GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

2013/Proj./KMRCL/30/5 New Delhi, dated 06.09.2018

Managing Director,
Kolkata Metro Rail Corporation Ltd.,
Munshi Premchand Sarani,
HRBC Office Complex, 4th & 5th Floor,
Kolkata-700 021

Sub: In-principle approval for Signalling & Train Control and Telecommunication System & Half Height Platform Screen Door (PSD) System of Kolkata Metro Rail Corporation Limited for East-West Metro Line project.

Ref.(i) KMRCL's letter No. KMRCL/CE(S&T)/CRS & RDSO dated 22.12.2017 & 18.01.2018
(ii) KMRCL's letter No. KMRCL/CE(S&T)/CRS & RDSO dated 08.08.2018

Signalling & Train Control and Telecommunication System & Half Height Platform Screen Door (PSD) System for East-West Metro Line project as proposed by Kolkata Metro Rail Corporation Limited (KMRCL) has been examined in Board in consultation with RDSO and approval of the competent authority for the same is hereby conveyed. The approval is subject to compliance of following stipulations before opening the line for passenger operation/revenue service:-

1. Complete safety assessment report and certification by ISA for achievement of required levels of safety as per latest CENELEC standards wherever applicable, for train operation for complete Signaling & Train Control System including all subsystems for both phases and for half height platform screen door system shall be submitted to RDSO.

2. The final system hazard analysis and acceptance of its mitigation by Metro Rail Administration (MRA) shall be submitted to RDSO as well as to CRS and any hazard which require manual intervention/special instruction shall be suitably framed, incorporated and implemented by MRA.

3. Documents as per Annexure E1 of "Procedure for Safety Certification and Technical Clearance of Metro Systems" including EMC/EMI report related to rolling stock and PSD may be submitted to RDSO considering all mission-critical frequencies.

4. KMRCL shall carry out rigorous testing of all mode of interference (both out of band and in band interferences) to prove non - susceptibility of 5.8 GHz & 2.4 GHz band used for CBTC application to any kind of interference and shall align the access points for better reliability & the test report shall be submitted to RDSO.

5. The details of authorities responsible for maintenance of signaling system to the required level of safety during train operation shall be submitted to RDSO.

Contd...2/-

6. KMRCL has submitted that the development process of ATO & ATS is SIL 2, and all potentially unsafe effects of safety related functions performed by ATS and ATO shall be mitigated by mandatory interaction with SIL 4 subsystems (ATP and CBI), however dependency of operating authorities on VDU display units to run the trains during failure situations shall require a minimum level of SIL2 for VDU. If the same level of certification is not achieved, manual running of trains during signal failure condition shall not be done relying only upon the indication by ATS & suitable special approved instructions regarding this shall be framed and strictly implemented.

7. Since the third rail traction of 750 V DC is being used, the signalling installations, point machines and other installations which are imperatively connected to the running rails must be insulated against the structure and earthed to avoid stray currents as per respective standards. Also, proper earthing & bonding should be ensured as per respective standards.

06-09-2018

(**Ruth Changsan)**
Director/MTP
Railway Board
☎ 011-47845480

Copy to: (i) **Executive Director/UTHS**, RDSO, Manak Nagar, Lucknow w .r .t RDSO's letter No. UTHS/53/Kolkata Metro/S&T dated 21.08.2018

(ii) **OSD/UT & Ex-Officio Joint Secretary**, Ministry of Housing & Urban Affairs (MoHUA), Nirman Bhavan, New Delhi-110001