

For Immediate Release

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TERRATEC EPBM to steer for success in Bangkok

A new 4.27m diameter TERRATEC tight radius TBM will enable a challenging alignment on the Bangkok Metropolitan Electricity Authority's Klong Daan Cable Tunnel, in Thailand.



At the end of November, TERRATEC celebrated the successful Factory Acceptance Test of another tight radius machine. This machine is a new 4.27m diameter Earth Pressure Balance Tunnel Boring Machine (EPBM) destined for the Klong Daan Cable Tunnel Project, in Bangkok, Thailand. The event was attended by representatives of Bangkok's Metropolitan Electricity Authority (MEA) and Thai contractor See Sang Karn Yotah (1979) Co., Ltd.

Designed to accommodate a new high-voltage cable system, the Klong Daan Cable Tunnel Project is one of a series of tunnelling projects being undertaken by the MEA, which are being built to meet increased power demands in the Thai capital.

Located to the south east of the city, the Klong Daan Cable Tunnel Project is situated in the Bang Bo District of Samut Prakan, and is subject to tight alignment constraints

imposed by the need to follow public road easements. To achieve this, the TERRATEC EPBM has been designed with an X-type articulation system, which can accommodate extremely tight horizontal curves. The machine, which is capable of excavating a minimum radius curve of 48m, will be used to conduct three tunnel drives (of 1,128m, 875m and 795m in length), at a maximum depth of 31m, each beginning or ending with a tight curve.

"We have used a number of TERRATEC machines on past tunnel projects, including contracts for the Bangsue Wastewater Collection System and Installation Main Underground Conduit for Electric and Relation Works," says See Sang Karn Yotah (1979)'s Project Manager, Mr. Ekaphong Rungruang. "Those machines were very well suited to the ground and that, along with TERRATEC's experience in designing high-performance TBMs and the quality of its field service, was the reason we decided to select TERRATEC for the cable tunnel at the Klong Dan Substation."

Geological conditions along the tunnel alignments will consist of mixed faces of very stiff to hard or silty clay and very dense to very fine sand. The TBM's soft ground cutterhead therefore features a spoke design with a 70% opening ratio and the addition of knife bits to assist break-in and break-out of the concrete shaft eyes.

Traditionally reinforced, 250mm thick by 1200mm wide, Universal tapered precast concrete segments (4 + key) will be installed as the machine progresses and muck removal, segment transport and machine supply will be via rail bound equipment.





Machine operation will be assisted at all times by TERRATEC's highly-experienced Field Service staff, providing quality after sales support to ensure optimum performance and successful project completion.

Following the successful factory acceptance test, the machine will be now shipped to Thailand and is expected to arrive in mid-2019. The TBM will then be transported to the project site where it will be launched on its initial 1,128m-long drive.

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