

**NORTH CENTRAL RAILWAY
JHANSI DIVISION**

STATION WORKING RULE No. 477

Date of issue:

Date in force:

MATAUNDH STATION (B.G.)

NOTE: The Station Working Rules must be read in conjunction with General and Subsidiary Rules and Block Working Manual. These Rules do not in any way supersede any rule in above books.

1. STATION WORKING RULES DIAGRAM:

The track accommodation is as shown on the Diagram No.SI-D2309/L&M dated 28.10.2020 based on SIP No. SI-D2309/L&M dated 09.10.2020.ALT 'K' Kept in Abeyance.

2. DESCRIPTION OF STATION:

2.1 GENERAL LOCATION:

MATAUNDH Station is a 'B' Class station interlocked to Std. II R (Route setting type) with Panel operation of points and signals. The Station is situated on JHS-MKP electrified section at KM 1299.200 from CSTM.

2.2 BLOCK STATION ON EITHER SIDE AND THEIR DISTANCE:

- a) KABRAI (KBR) 11.93 KM (JHS end)
b) KHAIRAR (KID) 09.27 KM (MKP end)

2.3 BLOCK SECTION LIMITS ON EITHER SIDES OF STATION ON DIFFERENT ROUTE.

BETWEEN STATION	THE POINT FROM WHICH THE "BLOCK SECTION" COMMENCES	THE POINT FROM WHICH THE "BLOCK SECTION" ENDS
MTH-KBR	Mataundh Up Advance Starter No. S-1	Kabrai down Advance Starter Signal No. S.20
MTH-KID	Mataundh Down Advance Starter No. S-20	Khairar Up Advance Starter Signal No. S-2

2.4 GRADIENTS IF ANY:

For UP direction		For DN direction	
From block section to KM 1302.570	Level	From block section to KM 1296.10	Level
KM 1302.570 to KM 1301.435	1:222 rising	KM 1296.10 to KM 1296.50	1:880 falling
KM 1301.435 to KM 1298.705	Level	KM 1296.50 to KM 1296.635	1:666 falling
KM 1298.705 to KM 1298.235	1:250 falling	KM 1296.635 to KM 1297.310	Level
KM 1298.235 to KM 1297.310	1:500 falling	KM 1297.310 to KM 1298.235	1:500 rising
KM 1297.310 to KM 1296.635	Level	KM 1298.235 to KM 1298.705	1:250 rising
KM 1296.635 to KM 1296.50	1:666 rising	KM 1298.705 to KM 1301.435	Level
KM 1296.50 to KM 1296.10	1:880 rising	KM 1301.435 to KM 1302.570	1:222 falling
KM 1296.10 to further JHS end	Level	KM 1302.570 to further MKP end	Level

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

LAY OUT:**2.5.1 RUNNING LINES DIRECTION OF MOVEMENT AND HOLDING CAPACITY:
(FOR SINGLE HEADED TRAINS):-**

S.N.	Line	CSR in meter	P/F
1	UP Main DN Line	695	-
2	UP 1 st Loop DN Line	765	Low Level
3	UP 2 nd Loop DN Line	745	Rail Level

2.5.2 NON RUNNING LINES AND THEIR CAPACITY: (WITHOUT ENGINE): NIL**2.5.3 ANY ABNORMAL FEATURES IN THE LAY OUT: NIL****2.6 LEVEL CROSSINGS:**

Gate No	445	448'A'
Classification	'C' Class	'C' Class
Deptt.	Engg.	Engg.
KMS/End.	1294/15-16 MTH-KBR	1301/2-3 MTH-KID
Normal Position	Closed	Closed
Interlocked Non-Interlocked	NI	NI
Leaves/L.B.	LB	LB
Telephone Provided	SM's Office	SM's Office
Operated by.	Engg. Gateman	Engg. Gateman

NOTE: For detailed working see -Appendix 'A'

3. SYSTEM AND MEANS OF WORKING.

a) Trains are worked on Absolute Block system.

b) MEANS OF WORKING.

- i) Signal line Block panel along with Dual BPAC Station to Station telephone is installed in the Station Master's office for working the trains between **MTH-KBR**.
- ii) Signal line Block panel along with Dual BPAC Station to Station telephone is installed in the Station Master's office for working the trains between **MTH-KID**.
- iii) SM on duty is responsible for their operation and custody of the keys.

4. SYSTEM OF SIGNALLING AND INTERLOCKING:**(A) STANDARD OF INTERLOCKING:**

- (i) Station is equipped with multiple aspect colour light signals and interlocked to Std. II (R). The Points and signals are worked from Panel.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

- (ii) Track circuiting is provided between up home signal to down home signal including 'Calling On' track circuits and point zone area on main line.

(B) TRAPS:

- (i) Sand hump taking 'OFF' from the UP 2ND loop DN line at Jhansi & MKP end is the trap for protection of Up Main Down Line.
- (ii) Sand hump taking 'OFF' from the UP 1ST loop DN line at Jhansi & MKP end is the trap for protection of Up Main Down Line.

(Details of signaling and interlocking are given in Appendix 'B')

- (C) Calling 'ON' Signal: CO-19** is provided below up home signal number S-19 and **CO-2** is provided below down home signal number S-2.

4.2 CUSTODY OF RELAY ROOM KEY AND PROCEDURE FOR ITS HANDING OVER AND TAKING OVER BETWEEN STATION MASTER AND S&T MAINTENANCE STAFF:

The Relay Room is provided with double lock. The key of one lock will remain in the custody of SM/ASM on duty while the key of other lock will remain in the custody of ESM/SSE(S&T). The SM/ASM on duty will hand over the key to the maintainer on demand whenever he visits for maintenance/failure. SM/ASM on duty will ensure that the key is returned to him after maintenance/failure.

A register to record the transaction of Key on proper proforma will be maintained by the SM/ASM on duty. Whenever relay room is to be opened, private number will be exchanged between SM & S&T staff and also with section controller, each time when relay room is opened and closed.

4.3 POWER SUPPLY :

- (a)i.** Normally all the signaling circuits are fed and worked by AT power supply, local power supply & generator power supply are auxiliary source of supply, these all supplies are given on distribution board provided in the ASM office. An illuminated red pilot lamp fitted on the switch board in the ASM's office indicate that the AT power supply & local supply is available. The above red pilot lamp when not burning will indicate that AT power supply & local power supply has failed. In the event of AT supply failure, auto change over panel will automatically transfer the load on to local power supply and if local power supply also failed then the auto change over panel will automatically transfer the load on to the generator power supply.

- ii.** An auto change over panel provided in SMs room will display availability of power supply in following order-

- i) AT Power supply.
- ii) Local Power supply.
- iii) Power supply of generator.

And changeover will take effect in this order only. However if auto change over system fails to work then ASM on duty will attempt manual change over by the switch provided on auto changeover panel.

- iii.** When the AT supply & local supply are not available ASM will start the Generator and extend the supply.
- iv.** After the above operation of the switch the generator should be stopped as per the instructions for starting and stopping of the Diesel Generator.

Details of DG working is given in Appendix "B".

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

5. TELECOMMUNICATION:

The following telephones and telecommunication facilities have been provided at this station.

S.N.	Type of Communications	Location
1	Block Telephone	Block phone in Panel room attached with block panel with Dual BPAC for train working between MTH-KBR stations.
2	Block Telephone	Block phone in Panel room attached with block panel with Dual BPAC for train working between MTH-KID stations.
3.	Group Telephones: LC- 448 'A' (MTH-KID)	Between SMs Office and Gateman
4	Railway phone/ BSNL phone 05192-231379 , Rly. CUG/FCT phone -7497903677	SMs Office
5	Control telephones Control Telephone of MBA-JHS-BNDA control	SMs Office
6	VHF sets	SMs Office
7	Mobile train Radio Communication (MTRC)	Not Applicable

6. TRAIN WORKING SYSTEM:

6.1 DUTIES OF TRAIN WORKING STAFF: See Appendix 'D' for the duties of the staff.

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT:

i)	SM/ASM	1	As per roster.
ii)	Points-man	2	As per roster.

NOTE: See Appendix 'D' for the duties of the staff.

6.1.2 RESPONSIBILITY FOR ASCERTAINING CLEARANCE OF LINE AND ZONE OF RESPONSIBILITY:

- 'Line Admission Book' is not in-force at this station.
- Station Master/Assistant Station Master on duty is responsible for ascertaining clearance of all lines through Panel indications when working otherwise physically.

6.1.3 ASSURANCE OF STAFF IN THE ASSURANCE REGISTER :

Every train passing staff posted newly at the station or leave reserve staff at the station or regular staff who has resumed his duties after more than 15 days absence must go through Station Working Rules in force and give assurance in the prescribed Assurance Register i.e. 'SWR Acknowledgement Register'.

6.2 CONDITIONS FOR GRANTING "LINE CLEAR":

The line shall not be considered clear and "line clear" shall not be given unless:-

- The whole of the last preceding train has arrived complete.
- All necessary signals have been put back to 'ON' position behind the said train.
- The line is clear Up to the advance starter signal nearest to the approaching train as per GR 8.03(2) of G&SR.

NOTE:

- Before granting 'Line clear' SM on duty must ensure that the reception signals are lit. If reception signals are not lit, he should advise SM in rear under exchange of private number to issue caution order to the loco pilot for stopping the train.
- Before granting 'Line clear' SM on duty shall satisfy himself by seeing the Block section clear indication green LED (Large) indication appears at Reset box of dual digital Axle Counter in UP/DN direction provided near the Block panel.
- Before granting 'Line clear' SM on duty must ensure that all LC gates in the block Section are closed for road traffic.

6.2.1.1 ANY SPECIAL CONDITIONS TO BE OBSERVED WHILE RECEIVING OR DESPATCHING A TRAIN: NIL

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

A) BERTHING OF TRAIN:

- i) A train carrying passenger and stopping at the station must ordinarily be received on the UP Ist loop DN line (Platform line). If it is necessary to cross two trains both carrying passenger and stopping at the station, the first train must be received on the UP Ist Loop DN line (Platform line) and the second train on the Up 2nd loop DN Line (Platform Line).
- ii) A Goods train stopping at the station must ordinarily be received on the loop line unless that line is occupied or is required for a train carrying passenger, in which case the Goods train may be received on UP Main DN line.

Note:- Responsibility of personally ensuring the correct setting, clamping and pad locking of the points will be of the SM on duty.

6.2.1.1 Setting of points against blocked line: G.R. 3.38 must be followed.

When running line is blocked, the points should be set against blocked line except when shunting or any other movement is required to be done immediately in the direction on that line as per GR 3.38/2 of G&SR. The button collars must be placed on the buttons on the panel when the line is blocked.

6.2.1.2 Reception of a train on a blocked line: G.R. 5.09 must be followed.**6.2.1.3 Reception of a train on a non signalled line:** Not applicable since reception signals for all lines are provided for all lines in either direction.**6.2.1.4 Despatch of train from non-signalled line:** Not applicable since departure signals for all lines are provided for all lines in either direction.**6.2.1.5 Despatch of a train from line provided with common starter:** Not applicable since departure signals for all lines are provided for all lines in either direction.**6.2.1.6 Any other special conditions should be mentioned giving reference to the G&SR:** NIL**6.3 CONDITIONS FOR TAKING "OFF" APPROACH SIGNAL [GR 3.40] :**

A) Before the home signals are authorized to be taken 'OFF' by the SM on duty for reception of a train the following conditions must be complied with:-

i) TRAINS TO BE RECEIVED ON THE UP MAIN DOWN LINE:

The Line must be clear upto the Advance starter at the far end. When two trains are to be crossed from opposite directions signals may be taken 'OFF' first for the train to be received on the Main Line, provided the home signal for the train from the opposite direction is maintained in the 'ON' position. Signals are to be taken 'Off' for the reception of only one train at a time.

ii) DOWN TRAINS TO BE RECEIVED ON THE UP 1st LOOP DN LINE:

The near end points must be set to connect with UP 1st loop DN line and the points at the far end of the UP 1st loop line must be set to connect with the main line and the line must be clear up to advance starter No.S-20. When however, another train is being dispatched in the same direction or two trains are to be crossed from opposite direction, the points at the far end of the loop line must be set to connect with Sand Hump and the line must be clear, upto the Sand Hump.

iii) UP TRAINS TO BE RECEIVED ON THE UP 1st LOOP DOWN LINE:

The near end points must be set to connect with UP 1st loop DN line and the points at the far end of the Up 1st Loop DN Line must be set to connect with the Main Line and the line must be clear upto the Up Advance Starter No.S-1 at the far end. When however, another train is being dispatched in the same direction or two trains are

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

to be crossed from opposite direction, the points at the far end of the Up 1st loop Dn. line must be set to connect with Sand Hump and the line must be clear, upto the Sand Hump.

iv) **UP TRAINS TO BE RECEIVED ON THE UP 2ND LOOP DN LINE:**

The near end points must be closed and the points at the far end must be set to connect with the main line and the line must be clear up to the Up advance starter No.S-1 at the far end. When, however another Up train being dispatched in the same direction from main line or two trains are to be crossed, the points at the far end of the Up 2nd loop DN line must be set to connect with the Sand Hump and the line must be clear, upto the Sand Hump.

v) **DOWN TRAINS TO BE RECEIVED ON THE UP 2ND LOOP DOWN LINE:**

The near end points must be closed and the points at the far end of the Up 2nd loop down line must be set to connect with the main line and the line must be clear up to the down advance starter No.S-20 at the far end. When, however another DN train being dispatched in the same direction from main line or two trains are to be crossed, the points at the far end of the Up 2nd loop DN line must be set to connect with the Sand Hump and the line must be clear, up to the Sand Hump.

6.3 (B) PROCEDURE FOR THE RECEPTION OF TRAINS:

- i) On receipt of 'Is Line Clear' signal for a train to approach from the station in rear the SM/ASM on duty will grant the same supported by a private number provided the conditions as laid down in 6.2 above are complied with.
- ii) The Station Master will select a vacant line for the admission of the train and verify the clearance of selected line and set the far end and near ends points in accordance with para 6.3 (A) (i) to (v) above. SM/ASM will then take 'OFF' the correct Home Signals for the reception of the train on the selected line and verify the indications on the Panel. SM/ASM on duty must ensure the closure and locking of concerned LC gates falling in the path of the train.
- iii) Immediately after the train has passed the Home Signal completely, the Station Master on duty will ensure that the Signals taken 'OFF' for the train are restored automatically to 'ON' position as per Para 8.03 of BWM.

6.3.1. RESPONSIBILITY OF STATION MASTER FOR RESTORATION OF SIGNALS TO 'ON':

Station master should ensure that signal is put back to "ON" after passage of the train as per Para 8.03 of BWM.

6.4 SIMULTANEOUS RECEPTION/DESPATCH, CROSSING AND PRECEDENCE OF TRAINS:

- a) Simultaneous reception is permitted at this station two trains from opposite direction can be received simultaneous in UP 1st loop DN line and in UP 2nd DN loop line by connecting both lines to respective sand humps.
- b) Crossing of trains is permitted at this station as detailed in Para No. 6.3 (A) (i) (ii) (iii) (iv) (v) above.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

6.4 COMPLETE ARRIVAL OF TRAIN: [GR 14.10 & SR 4.56/1 of G&SR]

- i) The SM/ASM is responsible for giving 'Train out of Section' by seeing clear indication on the Dual BPAC block panel. However, if the complete arrival of the train inside the fouling marks cannot be ascertained by clear indication on panel or personal observation on the dual BPAC (Digital Axle counter) or when dual BPAC is failed SM/ASM on duty must ascertain the complete arrival of train in the manner indicated in SR 4.56/1 of G&SR must also be follower

NOTE: Immediately after arrival of a DN or an UP train at the station the points should be set against the block line, stable load or less important nature/Loop Line etc. before giving train out section signal to the station in rear.

6.5 DESPATCH OF TRAINS:

- i. When a train is ready to dispatch, the Station Master on duty will obtain line clear from the station in advance on the concerned block instrument. On confirming personally that the required route is clear and concerned gates are closed and locked against road traffic; the SM/ASM will set the route and then take 'OFF' the departure signals.(i.e. Advance starter signal shall first be taken OFF and then concerned starter signal should be taken OFF).
- ii. After the complete passage of the train, the signals taken 'OFF' will go to 'ON' position automatically and the Red indication on Panel will get extinguished. SM on duty is responsible to see that the signals taken OFF for passage of train have been restored to 'ON' position [Para 8.03 of BWM].

6.7 TRAINS RUNNING THROUGH:

- i. A train is ordinarily be allowed to run through the station over the Up main down line only. If the Up main down line is occupied, a non-stopping up or down train may be passed over the Up loop down line at a speed not exceeding 30 KMPH provided the points are correctly set and locked and correct signals are taken 'OFF'.
- ii. In case of a run through train over Up main down line or Up loop down line as the case may be, the SM on duty will obtain line clear supported by a private number from the station in advance, will take 'OFF' correct signals for the through passage of the train. (i.e. Advance starter signal shall first be taken OFF and then concerned starter signal should be taken OFF and then reception signals to be taken OFF)
- iii. If a train passes the station without Tail Lamp/Tail Board being visible to the SM, he must not send 'Train out of section' signal to the station in rear but send 'Train passed without Tail lamp/Tail Board to the station in advance and must inform section controller also.

6.8 WORKING IN CASE OF FAILURE :

i. Failure of Track Circuits:

In case of failure of track circuits the trains shall be received by taking 'OFF' 'Calling ON' signals and the SM/ASM will personally verify the clearance of lines and if Calling On signal also fails then procedure as detailed Para 14.13 of G& SR and Para 7.45, 7.47 of BWM must be followed.

ii. Failure of Points:

When any point is defective and indication is not available on the Panel, action as per SR: 3.77-1 must be complied with i.e. point should be re-operated and inspected for any obstruction etc. and S&T staff should be advised. No movement should be permitted over the point unless it is correctly set, clamped and Pad-locked under personal supervision of the Station Master on duty as per SR: 3.68-1 To 3.68-7 of G&SR (SR: 3.51-1 should also be followed).

iii. Failure of signals and Interlocking:

When any signal becomes defective, the procedure as laid down in General Rules No. 3.68, 3.69, 3.70, 3.71 and SRs there under must be followed if calling 'ON' signal also cannot be taken 'Off'.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

T/369 (3b) for passing defective signal:

T.369(3b) for passing defective stop signal at danger will be issued by the SM/ASM after the points protected by the signal are correctly set, clamped and Pad-locked and duly verified by the SM/ASM as per SR:3.68-1 of G&SR and SR: 3.68-1 To SR:3.68-7 of G&SR must also be followed.

iv. Failure of Block Panel:

- a. When the Signal line Block panel along with Dual BPAC is installed for working the trains between MTH-KBR and Signal line Block panel along with Dual BPAC is installed for working the trains between MTH-KID appears to be affected by outside influences causing erratic movement and ringing of bell or in any other way works defectively they must be considered as having failed and the trains must be worked as per GR 14.13 of G&SR. (For detailed working see Appendix-‘B’) and Para 9.06 of BWM must be followed.
- b. In case of failure of block instrument, the SM/ASM should advise the station concerned of this fact by telephone under exchange of private no. There after line clear should be obtained on block telephone or station to station fixed telephone or control phone or VHF set in selective calling mode on channel **5 to KID, 6 to KBR** & on channel or other authorised means of communication, in accordance with GR 14.13 of G&SR. The record should be mentioned in T/A 1425 or T/B 1425, as the case may be in addition to the Train Signal Register (TSR).
(For detailed working see Appendix-‘B’)

v. Failure/Resetting of Axle Counters: -see app-B**vi. Failure of dual block proving by axle counter: - For detailed working see App-‘B’****vii. Procedure for working over damaged points: - GR 3.77& SR 3.77/2 must be followed.****viii. Reception of train Non-Signaled line including failure and occupation of line by trolley or light engine etc: - Nil****ix. Failure of Power supply: See Appendix-‘B’****x. Failure of communication between Station and L.C. Gate:**

In case of failure of communications between station and gates the Station Master on duty will issue a caution order to the loco pilot of the train. Since there is only engg. gates connected with this station.

6.9 PROVISIONS FOR WORKING OF TROLLEYS/MOTOR/MATERIAL LORRIES:

- i) Provision of GR 15.18 to 15.28 and SRs there under should be complied with for working of Motor Trolleys, Material Lorries etc.
- ii) When material lorries, motors trolley, T.T. Machine & Rail motor Car Tower Wagon (4 wheeler) has to run in the section. These shall be worked on PLC/T-369(3b). The section will be closed after ensuring by private no. and physical verification of the block section which has in fact been cleared.

7. BLOCKING OF LINES: [GR 5.19 & SR 5.19-1 GR 5.23 and SR there in]

Whenever it is necessary to block a running line, the Station Master on duty shall obtain the permission from the section controller and follow the procedure given as under.

- i. Whenever vehicles/load is stabled on running lines or sidings it must be:-
 - (a) Chained and pad locked.
 - (b) Secured by use of wooden wedges/sprags etc;
 - (c) coupled with other vehicles.
- ii. Hand brakes of at least six wagons from either end must be fully tightened. In case coaching vehicles are stabled, guard’s hand brakes in SLR/SLR’s must be applied. The hand brakes should be operated under the personal supervision of Guard and in the absence of Guard by SM on duty.

(J.SANJAY KUMAR)**(RASHMI GAUTAM)**

Sr. DOM/G & G/JHS

Sr. DSTE/BL/JHS

- iii. The points must be set, clamped and locked against the blocked line/lines and scotch blocks wherever available should be used to isolate the line/lines and the keys kept with Station Master.
- iv. Remark to the effect that 'line No. _____ is blocked be made in TSR/SM diary.
- v. After any rake is stabled the Station Master must inform the Section Controller under exchange of private number that all laid down precautions for stabling have been taken. The Section Controller must obtain this assurance from Station Master before allowing the next train to pass through the station.
- vi. SR. 5.19/1 & SR 3.38/1 of G&SR should also be complied with .
The button collars must be placed on the buttons on the panel as under when the line is blocked:-

Line occupied	Button Collar to be placed on the route buttons.	Position of Points Buttons
Up main down line.	Route Button of Up main down line.	299/R,201/R
Up 1 st loop down line.	Route Button of Up 1 st loop down line.	298/N,201/N
Up 2 nd loop down line.	Route Button of Up 2 nd loop down line.	202/N,299/N

NOTE: Button collars should be removed when the line is cleared.

8. SHUNTING:

8.1 GENERAL PRECAUTIONS:

- a) All shunting should be performed under personal supervision of Guard of a train/SM/ASM/ in charge of the shunting as detailed in GR & SR 5.13/5.14.
- b) T-806 must be issued to the Guard and Loco Pilot of the train for all shunting operations prior to commencement of shunting.
- c) Shunt signals must be taken 'Off' for shunting operations.

8.2 SHUNTING IN FACE OF AN APPROCHING TRAIN [GR 8.09]

Shunting outside the Advance Starters is not permitted unless the train has come to a stop at the home signal and station Master has personally verified himself to this effect and provisions of GR 8.09 of G&SR must be followed rigidly.

8.3 PROHIBITION OF SHUNTING, SPECIAL FEATURES IF ANY:

- i) Hand shunting that will foul the Main line is prohibited.
- ii) When line clear has been granted for a train to approach in direction, no hand or loose shunting shall be permitted on the Main line or non-isolated loop line.
- iii) Hand shunting of any vehicle fitted with roller bearing such as BOXs, BOBs, BCXs, BRHs etc is not permitted except on siding isolated from running lines.
- iv) Loose shunting of such stock fitted with roller bearings is strictly prohibited.
- v) Vehicles shall be protected as per SR 5.23-2 and SR 5.23-1.
- vi) In case of any shunting operation at the station, the Station Master on duty must ensure that shunting move fouling the line on which it is intended to receive a train is stopped before allowing the approach signals to be taken 'OFF'.
- vii) Shunt signals may be taken 'Off' for shunting purpose where possible.

8.4 SHUNTING ON SINGLE LINE:

i. Shunting within station section: [GR 8.10]

- a. If the necessary signals are kept at ON, shunting may be carried on within station section provided the provision of [GR 8.09] are complied with for shunting upto Advanced starter signal.
- b. When signals have been taken off for an incoming train on to a line, which is not isolated, no shunting movement shall be carried on towards the points over which the incoming train will pass.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

ii. Shunting outside station section:

- a. Shunting or obstruction for any other purpose outside the station section shall not be permitted unless it is blocked back.
- b. At this station such shunting outside the station section shall be performed only after the section has been blocked back and shunt/occupation key handed over to the loco pilot as per SR. 8.12/1.
- c. The Loco Pilot shall be authorized to pass the relevant Advance starter signal in "ON" position by an endorsement on shunting order (T-806). Suitable entries to this effect shall be made in Train Signal Register of SM/ASM.

8.5 Shunting on Double line: Not applicable.

8.6 SHUNTING IN THE SIDING TAKING OFF FROM STATION YARD/GOODS SHED: Not applicable.

9. ABNORMAL CONDITIONS:**(a) The Rules to be observed in the Event of abnormal Conditions:**

(The Procedure to be followed for working trains during abnormal working).

(i) During partial interruption/failure of Electrical communication instrument:

SR.6.02/4 of G&SR must be followed.

(ii) The authority to proceed in the occupied Block section in case of obstruction of line or accident etc: SR.6.05/2 of G&SR must be followed.**(iii) Trains delayed in Block section:** GR 6.04 must be followed.**(iv) Failure/Passing of intermediate block stop signal at "ON":** Not applicable.**(v) Failure of Axle Counter Block/ Dual BPAC:** As per para 7.29 of BWM. (Details working to please see in Appendix 'B')**(vi) Failure of MTRC:** Nil**(b) Procedure for emergency operation of points by crank handle.**

Manual operation of motor point & custody and use of crank handle

(A) Custody and use of Crank Handle.

- (1) Crank Handle has been provided at this station in SM office (Panel Room) for manual setting of Motor Operated Points during the failure or maintenance.

This shall be kept in a case specially provided for this purpose. This case will be locked and the key shall be kept in the personal custody of SM on duty. The Crank Handle case will be sealed by the ESM of the section in addition to the locking by SM.

- (2) For the purpose of Crank Handle Interlocking, the points have been divided into the following groups:-

Group No. 1	Point No. 201a/201b
Group No. 2	Point No. 202a/202b
Group No. 98.	Point No. 298a/298b
Group No. 99	Point No 299a/299b

NOTE:

- i) Key transmitted electrically in SM's Office (Panel Room) for these groups.
- ii) These Crank Handle Keys have been provided for uncovering the flap of point machines of the above groups. The crank handle cannot be inserted in the point machines unless the flap is uncovered by means of relevant Keys.
These Keys are normally held locked in separate key locked relays housed in the boxes in SM Office/Panel Room and cannot be released, if any one of the concerned routes/overlap is set. Key locked relay boxes are kept padlocked by SM and sealed by S&T staff.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

- iii) Circular white and Red Light indication have been provided on the panel for the each groups, indicating whether the crank handle Key is held locked in the relay box or it has been released for the manual operation of points. For releasing the control of Crank Handle key of the Point, the SM will press the following buttons shown against each group simultaneously and release.

Group No.	Point No.	Buttons to be operated
1.	201a/b	'CHYN' & Point Button 201a/b
2.	202a/b	'CHYN' & Point Button 202a/b
98.	298a/b	'CHYN' & Point Button 298a/b
99.	299a/b	'CHYN' & Point Button 299a/b

- iv) Before releasing the control of the crank handle, the SM will ensure that the Group of points is not engaged in any route. The operation of 'CHYN' & the point button will cause the white indication of the particular group to flash till crank handle key is taken out from the key locked relay. Simultaneously, a 'Red' light indication will appear above the concerned key locked relay. When the crank handle key is taken out from the key lock relay, the white flashing indication will disappear and red circular indication of that group will appear on panel. After the use, the insertion of crank handle key in the key lock relay and its operation will cause the 'Red' indication of the group to disappear and a flashing white indication of this group will re-appear. Now pressing CHYRN and relevant point button will cause the flashing white indication to become steady and also the 'Red' indication above the key lock relay to disappear.
- v) Once the control on the crank handle key has been released, the corresponding signals cannot be cleared.
- vi) After releasing the control, if the crank handle key is not extracted, control can be withdrawn by operating 'CHYRN' Button and point button of the group.
- vii) The signal controlling the movement over the point can be cleared after the control to the relevant crank handle key is returned.
- viii) Unless the relevant crank handle key is inserted in the lock on the point machine and operated for uncovering the aperture, crank handle cannot be inserted in the point machine.

(B) USE OF CRANK HANDLE DURING MAINTENANCE.

- i) Whenever, it becomes necessary for the crank handle to be used for general maintenance and repairs, a member of S&T Staff not below the rank of ESM will issue a Disconnection memo with an endorsement on top '**Crank Handle**' required for the concerned points and obtain the key from the SM to open the lock.

The seal of the crank handle case will then be broken by the S&T staff in the presence of SM on duty. Before crank handle is removed, an entry shall be made in the crank handle register provided for this purpose. The Register will have the following columns:-

- i) Serial Number.
- ii) Name and Designation of the persons who requires using the crank handle and the concerned crank handle key.
- iii) Time and Date of removal of Crank Handle & the crank handle keys.
- iv) Whether for normal maintenance or failure.
- v) Disconnection Memo Number, if given.
- vi) Initials of the person who removes the crank handle.
- vii) Initials of the SM on duty.
- viii) Time and Date of return of Crank Handle & the Crank handle keys.
- ix) Details of use made of crank handle.
- x) Reconnection Memo Number, if given.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

- xi) Initials of the person who return the crank handle.
 - xii) Trains passed over disconnected/defective points giving Private Number against each train.
 - xiii) Initials of the SM on duty.
- ii) After the purpose for which the Crank Handle was taken from the case is over, that will be replaced in the case by the S&T staff. The Crank Handle case will then be locked and sealed as laid down in clause (1) above. The particulars required in the crank handle register will then be posted against the relevant entry and will be signed by the S&T staff and SM on duty.
NOTE:-In case a disconnection Memo is issued for a point, but Crank Handle is not required, an endorsement that “**Crank Handle not required**” must be made on top of the disconnection memo.
- iii) During the period from the issue of Disconnection Memo by the S&T staff and the issue of Crank Handle to them to the time of its return by them and issue of reconnection Memo, if traffic has to be passed on the disconnected point, procedure detailed in Sub-Para 9.B shall be followed.
- iv) Whenever it becomes necessary for the Crank Handle to be removed to pass the traffic during Point failure, the Dy.SS/SM on duty will do so only after making relevant entries in the Register in a manner indicated in clause 9.B (i) above. He will immediately advise ESM on duty about the failure and record the failure in the S&T Failure Register.

(C) WORKING OF TRAINS DURING FAILURES

Passage of trains when Motor Points are defective:

- i) When an electrically operated Motor Point fails to respond to the Button operation, the SM on duty will first re-set the point to the last operated position and deposes the Pointsman to find out if any obstruction is lying in between the tongue and stock rails at both ends of the cross over.
- ii) The Pointsman on arrival at the Point will look for any obstruction between the stock and Switch rails, remove the same if found any and display an alright signal to SM on duty for setting the Point. In case, obstruction is found, the Pointsman will display hand danger signal.
- iii) On receipt of an all right signal from the Pointsman, the SM on duty will set the Points to the required position. If the Point still fails to respond or on receipt of Hand Danger Signal from the Pointsman, the SM on duty will remove the Crank Handle and the relevant crank handle key, proceed to the site of defective point after locking the Control Panel and retaining the key in his personal custody.
 On reaching the defective point, he will set the point manually in the required position (both the ends in case of cross over points), clamp and padlock it and will come back to panel room and unlock the panel. He will operate point button along with point group button, so that point indication on the panel will be corresponding to that at site and then authorise the move.
NOTE: While setting the crossover point from ‘Normal’ to ‘Reverse’ care should be taken to set marked ‘A’ first and then set the other end marked ‘B’. Similarly, while setting from ‘Reverse’ to ‘Normal’ end marked ‘B’ should be set first and then the end marked ‘A’. In case, after setting the Point manually and the relevant ‘N’ or ‘R’ indication is available on the panel and the requisite signal can be cleared for the move, clamping and padlocking of points is not necessary provided there is no damage to the machine & roddings connected.
- iv) If the ESM is available, he will assist the SM in manual setting of Points.

(D) Passage of trains when points are disconnected:

- i) Whenever it is necessary to pass traffic over the point/points which is/are disconnected or defective and the S&T staff is attending the same, The station master will send a memo to S&T staff in which entry of the required movement will be made. The S&T staff after getting the memo will arrange to set the concerned point/points in the required position to the pass the traffic. After setting the point/points in required position the S&T staff will send a memo to station master, informing that the point/points is/are set in required position.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

The station master after the getting the memo from S&T staff, will arrange to clamp and padlock the concerned point/points and only after clamping and pad locking the concerned point/points and keeping the keys and crank handle in his personal custody, the intended move will be done. After the passage of traffic, the SM will return the Crank Handle, Crank handle key and the padlock keys to the S&T Staff for continuing their work on points. All the memos related to this movement will be pasted in SM diary.

(E) Additional Precaution to be observed:

Button Collars shall be placed on the button of defective/ disconnected point and the relevant route button. The Button Collars shall not be removed except under the following circumstances:-

- [a] When the disconnected point is re-connected and a Reconnection Memo to this effect is received or
- [b] When the defective point has been put right and a Reconnection Memo is received.
- [c] When the Operating staff at the site authorises the SM to undertake the movement over the points and exchange Private Numbers in token of this.

NOTE: Manual setting of points by Crank Handle for passing traffic should not be carried out by the S&T staff unless the Operating staff not below the rank of ASM is present at site.

(d) Certification of Clearance of Track Before Calling ON Signal Operation is initiated

- i) The calling on signals provided below the DN Home signal, UP Home signal can be taken off during the failure of track circuits; provided the requisite points have been set to the required position in the route and isolation points are set to required position. Before clearing the 'Calling ON' signal under the track circuit failure condition, SM /ASM on duty must personally ensure that concern track is clear of any vehicle/obstruction or not and also when track immediately in rear to signal is occupied, and he will set the requisite route by pressing the relevant signal button and COGGN button.

Then he will release COGGN button, keeping the signal button press and press concerned route button and release them. This will cause flashing white indication to appear on the right side of the signal on the panel. The 'Calling ON' signals will clear after a lapse of one minute when the flashing white indication on the panel will become steady and will disappear on clearance of Calling ON signal. The Calling ON signal, once cleared may not restore to 'ON' position automatically even after passes of the train, and therefore the SM/ASM, after passes of the train for which the Calling ON signal was cleared, shall immediately restore the Calling ON signal to 'ON' position by pressing the concerned signal button and Emergency signal Cancellation Button (ERN) simultaneously and releasing every clearing of 'Calling ON' signal will be recorded on COGGN Counter.

Note:- When ever in case of Main signal failed, Calling on Signal should be taken "OFF" the care should be taken the through signal i.e. (Starter Signal) must not be taken "OFF" otherwise Calling on Signal will not 'Clear'.

(e) Working of trains during the failure of track circuits when the 'Calling ON' signal has also failed.

The SM on duty will check up regarding the failure of track circuit and the latter will proceed to the affected track circuit along with a points man.

The SM after verifying the clearance of the defective track Circuit will set the requisite route, place reminder collar on the signal button and then issue 'T/369(3b)' to the Loco Pilot to pass defective signal at 'ON', provided the requisite point is set and locked indications are available on the illuminated Diagram and the track circuits other than the track circuit certified are clear. The route for which T/369(3b) is issued should not be cancelled until the entire route including the overlap is cleared by the train except in the case of trains which are likely to be detained on Platform lines in which case the route may be cancelled after the complete arrival, clear of track circuits controlling the points in rear.

- iii) Movement affected by the track circuit failure should not be done simultaneously over the crossover. Simultaneous movements are permitted only on the Straight routes under these circumstances.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

- iv) Whenever any non-signalled move has taken place over a point operated by electric point machine, either in the facing or trailing direction, the SM on duty shall operate the point to the normal/reverse settings for the purpose of setting the point. After the SM has ensured that indication regarding the normal/reverse settings is correctly available, further movements may be permitted over the point.

NOTE:-In the case of disconnected/defective points, the setting of the other end or ends where the work is/are not carried out will be done by the SM on duty.

(f) Reporting Failure of Points, Track Circuit/Axle Counter and Interlocking

During failure of Points, Track Circuit/Axle Counter and Interlocking S&T staff must be informed by station master on duty.

9.1 TOTAL FAILURE OF COMMUNICATION.

In the event of total interruption of the communications, that is (i.e.) when 'Line Clear' cannot be obtained by any one of the following means namely -

- i) Block Panel.
- ii) Telephone attached to block instruments.
- iii) Railway/BSNL Fixed phones.
- iv) Control telephone.
- v) VHF sets.

The trains shall be worked in accordance with the procedure as detailed in SR 6.02-4 of G&SR. When any one of these means of communications is functioning trains will be worked as per SR 6.02/4 of G&SR.

Note:

- i. BSNL telephones should be alternative in case of failure of Block Instrument as well as Block telephone. In case fixed telephone is not available / functional, VHF should be used for obtaining/granting line clear.
- ii. The system of establishing identity of the SM on duty by cross checking Private No. given for line clear to preceding two trains.

9.2 TEMPORARY SINGLE LINE WORKING ON A DOUBLE LINE SECTION.

Not applicable being single line section.

9.3 DESPATCH OF TRAINS UNDER AUTHORITY TO PROCEED TO ASSIST THE CRIPPLED TRAIN.

Whenever it is necessary to send a train to assist the crippled train into the block section on 'Authority No. T/A 602, the station master will: -

- i) Inform the Station Master at the other end of the affected section.
- ii) Advise Guard and Loco Pilot of the assisting train of the circumstances.
- iii) Handover an authority (T/A-602) to the Loco Pilot and Guard of assisting train specifying the line on which the train will run. Provisions of SR 6.05/2 of G&SR must be complied with.

10. VISIBILITY TEST OBJECT:

- a) Up main line starter signal No. S-5 nominated as visibility test object at this station.

b) WORKING OF TRAINS IN THICK AND FOGGY WEATHER:

Whenever on account of fog, dust storm or rains, the nominated Up main line starter signal No. S-5 is not visible from opposite of the SM's office, the SM on duty follow the provisions of SR. 3.61/1 of the G & SR.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

11. ESSENTIAL EQUIPMENT AT THE STATION:

(For essential equipment see appendix 'E').

12. NAMES OF THE FOG SIGNALMEN NOMINATED TO BE CALLED IN CASE OF FOG:

S. N.	Names of the fog Signalmen.	Design	Deptt.	Remarks

(Only permanent staff to be nominated)

**STATION MASTER
MTH**

LIST OF APPENDICES**Appendix 'A'** :- Working of Level Crossing Gates.**Appendix 'B'** :- System of Signaling and interlocking and Communication arrangements at the station.**Appendix 'C'** :- Anti Collision Device (Raksha Kavach).**Appendix 'D'** :- Duties of Train passing Staff and Staff in each shift.**Appendix 'E'** :- List of Essential Equipments provided at the station.**Appendix 'F'** :- Rules for working of 'DK' Stations, Halts, IBH, IBS, and Outlying sidings.**Appendix 'G'** :- Rules for working of trains in Electrified sections.**(J.SANJAY KUMAR)**
Sr. DOM/G & G/JHS**(RASHMI GAUTAM)**
Sr. DSTE/BL/JHS

APPENDIX "A"**1. GENERAL:****1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:**

S.N.	DESCRIPTION	REMARK
01	Number of LC gate	445
02	Engineering or traffic gate/Classification	Engineering 'C' Class
03	Under control of Station Master/SSE (P-Way)	SSE-P-WAY BNDA
04	Location at Kilometers	1294/15-16
05	At station	MTH
06	In between Station	MATAUND-KABRAI
07	BG/MG/NG	BG
08	Single/Double/Multiple line	Single Line
09	Normal Position	Closed
10	INT / NI	Non – Interlocked
11	Means of Interlocking	Nil
12	Provision of Gate Signals at Kms. UP line DN line	Nil Nil
13	Signaling arrangement	Nil
14	Means of communication–Telephone connected with	Telephone with SM/ASM on duty
15	Width of L. C. gate	5.50 M
16	Type of Road (NH/SH/others)	Other
17	Name of Road	RIWERA – SUKOURA
18	Metalled/Non-metalled	Metalled
19	Approach Road	Metalled
20	Width of Road	5.50 M
21	Angle of Road Crossing(in case of the skew gates).	No
22	Road gradient (If any) i) Towards N/E ii) Towards S/W	- -
23	Road alignment (Straight/Curve) i) Towards N/E ii) Towards S/W	Straight Straight
24	Provision of Height Gauge	Nil
25	Type of Barrier	L.B.
26	Length of Check rail	7.50 M
27	Road surface in between LC gates	Paccka
28	Length of rumble strip/ Speed breaker	Available
29	Road sign	Available
30	Speed breaker indication board.	Available
31	T.V.U.....Date.....	2914 dated on 07.07.2022
32	Census next due on	07.07.2025
33	Demarcation for Placement of detonators	Provided
34	Number of gate man working	02
35	Nearest Railway Medical assistance	BNDA
36	Nearest privately Medical assistance if any	MTH
37	List of equipment available (Yes/ No)	Yes

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(AYUSH SRIVASTAVA)
DEN/EAST/JHS

1.2 EQUIPMENT:

S.N	Items	Quantity/Numbers
1	Hand Signal Lamp Tri Colour	3
2	Hand Signal Flag Green	1 Mounted on sticks.
3	Hand Signal Flag Red	3 Mounted on sticks.
4	Banner Flag Red	3
5	Posts for exhibiting red banner flag	2
6	Spare chains with padlocks	2 with stop mark.
7	Detonators	10 in plastic case
8	Gate lamps	2
9	Tommy Bar	1
10	Mortar Pan	1
11	Spade/Fowrah	1
12	Hammer	1
13	Pick Axe	1
14	Tin case for flags	1
15	Can for oil	1
16	Water pot/Bucket	1
17	Canister for Muster Roll	1
18	Set of spare spectacles of gateman wearing glasses	1
19	Board demarcating protection of level crossing gate diagram in case of obstruction on gate.	1
20	Basket	1
21	Whistle	1
22	Wall Clock	1

1.3 RECORDS TO BE KEPT AT GATE LODGE :

In addition to the above equipment, following records shall also be kept at the gate lodge.

- 1 Gate Working Instructions in Hindi/English language.
- 2 Gateman Rule Book in Hindi/English language.
- 3 List for tools and books.
- 4 Duty Roster.
- 5 Certificate for working as gateman.
- 6 Bio-data particulars of Gatemen, including date of passing vision test, initial/refresher course, safety camp, etc.
- 7 Accident Register.
- 8 Record of last census of road traffic at level crossing gate.
- 9 Public Complaint Book.
- 10 Inspection Book.

1.4 MODE OF OPERATION: (As given in next Para)**1.5 DUTIES OF GATEMAN:**

- 1 **ALERTNESS:** The gateman shall be alert and be prepared to take immediate action, should danger be apprehended. Keys of the gate shall be in his personal custody.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(AYUSH SRIVASTAVA)
DEN/EAST/JHS

2 POSITION DURING PASSAGE OF TRAINS:

During passage of trains, gate man will stand in the manner indicated below:

- i. Gateman will stand attentively in front of the gate-lodge facing the approaching train.
- ii. In day time, gateman shall hold red and green flags furled up on separate sticks in right and left hands respectively
- iii. In nighttime, gateman shall hold lighted hand signal lamp with white light facing the track.
- iv. He shall keep the whistle slung around his neck by a cord.

3 ROUTINE DUTIES OF GATEMAN:

- i. Gateman shall ensure that red banner flag/ flashing red light is placed across the track whenever the gate is kept in open condition at non-interlocked level crossing and during emergencies or obstruction on track at these type of gate.
- ii. Gateman shall ensure the gate lamps and lamps of all gate signals are lighted and kept continuously from sunset to sunrise.
- iii. Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must closed lock the gates against road traffic, before leaving the gate.
- iv. Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- v. Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle/wagons/trains/battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- vi. Gate man shall also be prepared to repeat any signal while guard may give to loco pilot on walkie-talkie or in any other way.
- vii. If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- viii. Gateman shall report to the nearest Station Master, Gangmate or SE (P.Way) any defect in his gate or apparatus pertaining to it, as soon as possible.
- ix. Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- x. Gateman shall ensure that he is having competency certificate in his possession while on duty.
- xi. Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.
- xii. Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- xiii. Gateman shall see that the channel for the flange of the wheel is kept clear.
- xiv. Gateman shall keep the road surface well watered and rammed in case of un-metalled roads.
- xv. Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- xvi. Gateman on electrified section shall watch that road vehicles/animals passing from gate are within the height loading gauge provided on either side of the level crossing gate.
- xvii. Gateman shall prevent tress passing by persons or cattle to the maximum extent.

4 ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:

In case gateman observes anything unusual with a passing train, he shall take following action:

- i. He shall take prompt action to warn the loco pilot/Guard of the passing train by showing red flag by day and red flashing light by night.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(AYUSH SRIVASTAVA)
DEN/EAST/JHS

- ii. But in case of train parting, gateman shall not show stop hand signal but shall show prescribed signal for train parting i.e. green hand signal during day and white light during night weaving UP & DN vertically.
- iii. He shall simultaneously try to draw the attention of the loco pilot/guard by whistling continuously, shouting, gesticulating, and throwing ballast on the brake van or by any other means.
- iv. If loco pilot /Guard fail to take notice, gateman shall immediately inform the SM/ASM. If connected on telephone, to take appropriate action, under exchange of private number.

5 ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

- i. If he is unable to remove the obstruction gateman shall immediately advise the Station Master on duty, if connected by telephone, regarding the defects / obstructions at the gate, under exchange of private number.
- ii. If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.

The Gateman shall protect the line/ Gate as under-

(a) On Single line section:

- i. Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the direction from which a train is expected to arrive first.
- ii. Then he will similarly protect the other side.
- iii. Gateman shall then proceed to protect the gate along with detonators and red flag by day and red flashing hand signal lamp by night.
- iv. Gateman shall precede exhibiting red flag by day and red flashing hand signal lamp by night towards the direction from which a train is expected to arrive first, to a point 600 meters on BG and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters on BG from the level crossing gate and place 3 detonators on the track 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v. Thereafter, he shall proceed towards the other direction. Showing red hand signal, similarly place detonators as described in sub-Para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
- vi. Having returned to the level crossing gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
- vii. In case the Gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- viii. Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day and red hand signal lamp by night repeatedly.

Note: -

The level crossing gates, which are located between outermost stop signals of the station, are exempted for placing the detonators as described in Para (iv) above.

b) Other action to be taken by Gateman:

- i. At night Gateman shall light two hand signal lamps and take action to exhibit red flashing light and protect the lines as described in sub Para (a) above.
- ii. If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(AYUSH SRIVASTAVA)
DEN/EAST/JHS

- iii. He shall note down the particulars of the road vehicles, vehicle number, name of the Driver, owner and relay these details to the nearest Station Master or JE/SE/SSE/P.Way regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.
- 1.6 For visibility requirements at level crossings, provision of speed breakers on the approach roads of level crossings and census of traffic at level crossings are described in Para 916, 918, and 919 of IRPWM.

WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATE, NON-INTERLOCKED, PROVIDED WITH TELEPHONE, WITH NORMAL POSITION “CLOSED TO ROAD TRAFFIC.

1 Mode of Operation:

- i. The Gate is non-interlocked.
- ii. Normal position of the gate is closed for road traffic.
- iii. The gate is provided with L.B. operated by Engg. Gateman.
- iv. Telephonic communication is provided between the gate and SM Office

2 Exchange of private number:

- i. Gateman must seek permission from Station Master for opening the gate.
- ii. At Level Crossing gates with normal position closed to road traffic, if the gate is required to be opened to pass the road traffic, the gateman shall exchange private number with the SM and confirm that the train has passed completely from his gate, thereafter the SM may allow the Gateman to open the gate. In such a situation, the SM, before dispatching or giving line clear for any other train in the block section in question shall ensure that the level crossing gate is closed for road traffic and assurance of the Gateman is taken through exchange of private number.
- iii. Suitable entries shall be made by the Station Master in the Train Signal Register/Private number sheet and log book in red ink.
- iv. After passage of road traffic, the gateman shall close the gate and confirm this to Station Master, under exchange of private number.
- v. Before any train is allowed to enter the block section again, the Station Master must ensure that private number from the gateman has been exchanged.
- vi. Gate once closed can be opened by the gateman, after passage of train / trains or change in planning of train movement etc., with the permission of the SM/ASM, as the need of opening is known to gateman according to road traffic to be cleared. Obviously, it can be done only after exchange of Pvt. No. with the controlling Station Master who will ensure that there is no train movement towards the level crossing.

3 Failure of Telephonic Communication:

- When Telephonic Communication fails or it does not get any response from the Gateman despite 2 or 3 attempts, the following procedure should be adopted:
- i. Station Master at the dispatching end shall issue a caution order to the loco pilot of the departing train.
 - ii. The caution order shall advise the loco pilot to whistle continuously and approach the gate cautiously.
 - iii. The loco pilot shall be instructed to pass the gate cautiously, on being hand signaled by the gateman. If hand signal is not seen, loco pilot should be prepared to stop short of the gate and depute his Assistant loco pilot to see the condition of the gate. If the gate is closed, the Assistant loco pilot will give the All Right Signal and if the gate is not closed the Assistant loco pilot must close the gate and then give All Right Signal. In the absence of the Asstt. Loco pilot, the loco pilot may take the assistance of Asstt. Guard/Guard.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(AYUSH SRIVASTAVA)
DEN/EAST/JHS

- iv. In case of an approaching train, the Station Master shall advise the Station Master at the dispatching end, under exchange of private number that the telephone at the gate has failed.
- v. The Station Master at the dispatching end shall then issue a caution order to the loco pilot before dispatching a train in the block section from his end.
- vii. Station Master shall also advise the gateman through Gang-man/Petrol-man or loco pilot of the first train that the telephone has become defective.
- vii. Station Master should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.
- viii. Normal working will be resumed only after S&T staffs rectify the telephone and issue reconnection/fit memo for the same.

4. Failure of Lifting Barriers:

- i. When the gate cannot be closed due to failure of lifting barriers, the gateman will immediately inform the Station Master on duty, under exchange of private number, and ensure that lifting barriers gates do not foul the track.
- ii. He shall immediately fix red banner flag by day and red flashing light by night on the post at that end first from which the train is approaching and then at the other end.
- iii. Gateman shall secure the gate against road traffic by means of safety chains and padlocks.
- iv. After securing the gate against road traffic, Gate-man shall show green hand signal flag by day and green light by night to the loco pilot of the approaching train.
- v. Station Master on duty shall issue caution order to the loco pilot of a departing train.
- vi. He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the loco pilot before dispatching a train in block section from his end.
- vii. Station Master shall also advise maintenance staff responsible for maintenance of the lifting barriers to rectify the same at the earliest.
- viii. Normal working will be resumed only after maintenance staff rectify the lifting barriers and issue reconnection/fit memo for the same.

5. Obstruction at the Gate:

- i. If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately fix red banner flag by day and red flashing lamp by night on posts provided at both ends of the gate, for this purpose.
- ii. Immediately after this, the gateman shall advise the Station Master on duty, regarding defects/obstruction at the gate, under exchange of private number.
- iii. Station Master on duty shall be advised to put the reception/departure signals back to 'ON' position, if taken 'OFF' for a train.
- iv. If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.
- v. Gate man shall then rush with detonators, and red flag by day and red flashing hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item No.1.5 (5).
- vi. Thereafter he shall protect the gate from the other direction also.
- vii. He shall note down the particulars of the road vehicle, name of the driver, owner and relay these details to the Station Master who shall not start the train unless he has been ensured by the gateman that the road vehicle or the lifting barriers is not fouling the track.
- viii. The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(AYUSH SRIVASTAVA)
DEN/EAST/JHS

- ix. After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly under exchange of private number.
- x. Station master shall then issue caution order to Loco Pilot of all trains to proceed cautiously, and pass the gate on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.
- xi. Gateman shall secure the gate against road traffic by means of safety chains and padlocks and there after exhibit green hand signal if the gate is not obstructed.
- xii. Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- xiii. Normal working will be resumed only after maintenance staff rectify the defective lifting barriers and issue reconnection/fit memo for the same.

[

6. Obstruction on the Track near Level Crossing:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment, which is visible to the gateman, then the gateman and station Master will adopt the procedure given under item No.5 above. If the obstruction fouls the Level Crossing Gate, gateman he must keep the gates closed against road traffic till the track is cleared of the obstruction.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(AYUSH SRIVASTAVA)
DEN/EAST/JHS

1. GENERAL:**1.1 DESCRIPTION OF THE LEVEL CROSSING GATE: 448A**

S.N.	DESCRIPTION	
01	Number of LC gate	448'A 'C' Class
02	Engineering or traffic gate	Engineering
03	Under control of Station Master/SSE (P-Way)	SSE-P-WAY BNDA
04	Location at Kilometers	1301/2-3
05	At station	-
06	In between Station	MTH-KID
07	BG/MG/NG	BG
08	Single/Double/Multiple line	Single Line
09	Normal Position	Closed
10	Interlock / Non-Interlocked	Non – Interlocked
11	Means of Interlocking	Nil
12	Provision of Gate Signals at KMS. UP line DN line	Nil Nil
13	Signaling arrangement	Nil
14	Means of communication–Telephone/Bell connected with	Telephone with SM/ASM on duty MTH
15	Width of L. C. gate	5.50 M
16	Type of Road (NH/SH/others)	Other
17	Name of Road	MTH-Manwara Road
18	Metalled/ Non-metalled	Non – Metalled
19	Approach Road	Non – Metalled
20	Width of Road	5.50 M
21	Angle of Road Crossing (in case of the skew gates).	90 ⁰
22	Road gradient (If any) i) Towards N / E ii) Towards S/ W	1:20 1:20
23	Road alignment (Straight/Curve). i) Towards N / E ii) Towards S/ W	Straight Straight
24	Provision of Height Gauge	Yes
25	Type of Barrier	L.B.
26	Length of Check rail	7.50 M
27	Road surface in between LC gates	Metalled
28	Length of rumble strip/ Speed breaker	Available
29	Road sign	Available
30	Speed breaker indication board.	Available
31	T.V.U.....on.....	18810 dated on 07.07.2022
32	Census next due on	07.07.2025
33	Demarcation for Placement of detonators	Provided
34	Number of gate man working	02
35	Nearest Railway Medical assistance	BNDA
36	Nearest privately Medical assistance if any	MTH
37	List of equipment available (Yes/ No)	Yes

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(AYUSH SRIVASTAVA)
DEN/EAST/JHS

1.2 EQUIPMENT:

S.N	Items	Quantity/Numbers
1	Hand Signal Lamp Tri Colour	3
2	Hand Signal Flag Green	1 Mounted on sticks.
3	Hand Signal Flag Red	3 Mounted on sticks.
4	Banner Flag Red	3
5	Posts for exhibiting red banner flag	2
6	Spare chains with padlocks	2 with stop mark.
7	Detonators	10 in plastic case
8	Gate lamps	2
9	Tommy Bar	1
10	Mortar Pan	1
11	Spade/Fowrah	1
12	Hammer	1
13	Pick Axe	1
14	Tin case for flags	1
15	Can for oil	1
16	Water pot/Bucket	1
17	Canister for Muster Roll	1
18	Set of spare spectacles of gateman wearing glasses	1
19	Board demarcating protection of level crossing gate diagram in case of obstruction on gate.	1
20	Basket	1
21	Whistle	1
22	Wall Clock	1

1.3 RECORDS TO BE KEPT AT GATE LODGE :

In addition to the above equipment, following records shall also be kept at the gate lodge.

- 1 Gate Working Instructions in Hindi/English language.
- 2 Gateman Rule Book in Hindi/English language.
- 3 List for tools and books.
- 4 Duty Roster.
- 5 Certificate for working as gateman.
- 6 Bio-data particulars of Gatemen, including date of passing vision test, initial/refresher course, safety camp, etc.
- 7 Accident Register.
- 8 Record of last census of road traffic at level crossing gate.
- 9 Public Complaint Book.
- 10 Inspection Book.

1.4 MODE OF OPERATION: (As given in next Para)**1.5 DUTIES OF GATEMAN:**

- 1 **ALERTNESS:** The gateman shall be alert and be prepared to take immediate action, should danger be apprehended. Keys of the gate shall be in his personal custody.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(AYUSH SRIVASTAVA)
DEN/EAST/JHS

2 POSITION DURING PASSAGE OF TRAINS:

During passage of trains, gate man will stand in the manner indicated below:

- i. Gateman will stand attentively in front of the gate-lodge facing the approaching train.
- ii. In day time, gateman shall hold red and green flags furled up on separate sticks in right and left hands respectively
- iii. In nighttime, gateman shall hold lighted hand signal lamp with while light facing the track.
- iv. He shall keep the whistle slung around his neck by a cord.

3 ROUTINE DUTIES OF GATEMAN:

- i. Gateman shall ensure that red banner flag/ flashing red light is placed across the track whenever the gate is kept in open condition at non-interlocked level crossing and during emergencies or obstruction on track at these type of gate.
- ii. Gateman shall ensure the gate lamps and lamps of all gate signals are lighted and kept continuously from sunset to sunrise.
- iii. Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must closed lock the gates against road traffic, before leaving the gate.
- iv. Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- v. Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle/wagons/trains/battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- vi. Gate man shall also be prepared to repeat any signal while guard may give to loco pilot on walkie-talkie or in any other way.
- vii. If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- viii. Gateman shall report to the nearest Station Master, Gangmate or SE (P.Way) any defect in his gate or apparatus pertaining to it, as soon as possible.
- ix. Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- x. Gateman shall ensure that he is having competency certificate in his possession while on duty.
- xi. Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.
- xii. Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- xiii. Gateman shall see that the channel for the flange of the wheel is kept clear.
- xiv. Gateman shall keep the road surface well watered ad rammed in case of un-metalled roads.
- xv. Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- xvi. Gateman on electrified section shall watch that road vehicles/animals passing from gate are within the height loading gauge provided on either side of the level crossing gate.
- xvii. Gateman shall prevent tress passing by persons or cattle to the maximum extent.

4 ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:

In case gateman observes anything unusual with a passing train, he shall take following action:

- i. He shall take prompt action to warn the loco pilot/Guard of the passing train by showing red flag by day and red flashing light by night.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(AYUSH SRIVASTAVA)
DEN/EAST/JHS

- ii. But in case of train parting, gateman shall not show stop hand signal but shall show prescribed signal for train parting i.e. green hand signal during day and white light during night weaving UP & DN vertically.
- iii. He shall simultaneously try to draw the attention of the loco pilot/guard by whistling continuously, shouting, gesticulating, and throwing ballast on the brake van or by any other means.
- iv. If loco pilot /Guard fail to take notice, gateman shall immediately inform the SM/ASM. If connected on telephone, to take appropriate action, under exchange of private number.

5 ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

- i. If he is unable to remove the obstruction gateman shall immediately advise the Station Master on duty, if connected by telephone, regarding the defects / obstructions at the gate, under exchange of private number.
- ii. If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.

The Gateman shall protect the line/ Gate as under-

(a) On Single line section:

- i. Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the direction from which a train is expected to arrive first.
- ii. Then he will similarly protect the other side.
- iii. Gateman shall then proceed to protect the gate along with detonators and red flag by day and red flashing hand signal lamp by night.
- iv. Gateman shall precede exhibiting red flag by day and red flashing hand signal lamp by night towards the direction from which a train is expected to arrive first, to a point 600 meters on BG and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters on BG from the level crossing gate and place 3 detonators on the track 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v. Thereafter, he shall proceed towards the other direction. Showing red hand signal, similarly place detonators as described in sub-Para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
- vi. Having returned to the level crossing gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
- vii. In case the Gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- viii. Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day and red hand signal lamp by night repeatedly.

Note: -

The level crossing gates, which are located between outermost stop signals of the station, are exempted for placing the detonators as described in Para (iv) above.

b) Other action to be taken by Gateman:

- i. At night Gateman shall light two hand signal lamps and take action to exhibit red flashing light and protect the lines as described in sub Para (a) above.
- ii. If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(AYUSH SRIVASTAVA)
DEN/EAST/JHS

- iii. He shall note down the particulars of the road vehicles, vehicle number, name of the Driver, owner and relay these details to the nearest Station Master or JE/SE/SSE/P.Way regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.
- 1.6** For visibility requirements at level crossings, provision of speed breakers on the approach roads of level crossings and census of traffic at level crossings are described in Para 916, 918, and 919 of IRPWM.

WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATE, NON-INTERLOCKED, PROVIDED WITH TELEPHONE, WITH NORMAL POSITION “CLOSED TO ROAD TRAFFIC.

1 Mode of Operation:

- i. The Gate is non-interlocked.
- ii. Normal position of the gate is closed for road traffic.
- iii. The gate is provided with L.B. operated by Engg. Gateman.
- iv. Telephonic communication is provided between the gate and SM Office

2 Exchange of private number:

- i. Gateman must seek permission from Station Master for opening the gate.
- ii. At Level Crossing gates with normal position closed to road traffic, if the gate is required to be opened to pass the road traffic, the gateman shall exchange private number with the SM and confirm that the train has passed completely from his gate, thereafter the SM may allow the Gateman to open the gate. In such a situation, the SM, before dispatching or giving line clear for any other train in the block section in question shall ensure that the level crossing gate is closed for road traffic and assurance of the Gateman is taken through exchange of private number.
- iii. Suitable entries shall be made by the Station Master in the Train Signal Register/Private number sheet and log book in red ink.
- iv. After passage of road traffic, the gateman shall close the gate and confirm this to Station Master, under exchange of private number.
- v. Before any train is allowed to enter the block section again, the Station Master must ensure that private number from the gateman has been exchanged.
- vi. Gate once closed can be opened by the gateman, after passage of train / trains or change in planning of train movement etc., with the permission of the SM/ASM, as the need of opening is known to gateman according to road traffic to be cleared. Obviously, it can be done only after exchange of Pvt. No. with the controlling Station Master who will ensure that there is no train movement towards the level crossing.

3 Failure of Telephonic Communication:

- When Telephonic Communication fails or it does not get any response from the Gateman despite 2 or 3 attempts, the following procedure should be adopted:
- i. Station Master at the dispatching end shall issue a caution order to the loco pilot of the departing train.
 - ii. The caution order shall advise the loco pilot to whistle continuously and approach the gate cautiously.
 - iii. The loco pilot shall be instructed to pass the gate cautiously, on being hand signaled by the gateman. If hand signal is not seen, loco pilot should be prepared to stop short of the gate and depute his Assistant loco pilot to see the condition of the gate. If the gate is closed, the Assistant loco pilot will give the All Right Signal and if the gate is not closed the Assistant loco pilot must close the gate and then give All Right Signal. In the absence of the Asstt. Loco pilot, the loco pilot may take the assistance of Asstt. Guard/Guard.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(AYUSH SRIVASTAVA)
DEN/EAST/JHS

- iv. In case of an approaching train, the Station Master shall advise the Station Master at the dispatching end, under exchange of private number that the telephone at the gate has failed.
- v. The Station Master at the dispatching end shall then issue a caution order to the loco pilot before dispatching a train in the block section from his end.
- vii. Station Master shall also advise the gateman through Gang-man/Petrol-man or loco pilot of the first train that the telephone has become defective.
- vii. Station Master should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.
- viii. Normal working will be resumed only after S&T staffs rectify the telephone and issue reconnection/fit memo for the same.

4. Failure of Lifting Barriers:

- i. When the gate cannot be closed due to failure of lifting barriers, the gateman will immediately inform the Station Master on duty, under exchange of private number, and ensure that lifting barriers gates do not foul the track.
- ii. He shall immediately fix red banner flag by day and red flashing light by night on the post at that end first from which the train is approaching and then at the other end.
- iii. Gateman shall secure the gate against road traffic by means of safety chains and padlocks.
- iv. After securing the gate against road traffic, Gate-man shall show green hand signal flag by day and green light by night to the loco pilot of the approaching train.
- v. Station Master on duty shall issue caution order to the loco pilot of a departing train.
- vi. He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the loco pilot before dispatching a train in block section from his end.
- vii. Station Master shall also advise maintenance staff responsible for maintenance of the lifting barriers to rectify the same at the earliest.
- viii. Normal working will be resumed only after maintenance staff rectify the lifting barriers and issue reconnection/fit memo for the same.

5. Obstruction at the Gate:

- i. If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately fix red banner flag by day and red flashing lamp by night on posts provided at both ends of the gate, for this purpose.
- ii. Immediately after this, the gateman shall advise the Station Master on duty, regarding defects/obstruction at the gate, under exchange of private number.
- iii. Station Master on duty shall be advised to put the reception/departure signals back to 'ON' position, if taken 'OFF' for a train.
- iv. If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.
- v. Gate man shall then rush with detonators, and red flag by day and red flashing hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item No.1.5 (5).
- vi. Thereafter he shall protect the gate from the other direction also.
- vii. He shall note down the particulars of the road vehicle, name of the driver, owner and relay these details to the Station Master who shall not start the train unless he has been ensured by the gateman that the road vehicle or the lifting barriers is not fouling the track.
- viii. The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(AYUSH SRIVASTAVA)
DEN/EAST/JHS

- ix. After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly under exchange of private number.
- x. Station master shall then issue caution order to Loco Pilot of all trains to proceed cautiously, and pass the gate on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.
- xi. Gateman shall secure the gate against road traffic by means of safety chains and padlocks and there after exhibit green hand signal if the gate is not obstructed.
- xii. Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- xiii. Normal working will be resumed only after maintenance staff rectify the defective lifting barriers and issue reconnection/fit memo for the same.

[

6. Obstruction on the Track near Level Crossing:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment, which is visible to the gateman, then the gateman and station Master will adopt the procedure given under item No.5 above. If the obstruction fouls the Level Crossing Gate, gateman he must keep the gates closed against road traffic till the track is cleared of the obstruction.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(AYUSH SRIVASTAVA)
DEN/EAST/JHS

APPENDIX “B”

SYSTEM OF SIGNALLING AND INTERLOCKING:-

1. LAYOUT: As per Station Working Rules Diagram attached.

- 1.1 Class of Station: “B” Class, Single line panel interlocking STD –II R.
- 1.2 Mode of Signaling: Multiple Aspect Colour Light Signaling.

2. METHOD OF INTERLOCKING:

- 2.1 The Station is “B” Class Interlocked to Standard II (R) and is provided with color light signaling. Interlocking is by means of Relay Interlocking (Route Setting type) through Control Panel installed in SM’s office. Continuous Track Circuiting is provided between DN Home and UP Home and 120 meters beyond them.
- 2.2 All Points / Signals/ controls are operated electrically by means of push buttons located on the control panel. All the movements including shunting are controlled from Control panel.

3. WORKING OF CONTROL PANEL:

3.1 CONTROL PANEL:

The control panel is installed in the SM’s office. The panel depicts the schematic reproduction of the entire track layout of the station with different track circuit sections being painted in different colours. All the points, signals and controls are controlled by means of push buttons located within the track layout diagram on the panel at their respective geographical positions. Indications regarding setting of the points, setting of the route and signal aspects are given on the panel. The panel is also equipped with SM’s lock up key to enable the SM/ASM on duty to lock up the panel. (The SM/ASM on duty must not permit unauthorized persons to operate the control panel and must lock the panel whenever he leaves his seat).

3.2 SYSTEM OF BLOCK WORKING:

Single line Block panel along with Dual BPAC is installed for working the trains between MTH-KBR.

Single line Block panel along with Dual BPAC is installed for working the trains between MTH-KID

The SM/ASM on duty on Panel is responsible for operation of the Block panel and should keep Keys in his personal Custody.

4. FUNCTIONS AND DESCRIPTION OF VARIOUS PUSH BUTTONS OF THE CONTROL PANEL:

a. Signal Button:

It is provided near the concerned signal and is of ‘RED’ in colour for stop signal and ‘Yellow’ in colour for shunt signal. The number of each signal button is inscribed near its location. Whenever any signal is to be taken “OFF” the route button of the concerned line along with signal button is to be pressed simultaneously for 03 seconds minimum and then released. Distant signal is not having any buttons on the control panel. Circuitry arrangements permit this signal to assume the corresponding aspect, depending upon the aspect displayed by home Signal ahead. Normal aspect displayed by distant signal is ‘Caution’ i.e. single yellow, it changes to attention i.e. ‘Double Yellow’ when the concerned Home Signal ahead is taken “OFF” and it changes to ‘Proceed’ aspect i.e. Green in Conjunction with “Proceed or Attention aspect” of the concerned Home Signal.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

b. Point Button:

It is located near the each crossover point with the number of point inscribed by its side and is 'Blue' in colour. Whenever any crossover point is required to be set, the group button along with the concerned point button is to be pressed. When the point is set, the concerning 'Slit' in the direction of points setting will get illuminated indicating white light. When any particular points are engaged by a route, this will be indicated on the panel by small white light provided in round slit on the points position indicating that points are not free for operation.

c. Route Button:

Each route button is positioned appropriately on the panel and is 'Grey' in colour. It is pressed along with relevant signal button whenever the concerned signal is to be taken "OFF".

d. Control Button:

- i) The slot button is provided for releasing controls from crank handle Keys, which are locked in KLCR boxes. For releasing keys at site, the concerned slot button (CH) along with the Group Slot button CHYN in blue colour is to be pressed simultaneously. This operation will enable the authorized person on duty to extract Keys from KLCR Box.
- ii) For withdrawing Control Slot, key of concern point are put back at proper place in KLCR box and then SM on duty will press Control Button CHYRN along with concerned CH Button simultaneously. This operation will lock the Key in the KLCR Box.

The following control buttons are provided

S.N.	Button No.	Colour	Functions
1.	CH1	Blue	Releasing/ Withdrawing control on Crank Handle. Key for point 201a / 201b.
2.	CH2	Blue	Releasing/ Withdrawing control on Crank handle Key for point 202a / 202b
3	CH98	Blue	Releasing/ Withdrawing control on Crank handle Key for point 298a / 298b.
4	CH99	Blue	Releasing/ Withdrawing control on Crank handle Key for point 299a / 299b.

e. Group Button:

The group buttons are normally provided on the top of control panel. The following are the nomenclatures, colours, description etc. of the buttons.

Sr. No.	Group Code	Button Colour	Functions
1.	WWN	Blue	Group point button for individual operation of points /crossover. This button is to be pressed along with the concerned point button for point operation when track circuits are clear for setting the point to the required position
2.	CHYN	Blue	Group slot button for releasing slot to Crank Handles (To be pressed along with concerned point button).
3.	CHYRN	Blue	Group slot button for withdrawing slot to Crank Handles (To be pressed along with concerned point button).
4.	COGGN with counter	Red	Common 'Calling ON' Signal button for taking off the Calling ON Signal (To be pressed along with the respective Home Signal Button) when the calling on track circuit is occupied by the train.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

f. Emergency Buttons:

In addition to the points, signals, slots and group buttons, some emergency buttons are also provided for emergency use such as operation of points when track circuit controlling the points has failed, putting back signals to danger, cancellation of route section and releasing the route when locked as well as the overlap when the train is not on the approach track.

The following are the nomenclatures, colours, description etc of the various buttons

No	Group Code	Button Colour	Functions
1.	EWN with counter on the panel	Blue	Emergency group Button for point operation for operating the point individually when the track circuit controlling the point has failed. Button remains sealed normally, and is provided with counter 'EWN' to count the number of operation. ASM will break the seal before the operation.
2.	ERN	Red	Emergency Group Signal for putting back a signal /Shunt Signal to "ON" in case of an emergency even without SM's key in the panel.
3.	EUYN button key with counter on the panel. (Route release button when the track circuit has failed.)	Grey.	This button is to be used for releasing a portion of route which could not get released (though other sub route are released) after passage of train or otherwise. ASM on duty press EUYN and concern signal button/ point button and counter counts each such operation. SM/ASM on duty will make the necessary entry in the detail in the register.
4.	EUUYN with counter on the panel	Grey	Emergency route release button is used for releasing the route when locked and also the overlap when the train is not on the approach track. To cancel a route press concerned Signal and ERN buttons, release ERN keeping Signal button pressed, press EUUYN button, release it and press concerned route button keeping signal button press and the counter counts each cancellation.

NOTE

- (01) Emergency point operation button (EWN) will be kept sealed by ESM/JE/SE. Whenever this button is made use of, after the seal is broken, the ESM/JE/SE should be advised immediately so that the button can be re-sealed. Use of the button should be recorded in a register.
- (02) The operation of EUYN button is controlled by key which remain in the custody of SM/ASM on duty. The use of the button should be recorded in detail in a register and sealing of this button is not required.

g. Indication Buttons:

Indication buttons GXYN, WXYN and CHXYN are provided for silencing bell buzzer when any signal or points or Crank handle have failed.

The following are the nomenclatures, colours, description etc. of indication buttons & various indications on the panel.

Sr. No	Group Code	Button Colour	Functions
1.	GXYN Signal lamp failure buzzer Silencing button	Red	In case of failure of Signal lamp & steady (G) indication appears along with buzzer. Buzzer can be Silenced by pressing the Button but the indication will remain till the failure is put right. The concerned Signal indication will flash to indicate failure.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

2.	WXYN Point failure buzzer silencing button	Blue	In case of failure of Point detection, steady (W) indication appears along with buzzer. Buzzer can be silenced by pressing the button but the indication 'W' will remain Steady till the failure is put right. The concerned point indication will flash to indicate the failure.
3	CHXYN Crank handle failure/ buzzer silencing button	Grey	In case of failure of crank handle & steady (CH) indication appears along with buzzer. Buzzer can be Silenced by pressing the Button but the indication will remain till the failure is put right. The concerned crank handle indication will flash to indicate failure.
4.	NCR. Group Button failure indication	Red indication	It is only a red light indication without button. Whenever any button on the panel fails to come back to normal position when released red indication appears along with Buzzer.
5.	GNCR Button checking indication for signal buttons	S indication	This indication will appear when any of the signal buttons fails to come back to normal when released or kept pressed for long time. Indication appears along with the Buzzer.
6.	UNCR Button checking indication for route buttons.	R indication	This indication will appear when any of the route buttons fail to come back to normal position when released or kept pressed for long time. Indication appears with Buzzer.
7.	WNCR Button checking indication for point buttons	P indication	This indication will appear when any of the point buttons fails to come back to normal when released or kept pressed for a long time. Indication appears along with the Buzzer.
8.	CHYNCR Button checking indication for crank handle.	CH indication	In case of failure of crank handle & steady (CH) indication appears along with buzzer. Buzzer can be Silenced by pressing the Button but the indication will remain till the failure is put right. The concerned crank handle will flash to indicate failure.

Note:

- 1) All cancellation facilities are provided with Counter and that each number should be entered in the Register specially provided for along with brief reasons for cancellation.
- 2) Buttons provided with seal;- Assistant Station Master (Panel) can break such seal in emergency but the JE/SE/ESM on duty must be informed immediately for resealing the button / buttons.
- 3) EUYN (Sub route cancellation) is meant for releasing any sub route, if not released by passage of train or otherwise but the same can be used in emergency for release of full route also if process of EUUYN fails to release full route.
- 4) The Assistant Station Master (Panel) on duty will be responsible for all emergency operations done by him and it is to be explained in the Special register giving corresponding numbers of the respective counters. The numbers on each counter will be registered in the Assistant Station Master's (Panel) charge book while handing over & taking over charge of the panel.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

- 5) Facility is provided to the Assistant Station Master (Panel) on duty for operation of Motor Operated points in case of failure of point controlling track circuits by means of 'EWN' button. Before breaking the seal of the button and operating the same, Assistant Station Master (Panel) on duty should physically verify or get the same verified by Platform Assistant Station Master that the point/ track is not occupied by any vehicle and that the track concerned is intact and safe for the passage of trains.
- 1) When one Signal or point failure is already indicated and the buzzer/bell already silenced, the second Signal or point failure will not be indicated by the Sounding of buzzer/bell. However, the respective Signal or point failed will be flashing on the panel.
- 2) The audible buzzer sounded along with button checking indication cannot be silenced unless the failure is put right. Assistant Station Master (Panel) on duty should check for any of the buttons remaining in the operated/ pressed condition and if so, the same should be released by him. JE/SE/ESM on duty should be informed in case if he is not able to locate the faulty button.
- SMs Key-** This key is taken out by SM, ASM to avoid unauthorized operation of the panel in his absence. In case panel seized to operation, SM/ASM must see that SM's key is inserted and kept turned to its proper position. In addition Separate RESET BOXES/INDICATIONS for track section Axle counters of either side station in each direction of UP/DN IBS/BPAC is provided in front of main operating panel.
- a) An "Emergency SM's key" has been also provided on the control panel. This key is normally to be kept "OFF" and remain in safe custody of SM/ASM on duty and to be used when main SM's key 'OUT ' indication (Red) appears on panel due to main SM's Key contact failure. The Emergency SM's key will be used by SM/ASM on duty by turning the key to 'ON' to normalize the panel operation. After verifying the SM's key "IN" indication (Yellow) on the panel and the failure of main SM's key to be advised to on duty S&T staff available at station.

5. PANEL INDICATION:

5.1 Point Indication:

The position of the points is indicated on the control panel by the illuminated rectangular slits near the points on the panel. The normal setting of a point is indicated by the illuminated slit on the straight route and reverse setting by illuminated slit on the diverting route. These slits will display a steady white light, if the points are properly set and the track circuit controlling the points is clear or a steady red light if the track circuit controlling the points are occupied or have failed. In the event of a point failing to set properly, this steady white light change into white 'flashing' light. The flashing light indication will also appear for a short period when the points are being moved from one position to other. The Station Master should not mistake this as a point failure unless the flashing indication continues for more than 10 seconds. **No setting of route should be attempted over point showing flashing light.**

5.1.1 Point Locking Indication:

When any particular point is engaged by a route, this will be indicated on the panel by a small white light provided in round slit on the 'point position' indicating slits, indicating that the points are not free for operation. **When this locking indication appears the Station Master must not interfere with the point.**

5.2 SIGNAL INDICATIONS:

The indications of all signals will be repeated on the control panel. The 'ON' aspect of a stop signal is indicated by 'RED' light on the control panel and the 'OFF' aspect of a main stop signal on the control panel will be yellow, Double yellow or Green light irrespective of whether the signal at site is displaying the 'Yellow' or 'Double Yellow' or 'Green' aspects. In case of Inner distant signals,

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

the normal position of distant signal is Yellow i.e. Yellow aspect will be indicated on the control panel by a single Yellow light and the “OFF” aspect i.e. ‘Double Yellow’ or Green’ aspects will be indicated by Double Yellow or ‘Green’ light. In case of distant signal the normal position of distant signal is Attention aspect will be indicated on the control panel by a Double Yellow light and the ‘OFF’ aspect i.e. Green’ aspects will be indicated by ‘Green’ light. In the case of ground type shunt signals, the ‘ON’ and ‘OFF’ aspects are indicated on the control panel by the horizontal white and diagonal white slits respectively.

A White dot indication is lit below the main Signal when a calling on Signal or Shunt Signal provided below the main Signal is taken ‘OFF’. Normally it has no light.

5.2.2 Indication of Directional Route Indicator:

Signals fitted with directional route indicator pointing to direction of diversion, have normally no light on route indicator slot on control panel but when any one directional route indicator is lit up at site a vertical slit showing white indication appears on the concerned signal on the panel.

5.2.3 Route Indications :

When the route is set by the operation of the signal button along with the concerned route button, white light will appear in the slits on the portion of the track circuited section covering the route up to the next signal and the overlap. When the route is thus set & locked, this will be indicated by a circular white light near the concerned points in the route. The white light on this track circuited portion will change into ‘Red light’ when the track section is occupied by a train or vehicle and until the track is cleared again. After the passage of the train when the track section is clear the white light will reappear and will extinguish only when the route gets released. In the case of shunt signals, the portion of the route excluding the berthing tracks and non track circuited portion will only be illuminated by the appearance of white route lights.

5.3 Track Circuit Indication:

5.3.1 All the Track circuits are marked in different colours on the track layout of controlled territory drawn on indication panel. Track circuit indicators on the panel consist of white and red lamps within the track lines. Normally, these indicators are not lit. When a route is set & locked, white light on all track sections of that particular route including overlap are lit. Subsequently, when train occupies the track sections, white lights extinguish and red lights are lit to indicate the presence of the train. Red light extinguishes and white lights are re-lit when the train travels and clears the track section. White light finally extinguish when the corresponding route section is released automatically or by cancellation.

5.3.2 Failure of Track Circuit section is indicated on control panel by lighting up of Red light of that particular track section irrespective of whether or not a route involving that tracks circuit section has been set. To prevent suppression of a track failure indication in case of an indication lamp failure, track circuit strip indicators are always formed with two or more indication lamp in parallel.

5.4 FLASHER INDICATIONS:

A continuous flashing indication has been provided at the top row of the panel. Presence of this indication on the panel all the time will indicate to SM/ASM at the panel that the flasher relay equipment is working. Should that the equipment become faulty, this indication will become steady and accordingly even when the points are not set properly the flashing indication will not appear for that particular point and instead steady indication will appear, which is therefore misleading. SM on duty should therefore check for this continuous flashing indication at the time the points are set for a movement and signal is taken “OFF” and it should be ensured that flashing indication is always there.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

During the period of failure of flasher indication signaled move are permitted without clamping and padlocking of the points involved in the route but before authorizing any unsignalled move, the SM/ASM must ensure that the relevant points in the route are correctly set., clamped and padlocked. The SM /ASM on duty should advise to JE/SE/ESM for ‘failure of continuous flashing indication‘.

5.5 Point or Signal Lamp Failure Indications:

In the event of a point failure or failure of a signal lamp, the concerned point or signal indication on the control panel will change from steady light to a flashing light. In case of signal, if the ‘Green’ indication only is flashing, this will mean that the Green lamp of the concerned signal has fused, but signal is exhibiting the next restrictive “OFF” aspect. But if the green flashing indication on the panel is also accompanied by the steady red indication, this will mean that the Yellow lamp of the signal has also fused and the signal is exhibiting the ‘ON’ aspect. The failure of the red lamp of the signal will be indicated by flashing Red indication on the panel accompanied by an Audible Alarm.

Failure of the signal lamp causes the signal to revert back to the next restrictive aspect and indication on panel also changes as shown in the tabulated form. When any signal is blank, an audible alarm bell will start ringing and the normal indication of the signal lamp will start flashing. On hearing such an alarm and on seeing the Red flashing indication, the ASM on duty should press the GXYN button in case of a signal lamp failure and WXYN button in case of point failure and CHXYN button in case of crank handle failure. Pressing of GXYN/ WXYN/CHXYN will cause the alarm to stop but a permanent red indication will remain till the failure is put right.

5.6 Indication for Prolonged Operation of Button :

If any of the button is kept pressed for more than 10 seconds, button detection NCR indication (Red light) will appear with buzzer. Panel ASM on duty should check and locate the button which has remained pressed and pull the same to release it. So long as NCR indication persists, no operation of points or signal from the panel will be possible and panel will become inoperative. Panel ASM on duty should, therefore, be alert to notice NCR indication. Whenever, panel becomes inoperative, he should specially check NCR indication. Even after panel ASM on duty has attempted to pull and return to normal position a pressed button if NCR indication persists, he should immediately inform ESM/JE/SE.

6 PANEL OPERATION:

For every operation on the control panel, two buttons have to be pressed simultaneously and released i.e. the signal button and the route button for setting route and clearing a signal or point and points group button for setting a point etc. Panel ASM on duty must ensure that not more than two buttons are operated simultaneously at any time.

6.1 Operation of Points:

The points will remain in the last operated position. in order to set the point either from ‘Normal to Reverse’ or from ‘Reverse to Normal’, individual point button WN and point group button ‘WWN’ should be simultaneously pressed and released which will cause the point to change over, provided the points are not engaged by any route and also the track circuit controlling the point is unoccupied. **Note:** In the event of failure of the track circuit controlling the points, if the points have to be operated, the panel ASM on duty will first personally verify that the concerned track circuit is not occupied by any train or vehicle and then press the concerned point button simultaneously with the Emergency Point Button (EWN) and release. Each time a point is thus operated, it will be recorded

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

on the (EWN) counter. A register is maintained for EWN counter and each operation is recorded in it. The register has the same columns as mentioned for EUUYN and EUYN counter. SM on duty will break the seal before the operation and will immediately inform ESM to reseal the EWN button and make necessary entries in the register.

6.2 Operation of Main Signals:

The L.C. gate if any should be closed & locked and the signal taken “OFF” by pressing the concerned signal button and route button simultaneously and releasing them. , the points in the route and the isolation points will be automatically set to the required position, if not already in that position, provided slot from the slotting agencies is received in case of slotted signals. Point in the overlap will be set automatically in normal position. If diversion overlap is required then starter signal to be take off first before taking OFF home signal.

6.3 Operation of Shunt Signals:

In the case of shunting movements,. The L.C. gate if any should be closed & locked and the signal taken “OFF” by pressing the concerned Shunt signal button and route button simultaneously and releasing them., the points in the route should be automatically set to the required position, if not already in that position. Provided slot from the slotting agencies is received in case of slotted signals.

6.4 Operation of Calling on Signals:

‘Calling On’ signals are fixed on the same post and below the Home stop signal No. S2 & S19 governing the admission of trains. This will show normally no light in the ‘ON’ position and miniature Yellow light in the ‘OFF’ position and will be provided with a marker, consisting of a white enamel disc with letter ‘C’ in Black. In the event of failure of stop signal or due to failure of any track circuit in the route, it is not possible to receive a train by taking “OFF” the Home signal, but it can be received on calling on signal.

A train intended to be received on “Calling ON” signal should be brought to a dead stop short of the Home Signal occupying calling on track circuit CO2T or CO19T (as the case may be). For clearing calling on signal for a particular route (Required route to be set), when main signal is not clearing and the route is set, first press concerned home signal button and ERN button for throwing signal to danger to the signal, release the buttons and then again press concerned home signal button with COGGN button and then release COGGN button only and than press concern route button keeping signal button pressed after which both the buttons are released. A white light will start flashing in round slit near the home signal on the panel which will become steady after two minutes and simultaneously the calling on signal will assume” OFF” aspect at site and white indication will appear in the calling on round slit on the panel. The calling on signal shall be automatically extinguished as soon as track circuitCO-2 or CO-19 as the case may be is picked up. Each time the calling on signal is operated, it is recorded on COGGN counter.

Note : If it is visible by seeing Panel indications that any track circuit of the route is failed than no necessity to attempt for home signal and than to cancel instead Calling On can be attempted directly by pressing signal button and COGGN keeping signal button pressed COGGN to be released and route button to be pressed for 10 second after which both the buttons to be released when white light will start flashing for two minutes after which light will become steady and Calling On signal will assume “OFF”.

7. RESTORING SIGNAL TO ‘ON’ AND CANCELLATION OF ROUTES:

7.1 Restoring Signal to ‘ON’:

Whenever it is required to put back a signal to ‘ON’ position during an emergency or due to any other reason, this can be done by pressing the concerned signal button along with the emergency signal cancellation button (ERN)& releasing them.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

7.2 Cancellation of Route already set when Points have not Failed (EUUYN) Operation

Ordinarily a route once set need not be cancelled as the same gets cancelled automatically by the passage of the train over the entire route and this is indicated on the Control Panel by the extinguishing of the route lights. However, should it become necessary to cancel a route already set due to any reason the SM on duty should first restore the Signal Controlling the movement over the route to 'ON' as indicated in Sub-Para [a] above. The SM on duty will then press the concerned Signal [other than Advanced Starter Signal] Button and the Route Release Button (EUUYN) simultaneously. This will release the route including the overlap, provided no train has occupied the approach track circuit. However, if the approach track circuit is occupied, the route locked flashing indication will appear (a small circular white light) at the right side of the signal. The route locked indication will remain for stipulated time interval i.e. not less than 120 seconds for the release of the approach locking. The route should then be cancelled only after the route locked indication extinguished on the panel.

Each time the route is thus cancelled, it will be recorded on the Emergency Route Release Button (EUUYN) counter provided on the control panel. However, in the case of Advanced Starter Signals, the route will get cancelled when the signal is restored to 'ON' position by means of Emergency Signal cancellation Button (ERN). In case of any failure of track circuit on the route, the three-button cancellation must not be attempted by ASM as it may cause failure Calling On signal on the route.

NOTE: In case, the route locked indication on the panel control extinguishes immediately before the lapses of stipulated time interval i.e. not less than 120 seconds due to the failure of equipment the SM on duty should wait for two minutes and then cancel the route in the usual manner. Further, the SM should report the failure to the ESM immediately and record the same in the S&T failure register.

7.3 CANCELLATION OF ROUTE WHEN TRACK CIRCUIT OR POINTS IN THE ROUTE ARE IN FAILED CONDITION (EUYN OPERATION):

- i} Normally, the route set gets released automatically after the passage of the train over the same, when track circuit or point in the route has not failed. But when a track circuit or point failed after the passage of train the route does not get released either automatically or by EUUYN. The route will now be cancelled by another emergency operation called EUYN cancellation. This operation should be restored to only after verifying by personal observation by ASM/panel operator that the defective track circuit is not occupied by a train or vehicle.
- ii} EUYN Button & insertion the key and turning then will operate the emergency route release button (EUYN) provided for this purpose on the panel. A small circular white light starts flashing at the right side of the signal, the route locked indication will remain for stipulated time interval i.e. not less than 120 sec and then release the particular route. Such route will be cancelled by press in EUYN along with (A) points button for route controlling the point (B) Signal button for route controlled by that signal.
 - a. The ASM/ Panel operator will first turn the emergency sub-section route release key (EUYN KEY) provided on panel to reverse position for authentic operation and then press EUYN button on panel.
 - b. By doing so, sub section route release timer will start and flashing yellow indication will appear on panel. Now EYUN button can be left but key will remain in turned in reverse position. After 120 sec of time lapse, flashing yellow indication will turn into steady yellow (ESUYKE) indication.
 - c. After that ASM/ Panel operator will press the EYUN button and concerned route point/signal button to release the sub –section route which increment the EYUN counter.
 - d. After releasing the concerned sub-section route, the ASM/ Panel operator will turn the EYUN key to normal position causing steady (ESUYKE) indication to disappear and remove the key to keep in his safe custody.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

- iii} The SM on duty will maintain a register for recording the reading and the other details of the route cancellation with the emergency route section release button (EUYN) provided on the panel.
- iv} The register will have the following columns:-
 - 1) Sr. no.
 - 2) Date & time
 - 3) Route to be cancelled
 - 4) Reason for cancellation of the route.
 - 5) The train no. before/after, which route to be cancelled.
 - 6) Sig. of the ASM on duty
 - 7) Time route cancelled
 - 8) Reading of the EUYN counter after cancellation of the route
 - 9) Remarks

CANCELLATION OF OVERLAP: After the train arrives and occupies the berthing track, the overlap gets automatically released after the lapse of a stipulated time interval of two minutes. Should the overlap (having points in the overlap) not get released automatically after the arrival of a train due to any reason, which will be indicated by the overlap portion remaining illuminated, the SM on duty should press the Route Button behind the overlap and the Overlap Release Button (OYN) simultaneously and release them. This will enable the overlap to be released. Each time the overlap is thus released, it will be recorded in the 'OYN' Counter provided on the Control Panel.

7.4.1 Cancellation of route when a train is received on "CALLING ON" Signal:

When a Berthing track circuit has failed, the train can be received on "Calling ON" Signal. On arrival of train on the berthing track the route will get released automatically. If it does not get released automatically it can be released by EUUYN operation as indicated above in Para 7.2.

7.4.2 In case when a signal has been restored to 'ON' position, the route should cancel after a lapse of 120 seconds, if it is observed that the white flashing light near the signal becomes steady or extinguishes immediately before the lapse of the stipulated time interval i.e. less than 120 seconds due to the failure of the equipment, the ASM on duty should wait for two minutes after restoring the signal to 'ON' and then cancel the route in the usual manner. Further, the ASM should advise the ESM of the section on duty immediately about the failure and also record the failure in S&T failure register. Each time the route is thus cancelled it will be recorded on EUUYN counter.

7.5 Recording the Reading of Counter :

Operations of the following buttons are recorded on the counters provided with each of these buttons:-

1. Emergency Point button. (EWN)
2. Route Release Button (EUUYN)
3. Emergency Route Release Button (EUYN)
4. Calling 'ON' Signal clear Button (COGGN)
5. Overlap cancellation button (OYN)

Panel ASM on duty will be held personally responsible for all such emergency operations carried out during his duty and he should keep a proper record of such operations. Separate register should be maintained for each of the above emergency operations where in each time the buttons are operated and the reading of the counters should be recorded stating clearly the circumstances under which the emergency operations had to be performed.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

Panel ASM on duty before handing over the charge must verify that the actual readings on the counters have been correctly recorded in the appropriate register and the seals are intact.

8. WORKING OF INTERLOCKED CRANK HANDLE FOR POINT MACHINES:

8.1.A Panel Control CH1(201a/201b), CH2(202a/202b), CH98(298a/298b) and CH99 (299a/299b).

In case of the failure of Point Machines and in case of testing or maintenance of the Point Machines the crank handle is required by the operating & signal staff. The crank handle is interlocked with the signals. The interlocking is achieved by interlocking the 'CRANK HANDLE KEY' key. The CRANK HANDLE KEY is a device which when turned in the key hole of a Point Machine cuts "OFF" the power supply and it also opens the slot for inserting crank handle. As long as the CRANK HANDLE KEY is not turned in the Point Machine the crank handle can not be inserted in the point machine for manual operation.

8.2 KLCR Relay with CRANK HANDLE KEY:

The CRANK HANDLE KEY normally remains locked in the relay called KLCR. Such KLCR of concerned crossover/ points are provided in a box located in ASM's room.

8.3 Control Units:

On the panel, one control unit for each group is provided which consists of the following:-

1.	CH/LC control Buttons	For releasing or withdrawing the control on CRANK HANDLE KEY / LC gates.
2	CHYN & slot Button	For releasing control on CRANK HANDLE KEY, CHYN & XXN button to be pressed and released along with concerned Slot Button.
3	CHYRN & slot Button	For returning control on CRANK HANDLE KEY, CHYRN & XRN button to be pressed.
4	White Light	Provided above Slot Button, normally steady and flash as -soon as control is released.
5	Red Light	Provided adjacent to Slot Button, white flashing light turn to red steady no sooner CRANK HANDLE KEY Key extracted from KLCR Relay.

8.4 Operations:

Whenever crank handle operation of the points is desired the competent staff of traffic or signal department obtains crank handle from panel ASM on duty who should issue it after making necessary entries in the register.

The staff concerned will go to the box of KLCR located in ASM's office to take CRANK HANDLE KEY for the concerned points. The Panel ASM on duty will press Slot and CHYN buttons and release them. The white indication near slot button on panel will start flashing. Transmission of CRANK HANDLE KEY control of crank handle will be indicated by the appearance of red light on the key lock relay box. On seeing this red light, the push button provided on the key lock relay box is pressed and the key turned through 90 degree in the anti clock-wise direction to extract the key. Now the flashing white indication will disappear and red steady indication will appear on the panel.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

The CRANK HANDLE KEY thus released is taken by the staff to the required Point Machine. After opening the key whole cover, CRANK HANDLE KEY is inserted & turned which makes opening for the insertion of the crank handle. The point machine now can be operated by rotating the crank handle. After the point is set & locked in the required position by the traffic staff in case of failure or after signal maintainer's work is over and after confirming from the panel ASM on duty the respective steady white point indication on the panel, the CRANK HANDLE KEY is taken to relevant KLCR relay Box. CRANK HANDLE KEY is inserted & turned through 90 degree in clock wise and control is returned to the panel. On the panel, the red light will disappear and white flashing light will appear above CH Slot button. The Panel ASM on duty on seeing this, presses and releases CHYRN and WN Slot buttons on the panel and flashing white light will now become steady indicating the return of the crank handle control to Panel.

Panel ASM can now take "OFF" the signal and make a signaled move over the affected point. If the point indication still flashes then the point has to be clamped and padlocked and the ASM on duty has to pilot the train as per G&SR 3.77 for defective points. The Panel ASM himself can take the control back, only if the CRANK HANDLE KEY has not been extracted from KLCR. In that case Panel ASM has to press 'slot' & 'CHYRN' buttons simultaneously and release them. As long as the CRANK HANDLE KEY is out and in case the key is inserted back in 'KLCR' and turned but the ASM does not get the control back on the panel after the proper operation of buttons due to the failure of slot circuit itself, signal leading over affected points will be treated as a case of signal failure and trains received / dispatched as per GR 3.68, 3.69, 3.70 G&SR.

Crank handle register have the following columns:

- i) Sr. No.
- ii) Designation of person who required using the crank handle and the concerned handle key.
- iii) Date & time of removal of crank handle and the crank handle keys.
- iv) Purpose whether for normal maintenance or failure.
- v) Disconnection memo No. if given.
- vi) Signature of the person who removes the crank handle.
- vii) Signature of SS/ASM on duty.
- viii) Date & time of return of crank handle & concerned handle key.
- ix) Details of the use made of the crank handle and crank handle key.
- x) Reconnection memo No. if given
- xi) Signature of the person who returns the crank handle and crank handle key
- xii) Trains passed over disconnected/ defective points giving private number against each item.
- xiii) Signature of the SS/ASM on duty.

8.5 Button Collars :

Six numbers of button collars have been provided on the panel and these should be placed on the signal/control buttons for which the line is blocked.

button collars must be placed, when running lines is/are occupied obstructed, or fouled, on the slides/ push buttons that work / release the points and/or signals or control as indicated below :

Sr. No.	Running Lines	Stop Collars to be placed on Route Button
1.	Up Main Down Line	Route Button of Up main down line.
2.	Up 1 st loop down Line	Route Button of Up 1 st loop down line.
3.	Up 2 nd loop down Line	Route Button of Up 2 nd loop down line.

9. WORKING OF COLOUR LIGHT SIGNALS:

- a. Normal indication of all running signals is stop (Red) except that of the Distant Signal. The Down and UP Distant Signal has three aspects & the normal indication of these signal is caution (Yellow). Clear (Green) or Attention aspect (Double Yellow) automatically displays in conjunction with the aspects displayed by the home signal ahead.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

b. Route Indicators :

Position light route indicators have been provided on UP Home and Down Home Signals. The route indicator will display a row of five white light illuminated directing towards the direction of turn out along with the 'Yellow' light indicating that the route is set for diversion and not for Straight-line movement.

c. Aspect chart : The aspect of various signals for movements shown is as under:

R	=	Red (Stop)
Y	=	Yellow (Caution)
YY	=	Double Yellow (Attention)
G	=	Green (Clear)
RI	=	Route Indicator.

i. Down Trains :

Down Train Movement from Down Main Line	Down Distant	Down Home	Down Starter	Down Advance Starter
	S-2D	S-2		S-20
Running through from Down Main Line	G	G	S-18 -G	G
Stopping on Down Main Line	YY	Y	S-18 -R	-
Stopping on UP Loop Dn 1 Line	YY	Y (With Route Indicator)	S-12 -R	-
Stopping on UP Loop Dn 2 Line	YY	Y (With Route Indicator)	S-16-R	-
Stopping on Home	Y	R	-	-

ii. Up Trains :

Up Train Movement from Up Main Line	Up Distant	Up Home	Up Starter	Up Adv Starter
	UD S-19D	S 19		S-1
Running through from Up Main Line	G	G	S 5-G	G
Stopping on Up Main Line	YY	Y	S 5 -R	-
Stopping on UP Loop Dn 1 Line	YY	Y (With Route Indicator)	S-7 - R	-
Stopping on UP Loop Dn 2 Line	YY	Y (With Route Indicator)	S-11 - R	-
Stopping on Home	Y	R	-	-

10-a TRACK CIRCUITS:

Track Circuits designations and their jurisdiction on Main & Loop Line are indicated in the SWR diagram.

<u>Panel</u>	<u>Berthing Track</u>
C 2 T C19 T	02 A T, 02 BT, 02 CT (On UP main DN line)
1/2 T 19/20 T	01 A T, 01 BT, 01 CT (On UP Loop DN 1 Line)
5 T 18T	
201 bT 299 aT	
201 aT 299 bT	
202 aT 298 aT	03 AT, 03 BT, 03 CT (on UP Loop DN 2 Line)
202 bT 298 bT	

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

11. BOBBING / FLICKERING OF THE SIGNALS:

Whenever signals changes its aspect in succession, shall be treated as bobbing/flickering signal and shall be considered as showing the most restrictive aspect and it should be passed by observing instructions contained in GR 3.68, 3.69, 3.70 & SRs there under.

The SM/ASM on receipt of information of a bobbing/flickering shall record the defect in the failure register and advise SI/ESM concerned immediately to rectify the defect. Such failures should also be reported to the section controller, who will record the same on the chart and take action accordingly.

12. UNSIGNALLED MOVE OVER ELECTRICALLY OPERATED POINTS:

Whenever any unsignalled move has to be taken place on a point operated by an electric point machine whether in the facing or trailing direction, the SM/ASM on duty shall operate the points to the normal and reverse setting for the purpose of testing the points. After the panel operator has ensured that indication regarding the normal and reverse setting are correctly available normal signaled movements may be permitted over the points. In the event of no indication appearing, the points shall be treated defective and procedure a laid down under SRs 3.77-1 be followed.

13. DESCRIPTION OF SIGNALS:**i) Down distant signal (2D):**

Normal aspect of the signal is "Caution" (Single yellow) Aspect "Attention": (Two yellow light one above the other) Aspect is displayed automatically in conjunction with caution aspect of down home signal number S- 2. Clear aspect of this signal is displayed automatically in conjunction with Clear aspect of signal number S- 2.

ii) Down Home signal(S-2): Normal aspect of the signal is Red. Caution aspect (one yellow light) of the signal is controlled by signal button No. S-2 & Main line route button on the panel. One yellow light with route indicator of the signal is controlled by SM signal button No. S-2 and loop line-1 or loop line-2 route button on the panel.

Clear aspect is automatically controlled in conjunction with clear aspect of main line starter number S-18.

iii) Down Main line starter(S-18): Normal aspect of the signal is Red. Clear aspect (one green light) of the signal is controlled by SM signal button S-18 and route button DX on the panel in conjunction with clear aspect of down advance starter number S-20.**iv) Down loop line starter (S-16):** Normal aspect of the signal is Red. Caution aspect (one yellow light) of the signal is controlled by SM signal button S-16 and route button DX on the panel.**v) Down loop line starter (S-12):** Normal aspect of the signal is Red. Caution aspect (one yellow light) of the signal is controlled by SM signal button S-12 and route button DX on the panel.**vi) Down Advance starter(S-20):** Normal aspect of the signal is Red. Clear aspect is controlled by KID side block instrument in TGT position and also by SM signal button S-20 and route button DZ on the panel.**vii) Up distant signal (19 D):**

Normal aspect of the signal is "Caution" (Single yellow) Aspect "Attention":(Two yellow light one above the other) Aspect is displayed automatically in conjunction with caution aspect of up home signal number S-19. Clear aspect of this signal is displayed automatically in conjunction with Clear aspect of signal No.S-19.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

- viii) **Up Home signal (S-19):** Normal aspect of the signal is Red. Caution aspect (one yellow light) of the signal is controlled by SM signal button No. S-19 & main line route button on the panel. One yellow light with route indicator of the signal is controlled by SM signal button No. S-19 and loop line-1 or loop line -2 route button on the panel.
Clear aspect is automatically controlled in conjunction with clear aspect of main line starter number S-5.
- ix) **Up main line starter (S-5):** Normal aspect of the signal is Red. Clear aspect (one green light) of the signal is controlled by SM signal button S-5 and route button UX on the panel panel in conjunction with clear aspect of UP advance starter number S-1.
- x) **Up loop line starter (S-7):** Normal aspect of the signal is Red. Caution aspect (one yellow light) of the signal is controlled by SM signal button S-7 and route button UX on the panel.
- xi) **Up loop line starter (S-11):** Normal aspect of the signal is Red. Caution aspect (one yellow light) of the signal is controlled by SM signal button S-11 and route button UX on the panel.
- xii) **Up Advance starter (S-1):** Normal aspect of the signal is Red. "Clear aspect is controlled by KBR side block instrument in TGT position and also by SM signal button S-1 and route button UZ on the panel.

14. GENERAL INSTRUCTIONS:

(a) Passage of train when points are defective:

- (i) When an electrically operated motor point fails to respond to the panel operation the SS/ASM first set the point to the last operated position and depute a Points-man to find out if any obstruction is lying between the tongue and stock rails.
- (ii) The Points-man on arrival at the concerned point will look for any obstruction between the stock and switch rails at both ends in case of cross over point and remove the same if found & display alright signal to the SM/ASM on duty to set the point by waving and arm by day or white light by night across the body. In case no obstruction has found the Points-man will display All right signal.
- (iii) On receipt of an all right signal from Points-man the SM/ASM will set the points to the required position. If the point still fails to respond or on receipt of hand danger signal from Points-man the SM/ASM will remove the crank handle and the concerned handle key, proceed to the defective point and set the same in the required position. He will then proceed to the station and authorize the move.

Note: While setting a cross over point from normal to reverse provided with motors on both side care should be taken to set the end marked A first and then set the other end marked B later. Similarly while setting from reverse to normal, End marked B should be first set and then end marked A later.

(b) Passage of trains when points are disconnected:

- i) Whenever it is necessary to pass traffic over the point/points which is/are disconnected or defective and the S&T staff is attending the same, The station master will send a memo to S&T staff in which entry of the required movement will be made. The S&T staff after getting the memo will arrange to set the concerned point/points in the required position to the pass the traffic. After setting the point/points in required position the S&T staff will send a memo to station master, informing that the point/points is/are set in required position.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

The station master after the getting the memo from S&T staff, will arrange to clamp and padlock the concerned point/points and only after clamping and pad locking the concerned point/points and keeping the keys and crank handle in his personal custody, the intended move will be done. After the passage of traffic, the SM will return the Crank Handle, Crank handle key and the padlock keys to the S&T Staff for continuing their work on points. All the memos related to this movement will be pasted in SM diary.

- (c) Whenever a Motor Trolley or any other light vehicle is to be passed over a crossover controlled by a particular track circuit, SM on duty must in addition to watching track indication on the control panel ensure through visual verification also that the vehicle has cleared the concerned track circuit and has entered the next track section while can be verified from the control panel before interfering with the points set track section which can be verified from the control panel before interfering with the point set for the movement or before permitting any other movement on the affected lines.
- (d) Button collars have been provided and these should be placed on the route buttons of the line which is blocked.

9.1A **WORKING OF DUAL BLOCK PROVING AXLE COUNTER BLOCK PANEL BETWEEN MTH-KBR and MTH-KID**

For the purpose of line clear working Dual Block Proving Axle counter with block panel have been provided between MTH-KBR & MTH-KID. These block panels are provided with various push buttons, keys, indicators, counters and buzzers. Their nomenclature and functions are detailed below.

I. **PUSH BUTTONS**

Push Button	Functions
BELL (Black In Colour)	(i) To transmit BELL codes to station at other end of block section. (ii) To take Line clear, when pressed along with TGT button (iii) To cancel Line Clear when pressed along with CANCEL button
TRAIN GOING TO (TGT) RED	Station Master of dispatching station operates it along with bell button. When TGT button is pressed along with bell button, by the station which is dispatching a train, the block panel of that station gets green TGT indication. Simultaneously, the Block panel of the receiving station gets GREEN TCF indication.
CANCEL YELLOW IN COLOUR	It is operated along with 'Bell' button to enable cancellation of 'Line Clear' condition if the train has not entered the block section or after the train has pushed back to the station in rear. This operation for cancellation of Line clear is done by the train receiving station.
CANCEL CO-OP. GREEN IN COLOUR	It is operated by train dispatching station for extending cancel co-operation to train receiving station.
CANCELLATION COUNTER	To register cancellation of Line Clear.
ACKN. BLACK IN COLOR	It is operated to acknowledge the section occupied or section free condition. It mutes the SECTION OCCUPIED/FREE buzzer.

II **Keys**

Key	Functions
S.M. Key	This key when taken out prevents the following operations: i) Transmission of BELL Code operations: ii) Transmission of Line Clear enquiry request. iii) Cancellation of line clear

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

MAINTENANCE BACK COVER LOCK KEY	A lock is provided at the back of block panel for maintenance purpose. To open or lock the back cover by authorized signal staff for maintenance or repairs, Provided SM's back cover lock key.
SM's BACK COVER LOCK KEY	For double lock arrangement of a lock on the back of Block Panel is provided which can be operated by key kept in the custody of Station Master.
SHUNT RELEASE KEY	Shunt Release key (normally OUT) The following operation is possible when IN a) To take out SHUNT KEY from electric key transmitter (EKT).which serves as tangible authority for driver to shunt beyond last stop signal upto first stop signal. b) The following operation are not possible when IN i) To take line clear ii) other side station to take line clear iii) closing of block iv) To take off the last stop signal

(iii) **Description of Indicators :**

Indicators	Function
'LINE CLOSED'	Circular indication in between directional arrowhead. In lit condition (yellow), it indicates that section is free from vehicles & Line Clear has not been granted or received.
TRAIN COMING FROM GREEN FLASHING GREEN	Its shape is directional arrowhead pointing downwards for incoming traffic at train receiving station and a rectangular indication named TCF. To indicate LINE CLEAR granted, when TRAIN GOING TO button and BELL button have been pressed at sending station and conditions for granting line clear at receiving station has been complied with. To indicate (a) Line Clear has been withdrawn before the entry of train in block Section or, (b) Block Section has cleared after the arrival of train, but associated signals & their controls have not been put to normal at either of the stations. (c)Block section is cleared after arrivals of train, associated controls are normal at both the stations but after unintentional insertion of shunt key 'IN' in the sending section when the train was in the section.
TOL INDICATION RED	In a directional arrow head pointing upward and rectangular indication for outgoing traffic of the train sending station To indicate TRAIN ON LINE on entry of incoming train on LINE CLEAR

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

<p>‘TRAIN GOING TO’ GREEN FLASHING GREEN</p>	<p>In a directional arrow head pointing upwards for outgoing traffic at train sending station and a rectangular indication named TGT. To indicate LINE CLEAR received, when TRAIN GOING TO button and BELL button have been pressed at sending station and the conditions for taking line clear have been complied with at both stations. To indicate: (a) Line Clear has been withdrawn before the entry of train in Block Section or, (b) Block Section has cleared after the arrival of train, but associated signals & their controls have not been put to normal at either of the stations. (c) Block section is cleared after arrivals of train, associated controls are normal at both the stations but after unintentional insertion of shunt key ‘IN’ in the sending section when the train was in the section.</p>
<p>TOL INDICATION RED</p>	<p>In a directional arrow head pointing upward and rectangular indication for outgoing traffic of the train sending station To indicate TRAIN ON LINE on entry of outgoing train on LINE CLEAR</p>
<p>CANCELCO- OPERATION INDICATION YELLOW</p>	<p>Indication to indicate co-operation extended by station at other end for cancellation of line clear by pressing cancel cooperation button</p>
<p>CANCEL INDICATION FLASHING YELLOW STEADY YELLOW</p>	<p>Circular LED To indicate progress of LINE CLEAR cancellation timer of 120 seconds. The indication lights up on pressing of CANCEL button along with bell button in presence of Cancel co-operation indication, WHEN TRAIN COMING FROM displays with FLASHING GREEN indication To indicate Cancellation timer matures but due to some reason the system does not go to line closed.</p>
<p>LINE FREE GREEN</p>	<p>An indication is provided near the arrowhead indication to show block section is clear of vehicles</p>
<p>SNKE (LOCAL) YELLOW</p>	<p>Two such indications are provided i) SNK: Yellow indication provided near TRAIN GOING TO directional arrowhead to indicate LAST STOP SIGNAL and its control at ON/Normal ii)SNK: Yellow indication provided near TRAIN COMING FROM directional arrowhead to indicate Home signal and its control at ON/Normal</p>
<p>SNKE (OTHER END) YELLOW</p>	<p>i) Provided near TRAIN COMING FROM directional arrow head to indicate LAST STOP SIGNAL, Reception signal and its control at ON/Normal ii)Shunt Key of EKT at other station is ‘IN’ and Shunt release key in SM block panel is ‘OUT’</p>

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

LAST STOP SIGNAL RED GREEN	Circular in monogram signal. To indicate LAST STOP SIGNAL is 'ON' To indicate LAST STOP SIGNAL is 'OFF'
LINE OCCUPIED INDICATION RED	An indication is provided near arrowhead indication to show block section is occupied or axle counter is failed.
SM KEY (IN) GREEN	Indication near SM Key To indicate SM Key IN
SHK-IN/OUT	It has two indications, GREEN indicates Shunting key has been taken out and RED indicates shunting key has been extracted.
TRAIN ACKNOWLEDGEMENT IN/OUT	An indication near ACKN button this is lit up (yellow) at the time of train entry into and exit from the Block Station Section. It remains lit until acknowledged.
UFSBI/MUX OK indication	GREEN when UFSBI is OK otherwise extinguished
UFSBI/MUX FAIL indication	RED when UFSBI goes into a failure mode otherwise extinguished.
Communication LINK FAIL indication	Steady YELLOW when LINK between two UFSBI's FAILS else extinguished

(iv) Description of Counters :

Counters	Functions
CANCEL Line Clear	It keeps a record of cancellations of Line clear when train has not entered Block section or when a train has been pushed back.

(v) Description of Buzzers :

Counters	Functions
BLOCK Bell	It gives signal as per BELL Code sent by SM of the station at the other end of block section
SECTION Buzzer	It is an audible signal which informs the SM that the train has either occupied or cleared the block section.

WORKING OF SINGLE LINE DUAL BLOCK PROVING AXLE COUNTER PANEL BLOCK PANEL FOR DISPATCHING TRAINS MTH-KBR & MTH-KID:-

Whenever a train is to be dispatched from MTH to KBR/KID, the ASM on duty at MTH shall ask 'line clear' from SM on duty at KBR/KID and shall inform SM on duty at KBR/KID, the trains & its description supported by his Private Number, requesting for granting 'line clear'. Making suitable entries in the train register, ASM on duty at KBR/KID will grant verbal line clear supported by his private number after ensuring that all the conditions for granting line clear are fulfilled.

On getting this verbal permission supported by Private Number from ASM KBR/KID, the ASM on duty at MTH shall press the 'BELL' button and 'TGT' button on his block panel simultaneously. As soon as the buttons are pressed as mentioned above, the 'LINE CLOSED' indication disappears and the relevant arrowhead indication with green lights appears on the block panel at both the ends i.e. 'TGT' at MTH, and TCF' at KBR/KID will be illuminated. The 'LINE FREE' indication at both the ends will continue to exhibit green lights as usual, indicating that the block section is still clear.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

After setting of route for Dispatch of an UP train/DN train, ASM/MTH on duty shall take "OFF" UP/DN Advance starter Signal. As soon as the train occupies the block section, the Directional arrowhead indications and 'LINE FREE' indication turn red at both stations. SECTION buzzer starts ringing and also TGT, TCF indication turns to RED of block panel at MTH & KBR/KID respectively. To stop the buzzer ASM on duty shall press the ACKN button.

After this, ASM KBR/KID shall take OFF the UP/DN Home signal. When the train clears the block section, SECTION buzzer starts ringing and 'TRAIN COMING FROM' indication turns to flashing green at KBR/KID.

To stop the buzzer at KBR/KID, ASM on duty shall press ACKN button 'LINE FREE' indication turns green, 'SECTION' buzzer starts ringing and 'TRAIN GOING TO' indication turns to flashing green at MTH. ASM on duty at MTH acknowledges the buzzer by pressing ACKN button. 'TRAIN GOING TO' indication disappears and LINE CLOSED indication appears at MTH.

When all the controls pertaining to reception of train at KBR/KID are normalized, SNKE (Local) indication appears, TRAIN COMING FROM indication disappears and LINE CLOSED indication appears. At MTH also TRAIN GOING TO indication disappears and LINE CLOSED indication appears on the block panel.

WORKING OF SINGLE LINE DUAL BLOCK PROVING AXLE COUNTER PANEL BLOCK PANEL FOR RECEPTION OF TRAINS From KBR/KID to MTH:-

When a request for granting 'line clear' is received from ASM- KBR/KID, for particular train supported by his Private Number, the ASM on duty at MTH shall note down the particulars in the train register and after satisfying himself that conditions for granting 'line clear' indicated on the block panel are complied with, shall grant verbal line clear supported by his Private Number.

On getting this verbal permission supported by Private Number from ASM/MTH, the ASM on duty at KBR/KID shall press the 'BELL' button and 'TGT' button on his block panel simultaneously. As soon as the buttons are pressed as mentioned above, the 'LINE CLOSED' indication disappears and the relevant arrowhead indication with green lights appears on the block panel at both the ends i.e. 'TGT' at KBR/KID, and TCF' at MTH will be illuminated. The 'LINE FREE' indication at both the ends will continue to exhibit green lights as usual, indicating that the block section is still clear.

After this ASM KBR/KID shall take OFF the UP/DN Advance Starter. As soon as the train occupies the block section, the Directional arrowhead indications and 'LINE FREE' indication turn red at both stations. SECTION buzzer starts ringing and also TGT, TCF indication turns to RED of block panel at KBR/KID & MTH respectively.

To stop the buzzer ASM on duty shall press the ACKN button. After setting of route for reception of UP/DN train, ASM/MTH on duty shall take OFF the UP/DN Home Signal. When the train clears the block section, SECTION buzzer starts ringing and 'TRAIN COMING FROM' indication turns to flashing green at MTH. To stop the buzzer at MTH ASM on duty shall press ACKN button. 'LINE FREE' indication turns green, 'SECTION' buzzer starts ringing and 'TRAIN GOING TO' indication turns to flashing green at KBR/KID. ASM on duty at KBR/KID acknowledges the buzzer by pressing ACKN button. 'TRAIN GOING TO' indication disappears and LINE CLOSED indication appears at KBR/KID. When all the controls pertaining to reception of train at MTH are normalized, SNK (Local) indication appears, TRAIN COMING FROM indication disappears and LINE CLOSED indication appears. At KBR/KID also TRAIN GOING TO indication disappears and LINE CLOSED indication appears on the block panel.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

BLOCK BACK OPERATION

The SM, who intends to Block back the line, shall inform the SM of station at other end on telephone for permission to Block Back, who will acknowledge the message and grant permission supported by private number. SM puts the shunt release key in SM Block panel to 'IN' and takes SHUNT key of EKT OUT and hand over to loco pilot of the train being block backed to perform shunting in block section.

On completion of shunting, section clear message will be sent to SM of station at other end on telephone about obstruction removed supported by private number. Who in turn will acknowledge the same supported by a private number. Thereafter SM will insert shunt key of EKT and turn to IN position and takes out the shunt release key.

All the entries in train signal register (TSR) for this operation should be making in RED ink. The reasons for block back shall be recorded in remarks column against each entry.

E) PUSH BACK OPERATION

After the train has been pushed back into train sending station following action appears-

SENDING STATION		RECEIVING STATION	
1	Train clears the block section, LINE FREE indicator turns GREEN. Section BUZZER starts ringing. ACKN indicator lights up TRAIN GOING TO arrowhead indication turns to FLASHING GREEN Acknowledges the buzzer by pressing ACKN button. ACKN button turn off.	2	Train clears the block section, LINE FREE indicator turns GREEN. Section BUZZER starts ringing. ACKN indicator lights up TRAIN COMING FROM arrowhead indication turns to FLASHING GREEN Acknowledges the buzzer by pressing ACKN button. ACKN button turn off.
3	Advises receiving end station SM about cancellation on telephone after prescribed call attention buzzer.	4	Agrees to request, ensures SNK indicator YELLOW, SNOEK indicator YELLOW, SHUNT KEY indicator GREEN and gives consent on telephone
5	After verbal consent from other end SM to ensure SNK indication yellow, shunt key indication green, presses CANCEL CO-OP button and releases on receipt of call attention buzzer	6	CO-OP to light up yellow, press BELL & CANCEL button with SM key IN. CANCEL COUNTER INCREMENTS. CANCEL indication lights up FLASING YELLOW & continues flashing for 120 seconds
7	TRAIN GING TO arrowhead turns off, LINE CLOSED INDICATION lights up.	8	On expiry of 120 seconds. TRAIN COMING FROM arrowhead indication and cancel indication turns off. LINE CLOSED INDICATION LIGHTS UP

F) FAILURE OF BLOCK PROVING DIGITAL AXLE COUNTER:

- (i) When at reset box clear (Green) LED indication is available but block section including its overlap is not clear.
- (ii) When at reset box occupied (Red) LED indication is available but block section including its overlap is clear.
- (iii) When at reset boxes "No" indication is available.

(G) RESET BOX FOR RESETTING OF BLOCK PROVING DIGITAL AXLE COUNTER:

- 1- Green (large) indication shows the clearance and Red (large) indication shows occupations the block section on reset box of digital axle Counter provided at station, separate reset boxes are provided for UP & DN line of a block section and a reset -operation button (one) for each digital axle Counter.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

- 2- On reset box one reset key/ lock (key insert, press and turn). One reset push and an electrical counter (for counting the number of reset attempts carried out) has been provided. The reset box of the digital axle counter also provides an indication near.

FOLLOWING INDICATIONS ARE SHOWN ON RESET BOX:

- | | | |
|---|---|-------------------------|
| A | Block section clear | Green LED (Large size) |
| B | Block section occupied | Red LED (Large size) |
| C | 24V Electrical supply available for axle counter | Yellow LED (Small size) |
| D | Axle counter is in preparatory reset mode (when axle counter has failed and resetting attempted at both the ends. | Green LED (Small size) |
- 3- Glowing of Green LED (small) indication indicates Digital axle counter after failure has been resetted by inserting (turning and pressing the) key with reset button at both the ends with the glowing of this indication **Green LED (small)** along with flickering of 24 V supply indication **yellow LED (small size)** indicate the axle counter is in preparatory reset mode. As the digital axle counter is in preparatory reset mode, hence the last stop signal can be taken to OFF position; so one pilot train will be passed on proper signal.
- As these trains passes the Home signal at receiving end and clear the block section with overlap track circuit, the Green LED (large) will glow and the Green LED (small) along with the Red LED (large) extinguishes which indicate the clearance of block section. Normal working for following train will be introduced.
- 4- The counter increments by one count, every operation of resetting should be recorded in separate register as per the columns indicated below:
- i- Serial No.
 - ii- Date and Time.
 - iii- Failed after the train number.
 - iv- First train which was passed on PLC/ T369 (3b).
 - v- Counter reading (prior to resetting)
 - vi- Counter reading (after resetting)
 - vii- First train which passed on proper line clear after normalization of axle counter.
 - viii- Signature of on duty Station Master reset-operation done.
 - ix- Remarks of SSE/JE (Sig).

NOTE:

1. No resetting of axle counter to be done if section is occupied or is going to be occupied. This must be ensured by on duty Station Master.
2. SSE/JE Sig and ESM must ensure the replacement with same size LED if the same gone defective.

PROCEDURE OF DIGITAL AXLE COUNTER

Resetting of digital axle counter is required to be carried out when Red LED (large) indication for occupied position remain glowing at resetting box of digital axle counter at station even after complete arrival of UP/DN train or after block back/block forward movement or with no train entering in the block section, notices that the digital axle counter has failed. The SM on duty shall ensure complete arrival of train as well as clearance of block section including its overlap for the particular block section line. Then both receiving end SM and dispatching end SM shall carry out the resetting process as under (clearance of block section including its overlap from a train/ obstruction shall be certified by the following means).

By watching LV Board /Tail lamp by Station Master as per GR 4.17.

By checking train signal register for last through train passing the station and description and details of the last preceding train received completely from SM's of next block section and also from section controller. The certification of complete arrival of the last preceding train will be supported with exchange of private number by on duty SM with SM of next block section/section controller.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

After above certification, following procedure will be adopted for resetting of digital axle counter.

2. RESETTING OF DIGITAL AXLE COUNTER

SN	RECEIVING END STATION MASTER	SN	DISPATCHING END STATION MASTER
1	CALL ATTENTION BEAT TO BE TRANSMITTED.	2	ACKNOWLEDGE THE CALL ATTENTION.
3	ATTEND BLOCK TELEPHONE.	4	BLOCK TELEPHONE ATTENDED.
5	AFTER COMPLETE ARRIVAL OF TRAIN INFORMATION FOR FAILURE OF AXLE COUNTER TO BE GIVEN.	6	ACKNOWLEDGE THE INFORMATION.
7	ON DUTY ASM/SM AFTER VERIFIED THE COMPLETE ARRIVAL OF LAST TRAIN AND WILL CONVEY HIS INTENTION TO RESET, THE AXLE COUNTER OF THE CONCERNED BLOCK LINE TO DISPATCHING END ASM. IN SUPPORT OF THIS HE WILL EXCHANGE PRIVATE NUMBER.	8	HE WILL ACKNOWLEDGE AND EXCHANGE PRIVATE NUMBER IN CONFIRMATION AND INTIMATION FOR INTENSION OF RESETTING OF AXLE COUNTER AT HIS END ALSO.
9	ON DUTY STATIONMASTER WILL INSERT THE RESETTING KEY, TURN AND PRESS ALONG WITH THE RESET BUTTON. HE WILL RELEASE THE RESET BUTTON ONLY AFTER TELEPHONICALLY VERIFICATION FROM OTHER END ASM FOR HAVING DONE RESET OPERATION THIS WILL CAUSE INCREMENT OF ELECTRICAL COUNTER BY ONE NUMBER FOR EACH RESET OPERATION, WITH COMPLETION OF RESET OPERATION RESET INDICATION GLOWS GREEN LED(SMALL) ON THE RESET BOX.(WHICH INDICATE AXLE COUNTER IS IN PREPARATORY RESET MODE.)	10	ON DUTY STATIONMASTER WILL INSERT THE RESETTING KEY, TURN AND PRESS ALONG WITH RESET BUTTON. HE WILL <u>RELEASE</u> THE RESET BUTTON ONLY AFTER TELEPHONICALLY VERIFICATION FROM OTHER END ASM FOR HAVING DONE RESET OPERATION THIS WILL CAUSE INCREMENT OF ELECTRICAL COUNTER BY ONE NUMBER FOR EACH RESET OPERATION, WITH COMPLETION OF RESET OPERATION RESET INDICATION GLOWS GREEN LED (SMALL) ON THE RESET BOX. (WHICH INDICATE AXLE COUNTER IS IN PREPARATORY RESET MODE.)
11	ON DUTY STATION MASTER WILL TAKE OUT THE KEY AND KEEP IN HIS SAFE CUSTODY	12	ON DUTY STATION MASTER WILL TAKE OUT THE KEY AND KEEP IN HIS SAFE CUSTODY
13	ON DUTY STATIONMASTER WILL CONFIRM THE COMPLETE ARRIVAL AND CLEARANCE OF BLOCK SECTION INCLUDING OVERLAP BY WATCHING TAIL LAMP/TAIL BOARD OF THE TRAIN, WHICH WAS SENT ON PLC/ T-369 (3B) BY SENDING END AND EXCHANGE PRIVATE NUMBER.	14	ON DUTY STATION MASTER WILL EXCHANGE THE PRIVATE NUMBER WITH STATION MASTER ON DUTY AT RECEIVING END STATION IN CONFIRMATION OF COMPLETE ARRIVAL OF TRAIN AT RECEIVING STATION AND ALSO THAT NOW THE SECTION IS CLEAR.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

15	ON DUTY STATION MASTER WILL WATCH THE BLOCK SECTION CLEARANCE INDICATIONS AVAILABLE I.E. GREEN LED (LARGE), PREPARATORY RESET MODE INDICATION GLOWS LED (SMALL) DISAPPEARS, OCCUPATION INDICATION RED LED (LARGE), DISAPPEARS AND REPEAT THEM TO OTHER END STATION MASTER.	16	ON DUTY STATION MASTER WILL WATCH THE BLOCK SECTION CLEARANCE INDICATIONS AVAILABLE I.E. GREEN LED (LARGE), PREPARATORY RESET MODE INDICATION GLOWS LED (SMALL) DISAPPEARS, OCCUPATION INDICATION RED LED (LARGE), DISAPPEARS AND REPEAT THEM TO OTHER END STATION MASTER.
----	--	----	--

- i) First pilot train will go on authority.
- ii) When Red LED (large) extinguishes and Green (large) glows normal working is to be introduced. The handle of the block instruments is electrically controlled in such a way that commutator handle at "Train On Line" position cannot be turned to line closed position unless whole of train passes home signal and clears not only the block section, but overlap section also and track circuit/ axle counter shows clear indication also. The free indication provided near the block PANEL appears with the clearance of block section with overlap track circuit/Axle counter. After getting the "free indication" commutator handle of block instruments can be brought from train on line position to line closed position. Normal working of following trains will be introduced. If after adopting the above method for resetting the digital axle counter, axle counter does not go in preparatory reset mode. ASM's at the both the ends will repeat the above procedure once again and inform ESM/JE/SSE/Sig and make the entry in failure register .Every attempt of resetting shall be supported with exchange of private number and train number should be recorded in register made for this purpose at both the ends station master.

(I) WORKING OF AXLE COUNTERS IN REDUNDANCY MODE FOR DUAL BLOCK PROVING AND BLOCK WORKING BETWEEN MTH-KBR SECTION AND MTH-KID SECTION: -

Block working between **MTH-KBR** and **MTH-KID** has been achieved through dual Axle Counters in single unit for each track section. This is achieved by providing dual Axle Counters having common Resetting Boxes.

DIGITAL AXLE COUNTER FOR DUAL DETECTION having single track sections in MTH-KBR Section without provision of IBS and single track section in MTH-KID section without provision of IBS.		
Axle Counters provided in (MTH-KBR) with one Track sections.	BXT 1(MTH-KBR) / BXT 2(MTH-KBR)	Detection for track section is provided from foot of UP Advance Starter signal of MTH station to 180m ahead of UP Home Signal of KBR station.
Axle Counters provided in (MTH-KID) with one Track section.	BXT 1(MTH-KID) / BXT 2 (MTH-KID)	Detection for track section is provided from foot of DN Advance Starter signal of MTH station to 180m ahead of DN Home Signal of KID station.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

WORKING OF DUAL DETECTION AXLE COUNTER IN PARALLEL TO ANOTHER DIGITAL AXLE COUNTER INSTALLED BETWEEN FOOT OF DN ADVANCE STARTER SIGNAL OF MATAUNDH (MTH) STATION TO DN HOME SIGNAL OF KHAIRAR (KID) STATION AND IT'S OVERLAP & BETWEEN FOOT OF UP ADVANCE STARTER SIGNAL OF MATAUNDH (MTH) STATION TO UP HOME SIGNAL KABRAI (KBR) STATION AND IT'S OVERLAP.

The Dual Detection Axle counter provided in MTH –KBR section is nominated as BXT 1(MTH-KBR) for main mode axle counter and BXT-2(MTH-KBR) for redundancy mode axle counter. Similarly Dual Detection Axle counter provided in MTH – KID section is nominated as BXT 1(MTH- KID) for main mode axle counter and BXT-2(MTH- KID) for redundancy mode axle counter. Both axle counters i.e. main and redundant will work independently. Indication for each track section has been given separately over the indication cum resetting panel of each axle counter provided at operating cum indication panel at both end of stations. The occupancy and clearance of each track section is shown over this indication cum resetting panel. Each track section shall be treated as Clear if green indication exists on either of the track section on indication cum resetting panel. And each track section shall be treated as occupied if red indication on the both of the track section on indication cum resetting panel of axle counters.

In case, any track section of any of the axle counter has failed after passage of any train and it is showing “Occupied” (Red indication) status over the SM’s resetting panel and other axle counter of same track section is showing “Clear” status, the failed axle counter will be automatically resettled by the “Clear” status of other axle counter of same track section and failed axle counter will come in preparatory reset mode and preparatory indication (Yellow indication) will be lit on resetting box. After coming in preparatory reset mode the failed axle counter will show the “Clear” status (green indication) after complete passage of first passing train over that track section. If after the complete passage of first train passing over the failed track section of axle counter does not show the “Clear” status (green indication) on duty SS/SM will advise to S&T staff to attend the failure of failed axle counter.

RE-SETTING OF AXLE COUNTER

In the station master's offices Re-set box for re-setting of axle counter is provided for proving the occupancy of trains in block section on either end of stations.

- (1) In case of sections provided without IBS working i.e. (MTH-KBR) & (MTH-KID) block section are provided with one track section.
- (2) Axle counters BXT 2 (MTH-KBR) & BXT 2 (MTH-KID) are used for redundancy mode.

RE-SETTING OF AXLE COUNTER WILL BE AS FOLLOWS:-

- (a) Axle Counter should reset in preparatory mode only
- (b) Line verification box should be dispensed with.
- (c) A working Axle counter will auto reset a failed Axle Counter after 10 Seconds.
- (d) When both Axle Counter have failed, manual resetting by station master will be done in addition to informing S&T maintenance staff.
- (e) On manual resetting, both the Axle Counter should reset to preparatory mode simultaneously.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

16 DOUBLE LOCK ARRANGMENT ON RELAY ROOM:-

The Relay Room is provided with double lock. The key of one lock will remain in the custody of SM/ASM on duty while the key of other lock will remain in the custody of ESM. The SM/ASM on duty will hand over the key to the maintainer on demand whenever he visits for maintenance/failure. SM/ASM on duty will ensure that the key is returned to him after maintenance/failure.

A register to record the transaction of Key on proper proforma will be maintained by the SM/ASM on duty. Whenever relay room is to be opened, private number will be exchanged between SM & S&T staff and also with section controller, each time when relay room is opened and closed.

17. S&T REGISTER:- The following S&T registers are kept at the station in the custody of SM/ASM.
Signal Inspection & failure register:- SM/ASM on duty will record the signaling failures in appropriate columns.

The following will be under the custody of S&T officials.

- i) **Signal History Register:** - S&T staff will make entries in the book.
- ii) **Signal Maintenance Book:** - It will be filled by the maintainer on their visit.

18. POWER SUPPLY EQUIPMENT AND POWER SUPPLY FAILURES:

(a)i. Normally all the signaling circuits are fed and worked by AT power supply, local power supply & generator power supply are auxiliary source of supply, these all supplies are given on distribution board provided in the ASM office. An illuminated red pilot lamp fitted on the switch board in the ASM's office indicate that the AT power supply & local supply is available. The above red pilot lamp when not burning will indicate that AT power supply & local power supply has failed. In the event of AT supply failure, auto change over panel will automatically transfer the load on to local power supply and if local power supply also failed then the auto change over panel will automatically transfer the load on to the generator power supply.

- ii. An auto change over panel provided in SMs room will display availability of power supply in following order-
 - iii) AT Power supply.
 - iv) Local Power supply.
 - iii) Power supply of generator.

And changeover will take effect in this order only. However if auto change over system fails to work then ASM on duty will attempt manual change over by the switch provided on auto changeover panel.

- iii. When the AT supply & local supply are not available ASM will start the Generator and extend the supply.
- iv. After the above operation of the switch the generator should be stopped as per the instructions for starting and stopping of the Diesel Generator.

v. Failure of Panel Indication:

In case Panel goes blank, SM/ASM on duty on Panel should check whether AT supply or Local power supply is available or not. The same can be checked on the indication provided on the power supply change over board provided in the ASM's Office.

In case of AT supply or Local power supply is not available; he will operate the Diesel Generator provided at the station for normal working on the panel. In case of AT supply, Local Power supply and Generator supply are not available due to any defect, and operating panel is blank, no normal operation from the panel shall be done. Points shall be clamped and movements will be done as per G & SR 3.77 in a non-interlocked yard. However for local operation of points, crank handle control key can be extracted for operation of points.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

vi. General Instructions:

In case of Neon lamp on the board remaining permanently extinguished showing non availability of the normal supply. ASM on duty will arrange to inform the SE/JE (Electrical), TPC & ESM of the section through XR/Control message for attending the equipment with copies to JE (E) & SE(S) of the section.

vii Instructions to Start and Stop the Diesel Generator:

- A.** Start/Stop push button for the generator has been provided with ASM on duty separately for each generator. Green button to be pressed to start the generator and red button to be pressed for stopping the same.
ASM on duty can start or stop generator set as per requirement by observing power supply indication on the auto change over panel.
- B.** If the power supply is uninterrupted for more than 3 days a test run of the engine should be carried out on load and if it fails to run, the matter should be reported to JE/SE/SSE/Signal of the Section immediately by XR Telegram.
- C.** The Station Master on duty should check up daily the diesel oil level in the tank and lubricating oil level in the diesel engine by means of the indicator (Dip Stick) provided for the purpose. If diesel oil or mobile oil level falls below the mark given on the dip stick he will get the required oil filled in by his staff up to required level.
He will also inform the TI of the section for arranging the supply of diesel and Mobil oil when required.
- (b) i.** Signal lights are normally lit by power available from AT power supply. In the event of failure of AT power supply the Signal Lamps are lit by means of local power supply or diesel generator supply.
- ii. In the case of AT and local supply failure, the SM with the help of Points man will change over the Switch to Generator side and start the D.G. set in the Generator room.
- iii. If the Signals get extinguished due to any reason whatsoever after the permission has been granted and the train has left the Station in rear, the SM shall depute a competent Railway Servant with necessary hand signal/detonators as required to warn the loco pilot of approaching trains about the location of unlit stop signals and arrange to pilot the train as per the extent rules.
- iv. When the AT/ local supply is restored, the Generator should be stopped.
- v. Diesel Oil will be filled in the Generators and suitable entry made in the log book by S.M. The S.M. on duty will also maintain record of the use of 'Diesel Generator in the log book. Details of Service/over hauling repairs etc. should also be entered in the log book by S&T Staff in the remarks column.

The S.M. on duty will maintain the record of the Power Supply failure / restoration in the following proforma in the log book.

Sr. No.	Date	Time AT/ LOCAL Power Failed	Time AT/ LOCAL Power Restored	Duration of AT/ LOCAL Power Failure	Time Generator Started
1	2	3	4	5	6
Time Generator Stopped	Duration of Generator Run	Quantity Filled		Signature of Station Manager	Remarks
		Diesel	M. Oil		
7	8	9	10	11	12

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

- vi. Diesel Generator sets may also be operated in case of Low Voltage of commercial Supply.
- vii. In case of failure of D.G. Set, S.M. will inform the Signal Staff.

(c) POWER SUPPLY SYSTEM FOR S&T EQUIPMENTS, SIGNALS, POINTS, CONTROL PANEL ETC:

An integrated power supply system (IPS) is provided in equipment room to fulfill requirement of various power supplies required for S&T equipments, signals, track circuit, axle counters, points, control panel etc. This power supply system ensures uninterrupted supply to signaling system to avoid failure of signaling gear even when the mains power supply fails. The system has a very limited capacity to feed power in the absence of main supply. There is an indication panel provided in SM's room indicating the health of battery and the action required to be taken by SM. depending upon the alarm received on IPS indication panel, SM must immediately take action and inform sectional signaling and electrical staff as early as possible.

19 SIGNAL AND ROUTE TABLE:

Signal and Route Buttons to be pressed and released for taking "OFF" particular signal are as under

Signal No.	Description	Signal Button	Route Button
S-1	Up advance starter.	S-1	UZ
S-2(i)	Down home to up 2nd loop down line.	S-2	BC
S-2(ii)	Down home to up 1 st loop down line.	S-2	BA
S-2(iii)	Down home to main line.	S-2	BB
CO-2(i)	Down Calling On to up 2nd loop down line.	S-2	BC
CO-2(ii)	Down Calling On to up 1 st loop down line.	S-2	BA
CO-2(iii)	Down Calling On to main line.	S-2	BB
S-5	Up main line starter up to signal no.-S-1	S-5	UX
SH-105	Up Shunt from main to signal no.-S-1.	SH-105	UX
S-7	Up 1 st loop down line starter up to signal no.-S-1	S-7	UX
SH-107	Up Shunt from up 1 st loop down line to signal no.-S-1.	SH-107	UX
S-11	Up 2nd loop down line starter up to signal no.-S-1	S-11	UX
SH-111	Up Shunt from Up 2nd loop down line to sig no.-S-1.	SH-111	UX
S-12	Dn starter from up 1 st loop down line up to sig no.-S-20	S-12	DX
SH-112	Dn shunt from up 1 st loop down line up to sig no.-S-20	SH-112	DX
S-16	Dn starter from up 2nd loop down line up to signal no.-S-20	S-16	DX
SH-116	Dn shunt from up 2nd loop down line up to signal no.-S-20	SH-116	DX
S-18	Dn starter from up main down line up to signal no.-S-20	S-18	DX
SH-118	Dn shunt from up main down line up to signal no.-S-20	SH-118	DX
S-19(i)	Down home to up main down line.	S-19	BB
S-19(ii)	Down home to up 1 st loop down line.	S-19	BA
S-19(iii)	Down home to up 2nd down line .	S-19	BC
CO-19(i)	Down Calling On to up main down line.	S-19	BB
CO-19(ii)	Down Calling On to up 1 st loop down line.	S-19	BA
CO-19(iii)	Down Calling On to up 2nd loop line.	S-19	BC
S-20	Down Advance Starter signal.	S-20	DZ

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

SH-102 (i)	Down Shunt from main line to up 2nd loop down line.	SH-102	BC
SH-102 (ii)	Down Shunt from main line to up 1st loop down line.	SH-102	BA
SH-102(iii)	Down Shunt from main line to up main down line.	SH-102	BB
SH-199 (i)	Up Shunt from Up main line to up main down line.	SH-199	BB
SH-199 (ii)	Up Shunt from Up main line to up 2nd loop down line.	SH-199	BC
SH-199(iii)	Up Shunt from Up main line to up 1st loop down line.	SH-199	BA

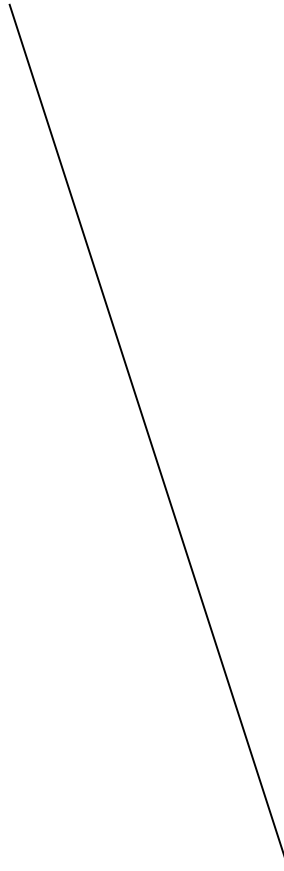
Note: After pressing & releasing COGGN button concerned route button to be pressed.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

APPENDIX 'C'

ANTI COLLISION DEVICE – Not Provided



(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

APPENDIX –‘D’**DUTIES OF THE SM/ASM:**

- a) The Station Master on duty shall be responsible for the efficient discharge of duties devolving upon the several members of the staff either permanent or temporarily under his orders at the station or within station limits and such staff shall be subject to his authority and direction in the working of the station. [GR 5.01]
- b) The Station Master on duty shall also be responsible that the general working at the station is carried out in strict accordance with the rules for the time being in force. [GR 5.01]
- c) No person other than the Station Master on duty shall ask for/or give line clear or give authority to proceed, T-369(3b), Caution order and Authority to proceed without line clear etc. [GR 5.01]
- d) The Station Master is responsible for giving ‘Train out of Section’ signal as per SR 4.56/1 of G&SR after ensuring that the train has passed with tail lamp/ tail board on the last vehicle or the Guard’s alright signal or Train intact register.
- e) The Station Master on duty is responsible for ensuring that signals taken OFF for a train are put back to ‘ON’ immediately the train has passed them as per Para 8.03 BWM.
- f) In case of unusual occurrence, the station master on duty must ensure safety reporting of occurrence and render assistance as per GR. 2.11 of G&S Rules.
- g) SM/ASM on duty is also responsible for watching safe passage of trains and exchanging of all right signals with crew of trough passage of train.
- h) Following keys must be kept under personal custody of SM:-
 - i- Block Instrument Lock Key
 - ii- Relay room Lock Key
 - iii- SM Emergency Key
 - iv- Isolator Box Key (Keys of various SMs/SS kept in Isolator BOX)

DUTIES OF THE POINTSMAN:

- 1) The Points-men on duty are responsible to clamp and pad lock points as and when required and to exchange hand signals with train crew of all passing through trains from ‘OFF’ side.
- 2) The points-man on duty shall be responsible for handing over all the authorities to the driver and guard as & when required. He will be responsible for exchanging alright signals for run through trains from the opposite side of the Station Master.
- 3) Points-man will secure Vehicle as per S.R.5.23-1 and SR 5.23-2 of G&SR under supervision of Guard/SM/ASM person in charge of shunting.
- 4) He shall obey all orders given to him by SM / ASM on duty.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

APPENDIX 'E'**Essential Equipment:**

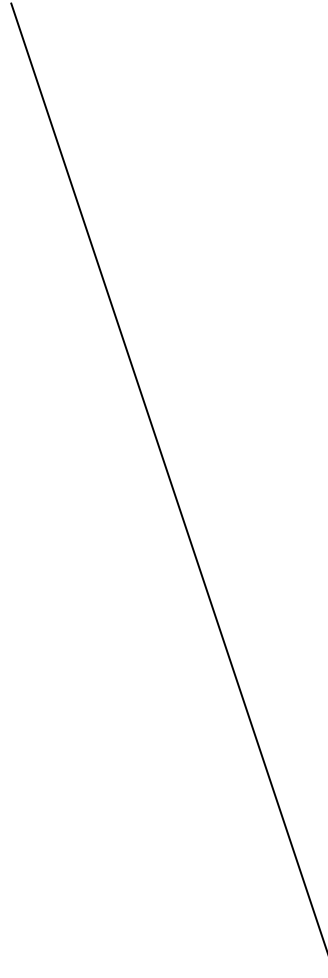
S.N.	Name of equipment	Total number
01	Switch clamps	08
02	Padlocks	12
03	Button collar	06
04	LED based H.S. Lamp	06
05	Flags Green	06
06	Flags Red	08
07	Safety chain	04
08	Fire extinguisher	02
09	Stretcher	01
10	Fire buckets with stand	04
11	First Aid Box.	01
12	Wooden wedges	06
13	Detonator	20
14	Safety Rubber Gloves	02

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

APPENDIX 'F'

List of DK Station, Halt station, IBH & outlying siding etc..- Nil



(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(RASHMI GAUTAM)
Sr. DSTE/BL/JHS

APPENDIX "G"**RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS SINGLE LINE:-****1. KNOWLEDGE OF RULES:**

SR 17.01/1 SM shall ensure that all station staff working in the area where electric traction is in use is thoroughly conversant with the rules applicable for running of trains in the section provided with 25 KVAC traction. Ignorance of the rules shall not be taken as an excuse for non compliance.

2. REPORTING OF BREAKDOWNS:

Any break down or defects reported to SM shall be conveyed to the Traction Power Controller through TPC telephone or through section controller immediately. In case of failure of communication, he shall use his discretion regarding movement of traffic and advise the nearest traction official.

3. SAFE CUSTODY OF OHE SWITCHES KEYS AND OPERATION OF SWITCHES:

SR 17.03/4. SM shall make them self fully aware, through supplement to the SWR for AC traction, of the location of Isolator Switches provided for control of OHE power supply equipment at his station [SR 17.05/1(4)] and shall be fully conversant with the correct method of opening and closing the same in emergency. Key for all outdoor OHE switches shall be kept locked in glass fronted box provided with a lock, the key of which shall be kept in the custody of the SM. The key of OHE switches shall be issued on demand, only to authorized person whose signatures for receipt shall be obtained in register maintained for the purpose.

3.1 In the event of breakage of glass of the box containing the key of the OHE switches shall be kept in safe custody by the SM till the glass of the box is replaced. He shall also advise the concerned SSE (OHE) to arrange immediate replacement of the glass.

3.2 In case of emergency the SM by himself shall operate such OHE switches as per specific direction of the Traction Power Controller (TPC). If the TPC wishes to have any isolator switch opened or closed he shall ask Station Master under exchange of private number to carry out the required switching operation, if SSE (OHE) is not available to him. The SM by himself who after carrying out the orders lock the switch in last operated position and inform the TPC of the action taken. He shall not part with the key until receipt of further order from TPC. Record of every such operation shall be maintained on key transaction register. The key shall be deposited back to the SM who intern shall lock the keys in the glass fronted box and make an entry in the register maintained for transaction of the keys in case the SM has not done the operation by himself.

4. ISSUE OF CAUTION ORDERS: In case of OHE breakdown on having been reported by the SSE (OHE), the SM, in consultation with the Section Controller shall issue the Caution Order in accordance with SR 4.09/1, to all Loco Pilots entering into the affected section mentioning clearly of the condition.

5. WORKING OF OHE STAFF IN STATION LIMITS: SR 17.03/8. No person shall disturb the OHE, or carryout bonding or any other work within the Station limits, in such a way as to obstruct the line and necessitate showing of danger signals, without prior permission of the SM.

(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS

(MAYANK SANDILYA)
Sr. DEE(TD)JHS

6. POWER BLOCK:

- 6.1 The SM shall grant local power blocks for working into the siding which does not affect the normal train working under advice to the Section Controller.
- 6.2 SM shall not permit any electric engine to enter into area over which power block has been granted. He shall put button collars on such points leading movement into the area which shall be removed only after cancellation of the block. He shall make entry on the log book accordingly while handing over charge to in coming SM.

- 7. WORKING OF TOWER WAGON:** SR 17.08/1. A tower wagon is to be treated like a train and shall be worked without a guard. In case of an arranged OHE block, one or more Tower wagons can be worked and follow one another. The SM while authorizing the following Tower Wagon/ Tower Wagons into occupied affected OHE section, shall issue an 'Authority to proceed without line clear' and a caution order mentioning the site of work indicating the speed which under no circumstances, shall exceed 10 KMPH. A Tower Wagon shall however not be permitted to enter the section following a train. The After completion of the work in charge of the Tower Wagon which entered last I the section shall certify at the station in advance about clearance of the section and initial against the relevant entry in the Train signal register in token of the section having been cleared of the last Tower wagon.

8. DUTIES & RESPONSIBILITIES OF STATION MASTER IN CASE OF NO TENSION-FAULT TRIPPING IN OVERHEAD EQUIPMENT: SR 17.09/1

- 8.1 In case of power supply in a section become faulty, on getting such information from TPC, the Section Controller shall advise the same to the SM under exchange of private numbers. The SM shall treat the section as under emergency power block and shall take action accordingly.
- 8.2 In case the train has entered into the faulty section: In case the train has entered into the faulty section and also into the section which has been isolated, the SM shall not allow any train to enter into the affected block section.

9. DUTIES OF THE STATION MASTER IN CASE OF UNSAFE CONDITION OF A TRAIN WORKING ON ELECTRIFIED SECTION:

- 9.1 in case of unsafe condition of a train working on electrified traction, the TPC shall advise the Section controller after switching off the power supply of the effected section, on getting such information from TPC, the Section Controller shall advise the same to the SM under exchange of private numbers. The SM shall treat the section as under emergency power block and shall take action accordingly. The SM shall not allow any train to enter into the affected section unless, there is no infringement.

Note :-Traction working rule with TWRD is attached separately as appendix G which is part of SWR.

**(J.SANJAY KUMAR)
Sr. DOM/G & G/JHS**

**(MAYANK SANDILYA)
Sr. DEE(TD)JHS**