



# CHENNAI METRO RAIL LIMITED NEWS LETTER

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GOVT. OF INDIA

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CHENNAI METRO RAIL LIMITED

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## Mock Evacuation Drill Conducted

A full-scale mock evacuation drill was conducted in the underground tunnels. The drill was conducted in the tunnel section between Anna Nagar Tower and Anna Nagar East Metro Stations. During the drill, the train stopped in the mid tunnel section and an emergency scenario was simulated using cold smoke in the tunnels.

Tunnel Ventilation System was activated to clear the smoke. Once the visibility was clear, evacuation procedure was performed through the walkways and cross passages.

These mock drill are conducted from time to time for training and learning. Officials and Staffs of CMRL participated in this mock drill







## Underground Sections & Tunneling Work Progress as on 31.03.2017

Package	TBM	From	To	Tunnelling length in mtr	Completed in mtr	Percentage completed
UAA 01	TBM 1	Washermenpet Metro	Egmore Metro	4445	4445	100
	TBM 2	Washermenpet Metro	Egmore Metro	4445	4445	100
	TBM 3	May Day Park	Central Metro	2080	2080	100
UAA 02	TBM 1	May Day Park	AG-DMS	3616	2544	70.4
	TBM 2	May Day Park	AG-DMS	3616	2294	63.44
UAA 03		Saidapet Metro	AG-DMS	5736	5736	100
UAA 04		Egmore Metro	Shenoy Nagar	6776	6776	100
UAA 05		Shenoy Nagar	Thirumangalam	5594	5594	100
UAA 08		Washermenpet	Korukkupet	2000	25	1.4
<b>Total</b>				<b>38308</b>	<b>33939</b>	<b>89.01</b>

## Gallery



Central Metro Station



Mannadi Station



High Court Station



Washermanpet Station

*"Don't take rest after your first victory because if you fail in second, more lips are waiting to say that your first victory was just luck."*

*A.P.J Abdul Kalam*





## Tunnel Ventilation System

The underground stations of the metro corridor are built in a confined space, a large number of passengers occupy concourse halls and the platforms especially at the peak hours. The platforms and concourse areas have a limited access from outside and do not have natural ventilation.

### The prime purpose of Tunnel Ventilation System is to

- Provide an environment within the Tunnel suitable for the operation of the trains under normal and Congested Operating conditions Provide an effective means of controlling smoke flow during Emergency conditions; Remove the Heat generated by TRAIN borne Air Conditioning and Braking equipment's.
- Maintain environment in the tunnel to allow an effective operation of the Train Air Conditioning Units. Tunnel Ventilation Fans and Tunnel Exhaust Fan along with associated dampers at each station were identified as the mechanical ventilation equipment used to provide adequate ventilation at Normal, Congested and Emergency conditions. Platform screen doors will be installed to isolate the station and the platform area.

### Different scenarios for the operation of Tunnel Ventilation

The following are several modes of operation for Tunnel Ventilation system;

- Normal Operation Mode
- Congestion Mode of operation
- Emergency Mode of Operation
- Night Cooling Mode of Operation

### Normal Operation Mode

The train operation is considered as “normal” when train are moving along the system and stopped at the stations according to the dwell times and headway scheduled for the design years. Normal ventilation of the tunnel is achieved by the movement of air created by the piston effect of the train under normal operation, removing some of the heat from the system, through the expulsion of heated air from ventilation shafts.

### Congestion Mode of operation:

Delays or operational problems which prevent the free flow of trains through the system may lead to trains waiting in stations or being stopped at predetermined locations in tunnels. A longitudinal airflow along the direction of train motion will be activated when a train is stopped inside a tunnel longer than a predetermined period. When a congestion mode is observed, Tunnel Ventilation Fans will be activated respective congested tunnel stations through TVS SCADA at OCC.

### Emergency Operation Mode:

To extract smoke during train fires in the tunnel, tunnel ventilation fans (TVF's) at both ends of stations are operated in push pull direction. Tunnel Ventilation Fan will be in running condition to create the required air flow in this emergency scenario.

### Night Cooling Operation Mode

During Non-Business Hours, the trains are not operational; during this time, tunnel shall be cooled at night by a push-pull ventilation strategy.

The push-pull ventilation shall be activated in one direction for half of the night and reversed during the other half to homogenize the cooling along the tunnel and to increase the efficiency of the process.

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