



## MAHARASHTRA METRO RAIL CORPORATION LIMITED (Nagpur Metro Rail Project)

**Maha Metro redesigns DRDO bio-digesters, no effect on recycling system**



Maha Metro regularly takes steps to become the most environment friendly organization in the country. Now it has successfully reduced the size of the bio-digester systems being installed at Nagpur Metro stations and other buildings without adversely affecting their capacity and efficiency. This new system has been approved by Defense Research and Development Organization (DRDO), which had invented this patented technology.

A memorandum of understanding (MoU) had been signed between DRDO and Maha Metro in July 2016 for installation of DRDO bio-digester patented technology at all metro stations, depots and other establishments. As these water recycling systems were consuming a lot of space at stations, Maha Metro officials decided to redesign them.

The waste water collection tank was shifted to below the reed bed instead of the station thus freeing space at the stations. These changes have not affected the efficiency of the systems. Five redesigned bio-digesters have been successfully functioning at stations since past few months.

The DRDO patented technology is eco-friendly, efficient and economical for onsite treatment of human waste deploying specially designed fermentation tank (bio-digester) with active anaerobic microbial consortium which is used as seed material and reed bed system. The discharge from reed bed is used for flushing and gardening purpose. At present total 14 bio-digesters (both original and new designs) are operational at metro stations and while installation of others is in progress.



Salient features of DRDO Bio-digester:

1. Eco-friendly, cost-effective and green technology
2. Less space requirement & energy efficient
3. Less maintenance, no sludge generation & free from foul odour
4. Recycle & reuse of effluent water
5. No ground water contamination
6. Viability in all geo-climatic conditions prevalent across the country

This DRDO technology is an example of “Think in India and Make in India”. It provides a major fillip to government’s nationwide sanitation initiatives. Maha Metro has further improvised this technology. Influenced by the success of this technology in Nagpur Metro Rail Project, Maha Metro has decided to implement the bio-digester technology in all upcoming projects across Maharashtra.