



## **MAN Diesel & Turbo Upgrades CHP plant at Deutsche Bundesbank**

Augsburg, 23/05/2017

### **Electronic Upgrade Package for 32/40DF Engine**

MAN Diesel & Turbo has upgraded the automation system on a 19-year old 6L 32/40DF engine operated by Deutsche Bundesbank in Frankfurt, Germany. The upgrade was handled by MAN PrimeServ, the company's global after sales brand. It re-established safe and reliable operation and long-term availability of spare parts and service for Deutsche Bundesbank's plant.

Since 1998, Deutsche Bundesbank is operating a combined heat and power plant (CHP) in Frankfurt, driven by an MAN 6L 32/40DF engine. The heat generated by this CHP plant is used for heating and to produce hot water. During summer, the heat can be used for cooling by utilizing absorption refrigeration machines.

Deutsche Bundesbank (= German Federal Bank), is the central bank of the Federal Republic of Germany and part of the European System of Central Banks. It is one of the largest central banks in the world.

"While the 19-year old engine was still mechanically flawless, the old electronic engine automation system was causing problems" summarizes Dr. Thomas Spindler, Head of PrimeServ Augsburg Upgrade & Retrofit department, the initial situation. "Compare it to your smart phone: even though the old hardware itself might still be fine, newer generation software will achieve better performance and offer more user-friendliness. At some point you need to upgrade your phone to the recent operation system to keep it running."

MAN PrimeServ Engineering updated the engine with the company's own and well-proven Safety and Control System on engine, the so-called SaCoSone. Since 2008, the system is used on hundreds of diesel and dual-fuel engines both in marine and stationary plants. Thomas Pollak, Development Engineer at PrimeServ Engineering: "It was the first conversion of an old dual-fuel engine automation system into a full SaCoSone system. We used the system for the 51/60 DF engine as a base, which is the 32/40 DF's big brother so to speak. That way we did not have to program a new product for an old engine from scratch." The upgrade required extended application engineering including design of the hardware and software scope. The existing released software was adapted to the old engine according to new specifications.

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Finally, many components, such as injection unit and gas valves, were replaced. Retrofit and testing were executed on site.

The upgrade was implemented successfully and enables Deutsche Bundesbank to easily operate the new automation system. The application of the state-of-the-art automation system for large-bore dual-fuel engines ensures safe and reliable operation of the engine again – and long-term availability of spare parts and service. Dieter Leichner, C/E electrical workshop at Deutsche Bundesbank and responsible for the CHP plant: “I’m relieved that we can expect the engine to run efficiently again, now with a state of the art control system. That’s what we expect from MAN.”



*MAN 6L 32/40DF engine on site at the CHP plant of Deutsche Bundesbank in Frankfurt*



*Old versus New: left: old control cabinet, right: new control cabinet*



*Old versus New:  
Old local control panel (on the left) was replaced by a modern control system (on the right)*



*Old versus New:  
The hydraulically operated gas valves (on the left) were replaced with modern Electrical gas valves (on the right)*

**About MAN Diesel & Turbo**

MAN Diesel & Turbo SE, based in Augsburg, Germany, is the world's leading provider of large-bore diesel and gas engines and turbomachinery. The company employs around 14,500 staff at more than 100 international sites, primarily in Germany, Denmark, France, Switzerland, the Czech Republic, India and China. The company's product portfolio includes two-stroke and four-stroke engines for marine and stationary applications, turbochargers and propellers as well as gas and steam turbines, compressors and chemical reactors. The range of services and supplies is rounded off by complete solutions like ship propulsion systems, engine-based power plants and turbomachinery trains for the oil & gas as well as the process industries. Customers receive worldwide after-sales services marketed under the MAN PrimeServ brand.