

MD's Corner

Dear Colleagues,

Some months witness powerful epoch-making moments.

The first month of the calendar year 2020, was one such momentous month for the entire Team Maha-Metro. The month began with the commencement of the trial operations of Pune Metro Rail Project and it culminated with the grand finale of the inauguration of commencement of commercial operations on 11 Kms portion of Aqua Line of Nagpur Metro Rail Project at the hands of Shri Uddhav Thackeray Hon'ble Chief Minister of Maharashtra, Shri Nitin Gadkari, Hon'ble Union Minister of Road Transport, Highways & Micro, Small and Medium Enterprises (MSME) and Shri Hardeep Singh Puri, Hon'ble Minister of State (Independent Charge), Ministry of Housing & Urban Affairs and Ministry of Civil Aviation.

Achieving the milestone of completion of 25 Kms of Nagpur Metro (i.e. two third of the total project length) in the record time of 50 months at the rate of 1 km completed every two months was a humungous enterprise with no parallel for a first time metro rail project in the country so far. Similarly, Pune Metro reaching the trial stage in record 30 months with main management team substantially based out of Nagpur initially posed insurmountable challenges. Both are the achievements for which the entire "Team Maha-Metro" (employees, officials, general consultants and partner contractors and other partners) can and must be justifiably proud of. But we have no time to reflect on the past glories.

We have challenges galore as we move ahead and we as a team must steadfastly, purposefully and diligently move with the precision and speed and keen eye on cost, time and quality consciousness. We have aimed much higher for the rest of the year 2020. We have committed to make year 2020 as the "Year of Metro" for the citizens of Pune and Pimpri-Chinchwad and simultaneously we have taken a vow to "complete both lines of 38.2 km of Nagpur Metro in its entirety" by the end of the year. These will test all of us to the fullest, but I am confident together "Team Maha-Metro" will cross every hurdle to actualize the above missions in time and within estimate cost with a quality benchmark we can be proud of.

I also take the opportunity to congratulate Pune Team for their 3rd Foundation Day, celebrated on 23rd January 2020 and Nagpur Team for their 5th Foundation Day on 18th February 2020.



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SPECIAL FEATURE OF THE MONTH



Maha Metro Scripts History: Nagpur Metro Aqua Line Commercial Services Inaugurated

Some dates are days to cherish. 28th January was one such day in the history of Nagpur. It was also a day of reckoning for the state of Maharashtra. On this day commercial operations along 11 kms, Aqua Line of Nagpur Metro were inaugurated. With this 25 kms of Metro Rail Project became operational at Nagpur, (thereby completing two third of the entire project length) in a record time of 50 months at the rate of 1 km, every 2 months. The inauguration was done by the hands of Shri Uddhav Thackeray, Honourable Chief Minister of Maharashtra, Shri Nitin Gadkari, Union Minister for Road Transport, Highways & Micro, Small and Medium Enterprises (MSME) and Shri Hardeep Singh Puri, Union Minister of State (Independent Charge) for Housing & Urban Affairs, Civil Aviation, and Commerce & Industry. Shri Uddhav Thackeray and Shri Puri flagged off the services through video link from Mumbai and Delhi respectively while Shri Gadkari chaired the inaugural function held at Nagpur. Apart from Mr. Gadkari, the function held at Nagpur was also attended amongst others, various top-ranking Ministers of Maharashtra state including Shri Eknath Shinde, Minister of

Urban Development, Shri Anil Deshmukh, Home Minister, Shri Nitin Raut, Guardian Minister for Nagpur, Shri Sunil Kedar Dairy and Animal Husbandry Minister, Leader of Opposition in Maharashtra Assembly Shri Devendra Fadnavis, Nagpur Mayor Shri Sandip Joshi, MPs Shri Vikas Mahatme and Shri Krupal Tumane. The occasion was also graced by Secretary of Ministry of Union Housing and Urban Affairs Ministry Shri D.S. Mishra along with top officials of MAHA-METRO and government in presence of all sections of the citizenry.

The Aqua Line connects Prajapati Nagar on the Eastern side of Nagpur and Lokmanya Nagar on the Western side. It is called Aqua line due to its proximity to water bodies of the city - Ambazari Lake, Gandhi Sagar and Nag River. The 11 km stretch has 11 stations, of which 6 viz. - Lokmanya Nagar, Vasudev Nagar, Subhash Nagar, Institute of Engineers, Jhansi Rani Square and Sitabuldi Interchange have been opened for passenger services.

Team Maha-Metro is committed to complete entire 2 Lines of 38.2 Kms for Nagpur Metro project by December 2020.



SPECIAL FEATURE

Pune Metro Gets Financial Closure - inks deal with European Investment Bank (EIB)



Pune Metro's Project loan agreement between Maharashtra Metro Rail Corporation and European Investment Bank (EIB) for the funding support of Euro 600 million for Pune Metro Rail Project was signed on 31 Jan 2020 at Mumbai in the august presence of Shri Uddhav Thackeray, Hon'ble Chief Minister and Shri Eknath Shinde Hon'ble Urban Development Minister Maharashtra. Prior to the signing ceremony, Mr. Andrew McDowell Vice President EIB along with other delegates visited the Pune Metro site Reach 3 (Ramwadi to Civil Court) and TBM underground construction work site at Agricultural college, Pune on 30th January 2020. They also reviewed the overall project progress.

The total project cost of Pune Metro Rail Project is Rs. 11420 Crore. The project is being financed through a combination of equity and subordinated debt from central and state government and from debt support from international financing institutions. The total equity funding is Rs. 2620 crore shared equally by the central government and the state government of Maharashtra. The two are also contributing subordinate debt of Rs. 644 Crore towards their share towards the central taxes. The other government contributions are additional subordinated debts of Rs. 1513 Crore from the state government to meet the cost of land acquisition including R & R cost and to meet the expenditure towards the state taxes. Also, local bodies PMC and PCMC are together contributing to Rs. 28.50 crore grant funding for the project.

The balance cost of the project (Rs. 5831.50 Crore) is being financed by our two international financing partners AFD, France and EIB. AFD, France has committed to finance Euro 245 million in two tranches of Euro 180 and Euro 65 million.

The financing agreement between AFD and Government of India for Euro 180 million was signed on 28th January 2019 which was followed by the signing of the Project Loan Agreement between AFD and Maha-Metro on 9th February. The rate of interest for this facility is pegged at 6-month Euribar + 120 basis point.

European Investment Bank is the senior international financing partner of Pune Metro Rail Project with total financing of 600 million Euros. The financial agreement for this funding was signed by Government of India on 18th July 2019 in New Delhi and by EIB on 22nd July 2019 at Luxembourg.

With the watershed moment of signing the project funding agreement at Mumbai between EIB and Maha-Metro Pune Metro rail project has achieved total financial closure. Total funding support of Euro 600 million from EIB will be released in four tranches, the first tranche being 200 million Euro, second and third tranches will be equal amounts of Euro 150 million and the fourth tranche shall be Euro 100 million.

The funding support from EIB carries an interest of 6 months Euribar + 34 basis point (.34%).

THE INNOVATION CORNER

Bio Digesters - Another Green Initiative of the Greenest Metro Recycling Unit Saves 900 Litres Water Everyday per Station



Maha-Metro takes its reputation of being the Greenest Metro rather seriously. Not content with meeting 65% of its total energy needs from solar power, 100% water recycling, large scale tree transplantation and tree plantation, another innovation in this direction of Maha-Metro is installing bio-digesters at all metro rail stations at Nagpur and Pune. Continuing its efforts towards conservation of the environment, Maha Metro Nagpur would be installing Bio-Digesters at all its Metro Stations. This technology helps in recycling of used water for multiple purposes thereby conserving water.

Bio-Digesters have already been installed at various operational stations of Nagpur Metro and its deployment is being accelerated at all other stations. The bio-digester a DRDO patented technology has in-built potential to save 30 to 40 % or 800-900 litres of water by recycling at each station, thus saving on that quantity of water. Inherent benefits of biodigesters include but are not limited to being eco-friendly and cost-effective, maintenance-free, minimization of increasingly scarce water consumption, recycling of effluent water, reduction of organic waste by 90% and an equal percentage of pathogen reduction.

An additional benefit of this technology is that very less space is required for treatment; it doesn't need electricity, thus saving on expenses otherwise incurred on power. Secondly, it doesn't generate any sludge and hence doesn't have any handling issues. The most important fact is that it attracts

lesser capital investment compared to conventional engineering treatments such as Activated Sludge Process.

Additionally, it has a better performance compared to septic tank treatment. In scientific terms, it consists of a bio-digester tank and a specialized bacterial culture called Anaerobic Microbial Inoculum (AMI). Under controlled anaerobic conditions, the specialized bacteria completely degrade the sewage into a gaseous by-product.

Maha Metro Nagpur has adopted Biodigester technology as part of its broader commitment to achieving Zero Liquid Discharge. It is planned that sewage generated in operational phases would be treated using this technology. An MoU was executed between Defence Research and Development Organization (DRDO) and Maha Metro for transfer of this technology in 2016. During the construction phase, bio-digester treated sewage was only used for land discharge-based end uses such as dust suppression. Presently it is being used for flushing purposes. The sewage which has been recycled after treatment has greatly reduced the freshwater demand. It is expected that on account of onsite sewage treatment units, Maha Metro shall reduce around 30% of freshwater requirement.

The technology would gradually be used in other Metro locations such as all metro stations, administrative offices and depots thereby contributing to the overall commitment of Maha-Metro towards utmost environmental conservation.




Green Initiative


Saving Water


Recycling

MAHA METRO UPDATES

Vasudev Nagar station of Aqua Line Nagpur gets Commissioner Metro Rail Safety (CMRS) Nod

After inspection of Vasudev Nagar station of Nagpur Metro Railway Aqua Line the Commissioner of Metro Rail Safety (CMRS) on 17 January 2020 certified the station to be fit for commercial operations. Jhansi Rani station was the fifth such certification and Vasudev Nagar station became the sixth station of the Aqua Line to be certified. Earlier CMRS in September 2019 had certified opening of 11 Km Aqua Line with four stations in September 2019. This certification greatly enhanced the inauguration of Aqua Line with six operational stations Lokmanya Nagar, Vasudev Nagar, Subhash Nagar, Institution of Engineers, Jhansi Rani Square and Sitabuldi East.



Nagpur Metro Non-Fare Box Revenue: Train Wrapping Rolls on

The novel endeavour to maximize Non-Fare Box revenue is integral to the schema of Maha-Metro to make Nagpur and Pune Metro Rail Projects financially sustainable. Maha-Metro has an ambitious agenda to have more than 50% of its total revenue through these sources. Even before operations of the first train began, Nagpur Metro had earned Rs. 150 Crore from Non-Fare Box Revenue which grew to Rs. 256 Crore by the end of 2019. In January 2020, Nagpur Metro took another stride with the milestone agreement for train wrapping advertising on one train with Bank of Maharashtra for a year. The entire train has been aesthetically wrapped displaying banks contents and it heralds the era of new partnerships and new earnings for Nagpur Metro. From this solitary one train wrapping contract for a year, Nagpur Metro will earn Rs. 12 Lakh @ Rs. 1 Lakh per month. The first such wrapped train started on 28th January 2020, on the same day, 11 km of Aqua Line was inaugurated for commercial operations.



Maha Metro, Pune celebrates 3rd Foundation Day

It was a great day of introspection, retrospection and pledging to make 2020 as the Year of Metro for Pune and Pimpri-Chinchwad citizens by the team MAHA-Metro's Pune Metro while observing its third foundation day in a ceremony held on 23rd January 2020 at its Phugewadi office. It was attended by all the staff and officials of Maha-Metro, General Consultants and partner contractors. The Foundation Day was held in the backdrop of having commenced the trial run in record 30 months. It is important to note that in short time Pune Metro project has achieved 37% progress and the construction work is progressing at a brisk pace at all the construction sites. This auspicious day commenced with "Swachata Abhiyan" along with the river bed from Deccan Gymkhana to Chatrapati Sambhaji Udyan. Employees of the Pune Metro Rail Project participated to clean the river bed of all waste and trash littered along the river bed. Also, a Safety Drive was conducted jointly with the city Traffic Police wherein the two wheelers riders without Helmet were educated on



traffic rules and the importance of helmet. They were gifted helmets by MAHA Metro with an advice to inculcate the practise of wearing Helmet. The 3rd Foundation Day event at Phugewadi office began with the traditional lighting of Lamp by Mr. S D Limaye, Technical Advisor, Mr. Ramnath Subramanyam Director (SP), Mr. Atul Gadgil, Director (Works), Mr. Vinod Kumar Agarwal Director (Civil) and Mr. Akhileshwar Sahay, Strategic Advisor.

MAHA METRO UPDATES

Second Tunnel Boring Machine Chugs along - Underground Metro at Pune gets traction

The second Tunnel Boring Machine (TBM) named Mula (after river Mula) to expedite construction of underground section of Pune Metro was inducted by the hands of Hon'ble Shri Eknath Shinde, Minister of Urban Development, Maharashtra on 5th January 2020 at Agriculture college, Pune Mula joins its twin sister TBM Mutha and the two are fast digging below the ground the twin metro tunnels from Agriculture college to Budhwar Peth covering a distance of about 2 Km. Overall four TBMs will be in operation to expedite the unground construction.



Pune Metro Tunnel Boring - Second break-through by TBM

Excavation of metro tunnel by the second Tunnel Boring Machine (TBM) named Mula had commenced from Range Hill ramp on 5th Jan 2020 at Agriculture College Ground, Pune after its induction by Shri Eknath Shinde Hon'ble Minister of Urban Development, Maharashtra. In a record short span of 23 days, Mula completed 200 meters of tunnelling fast catching up with its sister TBM Mutha which is inching fast towards Shivaji Nagar after completing 500 meters of tunnelling.

Metro Rail enters Pune - Historic moment of commencement of Trial Run

Metro Train runs on track by drawing power from an overhead cable.

The 10th January marked the historic occasion for residents of Pune and Pimpri-Chinchwad when they witnessed the inaugural trial run drawing power from the newly laid overhead cable of the metro rail system. The overhead electric cable was energised on 9.1.2020 in PCMC-Sant Tukaram Nagar section. This was achieved in record 30 months from the day the construction work commenced. Earlier Pune metro received two trains of three coach each in last week of Dec 2019. They have been inducted and placed in track. This indeed was a momentous day for Maha-Metro team at Pune which is destined to make 2020 as the Grand Year of Metro Rail for the city.



Social Media Engagement

Citizens Love Maha Metro!

Social media engagement of Pune & Nagpur Metro far exceeds its other counterparts in the country. Pure testimony of 'Maazi Metro'



NAGPUR METRO

Average acquisition of FB followers per month **9,522**

5,42,797

8,436

3,83,000

9,089



PUNE METRO

Average acquisition of FB followers per month **14,147**

5,23,441

8,836

7,85,000

17,200