

The Calcutta Metro Railway General Rules, 2000

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The Calcutta Metro Railway General Rules, 2000 Published vide Notification No. G.S.R. 682(E), dated 28th August, 2000 Ministry of Railways (Railway Board) For the Guidance of Metro Railway Servants G.S.R. 682(E). - In exercise of the powers conferred by section 60 of the Railways Act 1989 (24 of 1989) read with section 18 of the Calcutta Metro Railway (Operation and Maintenance) Temporary Provisions Act 1985 (10 of 1985) and in supersession of the Calcutta Metro Railway (Temporary Provisions) General Rules, 1986, the Central Government hereby makes the following rules, namely:- Chapter - I Preliminary

1. Short title and commencement.

(1) These rules may be called the Calcutta Metro Railway General Rules 2000. (2) They shall come into force on the date of their Publication in the Official Gazette. 1.02 Definitions. - In these rules, unless the context otherwise requires, - (1) "Absolute Block Working" is one of the systems of working the trains specified in Chapter - VII. (2) "Act" means the Calcutta Metro Railway (Operation and Maintenance) Temporary Provisions Act, 1985 (10 of 1985). (3) "Adequate Distance" means the distance sufficient to ensure safety. (4) "Approach Lighting" means an arrangement in which the lighting of signals is controlled automatically by the approach of a train. (5) "Approved Special Instructions" means special instructions approved or laid down by "the Commissioner of Railway Safety (Metro Circle)". (6) "Authorised Electrical Person" means any person who is duly authorised to perform specific work on the electrical equipment or circuitry, the authorisation being done by an officer of the Metro Railway Administration empowered for this purpose. (7) "Authorised Officer" means a person who is duly empowered by general or special order of the Metro Railway Administration, either by name or by virtue of his office, to issue instructions or to do any other thing. (8) "Authority to Proceed" means the authority given to the driving motorman of the train, under the system of working, to enter the block section with his train. (9) "Automatic Train Protection (ATP)" means an automatic system which compares the actual train speed for that section of track and ensures that there is always sufficient unoccupied track ahead in the event of an

emergency brake application for the train to stop clear of any other train or obstruction.(10)"Automatic Train Operation (ATO) " means an automatic system, which controls the regulation of the acceleration, coasting, braking and stopping of the train at station.(11)"Automatic Train Supervision (ATS) " means an automatic system, which monitors the entire system and directs train running so as to provide scheduled service under normal circumstances.(12)"Automatic Train Operation (ATO) Mode" means mode of driving of train where acceleration, coasting and braking is controlled by the ATO system under surveillance of ATP system.(13)"Auto Mode" means the train running in a Block Section is in automatic operation without intervention of Station Master.(14)"Automatic Train Protection Block (ATP Block) " means the division of the running line into parts (called blocks) and to which ATP codes are fed.(15)"Automatic Train Protection Codes (ATP Codes) " means Speed Codes which are used to indicate the target speed for a train within an ATP Block.(16)"Automatic Fare Collection (AFC) Annunciator Panel" means the panel located in the Station Master's Office for the monitoring of AFC equipment.(17)"Automatic Door Operation By Pass Switch (ADBS) " means the switch provided on the Motorman's Console, which he should operate to enable operation of doors in the event of failure of communication between platform door loop and ATO of the train.(18)"Automatic Fare Collection and Passenger Control (AFC & PC) " means a system of ticket vending and entry and exit checking using magnetically coded tickets.(19)"Auto Aspect" means the visual indication provided on the fixed signal to indicate to the driver of an approaching train that he is to be guided by the Cab Signal.(20)"Auxiliary Substation" means a substation where equipment are provided for conversion of high voltage AC to 415/230 Volts AC.(21)"Axle Counter" means an electrical device which, when provided at two given points on the track, proves, by "counting axles in" and "counting axles out", whether the section of the track between the said two points is clear or occupied.(22)"Berth" means length of track nominated to be occupied by a train.(23)"Block Back" means to despatch a message from a block station to the block station immediately in rear that the block section is obstructed or is to be obstructed.(24)"Block Forward" means to despatch a message from a block station to the block station immediately in advance the fact that the block section in advance is obstructed or is to be obstructed.(25)"Block Section" means that portion of the running line between block stations as specified by special instructions on to which no running train may enter, until permission to approach has been received from the block station at the other end of the block section.(26)"Bond" means connections for electrical continuity in the running rail for traction return current or for signalling track circuit.(27)"Braking Distance" means the distance required by a train to stop normal braking conditions, taking into account the track gradient, the train-weight and its speed.(28)"Buffer Block" means the ATP block behind a train/obstruction to remain clear when an approaching train stops on service brake and is design to be of sufficient length to ensure train stop within the block on emergency brakes in the event of failure of service brakes.(29)"Cab Signal" means visual indication displayed as speed code on the driver's console granting him the authority to proceed under Automatic Train Operation (ATO) or Coded Manual Mode (CMM) of driving.(30)"Cab to Cab Telephone" means voice communication provided between driving motorman and the conducting motorman.(31)"Calendar Day" means the period from midnight to midnight.(32)"Car Shed" means an area where Metro Railway trains and coaches are berthed either for repair or for any other attention including stabling.(33)"Centralised Traffic Control" means a system by which the working of trains over a route, to which the system applies, is governed by fixed signals and setting points remotely controlled from a designated place.(34)"Circuit" means an

arrangement of conductors and electrical apparatus connected to a source of electric supply.(35)"Circuit Main Earth" means any earth, whether portable or integral with the equipment, which is applied prior to the issue of a "permit-to-work".(36)"Coded Manual Mode (CMM) " means the Mode of operation of train where train is driven manually but remains subject to maximum speed determined by ATP codes.(37)"CCTV" means Closed-circuit Television for surveillance and monitoring of passengers and others.(38)"Competent Metro Railway Servant" means a Metro Railway Servant duly qualified and nominated to undertake and perform the duties entrusted to him.(39)"Conducting Motorman" means a competent Metro Railway servant incharge , for the time being, of a train (in the rear cab) and includes the second motorman or any other competent Metro Railway servant who may perform duties of the conducting motorman.(40)"Continuous Automatic Train Control (CATC) " system means an automatic system of controlling and monitoring train movements continuously by means of 3 sub-systems namely: Automatic Train Protection (ATP) System, Automatic Train Operation (ATO) System and Automatic Train Supervision (ATS), System.(41)"Connections", when used with reference to a running line, means the arrangements used to connect such line with other lines or to cross it.(42)"Data Terminal" means an equipment which enables input data to be entered into the computer and output displayed.(43)"Day and Night" means the period from sunrise to sunset and vice versa.(44)"Departure Regulation Light (DRL) " means blue light at the departure end of the platform provided to enable the system or Traffic Controller or the Station Master to regulate the stopping time at the station.(45)"Direction of Traffic" means the direction for which the line is signalled.(46)"Driving Mode Selector" means the apparatus on the motorman's console of a train that allows the motorman to select one of these modes - OFF, Restricted Manual Mode (RMM), Coded Manual Mode (CMM) and Automatic Train Operation (ATO).(47)"Driving Motorman" means the train driver or any other competent Metro Railway servant in charge, for the time being, of driving a train.(48)"Earth" means the general mass of the earth and any conductor in direct electrical connection with it.(49)"Earthed" means connected to earth in such a manner as will ensure at all times an immediate discharge of electrical energy without danger.(50)"Electrical Communication Instrument" means a telephone.(51)"Electrical Way and Works" means the traction installations including third rail and other connected works provided on the Metro Railway.(52)"Emergency Stop Switch" means the switch provided on the platform, the operation of which causes the trains located in the station limit to come to a stop.(53)"EPABX" means Electronic Private Automatic Branch telephone Exchange.(54)"Facing and Trailing Points" - Points are facing or trailing in accordance with the direction a train or vehicle moves over them. Points are said to be facing points when by their operation, train approaching them can be directly diverted from the line upon which it is running.(55)"Flagman" means a Metro Railway servant conversant with hand signalling and operation of points and signals posted to assist the Station Master.(56)"Fixed Signal" means a signal of a station at a fixed location controlling the movement of trains and forming part of the signalling system.(57)"Fouling Mark" means the mark at which the infringement of fixed Standard Dimensions occurs where two lines cross or join one another.(58)"Gangman" means a Metro Railway servant employed on permanent way or work connected therewith.(59)"Headway" means the time interval between trains.(60)"Inspector of Way and Works" means any Inspector or Assistant Inspector responsible for the construction ' or maintenance of permanent way, points and signals, underground box structure, surface structure, bridges or other works connected therewith.(61)"Interlocking" means an arrangement of signals, points and other appliances,

operated from a panel or lever frame, so interconnected by mechanical or electrical locking or both that their operation must take place in proper sequence to ensure safety.(62)"Isolate" means to disconnect from all sources of electric supply.(63)"Isolation" means an arrangement secured by the setting of points, or other approved means, to protect the line so isolated from the danger of obstruction from other connected line or lines.(64)"Jumper Cable" means a cable provided with clips for use as a temporary electrical connection to bridge a gap e.g. in a running rail, cable or pipe.(65)"Local Control" means the assumption of the responsibilities of the Traffic Controller for the specific station by a person who is authorised to do so for the time being.(66)"Manual Mode" means the system of block working requiring the intervention of Station Master.(67)"Mimic Display Panel" means an illuminated panel that displays a diagrammatic representation of the Signalling system of the complete section at Operation Control Center. When in operation, the panel will show the prevailing operational status of the system.(68)"Non-signalled Areas" means tracks in the depot where fixed signals are not installed. Movements on these tracks are thus controlled by hand signals.(69)"Non-traffic Hours" means the period between the times of running of the last passenger train at night and the first passenger train the following morning.(70)"Obstruction" and its cognate expressions includes a train, vehicle or obstacle on or fouling a line or any condition which is dangerous to trains.(71)"Off Mode" (OFF) means mode of driving of the train where the ATP codes are cut off and train is driven manually and under the guidance of the station fixed signals only or under approved special instructions.(72)"On Board CATC equipment" means the CATC equipment provided in the train, which enables ATP and ATO functions to be carried out on the train.(73)"One Train Only System" is one of the systems of working the trains specified in Chapter - VII.(74)"Open Circuit" means the condition when a circuit is incomplete by the opening of a switch or otherwise thus preventing electric current from flowing.(75)"Operation Control Center (OCC) "/"Control Office" means the organisation in overall charge of controlling the movement of trains and includes Central Control and Area Control.(76)"Over Run" means the occasion when a train running in ATO mode fails to stop within 50cms. of the stopping point at a station.(77)"Passenger Train" means a train intended solely or mainly for carriage of passengers.(78)"Permanent Way Mistry (PWM) " means the person in charge of gangmen employed on permanent way or work connected therewith.(79)"Permission" to Approach means the permission given from a block station to a block station in rear for a train to leave the latter and approach the former.(80)"Platform Door Loop" means an equipment provided on the platform track near leading Motorman's coach to communicate to the Motorman that the train is correctly berthed and which side doors are to be opened.(81)"Point and Trap indicators" are not signals, but are appliances fitted to and working with points to indicate the position in which they are set.(82)"Proceed Code" means the ATP code other than zero code on the Motorman's console which indicates the target speed.(83)"Provisional Terminal Block Station" means a station not at the end of running line but provided with car reversing siding to enable reversing of trains.(84)"Receiving Substation" means a substation where 33 kilovolts AC supply is received and transformed to 11 kilovolts AC.(85)"Rectifier" means an apparatus for conversion of alternating current into direct current.(86)"Restricted Manual Mode" means mode of driving of train where train is driven manually subject to a maximum speed of 25 kmph and is not subject to ATP codes. Movements in Restricted Manual Mode on the tunnel section may only be authorised, directly or indirectly, by the traffic controller. Trains in the carshed area will be generally driven in Restricted Manual Mode.(87)"Rolling Stock Supervisor" means a Metro Railway servant duly qualified to examine train and certify their fitness for safe

running.(88)"Running Line" means the track used for running trains through and between stations and includes connections, if any, used by a train when entering or leaving stations.(89)"Running Train" means a train which has started but has not completed its journey.(90)"Section Gap" means the gap between the lengths of third rail fed by two different feeders.(91)"Short Circuit" means a fault condition in the circuit arising from the introduction of a path of low resistance to electric current.(92)"Shunting" means the movement of a coach or coaches with or without traction motors or of any other self-propelled vehicle, for the purpose of attaching, detaching or transfer or for any other purpose.(93)"Signal Inspector" means any Inspector of Signal & Telecommunication department in charge of installation and maintenance of any signalling and/or associated telecommunication gears either on track/field/station or on train.(94)"Special Instructions" means instructions issued from time to time by the authorised officer in respect to particular cases or special circumstances.(95)"Specified" means specified by or under special instructions.(96)"Speed Code Transmitter" means a device in the relay room, which transmits to the train, through the running rails, the maximum safe speed for the running train at any given time in a given ATP block.(97)"Station" means any place on a line of the Metro Railway at which passenger traffic is dealt with.(98)"Station Master's Office" means the office of the Station Superintendent/Station Master at station for the command and control of various activities in the station - Public Address (PA) system, Closed Circuit Television, Automatic Fare Collection and Passenger Assistant Telephone.(99)"Station Limits" means the limit of Metro Railway section which is under the administrative control of a station master as specified by special instructions.(100)"Station Master" means the person on duty who is for the time being responsible for the working of the station and traffic within station limits and includes the Assistant Station Master or any person who is for the time being in independent charge of the working of signals and responsible for the working of trains under the system of working in force.(101)"Station Master's Panel" means the panel in the Panel Operation Room which monitors and controls station signalling system.(102)"Station Section" means that portion of station limits at a block' station which forms the boundary of the contiguous block section.(103)"Subsidiary Rule" means a special instruction which is subservient to the general rule to which it relates and shall not be at variance with any general rule.(104)"Substation" means a building or area containing electrical equipment for reception and transmission of electrical energy.(105)"System of Working" means one or more of the systems specified in Chapter VII for the time being for the working of trains.(106)"Target Speed" means the speed displayed on the Motorman's console to indicate the speed the train must not exceed when it enters the next ATP block.(107)"Temporary Earth" means an additional earth which is applied after the issue of a "permit-to-work" and which must be removed prior to the cancellation of the permit-to-work".(108)"Terminal Station" means the station at the end of a line.(109)"Test Track" means the track in car shed area which is used to test movements of trains and performance of on board CATC equipment when required.(110)"Third Rail" means the rail on insulators laid by the side of the running rails by means of which electrical energy is supplied to electric trains through current collectors.(111)"Track Circuit" means an electrical circuit provided to detect the presence of a vehicle on a portion of track, the rails of the track forming part of the circuit.(112)"Track Feeder Breaker" means a circuit breaker controlling the supply of 750 volts DC to the third rail equipment.(113)"Traffic Controller" means a Metro Railway servant on duty who is for the time being responsible for regulating the working of traffic on a section of the Metro Railway with or without the centralised traffic control system and the ATS system.(114)"Traffic Hours" means the

period between the time of the start of the running of the first scheduled train in the morning and termination of the last scheduled train at night.(115)"Traction Current" means the current drawn by an electric train at 750 volts DC for movement.(116)"Traction Power Controller" means a competent Metro Railway servant who is for the time being responsible for the control of power supply and operations pertaining thereto on the traction power distribution system of the Metro Railway.(117)"Traction Power Distribution System" means a power distribution system provided for traction purposes.(118)"Traction Substation" means a substation where equipment are provided for converting AC to DC through rectifier transformer sets.(119)"Train" means one or more units of four vestibuled coaches with driving cabs at either end, or any self-propelled vehicle with or without a trailer, which cannot be readily lifted off the track.(120)"Train Describer System" means part of the signalling system which assigns trains on to the running line in accordance with the train time-table and tracks the movement/location of such trains while they are in passenger service.(121)"Train Hold Switch" is a switch provided on Station Master's panel which when operated will provide a zero' ATP Code on the track circuit at the platform to prevent the movement of the train.(122)"Train Radio" means a wireless telephone message communication system between the cab of the train and the control.(123)"Transfer Berth" means the portion of the track where communication and monitoring of a train while entering or leaving Car Shed is transferred from the Operations Control Center to the Car Shed Control Tower or vice versa.(124)"Transformer" means a static apparatus for transforming and supplying alternating current at different voltage;(125)"Two-aspect Signalling" means a signalling arrangement in which signals display at any one time either of the two aspects.(126)"Work Station" means the data entry/display device provided with the Traffic Controller for man/machine interface.

1.03Meaning of words and Expressions not defined in these Rules. - All other words and expressions used in these rules and not defined but defined in the Act or the Construction Act, shall have the meanings respectively assigned to them in those Acts.

1.04Classification of stations. - (1) Stations in a Metro Railway shall, for the purpose of these rules, be divided into four categories, namely:(a)terminal block stations are those at which the running lines terminate;(b)provisional terminal block stations are the stations not at the end of running line but provided with car reversing siding to enable reversing of trains.(c)intermediate block stations are the stations where the running lines do not terminate where there are no siding, and(d)non-block stations are stations other than those specified in sub clauses (a), (b) and (c).(2)A driving motorman must obtain an authority to proceed from the stations specified in above sub clauses (a) , (b) and (c) under the system of working specified in Chapter VII.

Chapter - II Rules Applying to Metro Railway Servants Generally

2. Supply of Copies of rules.

- The Metro Railway administration shall supply a copy of these rules and the amendments made there to -(a)(i)to each station;(ii)to each maintenance shed; and(iii)to such other offices as may be specified(b)to each Metro Railway servant on whom any definite responsibility has been placed by the said rules, or of such portions thereof as relate to his duties.

2.02Upkeep of the copy of rules. - Every Metro Railway servant who has been supplied with a copy of these rules, shall -(a)have his copy readily available when on duty;(b)keep it posted with all amendments;(c)produce the same on demand by any of his superiors;(d)obtain a new copy from his superior in case his copy is lost or defaced; and(e)ensure that the staff working under him are supplied with all amendments and that

they also comply with the provisions of this rule.

2.03 Knowledge of rules. - Every Metro Railway servant shall (a) be conversant with the rules relating to his duties and the Metro Railway administration shall ensure that he does so; (b) pass the specified examinations, if any; (c) satisfy himself that the staff working under him have complied with sub-rule (a) and (b); and (d) if necessary, explain to the staff working under him, the rules so far as these apply to them.

2.04 Assistance in observance of rules. - Every Metro Railway servant shall render assistance in carrying out these rules and report promptly any breach thereof, which may come to his notice, to his superior officer and other authority concerned.

2.05 Prevention of trespass, damage or loss. - (1) Every Metro Railway servant shall be responsible for the security and protection of the property of the Metro Railway administration under his charge. (2) Every Metro Railway servant shall endeavour to prevent - (a) trespass on Metro Railway premises; (b) theft, damage or loss of Metro Railway property; (c) injury to himself and others; and (d) fire in Metro Railway.

2.06 Obedience to rules and orders. - Every Metro Railway servant shall observe and obey - (a) all rules and special instructions; and (b) all lawful orders given by his superiors.

2.07 Attendance for duty. - Every Metro Railway servant shall be in attendance for duty at such times and places and for such periods as may be fixed by the Metro Railway administration and shall also attend at any other time and place at which his services may be required.

2.08 Absence from duty. - (1) No Metro Railway servant shall, without the permission of his superior, absent himself from duty or alter his appointed hours of attendance or exchange duty with any other Metro Railway servant or leave his charge of duty unless properly relieved. (2) If any Metro Railway servant, while on duty, desires to absent himself from duty on the ground of illness, he shall immediately report the matter to his superior and shall not leave his duty until a competent Metro Railway servant has been placed in charge thereof.

2.09 Taking alcoholic drink, sedative, narcotic, stimulant drug or preparation. - (1) While on duty, no Metro Railway servant shall be in a state of intoxication or in a state in which, by reason of his having taken or used any alcoholic drink, sedative, narcotic or stimulant drug or preparation, his capacity to perform his duties is impaired. (2) No Metro Railway servant, directly connected with the working of trains, shall take or use any alcoholic drink, sedative, narcotic or stimulant drug or preparation within eight hours before the commencement of his duty or take or use any such drink, drug or preparation when on duty.

2.10 Conduct of Metro Railway servants. - A Metro Railway servant shall - (a) wear the badge and uniform, as may be specified, and be neat and tidy in his appearance while on duty; (b) not wear any attire unsuitable for public appearance; (c) be prompt, civil and courteous; (d) not solicit or accept illegal gratification; (e) give all reasonable assistance and be careful to give correct information to the public; (f) not read newspapers and publication other than those connected with his duties, or play radios or other gadgets while on duty; (g) avoid any threatening gesture or behaviour or arguments as would tend to create adverse criticism of the Metro Railway administration. (h) give his name and designation without hesitation, when asked if his duties require him to contact the public; and (i) conduct himself, whether on or after duty on Metro Railway so as to merit the confidence and respect of the public.

2.11 Duty for securing safety. - (1) Every Metro Railway servant shall - (a) see that every exertion is made for ensuring the safety of the public; (b) promptly report to his superior any occurrence affecting the safe or proper working of the Metro Railway which may come to his notice; and (c) render on demand all possible assistance in the case of an accident or obstruction. (2) Every Metro Railway servant who observes - (a) any defective signal; (b) any obstruction, failure or threatened failure of any part of the way or works; (c) anything wrong with a train; or (d) any unusual circumstances likely to interfere with the safe running of trains, or the safety of the public; shall take

such immediate steps, as the circumstances of the case may demand, to prevent accident, and where necessary, advise the Traffic Controller or the nearest Station Master by the quickest possible means. Chapter - III Signals A. Signalling system overview

3. Central Control.

- A signalling system is provided on all running and reception tracks and in the Car Shed Yard tracks except for a few tracks used mainly for local shunting. The signalling equipment on the running and reception track is designed to operate as a fully automatic system utilising a computer installed at the "Operations Control Centre (OCC)" and is supervised by the Traffic Controller. Routing and timing of train movement including the movements to and from the Car Shed are controlled by the computer according to specific time tables. If normal running of trains is disrupted, Computer control can be continued to despatch trains at fixed intervals instead of specific timetable. Facilities for manual setting of routes are also provided.

3.01.2. Running tracks. - (i) Train Control System on running tracks normally operates in fully automatic mode except for manual operation of the coach doors by conducting Motorman and operation of the "Start" button at every station by the driving Motorman. Facilities are provided in the OCC for manual routing, hold trains at stations and automatic reversing of trains at the provisional terminal block stations in accordance with the information derived from the train describer system in addition to facilities provided in rule 3.01.1.(ii) At each station, a Station Master Panel is provided in the panel operation room with illuminated diagram to enable monitoring and control of station signalling system. These panels are normally inoperative but transfer of control to these can be done by the Traffic Controller to enable operation of trains in the event of signalling system failing to operate from OCC both automatically and manually.(iii) Driving of trains is controlled by Automatic Train Operation (ATO). The speed control of Train movement is effected by an Automatic Train Protection (ATP). Cab signals and other indications are provided in the Motorman's Console to enable the Motorman to monitor the train running and change to manual driving if and when needed.(iv) A 2-aspect wayside signalling system is also provided as a backup to the automatic System. When the trains are operated in automatic mode, these signals exhibit Auto aspect reminding the Motorman that he is to follow the cab signals. When manual station to station working is introduced, the 2-aspect signals are brought into use through local Station Master's Panel. The control of these signals is possible only from the local panel, but their indications are available on the mimic display panel at the OCC.

B. General Provisions

3.02 Signal. - Signal is an indication given to a driving motorman or a conducting motorman for controlling the movement of his train in all cases, except under approved special instructions.

3.03 Kinds of signals. - The signals to be used for controlling movement of trains on running lines, in car sheds and sidings shall be -(a) Cab Signals, (b) Fixed Signals, and (c) Hand Signals. The aspects of the signals displayed by day and by the night shall be the same.

3.04 Placing of fixed signals. - A fixed signal shall be clearly visible to the driving motorman of trains approaching it and shall be placed immediately over or to the right or left side of the line to which it refers unless otherwise authorised by special instructions.

C. Description of signals

3.05 Use of Signals. - (1) Use of Cab Signals - Train movements on the running track shall be governed by Automatic Train Protection codes which are displayed as speed indication in the leading driving motor cabs. These target speed indications provided in the driving cab are called speed codes. These speeds indicate the speed which should not be exceeded by the train at the exit of ATP block. Speed Codes other than 'o'

are called proceed codes.(2)Use of fixed signals - Except under approved special instructions, the Metro Railway shall be equipped with fixed signals as specified in these rules.3.06Colour light stop signals. - (1) All stop signals on the Metro Railway shall be colour light signals with aspects as explained in the pictures below.(2)Short range colour light signals shall be installed in tunnel sections, normally mounted at driving motorman's eye level.3.07Fixed stop signals for admission of approaching trains. - (1) A home signal shall be located outside all connections on the line to which it refers.(2)Where necessary, additional inner home signal may be provided.(3)Unless otherwise permitted by special instructions, where two or more lines diverge, the stop signal shall be provided with approved type of route indicator.3.08Fixed stop signals for departing trains. - (1) A starter signal shall be fixed at the limit beyond which no train may pass unless the driving motorman is given an authority to proceed under the system of working.(2)A starter signal should be placed outside all connections to which it refers except at stations where block section commencement boards are provided.(3)Shunting operation beyond the starter shall be carried out only in accordance with special instructions.3.09Combination of signals. - Under approved special instructions, a colour light home signal may be combined with the starter signal of a station in rear. When so combined, the arrangements shall be such that the combined signal shall display 'ON' aspect until conditions for taking 'OFF' both the signals have been fulfilled.3.10Placing of more than one signal on the same post. - Not more than one signal referring to trains moving in the same direction, whether on the same line or on separate lines, shall be placed on the same post, except for subsidiary signals.3.11Calling on Signal. - (1) Calling on signal is a subsidiary signal which when taken 'off' calls on the motorman to draw the train ahead with caution after the train has been brought to a stop even though the stop signal above it is at "ON" and indicates to the motorman that he should be prepared to stop short of any obstruction.(2)Calling on signal, where provided, shall be fixed below a stop signal governing the approach of a train. Under approved special instruction, calling on signal may be provided below any other stop signal" except the last stop signal.(3)A calling on signal shall show "no" light in the "ON" position.(4)The aspects of the colour light calling on signal are shown below.3.12Shunt signals. - (1) A shunt signal is a subsidiary signal for controlling shunting movements and shall be a position light type signal. It may be placed on a post by itself or below a stop signal other than home signal.(2)The aspects and indications of a shunt signal are shown below.(3)More than one shunt signal may be placed on the same post and when so placed, the top-most shunt signal shall apply to the extreme left hand line and the second from the top to the next line from the left and so on.(4)A shunt signal placed below a stop signal shall show no light in 'ON' position.(5)Where shunt signals are not provided, hand signals may be used for shunting.3.13Repeating signals. - (1) A signal placed in rear of the fixed signal for the purpose of repeating to the driving motorman of an approaching train the aspect of the fixed signal in advance is called repeating signal.(2)A repeating signal shall be a colour light signal provided with 'R' marker.(3)The aspects and indications of a colour light repeating signal shall be as shown below :3.14Electric repeater. - The aspect of any fixed signal which cannot be seen from the place from which the signal is worked shall be repeated to such place by means of an electric repeater.3.15Point Indicator. - Point Indicator where provided shall show a miniature white light in both directions when the point is set for the straight and a miniature green light in both direction when the point is set for the turnout.3.16Departure regulation light. - Departure regulation light shall be provided at the departure end of each station platform to assist in regulating the traffic.3.17Signals out of use. - (1) When a fixed colour light signal is not in use, it shall be distinguished by two crossed bars, each

bar being not less than 30 cms. long and 10 cms. wide.(2)Signals not in use shall not be litD.

Equipment of signals3.18Obligation to provide signals. - (1) Obligation to provide signals at stations and line - In all sections provided with CATC, the signalling equipment on the running track shall normally operate in fully automatic mode. The movement of the trains shall be monitored by the leading motorman in these sections through Cab Signals displayed in the Motorman's Console.(2)Obligation to provide fixed signals at stations and carshed cabins - In addition to cab signals, fixed signals as necessary shall be provided at block stations. On sections however where trains are worked on "One train only system", fixed signals as necessary or "Stop and proceed" boards in lieu thereof shall be provided in accordance with approved special instructions. In addition to the station signals, cab signals are necessary to provide the authority to proceed in case of CATC working.3.19Minimum equipment of fixed signals at stations and carshed cabins. - (a) Home and starter signals shall be provided at intermediate block stations and provisional terminal block stations.(b)Home signal and starter signal in opposite direction shall be provided at a terminal block station.3.20Additional fixed signals provided at stations and cabins generally. - In addition to minimum equipment of signal prescribed in rule 3.19 above, such other fixed signals shall be provided at every station as may be necessary for the safe working of trains.3.21Commissioning of fixed signals and cab signals. - Cab signals and fixed signals shall not be brought into use until they have been passed by the Commissioner of Railway Safety Metro Circle as being sufficient to secure the safe working of trains.3.22Signals at non-block stations. - Signals may be dispensed with and trains may be stopped in such manner as authorised by special instructions.E . Working of signals and points3.23Cab signals generally. - Train movements in the running track shall be normally governed by Automatic Train Protection (ATP) codes which are displayed as target speed indications in the leading driving cab. These target speed indications ensure that there shall always be sufficient unoccupied track in the event of an emergency brake application for the train to stop clear of any other train or obstruction ahead.3.24fixed signals generally. - (1) Every fixed signal shall be so constructed that in case of any type of failure, it shall remain at or return to its most restrictive aspect.(2)A stop or shunt signal which has been taken "off" for a train shall not be placed "on" until the whole of the train has passed it, except -(a)in case of emergency, or(b)where the signal goes to 'on' aspect automatically by the passage of train, the control operating the signal shall not be restored to its normal position till the whole of the train has passed it.(3)Mo fixed signal within station limits shall be taken 'off' without the permission of the Station Master or Traffic Controller or such person as may, for the time being, be in independent charge of the working of such signal.3.25Normal aspect of signals. - Train operation shall normally be in CATC mode and "Auto" aspect shall be normally lit. When working in manual mode, the fixed signals shall show their most restrictive aspect in their normal position.3.26Points affecting movement of a train. - A signal shall not be taken 'off' for a train until -(a)all points over which the train will pass are correctly set and all concerned facing points locked, and(b)the line over which the train will pass is clear and free from obstructions.3.27Looking of facing points. - Facing points for passage of trains shall be either inter-locked or key locked or shall be clamped and pad-locked.3.28Conditions for taking 'off' home signal. - When trains are running in ATO or CMM or RMM mode, the Home Signal at all stations will normally exhibit the "Auto" aspect reminding the driver that train running is governed by cab signals. In 'OFF' mode, the absolute block working will have to be resorted to and trains will be guided by manual aspects as under:-(a)At all stations, the home signal shall not be taken off until the train has been brought to a stop outside it unless the line is clear for an adequate distance

beyond the starter, or at a terminal station adequate distance beyond the place at which the train is required to come to a stand.(b)At terminal stations where adequate distance beyond the place where the trains normally come to a stand is not available, the home signal, or inner home signal where provided, shall be taken 'off' after the train has first been brought to a stand outside it and the line is clear up to the place at which the train is required to come to a stand.(c)The adequate distance referred to in clause (a) shall not be less than 180 metres except under approved special instructions.3.29Conditions for taking 'off' starter signal. - (1) When the trains are running in ATO or CMM mode, the Starter Signal at all stations will normally exhibit the "Auto" aspect reminding the driver that train running is governed by cab signals. In other cases, the. absolute block working will have to be resorted to and trains will be guided by manual aspects.(2)In the event of absolute block working -(a)A starter signal shall not be taken 'off' for a train unless permission to approach has been received from the block station in advance.(b)A starter signal shall not be taken 'off' for shunting purposes.3.30Condition for taking "off" calling on signal. - A calling on signal shall not be taken off until a train has been brought to a stand at the stop signal below which the calling on signal is provided.3.31Lighting of signals. - (1) All fixed signals and indicators shall be kept lit throughout the day and night.(2)Sub-rule (1) shall not apply to approach lit signals and Repeating signals while the 'section is in "Auto" mode.3.32Fixed Red Lights. - Fixed red lights shall be provided on terminal platform tracks, siding and car shed tracks to indicate the farthest points beyond which no train or shunting movements may be permitted.3.33Departure Regulation Light. - The blue light is approach lit when the train enters the platform and the section is in "Auto" mode and will remain lit as long as the train is required to stop at the station. The Traffic Controller can put the DRL to disuse without affecting train Operations if no regulation is intended.3.34Stop Board. - Stop Board of specified design shall be provided on platforms so as to be visible to the driving motorman of an approaching train, indicating the location where the train shall be brought to a stand for detraining and entraining of passengers.3.35Block Section Commencement Board. - Block Section Commencement Board is a board (as shown below) which when provided denotes the commencement of a block Section, and indicates the limit beyond which a train shall not proceed unless it has received the authority to proceed into the block section.3.36Traps and other points. - The Station Master shall take steps to ensure that all traps and other points are set against the line which they are intended to isolate.3.37Points. - (1) All points shall normally be set for the straight except when otherwise authorised by special instructions.(2)No Metro Railway servant shall interfere with any points, signals, or their fittings or any interlocking or other connecting gears for the purpose of effecting repairs, or for any other purpose except with the previous permission of the Station Master.(3)The Metro Railway servant concerned with the operation of points and signals shall not, while on duty, leave the place of operation of points and signals under his charge except as authorised by special instructions.F. Hand Signals3.38Exhibition of hand signals. - (1) Hand signals shall be normally given by hand signal lamps capable of displaying red, green and white aspects. When by flag, these would be of red and green colour.(2)Hands shall be used in emergencies only.(3)A white light waived violently shall be used as a stop signal in the absence of red light.(4)An incorrectly given hand signal shall be regarded as danger signal.3.39Methods of display of hand signals for controlling train movement. - Methods of display of hand signals for controlling train movement and indications, are explained below:-Indication(1)Stop Dead

(1)

(2)

(3)

Display of Red Light	Raising of both arms	Waiving of white light violently
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(2) Proceed - Display of green light steadily (3) Proceed with caution - Waiving of green light vertically Up and Down

When the speed is to be reduced further, this signal shall be given at a as lower and slower rate and when a stop is desired, the stop hand signal shall be shown

3.40 Hand signals for shunting movements. -

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|--|---|
| (1) To move away from the person signalling. | By waiving green light slowly Up and Down. |
| (2) To move towards the person signalling. | By waiving a green light from side to side across the body. |
| (3) To move slowly for coupling. | By holding a green light above the head and twisting the wrist. |
| (4) To stop dead. | By showing red signal. |

3.41 Knowledge and possession of hand signal. - (1) Every Metro Railway servant connected with the movement of trains, shunting operations, maintenance of installations and works of any nature affecting safety of trains shall have - (a) a correct knowledge of hand signals, and (b) the requisite hand signals in good working order with him and ready for immediate use while on duty. (2) Every Station Master and other supervisory staff shall see that the staff under him concerned with use of hand signals are supplied with necessary hand signalling equipment and have a correct knowledge of their use.

3.42 Duties of Station Master generally when a signal is defective. - (1) As soon as a Station Master becomes aware that any signal or indicator has become defective or has ceased to work properly, he shall - (a) immediately arrange to place the signal at 'ON' position if it is not already in that position. (b) report occurrence to the traffic controller who shall inform Metro Railway servant responsible for the upkeep of the signals. (2) When a Station Master receives information of any defect in a signal not within his station control limits from a driving motorman or any other Metro Railway servant, he shall immediately inform the traffic controller who shall advise the signal maintenance staff and also the Station Master concerned. (3) When the approach signal is defective, the Station Master shall - (a) advise the station in rear to caution the driving motormen of approaching trains, (b) inform the traffic controller on duty about the arrangements for receiving trains, and (c) after ensuring that the conditions for taking off approach signal have been fulfilled, advise the traffic controller to permit the driving motorman of the approaching train on radio telephone to pass the defective signal in accordance with special instructions. (4) When a departure signal is defective, the Station Master after ensuring that the conditions for taking 'off' starter signal have been fulfilled - (a) depute a flagman to hand over the written authority to proceed to the driving motorman and show hand signals for the train to start, and (b) keep the traffic controller informed about the defective signal.

3.43 Intimation to officials when defects remedied. - As soon as a defective signal has been put into good working order, the Station Master shall intimate the fact to the officials who were advised of its being defective.

3.44 Absence of a signal or a signal without light. - (1) If - (a) there is no signal at a place where it ordinarily exists, or (b) the light of a signal is not burning when it should, or (c) the aspect of a signal is misleading or imperfectly shown, or (d) more than one aspect is displayed, the driving motorman shall act as if the signal is showing its

most restrictive aspect.(2)At signals equipped with 'R' marker, and when absolute block working is in use, the driving motorman shall bring his train to a stand, if it does not show any light or show an imperfect aspect, and having satisfied himself that the signal is provided with a 'R' marker shall proceed preparing to stop at the next stop signal and shall be guided further by its aspect.(3)When the trains are worked on CATC system, the motorman shall observe rule 3,47(d).3.45Defective or damaged point. - (1) Whenever points, crossings, or check rails are defective or damaged, the Metro Railway staff in-charge of operation of points shall immediately arrange to report the circumstances to the Station Master.(2)The Station Master on becoming aware of such defect or damage, shall -(a)inform the traffic controller about it, and arrange to have the defect rectified by the person responsible for its maintenance;(b)personally ensure safe passage of trains, after setting and locking of facing points, and(c)arrange to keep the signal or signals concerned at 'ON' position until the defect is rectified.3.46Duties of driving motorman in respect of signals. - (1) The driving motorman shall be vigilant and cautious and pay attention to and obey every signal whether the cause of the signal being shown to him is known to him or not.(2)When he notices any unsafe condition, he shall immediately bring his train to a stop and after informing the conducting motorman and the traffic controller, proceed exercising great caution so as to stop short of any obstruction. He shall report the incident in writing at the next station on arrival.(3)Every driving motorman shall acquaint himself with the system of working, location of signals and other local conditions affecting the running of trains on the section over which he is required to work.3.47Duties of driving motorman when approach signal is 'ON' or defective. - The driving motorman shall not pass such signals and(a)bring his train to stand,(b)contact the traffic controller on radio or emergency telephone seeking permission from the Station Master to pass the signal, and(c)proceed past such signal at a restricted speed after proper authorisation in accordance with special instructions.(d)When trains are worked under CATC system and "Auto" aspect becomes defective with home signal exhibiting no light at the station, the driving motorman may proceed on indication of Cab Signal. He may inform the Traffic controller of the above defect immediately. In the event of failure of Cab Signal in addition to "Auto" aspect the driving motorman shall treat the home signal as at "ON" and shall take action as laid down in sub para (a), (b) and (c) above.3.48Duties of driving motorman when departure signal is defective. - The driving motorman shall not pass the starter in 'ON' position or a defective starter unless -(a)the train has been brought to a stop at the station,(b)a proper authority to proceed under the system of working is received by him, and(c)a proceed hand signal is given in accordance with special instructions.(d)when trains are worked under CATC system and "Auto" aspect becomes defective with departure signal exhibiting no light at the station, the driving motorman may proceed on indication of Cab Signal. He should inform the Traffic Controller of the above defect immediately. In the event of failure of the Cab Signal in addition to "Auto" aspect, the driving motorman shall treat the departure signal as at 'ON' and still take action as laid down in sub para (a), (b) & (c) above.3.49permission before entering a running line. - No driving motorman shall take his train on any running line or cross it until he has obtained permission of the Station Master in the manner as may be specified and has satisfied himself that all correct signals have been shown.3.50Reporting of defects in signals. - If a driving motorman observes that a signal light is imperfectly visible or partially obscured, he shall report the matter to the traffic controller on duty who shall take steps to inform the Station Master and also advise the persons concerned to get it rectified immediately.

Chapter - IV Working of Trains GenerallyA. Timing

4. Standard Time.

- The working of trains between stations shall be regulated by the Indian Standard Time.4.02Adherence to advertised time. - No train carrying passengers shall be despatched from a station before the advertised time.4.03Setting watch. - Before a train starts from a terminal station, the conducting motorman shall set his watch by the Station Clock and communicate the time to the driving motorman who shall set his watch accordingly. On section where trains are run with single Motorman, the Motorman shall set his watch in accordance with the procedure laid down in rule 11.02.4.04Supply of working time table. - (1) A copy of the working time table for the time being in force shall be supplied to each station, conducting motorman, driving motorman, inspector of way or works, signal inspector and any other Metro Railway servant requiring the use of the working time table during the course of his duties.(2)A copy of the said working time table, shall, on issue be supplied to the Commissioner of Railway Safety (Metro Circle).4.05Supply of Schedule of Standard Dimensions. - A copy of the Schedule of Standard Dimensions for the time being in force shall be supplied to each inspector of way or works, train examiner and Signal Inspector.B. Speed of Trains Generally4.06Limits of speed generally. - (1) Every train shall be run within the limits of speed as may be specified for a section.(2)The sectional speed and the permanent speed restrictions shall be shown in the working time table.(3)The driving motorman shall, while driving in "Coded Manual" or "Restricted Manual" or "OFF" mode, regulate and control the running of the train on a section according to the time table and avoid exceeding maximum permissible speed or loss of time. The driving motorman shall observe all speed restrictions specified on a section.(4)When the train is run in ATO mode, the train speed is controlled automatically according to the permitted speed, but the driving motorman shall keep a good look out to take over driving and apply brakes if required.(5)Whenever it is necessary to indicate to the driving motorman the locations where trains are run at a restricted speed or where trains have to come to stop dead and proceed due to the track being under repairs or due to any other cause, action shall be taken as specified under special instructions.4.07Caution Order. - (1) Whenever in consequence of line being under repair or for any other reason, special precautions are necessary, a caution order detailing the Kilometer between which the precautions are necessary, the reasons for taking such precautions and the speed limit which the train shall travel shall be handed over to the driving motorman at stopping station immediately short of the place where such precautions are necessary or at such other station and in such a manner, as provided under special instructions.(2)Sub Rule (1) does not apply in cases of long continued repairs when fixed signals are provided at an adequate distance short of such place and have been notified to the motorman concerned.(3)The caution order referred to in sub rule (1) shall be a green paper and be made out as above and signed in full.4.08Limits of speed while running through stations. - (1) No train shall run through any station unless the line on which the train has to run has been isolated from all connected lines by proper setting of points and interlocking has been provided to maintain the conditions during the passage of the train.(2)The speed of a train while running through a station shall not exceed the speed as may be specified.4.09Speed of trains over facing points. - (1) The speed of a train over an interlocked facing point shall be as specified in the approved special instructions.(2)Speed of a train over a non-interlocked facing point, and cross over shall not exceed 15 kilometres per hour unless otherwise specified.4.10Train driven from the trailing driving cab. - No train shall be driven from the trailing driving cab outside station limits except in emergency in accordance with special

instructions and at a speed not exceeding 15 kilometres per hour.

C. Equipment of Trains and Train Staff

4.11 Head light and marker lights. - (1) All trains shall have an electric head light of approved design and in addition an electric white marker light in front. (2) The electric head light on the train shall be switched 'OFF' and marker light switched 'ON' when the train is stationary at a station, and on such other occasions as may be specified. (3) In case the head light of a train fails, the train shall run at a speed as may be specified.

4.12 Tail and parking lights. - (1) All trains shall have a red tail light in the rear. (2) Within station limits or in depot sidings when stabled a train shall have red parking light in the rear and in the front unless otherwise specified.

4.13 Equipment of driving motorman and conducting motorman. - Each driving motorman and conducting motorman shall have with him while on duty with his train, the following equipments and copies of rules, manual and time table: - (1) a copy of General Rules, Subsidiary Rules and Accident Manual; (2) a copy of the Metro Railway working time table; (3) a wrist watch; (4) two pairs of such spectacles as he is required to wear under medical advice; (5) a tricolour torch; and (6) Cab equipments such as : (a) First Aid Box. (b) Emergency Telephone and Train Radio. (c) Train P.A. System. (d) Earthing Rod. (e) Passenger Detraining Ladder during emergency. (f) Tail Lamp (fixed) in last vehicle. (g) Wedge. (h) Fire Extinguisher. (i) Trouble Shooting Tool Box. (7) such other articles as may be specified.

4.14 Manning of trains. - (1) (a) Except as otherwise provided by special instructions, no train shall be allowed to be in motion on any running line unless the leading cab is manned by a driving motorman and the rear cab by a conducting motorman. (b) The driving motorman and the conducting motorman shall be persons duly qualified and in possession of a competency certificate to move or drive or conduct the train. (c) For motorman working trains in sections provided with CATC system, such competency certificate may be jointly issued every year by authorised officers of signalling and electrical department who shall thoroughly examine the knowledge of motorman of CATC system. (2) If a driving motorman becomes incapacitated while the train is in motion, the train shall be brought to a stand. The traffic controller on duty shall be informed by the driving motorman or the "conducting motorman and action as specified shall be taken by all concerned. The Traffic Controller shall also broadcast suitable information to the passengers on the Public Address System through Train Radio if required. (3) (a) In the event of the driving apparatus in the leading cab becoming defective, the train shall be driven up to the next station from the trailing driving cab by the conducting motorman in "OFF" mode under intimation to the Traffic Controller. The driving motorman in the leading cab shall be responsible for application of emergency brake and safely conducting the train. (b) Action to detrain the passengers at the next station, if required, clearance of the defective train from the running line and induction of another train for resumption of services shall be taken in accordance with procedures as specified. (4) Where trains are run with single motorman (in the leading cab) and without the conducting motorman (in the rear cab), the special instructions referred to in rule 4.14(1)(a) should clarify as to who will perform duties of conducting motorman as also the extent to which such duties shall be carried out.

D. Trains with Damaged or Defective Coaches

4.15 Examination of defective coaches. - (1) No train with a coach which has derailed or has been rendered defective shall be kept in service to run between stations until it has been examined and passed by a rolling stock supervisor. (2) Where a coach has derailed between stations, the driving motorman shall not take the train after rerailment to the next station unless the coach has been examined, and certified fit and accompanied by a rolling stock supervisor.

E. Precautions before Starting Trains

4.16 Duties of staff to examine notices before starting. - Every driving motorman and conducting motorman, after coming on duty to work train, shall examine the notices issued for their

guidance and ascertain therefrom whether there is anything requiring their special attention on the section over which they have to work.

4.17 Examination of trains. - (1) A train shall be examined by a rolling stock supervisor in accordance with procedures as may be specified. (2) Unless the rolling stock supervisor has given a report to the effect that the train is fit for traffic service in all respects and has the specified brake power, the Station Master of the station or the car shed in charge of the car shed where the train is examined, shall not give permission to put the train in service. The rolling stock supervisor shall in turn obtain a certificate of proper functioning from the signalling inspector as far as on Board CATC equipments are concerned.

4.18 Examination of train by driving Motorman. - The driving motorman shall, before the commencement of journey, ensure that - (a) the train is properly coupled; (b) all electrical couplings are properly made; (c) the train control and power apparatus are properly working; (d) the brake system of the complete train is working properly as specified; (e) the head and tail lights are functioning properly; (f) the train is in proper working order; (g) the radio communication system with the control is in working order; and (h) the cab signal display and the ON board CATC system is working properly.

4.19 Examination of train by conducting motorman. - The conducting motorman after coming on duty to work a train shall satisfy himself that - (a) communication system between the conducting motorman and the driving motorman is operative; (b) the door closing apparatus is working properly; (c) the passenger alarm apparatus on the train is working properly; (d) the train light and fan controls are in proper working order; (e) the emergency brake system is working properly; and (f) the public address system in the train and radio communication system with OCC is working satisfactorily. For section where trains are worked with single motorman (in the driving cab), rule 11.03 may be referred.

4.20 Driving motorman to obey certain orders. - At stations and during the journey the driving motorman shall obey - (a) any orders of the traffic controller in matters connected with starting, stopping or movement of trains or detrainment of passengers in mid-section during emergency; (b) any order communicated to him by the Station Master or any servant acting under special instructions, so far as the safe and proper working of his train will admit; and (c) any order given to him by the conducting motorman concerning safe working of the train or safety of passengers.

F. Duties of Staff working trains

4.21 Driving motorman and conducting motorman to keep a good lookout during journey. - (1) When the trains are driven in "ATO" mode, the driving motorman shall start the train from each station by pressing the "Start" button after he gets confirmation from the Conducting Motorman through bell code that all passengers have entrained and the doors are closed and the departure regulation light is extinguished. Further movement of train is automatically controlled till the train comes to stop at the next station and is berthed correctly which is confirmed by lighting of indications in the leading and the rear cabs. The Conducting Motorman shall operate the relevant door opening switches to allow detrainment of passengers. When trains are driven in other modes, both starting the train and its movement are controlled manually and the door opening and closing are to be done by the Conducting Motorman after physical verification of correct train berthing. (2) Every driving motorman and conducting motorman shall keep a good lookout while the train is in motion. (3) On noticing any dangerous condition or a red signal, the driving motorman shall take immediate steps to stop the train in all modes of train driving. (4) In emergency, the conducting motorman where provided, shall stop the train by application of emergency brake. For section where trains are worked with single motorman (in driving cab), rule 11.04 may be referred.

4.22 Application of parking brake by conducting motorman. - The conducting motorman shall apply parking brakes on the train when required by the driving motorman to secure the

train. For section where trains are worked with single motorman (in the driving cab), rule 11.05 may be referred.

4.23 Sounding of train whistle. - The driving motorman shall sound the whistle of the train according to the specified whistle code -(a) before putting train in motion; and (b) at such other times and places as may be specified.

4.24 Bell signals between conducting motorman and driving motorman. - When bell communication is provided between the leading and the rear driving cab, bell signal code, as may be specified, shall be used.

4.25 Passengers. - (1) Every conducting motorman shall keep a watch on the passengers entraining and detraining at stations and shall exercise due care while closing the doors of the coaches. He shall also warn the passengers before closing the doors on the public address system if provided on the train. (2) Means of communication (i) In every coach, Passenger Alarm System is provided and, when operated, the alarm apparatus draws the attention of the Driving Motorman without stopping the train. (ii) In the event of such an alarm operation, the driving motorman while continuing to proceed ahead, shall inform on the intercab telephone to the Conducting Motorman to check the affected coach and verify the reasons for such an operation. (iii) When trains are worked with single motorman, rule 11.06(2) may be referred.

G. Duties of staff on arrival

4.26 Driving motorman to see that the train is stopped at the proper place. - (1) When trains are run in ATO mode, they are designed to stop automatically not more than 50 cms. ahead or behind the stopping point and the doors on the platform side only are permitted to be opened which is indicated by lighting of indication in the Driving and Conducting Motorman's Console. (2) When a train stops at a station in other modes of driving, the driving motorman shall see that the train has stopped short of the starter signal or at the stop board so as to ensure that the train is properly berthed at the platform. If not, he shall inform the conducting motorman at once on telephone and prevent the opening of the doors of the coaches. (3) Where trains are worked with single motorman only, rule 11.07 may be referred.

4.27 Moving of train carrying passengers after it has been stopped at a station. - (1) When trains are run under ATO mode and when it has stopped beyond or short of the stopping point by more than 50 cms, as indicated in the console, automatic door by pass device is to be used to open the doors after the conducting motorman makes sure that there is no door outside the platform. (2) While driving in all modes, when a train carrying passengers has been brought to a stand at a station alongside, beyond or short of the platform, the driving motorman shall not move it except under orders of the conducting motorman. (3) For section where trains are worked with single motorman (in the driving cab), rule 11.08 may be referred.

4.28 Train crew not to leave the train till handed over. - (1) No driving motorman or conducting motorman shall leave his train until it has been handed over in accordance with special instructions. (2) For section where trains are worked with single motorman (in the driving cab), rule 11.09 may be referred.

4.29 Stabling of trains on running lines. - (1) When a train is stabled at a station on a running line, the driving motorman and the conducting motorman shall not relinquish charge until they have properly secured the coaches and ensured that the train is not fouling any points or crossings. (2) The Station Master shall ensure that -(a) all necessary points have been set against the line on which the train is stabled and such points have been secured with clamps and padlocks; (b) the keys of such padlocks are kept in his personal custody until the train is ready to leave the line; and (c) the coaches have been properly secured. (3) For section where trains are worked with single motorman (in the driving cab), rule 11.10 may be referred.

4.30 Reception of a train on an obstructed line. - (1) No train shall be received on an obstructed line at a station by taking off signals. (2) In emergency, if a train has to be received on an obstructed line, the Station Master shall inform the traffic controller who shall inform the driving motorman on radio telephone. The train

shall be moved slowly in accordance with special instructions.(3)The driving motorman shall keep his train well under control and be prepared to stop short of any obstruction.4.31Control of shunting. - (1) Shunting operations shall be controlled by cab signals, fixed signals or hand signals.(2)The speed during shunting operations shall not exceed 10 kilometres per hour unless otherwise authorised by special instructions.(3)The coaches shall not be loose-shunted.4.32Responsibility for shunting. - The Station Master or the car shed incharge shall see that the shunting of trains or coaches is carried on only at such time and in such manner as will not involve any danger.4.33Shunting on gradients. - When shunting is being performed on a gradient, the Metro Railway servant incharge of shunting shall ensure that parking brakes are put on and all precautions are taken to prevent the train or coaches getting out of control.H. Detrainment of passengers in Mid-section4.34Conditions for detrainment. - (1) Passengers shall not be detrained on to the track except in extreme emergency and on Traffic Controller's instructions.(2)Notwithstanding anything contained in sub-rule (1), if it is not possible for the train crew to establish communication with the traffic controller within 10 minutes of the stoppage of the train, the driving motorman shall, if in his judgement find detrainment is necessary, arrange to get the passengers detrained and escorted by the conducting motorman to the nearest station, only after taking all necessary safety precautions including switching OFF of 3rd rail.(3)Notwithstanding the provisions of sub-rule (1) and sub-rule (2), in all cases of fire, fusing, fumes etc. or any other cause presenting immediate hazard to passengers, arrangement for detrainment shall be made as quickly as possible.(4)The train shall be kept secured by application of parking brakes.(5)For section where Trains are worked with single motorman (in the driving cab), rule 11.11 may be referred.4.35Procedure for datrainment. - In all cases of detrainment, traffic controller shall ensure that -(a)traction current is switched 'OFF';(b)tunnel light is kept burning;(c)a Metro Railway operating official is deputed to supervise detrainment of passengers and to escort them safely to the nearest station; and(d)if such Operating official cannot be immediately deputed, advise the train crew to arrange detrainment under their supervision. The passengers shall be escorted to the nearest station by the conducting motorman.For section where trains are worked with single motorman (in the driving cab), rule 11.11 may be referred.Chapter - V Control and Working of Stations

5. Responsibility of the Station Master for working.

- The Station Master shall -(a)be responsible for the efficient discharge of the duties devolving upon the staff employed under his control within the station limits and such staff shall be subject to his authority and direction;(b)report, without delay, to his superior all neglect of duty on the part of any Metro Railway servant under his control;(c)see or cause to be seen that all signals, points, emergency equipments devices, platform indicator, CCTV surveillance equipment where provided, AFC equipments, lifts and escalators or any other machinery provided at his station are kept in proper working order and shall report all defects therein to the proper authority;(d)see that the working of the station is carried out in strict accordance with the rules and regulations for the time being in force;(e)see that no person other than the authorised person at the station asks for or gives permission to approach or gives authority to proceed;(f)see that any working notices or instructions or orders issued by the Metro Railway administration are properly exhibited or distributed to staff concerned;(g)see that the train timings and fare lists are correctly exhibited at the station;(h)see

that all staff under him are supplied with a copy of these rules or relevant extracts thereof.(i)frequently visit the platforms, booking counters, ticket collection gates and other areas under his administrative control to maintain an effective supervision and to ensure that the platforms, passenger circulating areas, working offices and other areas are kept neat and clean;(j)attend to all passenger complaints or requirements and give necessary assistance to passengers when required;(k)perform any other duties as may be specified.5.02Keeping of books and returns. - The Station Master shall see that all books and returns are neatly kept and posted regularly.5.03Access to and operation of equipment. - No unauthorised person shall be permitted to have access to places from where points, signals, electrical communication instruments or any other appliances connected with working of the Metro Railway are operated.5.04Access to booking office and areas not open for public. - (1) Only persons authorised under special instructions shall be permitted inside booking offices and other offices.(2)Suitable notices shall be displayed restricting entry to prohibited areas.5.05Forms. - (1) All messages and written authorities connected with working of trains shall be prepared on forms as may be specified and shall be stamped with the station stamp.(2)If the necessary printed form is not available, a manuscript form containing particulars shall be prepared as an emergency measure and the reasons therefor will be recorded in the station diary.5.06Station Working rules. - In addition to the general rules and special instructions of Metro Railway, each station shall be provided with the station working rules applicable to the station.5.07Opening of stations. - Stations shall remain open throughout traffic hours unless otherwise authorised by special instructions or when temporary closure is necessary in emergencies.5.08Control of over-crowding on platform. - (1) Station staff must monitor directly or as an alternative through the Closed Circuit TV.(2)In case of over-crowding on the platforms, the sale of tickets shall be stopped temporarily and regulation of passengers shall be enforced in accordance with special instructions.(3)In cases referred to in sub-rule (2), -(a)the driving motorman of the approaching train, and(b)the passengers at the stations, shall be cautioned.5.09Prohibition of begging, vending, smoking, etc. - No person shall beg, vend, smoke create nuisance or create inconvenience to other passengers and misuse Metro Railway.5.10Prohibition against parrying of dangerous/offensive goods. - (1) No person shall take or cause to be taken any dangerous or offensive goods upon the Metro Railway.(2)If any Metro Railway Official has reason to believe that any such goods are contained in a package in the custody of the passengers, he may cause the package to be opened for the purpose of ascertaining its contents.5.11Securing of metro coaches. - The Station Master shall ensure that metro coaches stabled at the station are properly secured in accordance with special instructions.5.12CATC Emergency Stop Plunger. - (1) Emergency Stop Plungers are provided on all station platforms at regular intervals to enable the passenger and Metro Railway servant to stop the train in the station limits in the event of emergency. Limits for operation and procedure for resetting these switches shall be in accordance with special instructions.(2)If Metro Railway Administration is satisfied that the mischievous use of emergency switch is prevalent, it may, direct the disconnection for the time being of the above facility in all or any of the stations wholly or partially.

Chapter - VI Accident and Unusual Occurrences

A. General

6. Definition of 'emergency'.

- An incident involving injury to passengers and employees, damage to Metro Railway equipment or property, delay or disruption to traffic or any combination of these circumstances shall be considered as 'emergency' and dealt with accordingly.

6.02 Reporting of incidents by Metro Railway servant. - The incident shall be reported by Metro Railway servant concerned or any other person who notices it with utmost expediency to the traffic controller on duty, and to the nearest Station Master.

6.03 Duties of traffic controller in case of emergency. - (1) When a report of any incident or obstruction is received by the traffic controller, he shall see that all necessary precautions are taken by the most expedient means possible, for the protection of traffic or Metro Railway property and equipment. (2) In case of an accident, the traffic controller shall arrange for all necessary assistance to be sent to the site of accident. (3) The traffic controller on duty shall, on receipt of information about any incident, immediately inform the nearest Station Masters, departmental supervisors and officers concerned who shall take necessary action in accordance with special instructions.

6.04 Duties of Station Master and departmental supervisor generally in case of emergency. - A Station Master or departmental supervisor, on being informed about an incident, shall - (a) take action as possible within his means and in accordance with special instructions to tackle the situation and inform the traffic controller, if any outside assistance is required, and (b) submit a report on each incident after normal conditions have been restored in accordance with special instructions.

6.05 Order of priority for action in emergency. - In case of an emergency, action shall be taken as promptly as possible in the following priorities: (a) Save life and alleviate sufferings; (b) Protect Metro Railway property and equipments; (c) Restore conditions for safe running of trains; (d) Resume traffic services.

6.06 Recording of activities during 'emergency'. - A detailed record of all activities till the 'emergency' lasts shall be maintained in chronological order by the traffic controller.

6.07 Traffic regulation. - Traffic regulation as required shall be arranged by the traffic controller. Trains shall be worked between stations, as possible, in accordance with special instructions.

B. Trains stopped between stations.

6.08 Train defect. - If a train is stopped by reason of any defect, the driving motorman and the conducting motorman shall communicate with each other. The driving motorman shall - (a) after ascertaining the cause, inform the traffic controller; (b) take such action as he is competent to take to rectify the defect and clear the section; (c) inform passengers of the circumstances, if an extended delay is likely; (d) inform the traffic controller, if an assisting train is required to clear the disabled train from the section, and wait till the assistance arrives; (e) not take any action to move the train after assistance has been asked for, even if the train defect is rectified, unless the traffic controller has confirmed that the assisting train has not entered the blocked section and arrangements for assistance have been cancelled; (f) take action to detain passengers in accordance with special instructions, if so desired by the traffic controller, after ensuring that the traction current has been switched off; and (g) give a report in writing to the Station Master on his arrival at the station. For Section where trains are worked with single motorman (in the driving cab), rule 11.12 may be referred.

6.09 No traction current. - If a driving motorman becomes aware when running between stations that the traction current has been switched off and is not switched on again - (1) he shall proceed to the next station, if possible, keeping a sharp look out for hand danger signal or any unusual circumstances on the way. On arrival at the next station he shall seek instructions from the Station Master. (2) he shall, if it is not possible to proceed to the next station; (a) stop his train at a convenient position and secure it against rolling

movement as per special instructions;(b)establish communication with the traffic controller and try to ascertain the cause, if traction current is not switched on within specified time;(c)inform the passengers of the circumstances and detain the passengers, if necessary, in accordance with special instructions; if traction current is not likely to be restored within 10 minutes.(d)clear the section as instructed by the traffic controller; and(e)check up from the traffic controller, in case where an assisting train is required from which end the assisting train is being sent and take further appropriate action as directed by him.For Section where trains are worked with single motorman (in the driving cab), rule 11.13 may be referred.

6.10 Train parting. - (1) After both parts of the train have come to a stop due to automatic application of emergency brakes in the event of parting of a train while in motion, the driving motorman and the conducting motorman shall prevent rolling of the respective parts as per special instructions.(2)The driving motorman after communicating with the conducting motorman shall report to the traffic controller about the circumstances.(3)The train shall be cleared intact after coupling the two parts when couplers are not damaged. In case of damage at mechanical couplers, the two parts shall be cleared separately in accordance with instructions received from traffic controller.(4)When assistance is required to clear the section, traffic controller shall be so informed by the driving motorman and action shall be taken as directed by the traffic controller.(5)The traffic controller on receipt of information about the parting of the train shall keep the Station Master at both ends advised. He shall also attempt to inform the passengers on both the portions of the trains over Train Radio in case the motormen are not able to do the same.(6)For Section where trains are worked with single motorman (in the driving cab), rule 11.14 may be referred.

6.11 Train in a block-section without authority to proceed. - (1) The driving motorman shall, on becoming aware that he does not have authority to proceed, inform the conducting motorman of the circumstances and take immediate action to stop the train.(2)The driving motorman shall, thereafter establish communication with the traffic controller and obtain his permission to proceed to the nearest station.(3)The driving motorman shall, after informing the conducting motorman, move the train to the next station.(4)The incident shall be reported in writing by the driving motorman on arrival at the next station.(5)The traffic controller on getting information from the Station Master or otherwise about a train having entered a block section without authority to proceed shall arrange to have the train stopped as per special instructions.(6)For Section where trains are worked with single motorman (in the driving cab), rule 11.15 may be referred.

C. Unusual occurrence

6.12 Fire and smoke. - (1) All Metro Railway servants shall be conversant with the provisions of fire fighting manual or any other approved or special instructions for the time being in force.(2)On noticing fire, which may endanger life or cause damage to property or obstruction to running of trains, a Metro Railway servant shall -(a)take all possible steps to save life and property, prevent fire from spreading and extinguish it as necessary; and(b)report the incident to the nearest Station Master or the departmental supervisor concerned when equipments are involved in the fire.(3)The Station Master or the departmental supervisor concerned on receipt of such information shall -(a)report the incident to traffic controller giving information regarding location, nature and extent of fire, seek assistance as necessary;(b)take all possible action within his means to have the fire extinguished with the assistance of local staff; and(c)render all possible assistance to the persons, if any, involved in fire accident and call for medical relief if necessary.In case of injuries of serious nature,action shall be taken to despatch such persons to the nearest hospital by the fastest means.(4)On receipt of a report regarding incidence of fire, the traffic controller shall -(a)collect information regarding location, nature and extent of the

smoke or fire;(b)arrange to have the electric current switched off, if necessary;(c)inform all the officials concerned in accordance with special instructions;(d)arrange assistance as required, including activation of smoke extraction system wherever existing in accordance with special instructions -(e)arrange detrainment of passengers if required; and(f)regulate traffic suitably keeping the passengers and station staff informed.(5)(i)The train shall be worked to the next station by the driving motorman, if practicable, where prompt action shall be taken to deal with the outbreak including cutting off the source of electric supply to stop serious arcing or fusing.(ii)If it is not possible to take the train to the next station in advance, the driving motorman shall make efforts to bring the train to a stand at a place convenient for the detrainment of passengers.(iii)If there is a risk of fire spreading, the train shall be divided, if possible, and arrangements made to clear unaffected portion of the train.(6)For section where trains are worked with single motorman (in the driving cab), rule 11.16 may be referred.6.13Electrical equipment on fire. - In case the fire is on or adjacent to any electrical equipment, the Metro Railway servant concerned, if he is competent to handle the equipment and trained for such purpose, shall arrange to switch off the current and isolate the affected part.6.14Flooding of tunnel. - (1) (i) When a Metro Railway servant notices a flood condition in the tunnel, he shall immediately report to the traffic controller and provide the information regarding location of the affected area, approximate water level with respect to the rail top, place where the water is entering the system, if known, and estimated flow and length of the flooded area.(ii)The traffic controller shall, on receipt of information, report the incident to all concerned in accordance with special instructions.(2)(i)The driving motorman of any train approaching the area shall be cautioned by the traffic controller.(ii)When the water level is above the central drain, train services over the affected area shall be suspended.(3)(i)The traction power supply shall be switched off in the affected flooded length after ensuring that the train is standing there.(ii)The traction power supply shall be restored after the situation has normalised in accordance with the special instructions.(4)When a train gets stalled in the flooded area, action shall be taken to detrain passengers under rule 4.34.(5)The departmental supervisors concerned, on receipt of information, shall take steps to tackle the flooding condition in accordance with procedures under special instructions.(6)For section where trains are worked with single motorman (in the driving cab), rule 11.17 may be referred.6.15Report of unsafe conditions likely to affect running of train. - (1) The driving motorman, conducting motorman and Station Master shall advise the traffic controller of any known conditions or unusual circumstances likely to affect the safe and proper working of trains.(2)The traffic controller, on becoming aware of such defect or failure, shall inform the same to the departmental supervisor concerned responsible for the maintenance.6.16Action to be taken in case of accident. - (a) Arrangement for medical aid, relief operation, transport of injured, ex-gratia payments etc. shall be made in accordance with special instructions;(b)Necessary announcement regarding traffic regulations till the emergency lasts shall be made on the public address system at stations and on trains or as otherwise considered necessary; and(c)In case of serious accident involving suspension of services, injury to the passengers, details as considered necessary for information of the general public should be made known through the press and other media.Chapter - VII System of Working

7. System of working.

- All trains working between stations shall be worked on one of the following systems:-(a)Continuous Automatic Train Control.(b)Absolute Block System.(c)One train only system.

7.02 Authority to enter the block section. - (1) A driving motorman shall not take his train into the block section unless he has received an authority to proceed as specified under special instructions.(2)Provided that in an emergency the traffic controller may permit a second train to enter the section in accordance with special instructions.

A. Continuous Automatic Train Control System

7.03 Essentials of Continuous Automatic Train Control (CATC) System. - (1) (i) Where train movements are controlled by ATP system, "the line shall be provided with continuous track circuiting.(ii)The line between two adjacent block stations shall be divided into a number of ATP Blocks.(iii)Target speeds for each ATP block transmitted in the form of ATP codes by speed code transmitters at the station to the train are so regulated that trains observing these speeds shall stop on service brakes behind an obstruction (with buffer block clear) and in event of failure of service brakes, emergency brake will be applied to ensure the stoppage of the train clear of obstruction.(iv)"Resetting" of the emergency brakes shall be possible only after the train has come to a complete stop.(v)Before proceed codes can be transmitted to the train in approach of the terminal and provisional terminal block stations,ATP system ensures that all facing points en-route are correctly set and locked and all trailing points including isolation are set.(vi)proceed codes between any two stations will be transmitted only when the said section is set to work in "Auto" mode on Station Master's panel.(vii)ATP working shall be provided only for normal direction of traffic.(2)When driven in "ATO" mode -(i)the acceleration, coasting and braking to stop the trains at the station without overrun are controlled automatically. The driving motorman shall however keep a good lookout to apply emergency brake if situation so warrants.(ii)the conducting motorman shall open and close the coach doors as guided by suitable visual indications activated by platform door loop.(iii)as guided by the departure regulation light, the driving motorman shall start the train by operating "Start" button only when "proceed" code is present on the cab signals.(3)When train is driven in "coded manual" mode, the trains are controlled by cab signals and ATP codes, but are driven manually. The motorman shall be fully responsible for controlling the train speeds according to the target speeds indicated.(4)ATP codes and cab signals are rendered ineffective in the "restricted manual" mode and "off" mode of driving and trains are worked on absolute block system or under special instruction. The motorman shall be fully responsible for the operation and safety of the train duly observing the station signals and block signalling rules.(5)The driving mode shall be changed only when the train has come to a complete stop.(6)Reverse direction of movement shall be done in 'OFF' mode only.(7)When the train movements are controlled by the Automatic Train Supervision (ATS) system,(i)Each of the train put to run in the section will be identified by its rake number, link number and train number either by the Car Shed panel operator or by the Traffic Controller. This identity is carried forward along with the train during its movement in the section and is exhibited on the mimic display panel and the work stations at the OCC.(ii)The mimic display panels and the work stations at OCC also display the status of all the signals and points and other signalling equipment in the entire section.(iii)Time-table pertaining to the day of operation will be loaded into the computer at the OCC in the beginning of the day.(iv)This computer links up the train description with the time-table data and sets the route in the terminal station and the provisional terminal stations according to the link.(v)On approach of the train to the station, command to set

the route is sent from the computer to the station signalling system which processes it in accordance with the safety criteria attached to the route setting.(vi)The computer also regulates the dwelling time of the train at each station platform according to the timetable.(vii)The computer also sets the passenger destination indications at each station and announces the arrival of train on each platform in advance.(viii)Traffic Controller may intervene to regulate or route the trains manually when the situation so warrants.(ix)Traffic Controller can also transfer the control of individual station panels to Station Masters to enable local operation when situation so warrants.

7.04 Duties of Motorman in case of defective ATP/ATO. - (1) Failure of ATP Track Equipment -In the event of failure of ATP Track Equipment in a Section,(i)The train shall come to a stop either by service braking or by emergency braking automatically.(ii)The driving motorman, should report by radio to the Traffic Controller this event duly giving his train number and the location of the train. The Traffic Controller after ascertaining the safety of train running will authorise by radio the movement of the train in the restricted manual mode. The driving motorman shall then continue to the next station in RMM mode and change to ATO or CMM mode as applicable over rest of the line duly informing the Traffic Controller.(iii)In the event of prolonged failure of ATP track equipment in the section, Traffic Controller may decide to introduce Absolute Block working between the two stations on either side of the faulty ATP block.In such a case the Traffic Controller shall transfer the control to the stations on either side.The driving motorman of all following trains shall switch over to the "OFF" mode at the station in rear for train operation between these two stations after obtaining due confirmation from the Traffic Controller.On arrival, at the station in advance, the driving motorman shall change over to ATO or CMM mode as applicable over the rest of the line.(2)Failure of ATP On-Board Equipment -In case of defect in the On-Board ATP Equipment rendering the complete CATC system including RMM mode unworkable, the train may have to be run in the "OFF" mode in which case absolute block working will have to be introduced in the relevant section till the defective train is removed from service.Note: Restoration of normal working after rectification of defect causing abnormal working mentioned in sub-rules (1) (iii) and (2) above shall be done by Traffic Controller on receipt of confirmation from Signal Inspector and when there is no train in block section.(3)Failure of ATO Track Equipment -If the driving motorman notices that while running in ATO mode his train is not stopping at station due to failure of ATO Track Equipment at the station, he shall take prompt action to stop the train at the station by applying service/emergency brake manually. The driving motorman shall suitably arrange to back the train on to the platform in case the train overshoots the stopping position. He shall also arrange to activate the automatic door bypass switch in case it is needed due to failure of the ATO. The driving motorman shall also inform of such failure to the Traffic Controller, who shall instruct all the following trains motormen to approach the affected station in CMM mode and revert back to ATO mode while leaving the affected station, provided the conditions so permit.(4)Failure of ATO On-Board Equipment -In the event of failure of ATO On-Board equipment, the driving motorman whose ATO has become defective will drive the train under CMM mode.

7.05 Duties of the Traffic Controller in the event of defect of CATC. - (1) On learning from the driver regarding the stoppage of the train due to failure of ATP, the Traffic Controller shall -(i)check any fault alarm for the area concerned by an audiovisual indication as provided in the system in the OCC.(ii)check the occupancy of the track ahead as indicated on the mimic display panel and the work station.(iii)check the position of the preceeding train.(iv)report the details to the person nominated under special instructions for corrective action.(2)If the track ahead is shown to be unoccupied on the mimic display panel or the Work Station and the Traffic

Controller is satisfied that there is no apparent reason why the train should not proceed forward, he shall authorise the driving motorman to proceed in Restricted Manual Mode to the next station ahead. After the train has arrived at the station ahead and the driving motorman confirms reverting to the ATO" or "Coded Manual Mode" of driving and display of Proceed" code in the cab, the Traffic Controller may authorise the change of driving mode. (3) If the track ahead is occupied or obstructed, the Traffic Controller shall permit a train to be worked into that occupied section only when necessary to assist a defective train. He shall authorise the driving motorman to proceed with extreme caution in Restricted Manual Mode upto a specific location. (4) In case the cause of the defect of ATP system is likely to continue for considerable time, Traffic Controller shall introduce Absolute Block Working in the relevant block section as follows:-(i) He shall ensure that the earlier train permitted to move on Restricted Manual Mode has fully cleared the block section. (ii) He shall inform the Station Master on either side that absolute block working is to be introduced. (iii) He shall, after the Station Control Panel is arranged to be manned by the Station Master, transmit necessary permission to enable operation of the particular section under "local" control. (iv) He shall contact the driving motorman of the trains and inform them of the particular block section in "OFF" mode/"RMM" mode. (v) He shall authorise the driving motorman to revert to "ATO" or "Coded Manual" mode of driving at the station in advance. (vi) He shall control the other trains in the section if so needed. (5) When the defect of the ATP in section is removed, Traffic Controller shall authorise the Station Masters of the above stations to revert to "Central" working and abandon manning of the Station Master's panel. (6) In case the Traffic Controller becomes aware of a route failure in a terminal or provisional terminal station through alarms or otherwise, he shall -(i) determine as far as possible what part of the route is not correctly set and inform the person nominated under special instructions for further action. (ii) if the failure has occurred while working in "Auto" mode, he shall attempt to set the route manually. If the route is set, the route shall remain in manual selection till the defect is removed. (iii) if the route cannot be set, he shall inform the concerned Station Master and after the Station Master confirms that the local control panel is manned, transmit the permission to enable local control of the interlocked area. (iv) continue to guide the Station Master regarding the route setting as necessary and act as an intermediary between him and the driving motorman as necessary. On rectification of the defect, he shall authorise the Station Master to close down Station Control Panel by transferring the control to "Central".

7.06 Duties of Station Master in the event of defective CATC. - (1) It may become necessary to suspend "Central" Control and transfer the control to individual station/stations in case of -(i) Failure of data transmission system between Central Control and station. (ii) Inability to operate points and signals from Central Control either automatically by computer or manually by the Traffic Controller. (iii) Delay in rectification of defect of ATP track equipments in any section. (2) The Station Master, upon receiving the instruction from the Traffic Controller to switch to local control, may -(a) come to complete understanding with the Traffic Controller regarding the route to be set and the movement to be carried out; (b) check that the position of the points and signals on his panel coincides with that in OCC; (c) operate the transfer switch to take local control at the Station Master's Panel; (d) attempt to select and set the route as earlier instructed by the Traffic Controller; (e) maintain local control of the area till further instruction from Traffic Controller; (f) if setting of the route from the Control Panel is not possible, take action as laid down in rule 3.45; (g) when failure of ATP track equipments in the section is likely to last for some time or cause service delays, trains will be worked from station to station over the section concerned on absolute block system. For this purpose, it will be necessary for the panels of

stations on either side of the affected section to be worked locally and operate the trains as per the provisions contained in rule 7.07, 7.08 and 7.09.B. Absolute Block System

7.07 Essentials of absolute block system. - (1) Where trains are worked on absolute block system - (a) No train shall be allowed to leave a block station unless permission to approach has been received from the block station in advance; and (b) such permission to approach shall not be given unless the line is clear, not only upto the first stop signal at the block station at which such permission to approach is given, but also for an adequate distance beyond it. (2) Unless otherwise authorised by approved special instructions, the adequate distance referred to in clause (b) of sub-rule (1) shall not be less than 180 metres. (3) Trains will be driven in "off" mode.

7.08 Conditions for granting permission to approach. - The line shall not be considered clear and permission to approach shall not be granted unless - (a) the whole of the last preceding train has arrived complete and has cleared an adequate distance beyond the first stop signal; as specified in rule 7.07(2) above; (b) all signals have been put back to 'on' behind the said train; (c) the line on which the train is intended to be received is clear of any obstruction upto the starter or, at terminal block stations, upto the place where the train is required to come to a stop; and (d) all facing points have been correctly set and locked for the admission of the said train and all trailing points have been set including isolation.

7.09 Rules and regulations for single line working on a double line section when one line is obstructed. - In case an accident to a train or track or ether obstruction precludes the use of one of the lines on double line section; the traffic may temporarily be worked over the other single line or over the portion of the obstructed line which is clear of obstruction under the system of "one train only system", subject to the following: (i) The line or the portion of the line is free from all obstructions. (ii) If there is any point over the line/portion of the line on which the train shall run under "one train only system", the same is set and locked. (iii) The occupants of the affected train have been detrained and none is left inside tunnel. (iv) The affected train is not fouling the other line and the same is properly secured.

C. One train only system

7.10 Essentials of one train only system. - Under the One Train only system, only one train shall be on a section at one and the same time.

7.11 Conditions for granting permission to approach and making over authority to proceed at block stations. - (a) Permission to approach shall not be given to a block station in rear, unless the block section between the stations is clear of all obstructions and the line on which the train is to be received is clear upto the place where the train is required to stop. (b) Authority to proceed shall not be handed over at a block station to the driving Motorman, unless permission to approach has been received from the block station in advance. (c) Train will be driven in the "OFF" mode only.

7.12 Procedure in case of accident or disablement on the "one train only" system. - (1) If a train becomes disabled and requires assistance or if an accident occurs which renders it impossible for the train to proceed, the driving motorman and the conducting motorman shall take action as laid down in rules 4.34 and 6.08. (2) In case of accident, the Traffic Controller and Station Master of adjoining station shall take action as laid down in rule 6.16. (3) In section where train is worked with single motorman, rule 11.11 may be referred.

D. General

7.13 Block back and block forward. - Block back or block forward shall be done only in accordance with the procedure prescribed under special instructions.

7.14 Authority for shunting in block section. - When permitting shunting in the block section, the Driving Motorman shall be given an authority for shunting in the block section as prescribed under the special instructions.

7.15 Isolation of siding. - All siding lines must be isolated from the running lines except under approved special instructions.

7.16 Obstruction at a block station or in the block section after permission to approach has been given. - No obstruction shall be permitted outside the home signal

and on the line on which the train is intended to be received after permission to approach has been given.7.17Shunting or obstruction in the block section. - Shunting or obstruction in the block section shall not be permitted unless the block section is clear and is either blocked back or blocked forward in accordance with the special instructions.Chapter - VIII Block Working

8. Means of getting or obtaining permission to approach.

- Permission to approach, transaction for the running trains between block stations shall be regulated by means of any one of or a combination of the following :-(a)Track Circuits;(b)Speed Code Transmitters;(c)Axle Counters through Panel Operation;(d)Electrical Communication Instruments.8.02Provision of instruments. - (1) Electrical communication instruments shall be provided at all block stations.(2)Panel Boards for granting of permission to approach through indication by means of electrical circuits shall be provided at all block stations to establish absolute block working as and when required.8.03Consent required before interfering with Block Working equipment. - No Railway servant shall interfere with the block working equipment or their fitting for the purpose of effecting repairs, or for any other purpose, except with the previous consent of the Station Master.8.04Certificate of Competency. - (1) No person shall give or take permission to approach for a train unless he holds a certificate of competency from a person authorised in this behalf under special instructions.(2)The certificate of competency referred to in sub-rule (1) shall be valid for a period specified in special instructions.8.05Train signal register. - (1) A train signal register shall be kept by the Station Master in accordance with special instructions.(2)Actual timings of messages sent or received or train received or despatched shall be entered therein as per special instructions. Timings shall be recorded to the nearest half minute.(3)All entries in the registers shall be made in ink or dot pen.(4)No erasure shall be made in the register, but if any entry is found to be incorrect, a line shall be drawn through it so that it may be read at any time, and the correct entry made over it.(5)The person who is the custodian of the register for the time being shall be responsible for all entries made therein and for correctly filling in each column thereof.8.06Authority to proceed. - Authority to proceed for a train under the system of working shall be -(a)display of proceed code in the cab signal while in ATO or CMM mode;(b)permission from Traffic Controller for the train stalled in the mid section due to track circuit/ATP failure to come to next station in 'RMM' mode.(c)while in "OFF" mode under Absolute Block System;(i)taking 'off of the starter signal; or(ii)any document or procedure specified in this behalf in special instructions.8.07Driving Motorman to examine authority to proceed. - (1) The driving motorman shall ensure before starting the train that -(a)he has obtained an 'authority to proceed';(b)the 'authority to proceed' given to him is proper;(c)that the authority refers to the ATP block/block section he is about to enter;(d)if the said authority is in writing, it is complete and duly signed in full and in ink or dot pen with station stamp.(2)If the conditions mentioned in sub-rule (1) are not complied with, the driving motorman shall have the mistake or the omission rectified before the train is started.8.08Conditions for closing the block section. - When trains are worked in Absolute Block system and when the train has cleared the block section and arrived at the station intact or cause of blocking the section has been removed, the block section shall be closed.8.09Responsibility of Station Master as to authority to proceed when the section is worked in Absolute Block System or One Train Only System. - (1) An authority to proceed shall not be given to the driving motorman except by Metro Railway servant appointed in this behalf by special instructions.(2)Authority to

proceed shall be given to the driving motorman after the procedure prescribed for the purpose has been followed;(3)When the authority to proceed is in writing;, it is correct, complete and signed in full in ink or dot pen with station stamp.8.10Failure of track circuits, axle counters, panel boards. - (1) Where track circuits provided for block working and their connections fail, or the axle counters when in case of block working fail to correctly count in and out, or the panel indications, when the station is in local mode and trains are worked in absolute block system, are out of order, permission to approach shall be obtained through the electrical communication instrument.(2)When permission to approach has been so obtained, an entry to the effect shall be made in the train signal register and the train allowed to proceed on the issue of written authority to proceed which shall also bear remarks to that effect.8.11Form for written authority to proceed. - (1) Authority to proceed shall be written on forms specially provided for the purpose by the Metro Railway administration.(2)Such forms shall be bound up in books and kept at each Block Station by the Station Master or some Metro Railway servant authorised in this behalf by special instructions.(3)No written authority to proceed shall be written out or signed until necessary.(4)Every message despatched in connection with the working of a train shall distinctly describe the train to which it refers.(5)For every train, a separate enquiry and reply shall be sent.8.12Special responsibility as to operation of panel. - The Station Master on duty shall be responsible, to ensure that-(1)no one but himself operates the panel for purposes of granting or obtaining of permission to approach;(2)no one except the person authorised by special instructions, opens the panel.N.B. - Normally, under CATC system, Station Panel will not remain in operation. Station Panel will be operated when authorised by Traffic Controller due to failure of CATC or any other reason.8.13Preservation of messages and written authorities to proceed. - Train messages and written authorities to proceed shall not be destroyed before the time as laid down in the special instructions.8.14Cancellation of permission to approach. - When permission to approach already granted is cancelled, the messages despatched or received shall be entered in the train signal register.8.15Working of trains in case of failure of communication including total failure of communication. - In case of failure of communication, trains shall be worked between stations as under -(1)When panel phone/magneto telephone provided for obtaining line clear fails, the line clear shall be asked through the traffic controller and line clear shall be obtained by the operation of line clear switch.(2)When line clear switch is defective, line clear shall be obtained through panel phone/magneto phone exchanging private number and the authority to proceed will be paper line clear ticket indicating private number thereon.(3)When both the line clear switch and panel/magneto telephone fail, the line clear shall be obtained through control phone exchanging private number and the authority to proceed will be paper line clear ticket. In such case, both the Station Masters shall indicate arrival and departure time of last preceeding train and the Traffic Controller shall keep a record of private number exchanged between stations.(4)When all the above communication systems fail, the trains shall be worked on "Authority to proceed without line clear" subject to -(i)The driving and the conducting motorman shall be advised about the circumstances.(ii)"Authority to proceed without line clear" on prescribed form (separate for UP & DN) shall be given to the driving motorman.(iii)A caution order restricting speed to 25 KMPH over the straight and 8 KMPH over a portion where view ahead is not clear shall be handed over to the driving motorman.(iv)Train shall run at an interval as specified in special instructions.(v)When approaching the station ahead the driving motorman must bring his train to a stand at the foot of the stop signal and shall move as guided by the signal or piloted post.(vi)Paper line clear ticket

should be issued as per special instruction.(vii)The driving motorman shall hand over the authority to proceed to the Station Master at the end of the affected section who will preserve this for inspection.(5)When all communications including the communication between the Traffic Controller and the motorman through radio telephone/emergency telephone fail, the train service will be regulated as per special instructions.8.16Failure of radio communication between train crew and traffic controller. - In the event of failure of radio communication between the train crew and the traffic controller, the train crew shall use emergency telephone to contact the traffic controller and act in accordance with special instructions.8.17Use and operation of block working equipment. - The use and operation of the instruments provided for block working shall be governed by special instructions.Chapter - IX Permanent Way and Works

9. Condition of permanent way and works.

- Each inspector of way or works shall be responsible for the condition of the permanent way and works under his charge.9.02Maintenance of line. - Each inspector of way or works shall -(a)programme and arrange maintenance works during non-traffic hours after obtaining power block on third rail;(b)see that his length of line or works in his charge is efficiently maintained;(c)promptly report to the Engineer-in-Charge all accidents or defects in the way or works, which he considers likely to interfere with the safe running of trains, at the same time taking such action as may be necessary to prevent accidents, and(d)co-ordinate with Signal Inspector so that CATC and other track equipments are not damaged or become defective while undertaking maintenance and repair works as required.9.03Keeping of materials. - Each inspector of way or works shall see to the security of all rails, chairs, sleepers and other material in his charge and ensure that such of the said articles as are not actually in use are properly stacked clear of the line so as not to interfere with the safe running of trains.9.04Inspection of permanent way and works. - (1) Every portion of the permanent way shall be inspected daily on foot by a Metro Railway servant appointed in this regard in accordance with special instructions.(2)All joint works connected with signals and connecting gears, points and crossing, third rail and any other equipment affecting the safety and working of trains shall be jointly inspected regularly in accordance with special instructions.9.05Works involving danger to trains or traffic. - (1) A gangman/worker/PWM shall not commence or carry on any work which may involve danger to trains or to traffic without the previous permission of the inspector of way or works or of any competent Metro Railway servant appointed in this behalf by special instructions and the Metro Railway servant who gives such permission shall himself be present to superintend such works and shall see that the provisions of rule 9.07 and 9.08 are observed.(2)Where the work under sub-rule (1) involves any signal or electrical gears, the presence of a competent representative of the department concerned shall be arranged during the period the work is in progress.(3)The traction current shall be switched off to ensure safety of staff, when necessary, in accordance with special instructions.9.06(a)Emergency repairs to track and structure - When a report is received from any source informing damage to structure or track requiring immediate attention for safe running of trains, the traffic controller shall, if the work is to be done during traffic hours -(i)give order to stop train services over the affected sections;(ii)inform the concerned Inspector of permanent way or works to proceed to the site of occurrence;(iii)have the traction current on the affected portion switched off before the work is commenced;(iv)resume train services over the affected section in accordance with special

instructions after the concerned structure or track has been attended and certified fit by the competent engineering official not lower than the rank of Permanent Way Inspector in case of track work or Inspector of Works in case of structures.(b)Work under conditions of impaired visibility - No rails shall be displaced and no other work which is likely to cause unsafe condition to traffic shall be performed in poor lighting or visibility conditions within the tunnel. In open sections/elevated structures in foggy or tempestuous weather impairing visibility, no rails shall be displaced and no work which is likely to cause unsafe conditions to the passage of trains shall be performed.9.07Precautions before commencing operation which would obstruct the line. - No person employed on the way or works shall change rails, disconnect points or signals, or commence any other operation which would obstruct the line until -(a)possession of the track has been taken over from the traffic controller by the authorised engineering official in accordance with special instructions;(b)all safety precautions for staff have been taken;(c)the engineering official-in-charge superintending the work at site has ensured that the traction current has been switched off, if necessary; and(d)the site of work is protected in accordance with special instructions.9.08Showing of signals to control train speeds. - Whenever due to lines being under repair or due to any other reason it is necessary to indicate to the driving motorman that he has to stop or proceed at a restricted speed;(a)a stop and proceed board or a speed indicator with a warning board of approved shape and size shall be provided for traffic in both directions under special instructions;(b)the driving motorman of approaching train shall be served with a caution order, informing him of the restriction and the details thereof; and(c)in addition to (a) & (b) above, for section equipped with CATC system, speed codes on the affected portion shall be arranged to be transmitted in such a way as to enable the train to follow the speed restriction automatically while driving in 'ATO' or 'CMM' mode. In case the train is being driven in RMM mode, it will be the exclusive responsibility of the motorman to obey the speed restriction.9.09Supervision of work. - Each inspector of way and works shall satisfy that in every gang employed in his length of line there is a competent supervisor.9.10Knowledge of signals and equipment of gang. - Each inspector of way or works shall ensure -(a)that every gangman and gangmate employed under him has a correct knowledge of hand signals;(b)that every gang employed in his length Of line is supplied with a permanent way gauge, and two hand signal lamps in addition to such other tools or implements as laid down in special instructions;and(c)that every Gangman/Trolleyman/PWM is periodically tested for his competence as laid down in special instruction and is in possession of competency certificate to perform his work.9.11Inspection of gauges, signals, tools and implements. - (1) Each inspector of way or works shall at least once in every month inspect the permanent way gauges, hand signal lamps, tools and implements supplied to the gangs under him under rule 9.10(b).(2)He shall see that any defective or missing articles are replaced promptly.9.12Responsibility of PWM as to safety of line. - Each PWM shall ensure -(a)that his length of line is kept safe for passage of trains;(b)that the hand signals, tools and implements supplied are kept in proper order and ready for use; and(c)that all the men working with him have a correct knowledge of hand signals.9.13Putting in or removing points or crossings. - Except in cases of emergency, no Metro Railway servant shall put in or remove any points or crossings on and from the running line otherwise than as permitted by special instructions.9.14Working of lorries, trollies and motor trollies. - (1) A material trolley is a vehicle which can be lifted bodily off the line by not more than four persons. A similar but heavier vehicle shall be deemed to be a lorry. Any trolley, which is self propelled by means of a Motor is a Motor Trolley. When a material trolley is loaded with permanent way or other heavy materials, it shall also

be deemed to be a lorry.(2)Each trolley or lorry shall have the minimum equipment as laid down in special instruction.(3)(a)No lorry or material trolley shall be placed on the line except under the supervision of a qualified engineering official-in-charge (permanent way or electrical or signals) who has been authorised by special instructions in this behalf.(b)Such official-in-charge shall be present at the site when it is used and shall be personally responsible for its proper protection, and removal from the line after use.(4)A lorry or a material/push/Motor trolley shall be run-(a)during non-traffic hours under conditions of clear visibility and under power block or(b)during traffic hours when track possession has also been taken of that section by the engineering official-in-charge and traction Power Controller has confirmed that the traction current on the section has been switched off.(5)(a)Material trollies/push trollies/Motor trollies or lorries shall not be left unattended when in use.(b)A lorry or material/push trolley/Motor trolley when not in use, shall be placed at safe place clear of the line and the wheels thereof be secured with a chain and pad lock.(6)At the close of the work, the Engineering official-incharge shall issue a certificate in writing to the nearest Station Master that the material trolley/lorry has been taken off the line and secured, the line is free from all obstructions, third rail alignment is clear from any tools, implements, wire etc. which might have been used at site, no staff is working in the section and the track is safe for resumption of train services. On confirmation of the receipt of safety certificate by the Station Master, the traffic controller shall permit switching 'on' of traction current and resumption of train services.(7)After a material trolley or lorry has been removed from the track, the Station Masters on duty at either end of the section shall, if necessary, restore to normal the axle counter of the section by utilising the resetting device as per procedure laid down in special instructions.

Chapter - X Power Supply and TractionCurrent Arrangements

10. Inspection of Electrical Way and Works.

- The Electrical Way and Works shall be inspected regularly in accordance with instructions by officials nominated for the purpose and in accordance with the duties assigned to them.10.02Permit to work adjacent to or involving electrical equipment. - (1) Works shall be carried out adjacent to electrical equipment or involving any parts thereof only by qualified Metro Railway servants.(2)No works under sub-rule (1) shall be undertaken unless an authorised electrical person has given a permit to work and in addition, nominated a qualified representative of the electrical branch, when necessary, in accordance with instructions on this behalf to be available at the site of work to ensure necessary safety and guidance.(3)The authorised electrical person shall not issue such permit to work without the knowledge and consent of the traction power controller who in turn, shall keep the traffic controller informed when train movements are affected.(4)Whenever such work is likely to affect any other installations, the work will be carried out as per special instructions.10.03Warning to staff and public. - All electrical equipment shall be regarded as being live at all times and consequently dangerous to human life, save and except in cases, where the electrical equipment has been specially made dead in accordance with instructions, on this behalf. Caution notices shall be prominently fixed near all vulnerable places to warn staff and public to exercise due caution.10.04Switching 'off' traction current. - (1) Traction current will ordinarily remain 'on' unless needed to be switched "off" either due to emergency or for any other purpose in accordance with instructions issued in this regard by the Chief Electrical Engineer.(2)When it is necessary for traction current to be switched 'off' during traffic hours in emergencies like:(a)to stop serious arcing

or fusing;(b)to stop train in unusual circumstances; and(c)when the flood water overflows the central drain;for a specified third rail section while the rest of the section remains 'on', the same shall be switched 'off by the traction Power Controller or through his authorised staff in the sub-station immediately after informing the traffic controller. The Traffic Controller shall also inform all concerned Metro Railway servants to ensure that there are no further train movements over the affected section. The traction power controller will issue emergency power block as per prescribed procedure to the authorised person who has informed him of the emergency.(3)When the cause of 'switching off' is over, the person who has taken emergency power block will inform the traction power controller to that effect and cancel the emergency power block. The traction power controller will switch 'on' the power in accordance with the instructions issued in this regard by the Chief Electrical Engineer.10.05Switching 'on' traction current. - (1) When traction current has been switched off, the current shall be switched 'on' in accordance with instructions issued in this regard by the Chief Electrical Engineer.(2)Before switching 'on' the current, the traction power controller shall obtain the permission of traffic controller.(3)In all cases where possession of track has been taken for any purpose, the traffic controller shall give said permission under sub-rule(2) after receiving a certificate from the engineering official in charge that running line, is safe and free from all obstructions.(4)Before resumption of traffic, the traffic controller shall obtain- a confirmation from traction power controller that the third rail is safe and the power has been switched 'on'.(5)The engineering official in charge nominated for the supervisory works over the section shall issue a certificate under sub-rule (3) after complying with procedure under special instructions.10.06Work on third rail or any associated equipment thereof. - No work shall be undertaken on third rail or its associated equipment or in zones within 2 metres from third rail except in accordance with instructions issued in this regard by the Chief Electrical Engineer.10.07Train maintenance works on the line. - When it is necessary to carryout any work on train which involves persons working within 2 metres from third rail, works shall be carried out with proper safety precautions in accordance with instructions issued by the Chief Electrical Engineer in this regard.10.08Battery locomotives. - The rules for movement and working of the battery locomotives shall be laid down by special instructions.Chapter - XI Working of Trains with Single Motorman

11. Manning of trains.

(1)Trains may be run with single motorman only (in the driving cab) and without conducting motorman in the rear cab in sections and for periods as notified under special instructions.(2)If the motorman becomes incapacitated/disabled to run the train but can establish communication with the Traffic Controller, the latter shall arrange for necessary replacement of motorman observing all precautionary measures and in accordance with special instructions.(3)If the motorman becomes incapacitated to run the train and cannot establish communication with Traffic Controller, the latter after a lapse of 10 minutes shall arrange to send one more motorman to the site after observing all necessary precautionary measures like switching off Traction Power. The motorman on arrival at site will take his train to the next station after ascertaining that Traction Power has been restored and he is permitted to start the train.(4)In the event of the driving apparatus in the leading cab becoming defective, the motorman may change the cab from front to rear and take the train back to the previous station operating the rear cabin driving apparatus with the permission of the Traffic Controller who will give such permission after duly verifying the clearance of the line upto the

station in rear where the train is to be received. In case the train has to be taken to a station in advance, another motorman will be arranged.

11.02 Setting Watch. - The motorman shall set his watch by the station clock before leaving the terminal station or have it matched with the clock at OCC after ascertaining from the Traffic Controller on Train Radio.

11.03 Examination of train. - The motorman shall before commencement of the journey, ensure that - (a) the train is properly coupled; (b) all electrical couplings are properly made; (c) the train control and power apparatus in both the cabins are working properly; (d) the brake system of the complete train including emergency brakes is working properly as specified; (e) the head and tail lights are functioning properly; (f) the train is in proper working order; (g) the Public Address System in the train and the Radio communication with the control are working satisfactorily; (h) the cab signal display and the on board CATC system are working properly; (i) the door closing apparatus is working properly; (j) the Passenger Alarm apparatus on train is working properly; (k) the train light and fan controls are in proper working order and (l) Rear Driving Cab is locked to prevent entry of any unauthorised person.

11.04 Motorman to keep a good look out during journey. - (1) (a) When the trains are driven in "ATO" mode, the motorman shall start the train from each station only after ensuring either physically or by other means provided that all passengers have entrained. He shall also ensure that the departure regulation light is extinguished and operate the "door close" switch. He shall start the train by pressing the "start" button, but further movements of the train are controlled automatically till the train comes to a stop at the next station and is properly berthed as indicated in his indication panel. He shall then operate the "door open" switch to allow detraining of passengers. (b) When trains are driven in other than ATO mode, both starting of the train, and its movements are controlled manually and the door opening and closing are to be done by the motorman after properly ensuring correct berthing of the train. (2) Motorman shall keep a good look out while the train is in motion. (3) On noticing any dangerous condition or a red signal, he shall take immediate steps including application of emergency brakes to stop the train.

11.05 Application of parking brakes by motorman. - The motorman for the purpose of securing the train, shall apply the parking brake from driving cab first and then from rear cab.

11.06 Passengers. - (1) The motorman shall keep a watch on the passengers entraining and detraining the trains and exercise due care while closing the doors of the coaches. He shall also warn the passengers before closing the doors on the Public Address System if provided on the train. He shall also take assistance of the Closed Circuit Television monitors provided as laid down in special instructions. (2) Means of communication (a) In every coach passenger alarm system is provided. When operated, the alarm apparatus draws attention of the Motorman without stopping the train. In the event of such operation, he shall immediately inform the Traffic Controller to direct the Station Master of the station in advance to depute competent staff on the platform to check the affected coach and verify the reasons for such an operation. He shall proceed to the next station and on reaching the station, he shall call the attention of the station staff by whistle codes as laid down in special instructions. He shall also ensure that the station staff has attended the train and taken action. (b) When alarm system is operated while the train is standing on the platform similar action shall be taken by the Motorman before starting the train.

11.07 Motorman to see that trains are stopped at proper place at stations. - (1) When trains are run in "ATO" mode, they stop automatically not more than 50 cms. ahead or behind the stopping point and the doors on the platform side only are allowed to be opened as indicated in the Driver's Indication Panel. (2) In other modes of driving, he shall ensure that the train has stopped short of starter signal or at the stop board so as to ensure that the train is properly

berthed at the platform before opening the door.11.08Moving of a train carrying passengers after it has stopped at a station. - (1) When trains are run in "ATO" mode, and when a train stops beyond or short of stopping place by more than 50 cms. as indicated in the indication panel, automatic door bypass switch may be used to operate the door after the motorman makes sure that there is no door outside the platform either on the CCTV monitor or by looking out.(2)In case any door is outside the platform, the motorman shall change to manual mode of operation and drive ahead or push it back duly observing the safety precautions and duly advising the passengers on the Public Address System.11.09Motorman not to leave the train till handed over. - The motorman shall not leave the train until he is relieved at nominated stations or permitted by Traffic Controller. Traffic Controller shall not give such permission unless alternative arrangement is made.11.10Stabling of trains on running lines. - When a train is stabled at a station on a running line, the motorman shall not relinquish charge unless he has properly secured the coaches as per special instructions and ensured that the train is not fouling any points or crossings.11.11Detrainment of passengers in the mid section. - (1) When it becomes necessary to detrain passengers in mid section, the motorman shall immediately communicate the same by Train Radio and/or emergency telephone to the Traffic Controller who shall arrange to depute competent supervisory staff to the site for escorting the passengers to the nearest station observing all safety precautions as laid down under approved special instructions.(2)In case no communication can be established for more than 10 minutes from the time of departure of train from the last stopping station or no information can be gathered through motorman of any train moving in opposite direction, the Traffic Controller shall arrange emergency power block and depute competent supervisory staff to the site for collection of information and for evacuating of passengers if required as laid down under approved special instructions.11.12Train stopping between station due to train defect. - If a train is stopped in between stations by reasons of any defect, the motorman shall communicate the information to the Traffic Controller after ascertaining the cause of the defect and shall also ask for assistance required by him. He shall not take his train even if the defect is rectified unless permitted by the Traffic Controller. The motorman shall also inform the passengers of the circumstances if extended delay is likely. The driving motorman shall also detrain passengers if directed by Traffic Controller as laid down in rule 11.11. He shall give a report regarding the failure to Station Master in writing after arrival at the next station.11.13Detention in between stations due to "No Traction Current". - (1) When the motorman becomes aware while running between stations that traction current has been switched "off shall take action as laid down in rule 6.09(1).(2)If it is not possible to proceed to the next station, he shall take action as laid down in rule 6.09(2).11.14Detention of a train in between stations due to train parting. - If an incidence of train parting occurs in the midsection, action will be taken as per rule 6.10 and approved special instructions.11.15Train in a block section without authority to proceed. - When a train has entered block section without authority to proceed, the motorman on being aware of the position take immediate action to stop the train and act as per instructions of the Traffic Controller. Motorman shall move his train to the next station on having permission from Traffic Controller supported by private number. The incident shall be reported by him' in writing on arrival at the next station. The Traffic Controller shall take action to authorise train movements as per special instructions.11.16Fire and smoke. - In case of fire and/or smoke,(a)When it is not possible to take the train to the next station, the driving motorman shall arrange to bring the train to a convenient place to enable detrainment of passengers as laid down in rule 11.11.(b)If there is a risk of spreading of fire, the motorman shall advise the passengers to vacate

the affected coach and move to the adjacent coach. He will inform the Traffic Controller of the condition and take action as per approved special instructions.(c)The detrainment of passengers if required, shall be undertaken in accordance with rule 11.11.11.17Flooding of tunnels. - In case of flooding of tunnels -(a)Whenever the water level is noticed to be above the level of central drain, the motorman will immediately inform Traffic Controller, who will take necessary action to suspend train services over the affected section. Traffic Controller will also immediately inform motormen of other trains about the site of flooding.(b)When the train gets stalled in the flooded area due to tripping of traction power supply, action to detrain passengers shall be taken by the motorman as per provisions of rule 11.11.