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## **MTU and Detroit Diesel: Leaders in Generator Systems Engineering for the Oil and Gas Industries**

- **30 Years of Systems Engineering Skills in Genset Production and Installation**
- **World's largest fire extinguishing pump drives on the Kristin offshore platform with S4000 engines**

Friedrichshafen/Detroit - MTU Friedrichshafen and Detroit Diesel, both companies of the DaimlerChrysler Off-Highway business unit, have rounded up product portfolio for the power-generation sector. The products offered include diesel engines as well as gas engines, gas turbines, fuel cells, and complete power generation systems and installations. The offering for the onshore and offshore industries extends from emergency power gensets to fire extinguishing pump drives and power containers.

### **30 Years of Systems Engineering Skills in Genset Production and Installation**

MTU and Detroit Diesel generators are very compact, environmentally safe, fuel-efficient and reliable, the combined engineering expertise of the two companies is beneficial for operators of gensets in terms of system design and implementation. The MTU/DDC genset engines have been designed from the outset to be specifically adaptable to individual applications. The aim of this approach is to optimize the overall efficiency depending on the application and to increase the versatility of the gensets.

MTU Friedrichshafen has been supplying engines and gensets to the offshore industry for nearly 30 years. The engines are mainly used to drive fire extinguishing pumps, continuous or emergency power gensets, and, in some cases, to drive the rotary table and draw works. MTU gensets are used all over the world to provide a reliable power supply on drilling rigs. In the North Sea alone, roughly 70 percent of platform operators place their trust in the quality of workmanship, planning and support services from MTU. With its system engineering expertise, the company can accommodate even highly specialized requirements such as explosive-atmosphere designs and NFPA compliance.

Safety aspects are the prime consideration with such gensets because unreliable starting and operation would result in extremely high failure and unavailability costs, not to mention substantial risks to people and property. With a guaranteed functional reliability of 99.9 percent, MTU/DDC gensets offer the highest levels of protection against power failure. The products employ seawater and corrosion-proof materials such as titanium. The fuel lines are double-walled, and special sensors

constantly monitor the installation. In order to ensure maximum reliability, MTU/DDC supply complete systems comprising engine, generator, air-intake and exhaust systems, cooling system, monitoring equipment and allround service. The gensets are even designed for operation in disaster conditions such as marine accidents, fires and explosions. Other characteristics of MTU gensets are also of particular benefit on offshore platforms – their compact and lightweight design minimize the disproportionately high costs of deck surfacing and supporting structures. Economical fuel consumption and low maintenance of MTU/DDC gensets reduce operating costs for the operator.

### **World's largest fire extinguishing pump drives on the Kristin offshore platform**

The company recently demonstrated its system engineering capabilities when it supplied four diesel-electric installations to the Norwegian company Statoil. The generators in question are the world's largest fire extinguishing pump drives. They are installed on the Kristin drilling platform. The 20-cylinder Series 4000 engines provide for a combined electrical output of 13,200 kVA to power the electric motors, which in turn enable the four fire extinguishing pumps to pump 17,600 m<sup>3</sup> of water an hour at a pressure of 14 bar from the sea into the many kilometers of pipeline if an emergency occurs.

The floating drilling platform Kristin is roughly 150 kilometers off the Norwegian coastal town of Trondheim and is one of the largest of its kind in the North Sea. In October 2005, it will start to extract 18.3 million cubic meters of natural gas and 23,000 cubic meters of oil a day at a pressure of 900 bar from a depth of 4,800 meters below the sea

bed. Those are record levels for the North Sea field. The stringent safety requirements specify that the surface temperature of the gensets must not exceed 200 degrees Celsius, for example. In addition, two starting systems have been installed which can start the engines independently. Furthermore, the startup time is limited to 20 seconds. The MTU gensets have already been tested and meet all safety requirements.

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