TBM Sudarshan 8.1 recorded first tunnel breakthrough for Delhi-Meerut RRTS Corridor

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Meerut's longest tunnel on the Delhi-Ghaziabad-Meerut RRTS corridor has achieved a successful breakthrough today at Meerut Central Station. Sudarshan 8.1, the tunnel boring machine, constructing this tunnel, successfully completed the construction of an about 2 km long tunnel between Bhainsali to Meerut Central Station and made a breakthrough through the tunnel retrieving shaft built at Meerut Central Station.

With this breakthrough, the National Capital Region Transport Corporation (NCRTC) has achieved another key milestone in the project. Sudarshan 8.1 was launched from the launching shaft constructed at Bhainsali underground station and after this breakthrough, it will be retrieved from the retrieving shaft constructed at Meerut Central station. The construction of this 2-kilometre-long tunnel took about 8 months.

The Tunnel Boring Machine (TBM S-88/Sudarshan 8.1) was lowered in Meerut city in February 2022 by Afcons Infrastructure Ltd for construction of 5.68 km long underground tunnel under contract Package 8 of 82.15 km Delhi-Meerut RRTS Corridor.

Two parallel tunnels were to be built between Bhaisali station to Meerut Central station, of which the construction work of this first tunnel has been completed. The second parallel tunnel is being constructed by Sudarshan 8.2, which has completed more than half of about 2 kilometres of tunnelling so far.

After being retrieved, Sudarshan 8.1 will be dismantled and laden on the trailers, and the cutter head and shield will be transported to the launching shaft built at the Bhainsali station. Then, it will be reassembled and re-launched for the construction of an about one km long tunnel between Bhainsali to Begumpul. This will mark the beginning of the third section of tunnel construction in Meerut.

Earlier on October 22, Sudarshan 8.3 had made a breakthrough at Begumpul RRTS station after successfully constructing a 750-meter-long tunnel. Presently, Sudarshan 8.3 is being assembled to be relaunched from Gandhi Bagh to construct about a 750-meter-long parallel tunnel to Begumpul. The process of launch is to begin soon.

More than 9000 pre-cast segments have been used for the construction of this 2 km long tunnel from Bhainsali to Meerut Central. In the tunnelling process, these segments are inserted and seven segments are combined to make one ring. Each segment is 1.5 m long and 275 mm thick. These segments and rings are connected with the help of bolts. Due to the bigger rolling stock and a high design speed of 180 kmph, the diameter of the RRTS tunnels is 6.5 m. Compared to the metro systems, this is for the first time that a tunnel of such a large size is being constructed in the country.

The Tunnel Segments are being cast at NCRTC's Casting Yard in Shatabdi Nagar with assured quality control. Pre-casting helps in the safe and fast execution of the works while ensuring good quality control, minimizing inconvenience to the road users, local passers-by, business owners and residents along the entire stretch, and reduction in air pollution & noise pollution.

The project is being implemented as per the scheduled timeline. Meerut Central, Bhaisali, and Begumpul are the underground stations in Meerut, out of which Meerut Central and Bhaisali are the Meerut Metro Stations whereas Begumpul Station will serve both RRTS and Metro. NCRTC is going to provide local transit services, Meerut Metro, on the RRTS network itself in Meerut with 13 stations in the span of 21 km for local transit needs.