

Metro work goes underground, but good news beyond Reach 1

Wary of announcing a launch date, chief minister hopes commercial operations between Byappanahalli and MG Road stations will commence soon

DNA Correspondent

Namma Metro burrowed into the entrails of Bangalore amid much fanfare on Friday as chief minister BS Yeddyurappa switched on a gigantic tunnel boring machine (TBM), christened Helen, which whirred into action and cut through the rocky underbelly of Majestic area, the venue of the inauguration.

Hence minister R Ashoka, Bangalore Central MP PC Mohan, mayor R Sharanamma, officials of Japan International Cooperation Agency (JICA) and Central Engineering Cooperation (CEC) and representative of Japan's ambassador to India were present at the launch.

The chief minister and Bangalore Metro Rail Corporation Limited (BMRC) officials were all cheer as the TBM commenced operations, the first of its kind in south of the Vindhyas for a urban mass transit project.

But the cheer was not enough to hide the main concern plaguing Bangaloreans. When will Namma Metro begin its operations on the Reach One Corridor from MG Road to Byappanahalli?

Yeddyurappa blamed the safety certification procedure for his promise — to get the Metro commence operations on April 4 — not being kept. "Although we (the state government) were keen on launching the Reach 1 operations on Uggal, the safety certification was a lengthy process. I wish that the BMRC officials could start commercial operations on Reach 1 at the earliest," he said, stopping short of announcing any new day for the inauguration.

However, the chief minister expressed happiness over the commencement of the tunnel boring work for the underground section



Sherry tunnel boring machine, code-named Helen, at the site of BMRC's Majestic East underground station. Helen started burrowing for laying the underground tracks on Friday



We were keen on launching the Reach 1 operations on Uggal. I wish that the BMRC officials could start commercial operations on Reach 1 at the earliest."

BS Yeddyurappa, Chief Minister of Karnataka

of Namma Metro. "Karnataka is the first southern state to witness tunnelling for a mass transit project. I and my government are very happy with this," he said.

The chief minister and other guests, accompanied by BMRC managing director N Sivasaian, went 16 metres below the surface

and witnessed Helen at work. BMRC officials explained to the chief minister about how Helen would go about the work.

Sivasaian welcomed the participation of the government and other international partners like JICA, who have committed to invest about Rs3,000 crore. He also

thanked the CEC, the implementing agency for the underground work, for taking up the construction with different contractors.

Two TBMs have been imported from Japan for the underground work of Phase I of Namma Metro. The underground section consists of two tunnels for up and down tracks. Each tunnel will be 2.4 km long, making the total length of the twin tunnels 4.8 km along the East-West corridor. While Helen will take up work on drilling one tunnel, the second machine, christened Margarita, will take up work on the second tunnel.

The underground work on the East-West corridor is expected to take 151 weeks.

THE STORY OF HELEN AND MARGARITA

Who are they?

Helen and Margarita are the names of the tunnel boring machines (TBMs) which have been imported for drilling twin tunnels for Namma Metro. Manufactured by Hitachi in Osaka, Japan, each TBM costs \$10 million.

Both Helen and Margarita are slurry-type TBMs, which are

used for drilling work in highly permeable unstable terrain or under civilian structures sensitive ground disturbances.

The two TBMs were shipped to Chennai in completely knocked down stage. From Chennai, they were ferried by trucks to Bangalore. Helen was carried in 28 trucks and took two days to reach the Kempe Gowda Bus Station at Majestic.

What will they do?

Helen and Margarita will not only dig the tunnels, but also install precast reinforced cement concrete elements along the cut sections.

While Helen will dig one of the twin tunnels, Margarita will dig the other. Each tunnel will be 2.4 km long. Each TBM will drill 11 metres every day along the East-West corridor.

The tunnel boring work will proceed from Majestic towards Mysore Bank Circle. It will then turn towards Sir M Venkateswara Station in front of Central College and move towards Vidhana Swastha.

About 25 workers will man each TBM in a shift. Both Helen and Margarita will work in two shifts.

Their current status

Helen has already been partially assembled in the shaft dug up at Majestic area.



Vital statistics

Each TBM weighs 350 tonnes and require 37M of power to get going.

They will be 5.78 metres long and have a diameter of 6.52 metres.

They have cutting wheels coated in tungsten and steel.

