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## **Caterpillar Marine Center of Excellence up and running**

**Hamburg, Germany** – in the week starting August 13, 2007 the first Cat® C7 ACERT™ marine engine left Caterpillar's new Marine Center of Excellence (MCOE) in Greenville, South Carolina, USA. After smoothly passing through assembly, final painting and dyno testing, the engine was shipped to Caterpillar® dealer NC Machinery Co. Its power will be proven in a pleasure craft application soon.

“This achievement is a major milestone in the enterprise strategy to establish a facility solely focused on Cat C series high-speed marine engines,” said Jim Passe, Marine Product Manager, Large Power Systems Division, Caterpillar Inc. “Pleasure craft and commercial marine markets will benefit from increased manufacturing capacity and improved quality control.”

### **A cutting-edge process for an optimum product**

The Marine Center of Excellence will eventually house the design, development, manufacture and test facilities for marine products ranging from the C7 to the C32. These are the latest of Caterpillar's propulsion engines, offering outstanding performance and value. The MCOE will provide the adequate manufacturing environment, blending both high-speed and highly controlled processes with the ability to produce an order-specific build product.

The MCOE process begins with a non-runnable engine block (“long block”) received from Greenville's Medium Duty Engine Center (C7, C9), Mossville's Engine Center (C12, C15 and C18) and Griffin's Engine Center (C32). The long blocks will have undergone highly automated assembly and torquing to help ensure the perfect fit of the engine's nucleus, such as crankshaft, connecting rods, pistons, liners and cylinder head.

Every long block is painted before beginning an order-specific building process. An innovative monorail transport system, comprising 20 engine carriers and ultra-modern PC tooling equipment, provides the greatest flexibility in engine assembly. All six different C series engine models, each with numerous different ratings and customised configurations, can be assembled in random order. Once the MCOE achieves full operation in 2008, production capacity will be about 30 marine engines a day.

Every completed engine will undergo application-specific testing to ensure that the final configuration meets the desired performance and quality levels. Three test cells, designed especially for marine engines, enable comprehensive dyno testing of any conceivable operating situation. To ensure maximum compliance with engine specifications, the average testing time has been increased to about 45 minutes per engine.

After successfully completing the performance test, the engine will undergo final painting and another detailed inspection prior to being released for shipment. For optimum finish, painting is manual and shipped engines will meet the high standards set by the international pleasure craft markets.

#### **A well-trained workforce for optimum quality**

A large part of Caterpillar's success in the marine business is due to its dedicated and highly-skilled workforce. Marine personnel, including design engineers, application and installation (A&I) engineers and customer service support staff, will be located in the Marine Center of Excellence rather than in their various current locations. This centralisation will provide excellent opportunities for collaboration and synergy, resulting in both increased product quality and faster processing.

Well-trained employees are crucial to good engine assembly and testing. Since its inauguration, back in 1994, Caterpillar's Greenville facility has accumulated a lot of experience in manufacturing Cat high-speed engines for truck and marine applications. Prior to establishing the MCOE, the Greenville workforce had already gained experience in producing Caterpillar's

most modern C7-C9 series marine engines from 2004 on. Consequently, the move to the MCOE will be just one small step for the craftsmen, but a giant leap for Caterpillar marine product and their value to customers.

The MCOE will eventually house about 150 employees, some 50 in engineering and some 100 in manufacturing. In addition, Cat Electronics will establish a Regional Design Centre for close collaboration in developing electronics and controls for Cat C series marine engines. The Greenville workforce celebrated a huge success in May 2007 when the MCOE passed the DNV ISO9001:2000 audit with only two minor objections which were fixed immediately. This clearly demonstrates the commitment of the MCOE team to maximum quality and process excellence.

### **A strategy for Excellence**

Nigel Parkinson, Managing Director, Caterpillar Marine Power Systems emphasised: “The Marine Center of Excellence will provide a highly focussed, process-controlled operation, designed and intended to result in higher production levels and overall improved quality, reliability and value to the customer. With Caterpillar’s marine business at an all-time high, we expect the MCOE to enable us to further increase our market share in the key segments of pleasure boating and commercial shipping.”

The opening of the MCOE comes at an opportune time for Caterpillar. To meet market demand, the company is expanding its marine-focused capabilities for all three brands Cat, MaK and Perkins Sabre. In addition, the move is in keeping with the enterprise vision to be the leader in all markets that Caterpillar competes in.

“The marine industry around the world continues to go from strength to strength, and we forecast this to continue into the next decade. We are very confident that the Marine Centre of Excellence will enable us give our customers the high level of service that they quite rightly expect and in doing so provide a strong contribution to the overall performance of Caterpillar,” commented Parkinson.

**Characters: 5,835**

**Pictures available on request:**

- 1.) MCOE – Outside View**
- 2.) MCOE – Marine Engine Assembly Area**
- 3.) MCOE – Monorail Carrier with Cat C7 ACERT Engine**

**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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