and pleasure craft markets. The Caterpillar Marine Power Systems sales and service network includes more than 2,100 dealer locations world-wide and is well positioned to support customers wherever they are.

More information is available at [www.cat-marine.com](http://www.cat-marine.com) or [www.mak-global.com](http://www.mak-global.com).

**About Caterpillar**

For more than 80 years, Caterpillar Inc. has been making progress possible and driving positive and sustainable change on every continent. With 2006 sales and revenues of \$41.517 billion, Caterpillar is a technology leader and the world's leading manufacturer of construction and mining equipment, clean diesel and natural gas engines and industrial gas turbines.

More information is available at [www.cat.com](http://www.cat.com).

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**Editorial information:**

Ronald Brüggmann

Manager Media Relations

Caterpillar Marine Power Systems

Phone: +49 40 2380-3104

E-mail: [Brueggmann\\_Ronald@Cat.com](mailto:Brueggmann_Ronald@Cat.com)