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Tekno Energy's Bilecik power station can produce a total output of 26 MWe using six TCG 2032 V16 engines by MWM.



MWM GmbH 26 MWe Station, Bilecik, Turkey

Germany-based MWM GmbH has supplied six TCG 2032 V16 gas generator sets to Tekno Energy's Bilecik power plant. Bilecik is a city in north-western Turkey that lies along the Karasu River. The region is renowned for its silk and ceramics industry and is home to 230 000 inhabitants.

Tekno Energy is an independent power producer (IPP) and provides electricity to both the grid operator and to end users. The station is powered by six TCG 2032 V16 engines by MWM and can produce a total output of 26 MWe, operating as a peak plant assisting the grid operators in balancing the electricity market. The plant can be synchronized to the grid within 15 minutes and is capable of reaching full power output 20 minutes after the start button has been pressed.

Tekno Energy is now expanding the plant up to 40 MWe and upgrading it into a combined-cycle with an additional steam turbine using the exhaust

gas heat recovery and an ORC system for the cooling water heat recovery. This will increase the output and achieve even higher efficiency.





The most comprehensive change in the new engine version is the introduction of a new controller that combines and connects the previously separate controllers. Due to the operational experience gained from the predecessor versions, the operating time before major overhaul has been significantly increased from 64 000 to 80 000 hours.

Because after-sales services such as maintenance and repair are crucial for the operation of the plant, Tekno Energy has chosen to work with Iltekno, which has proven to be capable and punctual in the design, delivery and maintenance, the company said. The group offers an inventory of spare parts and a local maintenance team.

www.mwm.net

While Tekno Energy's consulting engineering firm Guncan Energy designed the entire power plant, helped choose the right equipment and coordinate the construction phase, the local supplier Iltekno provided and installed the gas engines with all necessary auxiliaries.

The new version of the TCG 2032 was launched by MWM in January 2012. Optimized spark plugs and improved turbocharger technology have made it possible to reach an electrical efficiency of up to 44.2% with a power output from 3333 to 4300 kWe.

MWM said the two exhaust turbochargers installed as a standard in the TCG 2032 were fitted with a new exhaust turbine. Improved efficiency on the exhaust side automatically increases the boost pressure on the compressor side of the turbocharger. The

higher boost pressure has a particularly positive effect on the part-load range when the load is adjusted.



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