

**NORTH CENTRAL RAILWAY
JHANSI DIVISION**

SWR NO: - 139

Date of issue:

Date brought into force:

KHOH STATION (B.G.)

NOTE: The Station Working Rules must be read in conjunction with General and Subsidiary 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-D2319/B dated: 21.09.2022 based on North Central Railway Signal interlocking plan DRG No.SI-D2319/B dated 19.07.2018. Works upto alteration 'H' have already been completed.

2. DESCRIPTION OF STATION.

2.1 GENERAL (LOCATION).

KHOH Station is a 'B' Class station interlocked to Std.III (R) (Route setting type) with Panel operation of points and signals. The Station is situated on BNDA-MKP electrified single line section of JHS division at KM 1393.60 from CST Mumbai.

2.2 BLOCK STATION, IBH, IBS ON EITHER SIDE AND THEIR DISTANCE AND OUTLYING SIDING:

Block stations on either side are CKTD and BIP.

- a) CHITRAKUTDHAM KARWI STATION - (CKTD) 5.50 Kms. at BNDA end
- b) BAHILPURWA STATION - (BIP) 10.860 Kms at MKP end
- c) 'D' Class Station are as under : NIL
- d) 'D.K.' Siding is as under : NIL
- e) Outlying siding working rule : NIL

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

BETWEEN STATION	THE POINT FROM WHERE BLOCK SECTION COMMENCES	THE POINT WHERE THE BLOCK SECTION ENDS.
KHOH-CKTD	KHOH UP Advance starter signal No. S- 2	CKTD DN Advance starter signal No.S-20
KHOH- BIP	KHOH DN Advance starter signal No. S- 19	BIP UP Advance starter signal.

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2.3.1 GRADIENTS IF ANY:- (STATION KILOMETER 1393.60)

DN DIRECTION		UP DIRECTION	
GRADIENTS	KM	GRADIENTS	K.M.
Level	From block section to Km 1390.45	1 in 200 falling	From block section Km 1400.25
1 in 400 rising	Km 1390.45 to Km 1391.9	Level	Km 1400.25 to Km 1394.098
Level	Km 1391.9 to Km 1392.975	1 in 1000 rising	Km 1394.098 to Km 1393.205
1 in 9200 rising	Km 1392.975 to Km 1393.205	1 in 9200 falling	Km 1393.205 to Km 1392.975
1 in 1000 falling	Km 1393.205 to Km 1394.098	Level	Km 1392.975 to Km 1391.9
Level	Km 1394.098 to Km 1400.25	1 in 400 falling	Km 1391.9 to Km 1390.45
1 in 200 rising	Km 1400.25 towards block section	Level	Km 1390.45 towards block section

2.5 **LAY OUT:** As shown in the Station Working Rule Diagram attached.

2.5.1 **RUNNING LINES, DIRECTION OF MOVEMENT & HOLDING CAPACITY IN CSR: (FOR SINGLE HEADED TRAINS):-**

There are three running lines as under: -

S.N.	Running Lines	CSR	PLATFORM
a)	UP Main Down Line	709 Meter	-
b)	UP Ist Loop Down Line	770 Meter	M.L Passenger
c)	UP & DN longer loop Line.	1740 Meter	R.L Passenger

2.5.2. **NON RUNNING LINES AND THEIR CAPACITY IN CSR (WITHOUT ENGINE**

LINES	CSR	PLATFORM
a) A & D Siding Line (JHS end)	60.00 Mtrs	--

2.5.3 **ANY SPECIAL FEATURES IN THE LAY OUT: - NIL**

2.6 **LEVEL CROSSINGS (TAWD is not provided):**

Gate No.	499 (STN.MKP End)
Deptt.	Traffic
Classification	'A' class
KMs/end	1394/2-3
Normal Position	Open
Non-INT/INT	INT
LB/Leaves	POLB
Telephone provided with	SM's Office
Operated by	Traffic Gateman

NOTE: For detailed working see Appendix 'A'

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3. SYSTEM AND MEANS OF WORKING.

a) Trains are worked on Absolute Block system.

b) MEANS OF WORKING.

- i) Block Panel (SSBPAC) with Dual BPAC (Digital Axle Counter) with Station to Station telephones is installed in the Station Masters office for working the trains between KHOH – CHITRAKUTDHAM KARWI.
- ii) Block Panel (UFSBI) with Dual BPAC with Station to Station telephones is installed in the Station Masters office for working the trains between KHOH –BAHILPURWA.
- iii) SM on duty is responsible for their operation and custody of the keys.

4 SYSTEM OF SIGNALLING AND INTERLOCKING:

4.1 (A)

- (i) Station is equipped with multiple aspect colour light signals and interlocked to Std.- III (R) The Points and signals are worked from Panel.
- (ii) Track circuiting is provided between UP home signal to DN home signal and Routing Home signal including 'Calling On' track circuits and point zone area on UP & DN line.
- (iii) Dual Axle counters are also provided between UP advance starter signal KHOH and DN advance starter signal of CHITRAKUTDHAM KARWI including its overlap.
- (iv) Dual Axle counters are also provided between DN advance starter signal KHOH and UP advance starter signal of BIP including its overlap.
- (v) Dual detection with Axle Counter (16AXT & 18/19XT) in parallel to Existing track circuit 16AT & 18/19T (DCTC).

(B) TRAPS:

- i) From DN direction Sand Hump at MKP end Point No.298 in normal taking 'OFF' from UP 2nd Loop Line is the trap for the protection of UP Main DN Line at MKP end.
- ii) From UP direction at JHS end, Point No.202 in normal taking 'OFF' from UP 2nd Loop DN Line is the trap for the protection of UP & DN Main Line at JHS end.
- iii) Sand hump taking 'OFF' from the UP 1st loop DN line at JHS end and at MKP end respectively are the traps for protection of UP Main DN Line.
- iv) Derailing Switch Point No.209 in the 'A' & 'D' siding is the trap for the protection of UP 1st Loop DN Line.

NOTE: Over run siding & Sand hump must not be used for loading unloading and stabling of vehicle.

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

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- (C) Calling 'ON' Signal:- CO-1 is provided below Down home signal number S-1, CO-5 is provided below DN Routing Home signal number S-5 and CO-18 is provided below UP home signal number S-18.

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. 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:

Normally all the signalling circuits are fed and worked by AT power supply, local power supply & generator power supply from the 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 extinguished 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 SM with the help of point's man will change over the switch to generator side and extend the supply by starting the generator.

- ii. An auto change over panel provided in SMs room will display availability of power supply in following order-
 1. AT Power supply.
 2. Local Power supply.
 3. Generator Power supply
 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. After the above operation of the switch the generator should be stopped as per the instructions for starting and stopping of the Diesel Generator.
- iv. When the AT supply & local supply are not available ASM will start the Generator and extend the supply.
Details on DG working are given appendix B.

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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 (SSBPAC) with Dual BPAC (Digital Axle Counter) meant for train working between KHOH – CHITRAKUTDHAM KARWI stations.
	Block Telephone	Block phone in Panel room attached with Block Panel (UFSBI) with Dual BPAC (Digital Axle Counter) meant for train working between KHOH – BAHILPURWA stations.
2	Railway phone/ BSNL phone	SMs Office BSNL No. 05162252206
3	Control telephones	
	Control Telephone of JHS-BNDA-ALD control	SMs Office
4	Group Telephones	
	L.C.499	Between SM's Office and Gateman
5	Telephone with IBS.	Nil
6	Telephone with Axle Counter reset boxes	Nil
7	Telephone for yard communication	Nil
8	VHF set 25W VHF base station	Between SM's Office and Loco Pilot & Guards of running train and in emergency with adjacent stations
9	MTRC	NIL

6. SYSTEM OF TRAIN WORKING:

6.1 DUTIES OF TRAIN WORKING STAFF:

(For detailed duties of the Staff, see Appendix 'D')

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT.

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

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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 –

- a) The whole of the last preceding train has arrived complete.
- b) All necessary signals have been put back to 'ON' position behind the said train, and,
- c) The line is clear upto Advance starting signal nearest to the approaching train as per GR 8.03(2) of G&SR.

NOTE:

- i) 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 after stopping the train.
- ii) Before granting 'Line clear' to SM on duty shall satisfy himself by seeing the block section clear indication green LED (Large) indication appears at Reset box of Digital Axle Counter provided near the Single line Block Panel with Block proving axle counter (dual BPAC) equipment (i.e. block Equipment by Proving Digital Axle Counter Reset Box/Indication) between Advance to home signal.
- iii) Before granting line clear SM on duty must ensure that all Level Crossing gates in the Block Section are closed for road traffic under exchange of Private No.

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

A) BERTHING OF TRAIN:

- i) A train carrying passenger and stopping at the station must ordinarily be received on the UP 1st or 2nd loop down lines (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 1st or 2nd Loop down line (as the case may be) and the second train on the main line.
- ii) A Goods train stopping at the station must ordinarily be received on the Loop lines unless that line is occupied or is required for a train carrying passenger in which case the goods train may be received on Main line.

6.2.1.1 Setting of point against block line – As per 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. Besides, the points of the blocked line must be set clamped and pad locked against the line and keys kept with the SM/ASM as per SR: 5.23-1 of G&SR. The button collars must be placed on the buttons on the panel as under when the line is blocked.

6.2.1.2 Reception of trains on blocked line –G.R. 5.09 must be followed

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6.2.1.3Receptions of trains on non signal line–Not Applicable since reception signals for all lines are provided in either direction.

6.2.1.4Dispatch of trains from non signal line- Not Applicable since departure signals for all lines are provided in either direction.

6.2.1.5Despatch of train from line provided with common starter- Not applicable.

6.2.1.6Any other special conditions should be mentioned giving reference to the G&SR:
NIL

6.3 CONDITIONS FOR TAKING OF 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 up to the advance starter at the far end. When two trains are to be crossed from opposite direction signal may be taken 'OFF' 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. LC Gate No. 499 must be closed against road traffic.

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

- a) Press signal button no.18 with route button A towards UP & DN loop line no. 1.This shall automatically set the concerned point towards sand hump. Line must be clear up to starter signal no. S-12. This shall be further take 'OFF' the reception signal & lock the route automatically if the point in route are set & locked. LC gate no. 499 must be closed & locked against road traffic
- b) Press signal button no. 18 with route button A1 towards UP & DN loop line no. 1. This shall automatically set the concerned point towards UP & DN main line. The line must be clear up to Advance starter signal no. 2. LC gate no. 499 must be closed & locked against road traffic.

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

- a) Press signal button no.1 with route button F. This shall automatically set the concerned point for UP & DN main line. Line must be clear up to signal no. 5 and also adequate distance.
- b) Press signal button no. 1 with route button F1 towards UP & DN loop line no. 1. This shall automatically set the concerned point for UP & DN loop line no. 1 and line must be clear up to signal no. 5 & also adequate distance.
- c) Press signal button no. 5 with route button A. This shall automatically set the concerned point for UP & DN loop line no. 1 towards sand hump. Line must be clear up to starter signal no. 11.
- d) Press signal button no. 5 with route button A1.This shall automatically set the concerned point towards UP&DN Main Line and line must be clear up to Advance starter signal no. 19. LC gate no. 499 must be closed & locked against road traffic.

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iv) DOWN TRAINS TO BE RECEIVED ON THE UP & DN LONGER LOOP LINE:

- a) Press signal button no. 1 with route button C towards UP & DN longer loop line. This shall automatically set the concerned point towards sand hump up to starter signal no. S-15. This shall be further take OFF the reception signal & lock the route automatically if the point in route are set & locked.
- b) Press signal button no. 1 with route button C1 towards UP & DN longer loop line. This shall automatically set the concerned point towards UP & DN main line. The line must be clear up to advance starter signal no. 19. LC gate no. 499 must be closed & locked against road traffic.

v) UP TRAINS TO BE RECEIVED ON THE UP & DN LONGER LOOP LINE:

- a) Press signal button no.18 with route button C towards UP & DN longer loop line. This shall automatically set to the concerned point towards over run up to starter signal no. S-6. This shall further take 'OFF' the reception signal & lock the route automatically if the point in route are set & locked. LC gate no. 499 must be closed & locked against road traffic.
- b) Press signal button no. 18 with route button C1 towards UP & DN longer loop line. This shall automatically set the concerned point towards UP & DN main line. The line must be clear up to advance starter signal no. 2. LC gate no. 499 must be closed & locked against road traffic.

Note: Up stopping passenger and mail express trains should be stopped where stop board provided at the End of rail level platform provided on UP&DN longer loop.

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 points in accordance with Para 6.3 (A)(i) to (v) above. SM/ASM will then take 'OFF' the correct Home Signal 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 SR 3.36/2 of G&SR.

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 GR 3.36/2 (B) of G&SR must be followed.

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

Simultaneous reception of trains at this station is permitted provided trains should be received on the up 1st loop Down line and UP & Down longer loop line respectively by setting the points towards Sand hump/Overrun.

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

The SM/ASM is responsible for giving 'Train out of section' by seeing Clear indication on the Block proving by Axle Counter Block Equipment. However, if the complete arrival of the train inside the Fouling marks cannot be ascertained by clear indication on Signal operating panel or by personal observation on the dual BPAC (Digital Axle Counter), 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 followed.

NOTE: Immediately after arrival of a DN or an UP train at the station the points should immediately be set against the blocked line, except when any shunting or other movement is required to be done immediately in that direction on that line (GR.3.38/2) before giving 'Train out of section' signal to the station in rear.

6.6 DESPATCH OF TRAINS:

- i) When a train is ready to leave, 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 level crossing gates are closed and locked against road traffic; the SM/ASM will 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.

6.7 TRAINS RUNNING THROUGH:

- i) A train is ordinarily being 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 lines 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 lines 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.
- iii) If a train passes the station without Tail Lamp/Tail Board being visible to the Station Master, he must not send 'Train out of section' signal to the station in rear but send 'Train passed without Tail lamp/Trail Board to the station in advance and must inform section controller also. (SR. 4.17/1)

6.8 WORKING IN CASE OF FAILURE:

i) Failure of signals and Inter-locking: -

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'.

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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 & SR:3.68-7 of G&SR must also 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 of G&SR (SR: 3.51-1 and SR 3.68/7 should also be followed).

iii) 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 in Para number 6.8(i) must be followed.

(iv) Failure of Block Panels:

When the single line Block Panel (SSBPAC) Block Instrument installed for working the train between KHOH – CHITRAKUTDHAM KARWI with Dual BPAC (Digital Axle counter) and Block Panel (UFSBI) with Dual BPAC installed for working the train between KHOH – BAHILPURWA appears to be affected by outside influences working faulty, failure of Axle counters 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 Para 9.06 of BWM.

(For detailed working see Appendix-'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 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).

v.) Failure/ Resetting of Axle Counters: Please see Appendix -"B"

vi) Failure of dual block proving by axle counter: - Please see Appendix ----"B"

vii) Procedure for working over damaged points: - Please see Appendix "B"

viii). Reception of train Non-Signalled line including failure and occupation of line by trolley or light engine etc: - Nil

ix.) Failure of Power supply: Please see Appendix "B"

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x.) Failure of communication between Station and L.C. Gate:

In case of failure of communications between Station and Level Crossing Gate, the SM/ASM will communicate the requisite instructions to the gateman on duty regarding reception; dispatch and shunting of the train by a written memo and the acknowledgement of the Gateman must be obtained prior to compliance.

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 provided with the Axle counter block panel. 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. Thereafter the Axle Counter shall be reset to normal by the SM on duty provided Axle Counter not comes to normal.

7. BLOCKING OF LINES: [GR 5.19 & SR 5.19-1]

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.
- 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. Stop collars must be placed on relevant signal and points buttons/levers.
- v. Remark to the effect that 'line No. _____ is blocked be made in TSR/SM diary.
- vi. 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.
- vii. 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:-

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Line occupied	Button Collar to be placed on the route buttons
UP Main DN Line.	Route Button of UP Main DN Line. (B)
UP 1 st Loop DN Line.	Route Button of UP 1 st Loop DN Line. (A)
UP&DN Longer Loop Line.	Route Button of UP 2 nd Loop DN Line. (C)

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

8 SHUNTING:

8.1 GENERAL PRECAUTIONS:

- All shunting should be performed under personal supervision of Guard of a train/SM/ASM/ in charge of the shunting.
- T-806 must be issued to the Guard and Loco Pilot of the train for all shunting operations prior to commencement of shunting.
- Shunt signals must be taken 'Off' for shunting operations.

8.2 SHUNTING IN FACE OF AN APPROCHING TRAIN.

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

8.3 PROHIBITION OF SHUNTING ANY SPECIAL FEATURES:

- Hand shunting that will foul the Main line is prohibited.
- 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.
- 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.
- Loose shunting of such stock fitted with roller bearings is strictly prohibited.
- Vehicles shall be protected as per SR 5.23-2 and other stock as per SR 5.23-1.
- 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'.
- Shunt signals may be taken 'Off' for shunting purpose where possible.
- T/806 must be issued to the guard and Loco Pilot of train for all shunting operations prior to commencement of shunting.

8.4 SHUNTING ON SINGLE LINE:-

(a) SHUNTING WITH IN STATION SECTION:

If the necessary signals are kept at ON, shunting may be carried on within station section even after granting line clear to an approaching train as per GR.8.10 of G & S Rules

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.

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Note: The Engine should be kept leading towards DN direction the falling gradient in accordance with GR 5.20 and SR's there under.

(b) SHUNTING OUT SIDE STATION SECTION:

- i)** Shunting may be performed between the Home signals with out 'blocking back' the section, provided 'Line Clear' has not been granted for a train to approach. In the event of receipt of 'Is Line Clear' signal from the other end of the section and if the section is still occupied, line should be immediately 'block backed'. The Loco Pilot shall be authorized to pass the relevant signals 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.

Note: The Engine should be kept leading towards DN direction the falling gradient in accordance with GR 5.20 and SR's there under

8.5 SHUNTING ON DOUBLE LINE. – Nil

8.6(i) SHUNTING IN THE SIDING TAKING OFF FROM STATION YARD GOODS SHED.

All shunting in taking 'OFF' from station yard, will be done under personal supervision of Guard of train/SM/ASM/person in charge of shunting.

8.6(ii) WORKING OF OUTLYING SIDING, IF ANY. - NIL.

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.6.02-3 of G&SR must be followed.
- (ii) The authority to proceed in the occupied Block section in case of obstruction of line or accident; 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 IBS at 'ON'**- Not applicable.
- (v) **Failure of Axle Counter Block/Dual BPAC as per Para 7.29 of BWM.** (Detailed working in Appendix 'B').
- (vi) **Failure of MTRC:** - Not applicable.

(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.

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

Group No. 1.	..	Point No. 201/202
Group No. 2.	..	Point No. 203/204
Group No. 5.	..	Point No. 208/209
Group No. 6.	..	Point No. 298/299
Group No. 7 .	..	Point No 296/297

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.
- 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.	201,202	'CHYN' & Point Button 201/ 202
2.	203,204	'CHYN' & Point Button 203/204
5.	208,209	'CHYN' & Point Button 208/209
6.	298,299	'CHYN' & Point Button 298/299
7.	296,297	'CHYN' & Point Button 296/297

- iv) Before releasing the control of the crank handle, the SM will ensure that the Group of points are 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.

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- 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.
 - 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.

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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 deputes 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.
- ii) 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.

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NOTE: While setting the crossover point from 'Normal' to 'Reverse' care should be taken to set marked 'Near end' first and then set the other end marked 'Far end'. Similarly, while setting from 'Reverse' to 'Normal' end marked 'Far end' should be set first and then the end marked 'Near end'. 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) While the S&T Staff are attending to disconnected/defective points and traffic has to be passed over them. SM on duty will proceed to the concerned points with the object of getting the points set by the S&T Staff as per S.R. 3.51-3. of G & SR

ii) He will take with him a special Register opened for this purpose in which an entry of the move will be made and the signature of the S&T Staff attending to the points will be obtained against that entry as an assurance that the S&T Staff has agreed to the move.

The SM will also sign against the entry. After the points have been set for the contemplated move, SM will clamp and padlock the points, & retain the keys and crank handle in his personal custody and return to the station for undertaking the move. 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.

(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.

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- (d) **Certification of Clearance of Track Before Calling On Signal Operation Is initiated**
- i) The calling on signals provided below the DN Home signal, DN Routing 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 ie. (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 pointsman. 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.

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- 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

GR 3.68 of G & SR must be followed.

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 Panel.
- 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.

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 WITHOUT LINE CLEAR TO ASSIST THE CRIPPLED TRAIN.

Whenever it is necessary to send a train to assist the crippled train into the block section on 'Authority to proceed without line clear' 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.

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10. VISIBILITY TEST OBJECT

- a) (i) UP Main Line starter signal no. S-16 is nominated as visibility test object at this station.
 (ii) TI and Station Master will ensure to display the information in the Station Master's office regarding VTO and also council the concerned staff accordingly.

b) WORKING OF TRAINS IN THICK AND FOGGY WEATHER:-

Whenever on account of fog, dust storm or rains, Up Main Line starter signal no. S-16 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.

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.** Not applicable since double distant territory

LIST OF APPENDICES

Appendix 'A'	-	Working of Level Crossing Gates.
Appendix 'B'		System of Signalling & 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: -

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WORKING OF LEVEL CROSSING GATE**1 GENERAL:****1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:**

S. No	DESCRIPTION	
1	Number of Level Crossing Gate	499
2	Engineering or Traffic Gate/classification	Traffic / 'A' class
3	Under control of Station Master/Section Engineer (P-Way)	SM - KHOH
4	Location at Km	1394/ 2-3
5	AT Station	KHOH
6	In between Stations	KHOH STN (MKP End)
7	BG/MG/NG	BG
8	Single line/Double line/Multiple line	Single Line
9	Normal Position	OPEN
10	Interlocked/Non –Interlocked	Interlocked
11	Means of Interlocking	Interlocked with signals
12	Provision of Gate Signal at Kms.	-
13	Signalling arrangements	-
14	Means of Communication –Telephone/Bell etc.	Telephone with SM Office.
15	Width of Level Crossing Gate	5.70 meter
16	Type of Road (NH/SH/Others)	NH- 76
17	Name of Road	CKTD – ALD Road.
18	Metalled/Non-metalled	Metalled
19	Approach Road	Metalled
20	Width of Road	5.70 Meter
21	Angle of Road Crossing (in case of the skew gates)	90 ⁰
22	Road gradient (if any) i) North / East side. ii) South /West side.	Level Level
23	Road alignment (Straight/Curve)	
	i) North/East Side	Straight
	ii) South /West Side	Straight
24	Provision of Height Gauges	Provided
25	Type of Barriers	P.O.L.B.
26	Length of Check rails	8.50 Meter
27	Road surface in between L-Xing gates	Metalled
28	Length of Rumble strips/Speed breakers	2.0 Meter/Provided
29	Road signs	Provided
30	Speed Breaker Indication Board	Provided
31	TVU	59662 on dated 31.05.22
32	Census next due on	31.05.2025
33	Demarcation for placement of Detonators	Provided
34	No. of Gateman working	03 (As per Roaster)
35	Nearest Railway Medical Assistance	MKP
36	Nearest Privately Medical Assistance (if any)	BNDA
37	List of equipment available Yes/No	KHOH
38	List of available tools	Yes.

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1.2	EQUIPMENT:	
	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 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 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.
- (2) Gateman Rule Book in Hindi/English.
- (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 clamp, etc.
- (7) Accident Register.
- (8) Record of last census of road traffic at level crossing gate.
- (9) Public complaint book
- (10) Inspection Book

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1.4 MODE OF OPERATION: Detailed working given in “working instruction “ (1).

1.5 DUTIES OF GATE MAN:

- (1) **ALERTNESS:** The gateman shall be alert and be prepared to take immediate action, should danger be apprehended Keys of the gate should be in his personal custody.
- (2) **POSITION DURING PASSAGE OF TRAINS:**
During passage of trains, gateman 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 night time, gateman shall hold lighted hand signal lamp with white light facing the track,
 - iv) He shall keep the whistle slung around his neck from a cord
- (3) **ROUTINE DUTIES OF GATEMAN:**
- i) Gateman shall ensure that red banner flag/red light is placed across the track whenever the gate is kept in open condition during emergencies or obstruction on track, for passage of road vehicles.
 - ii) Gateman shall ensure that gate lamps are lighted and kept burning continuously from sun set to sun rise.
 - 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 close and lock the Gate 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/wagon/train /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) Gateman shall also be prepared to repeat any signal which guard may give to Loco Pilot on Willkie Talkie or in any other way.
 - vii) If Lifting barriers Gate get damaged or becomes out of order, the Gateman shall use the spare chain with the disc and padlock for securing the Gate against Road Traffic.
 - viii) Gateman shall report to the nearest Station Master, Gang mate or SE (Permanent Way) any defect in his Gate or apparatus pertaining to it, as soon as possible.

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- ix) In the event of the Gate signal becoming defective the SM/ASM shall maintain the signal in the 'ON' position.
- x) At the gate whose signal has become defective, the gate man shall closed and lock the lifting barriers gates on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco Pilot to report the defect at the next station.
- xi) Gateman shall wear – badge and prescribed uniform while on duty at Level crossing Gate.
- xii) Gateman shall ensure that he is having Competency certificate in his possession while on duty.
- xiii) Gateman shall work the Gate as per Gate working instructions and remain well conversant with these instructions.
- xiv) Gateman shall ensure that equipment supplied at the Gate is in good order and ready for immediate use.
- xv) Gateman shall see that the channel for the flange of the wheel is kept clear.
- xvi) Gateman shall keep the road surface well watered and rammed in case of un-metalled roads.
- xvii) Gateman must be vigilant to see that inconvenience to Road users due to closure of Gates should be to the minimum possible extent.
- xviii) Gateman on electrified section shall watch that road vehicles/ animals passing from the gate are with in the height-loading gauge provided on either side of the level crossing Gate.
- xix) 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 any thing unusual with a passing train, he shall take following action:

- i) He shall take prompt action to warn the Loco Pilot and guard of the passing train by showing red flag by day and red light by night.
- ii) But in case of train parting, gatemen shall not show stop hand signal and shall show prescribed signal for train parting i.e. green hand signal during day and white light during night waving up & down vertically.
- iii) He shall simultaneously, try to draw attention of the loco plot and guard by whistling continuously, shouting gesticulating, throwing ballast on the brake van or by any other means.
- iv) If Loco Pilot and guard fail to take notice, gateman shall immediately inform the SM/ASM, if connected on telephone, the take appropriate action, under exchange of private number.

(5) (a) ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

- i) In case of an obstruction at the level crossing gate, gateman shall maintain the gate signals, if any in the 'ON' position.

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- ii) Thereafter, if he is unable to remove the obstruction, shall immediately advise the Station Master on duty, if connected by telephone, regarding the defects/obstructions at the gate, under exchange of private number.

(b) OTHER ACTION TO BE TAKEN BY GATEMAN:

- i) At night Gateman shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub Para (a) above.
- ii) If the gate is broken by a road vehicle which is, 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.
- iii) He shall note down the particulars of the road vehicle, vehicles number, name of the Driver and owner and relay these details to the nearest Station Master/ASM or JE /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 Paras 916, 918, 919 of IRPWM.

1.7 TRAFFIC LEVEL CROSSING GATE INTERLOCKED WITH STOP SIGNALS OF THE STATION, PROVIDED WITH TELEPHONE, WITH NORMAL POSITION OPEN TO ROAD TRAFFIC.

01 Mode of Operation.

- (i) The gate is interlocked and provided with power operated lifting barrier. The gate is controlled by station and opened and closed locally by push button on gate operating panel provided at gate lodge. The normal position of this gate is open for road traffic which is indicated on the panel by a circular red light, provided above the concerned XN key.

Description of control panel box: This gate is interlocked and provided with lifting barriers operated by a power-operated panel. The following Buttons & indications are provided the power-operated panel.

- | | |
|---------------------|---------------------------------|
| A) Green Button | - For opening the gate barrier. |
| B) Red Button | - For closing the Gate barrier. |
| C) Green indication | - Gate opened indication. |
| D) Red indication | - Gate closed indication. |
| E) Yellow | - Power ON/OFF key. |

- (ii) The normal position of lifting barriers is open for road traffic which is indicated on the control panel by green light.
- (iii) Whenever the signals are required to be taken "OFF" for the reception of a DN train or a UP train to pass across the level crossing gate, the SM on duty will instruct the Gateman on duty to close the barriers against the road traffic and Gateman operate barrier switch to close position for closing of the gate.
- (iv) The gateman will close the barrier against the road traffic by operating, the gate operating panel pressing the red button till the barrier is fully operated and closed against road traffic and a indication will appear on Gate panel. After this Gateman will press the acknowledgment push button provided on gate operating panel to transmit the "gate closed position" to SM's panel & SM who will observe the Gate closed indication "yellow steady light" and will take 'off' the Signal. During the closing of Gate hooter starts, till the control is not transmitted to SM by gateman through push button.

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- (v) After passing the UP/DN train SM released control by pressing XXN and XN button simultaneously for opening the gate barrier yellow light will lit at gate and Gateman can be opened the Gate barrier, by pressing the green button on the gate operating panel till the barrier is fully operated and opened for Road traffic and a green indication appeared on panel.

NOTE:- After the control has been released from the panel for the gate to be opened, the steady (yellow light/White light) indication on the control panel will change into a flashing (Red light) indication which will continue till such time gate is opened by the concerned gateman then a steady RED light indication will appear (above the concerned XRN button) on the control panel. When the gate is required to close for road traffic to pass the train SM on duty will advise to the gateman to close the gate. Gateman will close the gate for road traffic as written in Para (iv) above. After receiving control from gate. The SM on duty will withdraw the control by pressing XN and XRN button simultaneously than flashing red indication will replace to steady yellow than gate will locked for road traffic and SM can take “OFF” respective signal/signals for the reception/dispatch of the train.

2. INTIMATION TO GATEMAN:

- (i) The SM KHOH shall intimate the Gateman through telephone connected at his end about movement of trains proceeding towards the level crossing gates.
- (ii) The Gateman shall close the gate and advise station master who shall withdraw control of the gate.
- (iii) The reception /departure signals will then be taken 'OFF'.
- (iv) In order to ensure that road traffic is not held up for a long time, the Station Master must ensure that the train is ready for departure in all respects before he advises the Gateman of closing the gate. from the gate man
- (v) When the train has to be piloted to and from the station yard or any shunting movement is to be done, the staff deputed to pilot the train or to perform shunting across the gate shall be personally responsible to ensure that the gate is closed against road traffic before allowing any movement across the gate.
- (vi) After the passage of train the SM shall release the gate control and advise the gateman.

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 on duty shall send return advice to the Gateman through the Porter/ Points-man with full details of number/ description and direction of the train.

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- (ii) Gateman on receipt of such advice shall close the gate and transmit the key to Station Master will enable them to take 'OFF' reception/ departure signals.
- (iii) When sufficient time is not available because of greater frequency of service, Station Master will issue written authority to the train Loco Pilot to pass the signal at 'ON' position.
- (iv) In addition Station master shall also issue caution order advising the Loco Pilot to whistle continuously and approach the gate cautiously.
- (v) The train Loco Pilot shall be instructed to pass the gate cautiously on being hand signalled by the Gateman. If hand signal is not seen, Loco Pilot should be prepared to stop short of the gate and ensure the gate is closed following GR 3.73(2)(b).
- (vi) In case of 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.
- (vii) 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.
- (viii) He should advice S & T staff responsible for maintenance of the telephone to rectify the defect at the earliest.
- (ix) Normal working will be resumed only after S & T staff rectifies the telephone and issues reconnection / fit memo for the same.

04 FAILURE OF LIFTING BARRIERS GATES:

- i) When the gate cannot be closed due to failure of lifting barriers, the gateman shall immediately inform the SM on duty under exchange of private number and ensure that lifting barriers do not foul the track.
- ii) He shall immediately fix Red danger flag by day and red 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, gateman shall show green hand signal flag by day and green light to the Loco Pilot of the approaching train.
- v) SM on duty shall issue caution order to the Loco Pilot of a departing train.
- vi) He shall also advise the SM/ASM at the dispatching end, under exchange of private number; to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section.
- vii) SM will advise S&T staff responsible for maintenance of lifting barriers to repair the defect at the earliest.
- viii) Normal working will be resumed only after maintenance staff repairs the lifting barrier and issue reconnection/fit memo for the same.

Note:-If gate is failed in open condition the Gateman will immediately put the Road signal in "ON position through a switch provided at Gate Lodge.

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5&6 Failure of the Gate barrier with the gate in open condition / closed condition in case of power supply Failure:

- {i} If the gate cannot be closed & opened then gateman must immediately inform the SM/ASM/CASM on duty on telephone, under exchange of private number.
- {ii} Thereafter, the gate must be treated as non-interlocked and procedure for reception /dispatch of trains as prescribed for non-interlocked gates, should be adopted
- {iii} The gateman shall secure the gate against road traffic by means of chains and padlocks and pass trains on hand signals
- {iv} Station Master on duty shall issue a caution order to the Loco pilot of a departing train.
- {v} He shall also advise the SM at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco pilot before dispatching a train in the block section from his end.
- {vi} SM shall advise S & T staff responsible for maintaining the gate to repair the same at the earliest.
- {vii} Normal working will be resumed only after S&T staff repair the gate and issue reconnection/fit memo for the same.
- (viii) After rectification, the Emergency key shall be replaced in the Emergency key Box and resealed by the S&T staff.

USE OF EMERGENCY GATE CRANK HANDLE:-

In case when lifting barrier fails to operate due to failure of power supply or on account of failure of barrier, an emergency Gate Crank Handle/ key is provided at the Gate Lodge for manual operation of gate.

To open gate, crank handle shall be inserted into the motor of the boom in the groove provided for the purpose after unlocking the boom at boom stop by key on one side of the boom. Similar action is required for opening of second boom. S&T staff shall immediately be advised in case of failure of barrier and use of crank handle for LC gate.

NOTE:-An emergency crank handle/key is provided in a glass fronted, locked & sealed box at this gate lodge in emergency (power failure) when the gate man operate gate with the crank handle/key by breaking the seal of the box.

7. 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 gate man shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- ii. Immediately after this, the gate man shall advise the Station Master on duty, regarding the defects/obstruction at the gate, under exchange of private number.

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- 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. He shall note down the particular 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 assured by the Gateman that the road vehicle or the lifting barriers are not fouling the track.
- vi. 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.
- vii. After the track has been cleared of all obstructions the Gateman shall inform the Station Master accordingly, under exchange of private number.
- viii. Station master shall then issue a caution order to loco pilot of all trains to proceed cautiously, and pass the reception/departure signal at 'ON' position on green hand signal of the gateman, if the gate is broken, but is clear of any obstructions.
- ix. 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.
- x. Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- xi. Normal working will be resumed only after maintenance staff rectify the defective lifting barriers and issue reconnection/fit memo for the same.

8 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, the Gateman and Station Master will adopt the procedure given under item No.7 above. If the obstruction fouls the Level Crossing Gate, Gateman must keep the gates closed against road traffic till the track is cleared of the obstruction.

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APPENDIX -B

SYSTEM OF SIGNALLING AND INTERLOCKING:-

1. LAYOUT:

See the Station Working Rules Diagram No.-NCR.DRG.No.-SI-D-2319/B dtd 21.09.2022 appended at the end of these rules.

1.1 **Class of Station** : "B" Class, Single line.

1.2 Mode of Signaling: Multiple Aspect Colour Light Signaling.

2. METHOD OF INTERLOCKING:

2.1 The Station is "B" Class Interlocked to Standard III (R) and is provided with colour light signalling. 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 the length of 5RL 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 ASM on duty to lock up the panel. (The 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:

i) Absolute Block System by means of Block Panel (SSBPAC) block instruments with Dual BPAC (Digital Axle counter) is provided in the SM's office towards CKTD.

ii) Absolute Block system by means of Block Panel (UFSBI) with Dual BPAC (Digital Axle counter) is provided in the Station Masters office towards BIP.

The ASM on duty on Panel is responsible for operation of the Block instruments, Dual BPAC (Digital Axle counter) and should keep Keys in his personal custody.

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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 10 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. The normal aspect displayed by distant signals is 'Caution' i.e. One yellow it changes to 'Proceed' aspect i.e. Green when the concerned Home Signal is taken 'Off' for the main line with 'Proceed' aspect i.e. Green. It changes to attention i.e. 'Double Yellow' when the concerned Home Signal ahead is taken "OFF" 'Caution' aspect i.e. One yellow or Caution with Route i.e. One yellow with Route Indicator aspect.

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 point's 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 slot button (WN) 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 KLR Box.
- ii) For withdrawing Control Slot, key of concern point are put back at proper place in KLR box and than SM on duty will press Control Button CHYRN along with WN simultaneously. This operation will lock the Key in the KLR Box.

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The following control buttons are provided

S. N.	Button No.	Colour	Functions
1.	CH.1	Blue	Releasing/ Withdrawing control on Crank Handle. Key for point 201 / 202.
2.	CH.2	Blue	Releasing/ Withdrawing control on Crank handle Key for point 203 / 204.
3	CH.5	Blue	Releasing/ Withdrawing control on Crank handle Key for point 208/209
4	CH.6	Blue	Releasing/ Withdrawing control on Crank handle Key for point 298/299
5	CH.7	Blue	Releasing/ Withdrawing control on Crank handle Key for point. 296 / 297

e. Group Button:

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

S. N.	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 from Crank Handles (To be pressed along with concerned point button).
4	XN	GREY	Control Button for releasing slot to LC gate.(individual Gate control button)
	XXN	GREY	Group slot button for releasing slot to LC gate (To be pressed along with concerned gate control button).
5	XRN	GREY	Group slot button for withdrawing slot from LC gate (To be pressed along with concerned gate control button).
6	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.

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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

S. N	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.	ESUYN button key with counter on the panel. (Route release button when the track circuit has failed.)	Grey.	This button 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 will have to break the seal to turn the key than press ESUYN and concern signal button/ point button and counter counts each such operation and inform the S&T staff immediately so that the button can be resealed. SM/ASM on duty will make the necessary entry in the detail in the register.
4.	EUYN 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 EUYN button, release it and press concerned route button keeping signal button press and the counter counts each cancellation.

NOTE: Emergency point operation button (EWN) will be kept sealed by ESM/JE/SSE. Whenever this button is made use of, after the seal is broken, the ESM/JE/SSE should be advised immediately so that the button can be re-sealed. Use of the button should be recorded in a register.

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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.

S. N	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.
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.

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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.

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

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/SSE/ESM on duty must be informed immediately for resealing the button / buttons.
- 3) 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.

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- 5) 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.
- 6) The audible buzzer sounded along with button checking indication can not 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/SSE/ESM on duty should be informed in case if he is not able to locate the faulty button.

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 circuits controlling the points are 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:

- 5.2.1 The aspects of all signals are indicated on the control panel in the Station Master's Office which proves that the signals are illuminated at site. 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 distant signals, 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 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.

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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.

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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.

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 for that particular indication. Signal at site will show less restrictive aspect and panel will also indicate accordingly.

But if the green/yellow flashing indication on the panel is also accompanied by the steady red indication, this will mean that the off aspect lamps of the Signal have fused and that the signal is exhibiting the '**ON**' aspect. The failure of Red lamp of a signal will be indicated by a flashing red indication on the panel. In the event of failure of red lamp of a signal, the flashing red indication on the panel also is accompanied by a audible alarm. On hearing such an alarm and on seeing the flashing indication, the SM on duty should press the signal/point back. button to silence the buzzer. Pressing of this button will cause the audible alarm to stop and an illuminated letter '**G**' or '**W**', as the case may be, will continue to appear on the panel which will remain till the failure is rectified.

On hearing audible alarm and noticing the fusing of Red lamp of Home signal or blanking of distant signal of both UP & DN direction, SM on duty will immediately advise the concerned Station Master of the station in rear to issue caution order to the Loco pilot of the train to be vigilant and see the blank signal. He will also take action to advise ESM to replace the fused signal lamp.

Note:- All Main signal lamps are provided "LED" type at this station

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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 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 EUYIN 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.

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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. S1, S18 & DN Routing Home stop signal No. S-5 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/ Routing Home Signal occupying calling on track circuit C 1T or C18T or C5T (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/Routing 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 then 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/Routing home signal on the panel which will become steady after two minute 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 circuit C1T or C18T or C5T 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 then no necessity to attempt for home signal/ Routing home signal and then 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 minute after which light will become steady and Calling On signal will assume "OFF".

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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.

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 Emergency Route Release Button (EUUYN) simultaneously and release the latter (i.e. EUUYN Button) keeping the signal button still pressed and press the concerned route button. 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 seconds for the release of the approach locking.

The route locked indication will remain for stipulated time interval i.e. not less than 120. The route should then be cancelled by repeating the procedure indicated above, only after the route locked indication becomes steady. 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:

I] 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.

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II) **THE REGISTER WILL HAVE THE FOLLOWING COLUMNS: -**

1. Sr. No.
2. Date and Time
3. Route to be cancelled
4. Reason mentioning train no.
- 5 Signature of the SM/ASM on duty
6. Time route cancelled
7. Reading of the EUUYN counter after cancellation of the route.
8. Remarks

CANCELLATION OF OVER LAP: 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.

RECORDING OF THE READINGS OF COUNTER: Operation of the following Buttons are recorded on the counters provided separately for each of these Buttons:

1	EMERGENCY POINT BUTTON (EWN)
2	EMERGENCY ROUTE RELEASE BUTTON (EUUYN).
3	OVERLAP RELEASE BUTTON (OYN).
4	EMERGENCY SUB ROUTE SECTION RELEASE BUTTON (ESUYN).
5	GROUP BUTTON FOR CALLING ON SIGNAL (COGGN).

The SM on duty should keep a proper record of all such operations. Separate Registers should be maintained for each of the above buttons wherein each time the Button is operated, the reading on the counter should be recorded stating clearly the circumstances under which the emergency operation had to be resorted to. The SM on duty before handing over charge to his reliever should record the last reading of all the counters in the concerned Registers.

The SM who takes over the charge must verify by actual observation of the readings, on the counters that the last readings on the counters have been correctly recorded in the appropriate Register and the registers should be signed by the SM on duty in token of it.

7.2.2 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.

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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 EUYUN counter.

7.3 Cancellation of Sub Route when track circuit or Points in the Route are in failed condition (EUYN Operation):

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 EUYUN. 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.

- 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 EUYN 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 EUYN button and concerned route point/signal button to release the sub –section route which increment the EUYN counter.
- d. After releasing the concerned sub-section route, the ASM/ Panel operator will turn the EUYN key to normal position causing steady (ESUYKE) indication to disappear and remove the key to keep in his safe custody.

Note: Above instructions should be read with the SWR of concerned station.

THE SM ON DUTY WILL MAINTAIN A REGISTER FOR RECORDING THE READING AND THE OTHER DETAILS OF THE ROUTE CANCELLATION WITH THE EMERGENCY SUB-ROUTE SECTION RELEASE BUTTON (EUYN) PROVIDED ON THE PANEL.

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) SIG. OF THE ESM RESEALED OF EUYN BUTTON WITH DATE & TIME.
- 10) REMARKS

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7.3.1 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 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. Emergency Route Release Button | (EUUYN) |
| 3. Emergency Route Section 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. 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 Panel Control CH- Group No.1 (201,202), CH - Group No.2 (203,204), CH- Group No. 5 (208, 209), CH- Group No. 6 (298,299) and CH- Group No.7 (296,297).

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, 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, 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 ASMs room.

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8.3 Control units:

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

1.	CH Buttons	For releasing or withdrawing the control on CRANK HANDLE KEY.
2	WN	For releasing control on CRANK HANDLE KEY WN & CHYN button to be pressed and released
3	WN	For returning control on CRANK HANDLE KEY WN & CHYRN button to be pressed. and released.
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 extracted from KLR Relay.

8.5 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 KLR located in ASMs 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.

The CRANK HANDLE KEY thus released is taken by the staff to the required Point Machine. After opening the key hole 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 KLR 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.

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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 3.70 for defective points. The Panel ASM himself can take the control back, only if the CRANK HANDLE KEY has not been extracted from KLR. 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 ‘KLR’ 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 to use 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.

8.4 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 :

S. N.	Running Lines	Stop Collars to be placed on Route Button
1.	UP Main DN Line	B
2.	UP 1 st Loop DN Line	A
3.	UP & DN Longer Loop Line	C

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9. WORKING OF COLOUR LIGHT SIGNALS:

- a.** Normal indication of all running signals is stop (Red) except that of the Distant. The distant signal has THREE ASPECTS & the normal indication of the signal is caution aspect (Single Yellow). Clear aspect (Green) of this signal is automatically displays in conjunction with the Clear aspect for main line displayed by the home signal ahead. Attention aspect (Double Yellow) automatically displays in conjunction with the aspect displayed by the home signal ahead.
- b. Route Indicators :**
Position light route indicators have been provided on UP Home and Down Home/Routing 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)
YU	=	Route Indicator.

i. DN Trains :

DN Train Movement from DN Main Line	DN Distant of S1	DN INN Distant of S1	DN Home	DN Routing Home	DN Main Starter	DN Advance Starter
	D1	ID1	S 1	S 5	S 17	S 19
Running through from DN Main Line	G	G	G	G	G	G
Running through from DN Main Line and Stopping up to S-19	G	G	YY	Y	Y	R
Stopping on DN Main Line up to S-17	G	G	YY	Y	R	-
Stopping on UP 1 st Loop DN Line up to S-11	G	YY	YY	YU (Yellow With Route Indicator)		
Stopping on DN Main Line up to S-5	G	YY	Y	R		
Stopping on Loop Line upto S-15	YY	YY	YU (Yellow With Route Indicator)	--	-	-
Stopping on Home	YY	Y	R		-	-

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ii. UP Trains :

UP Train Movement from UP Main Line	UP Adv Starter	UP intermediate Main Starter	UP Main Starter	UP Home	UP INN Distant of S-18	UP Distant of S-18
	S -2	S- 4	S- 16	S- 18	ID18	D18
Running through from UP Main Line	G	G	G	G	G	G
Running through from UP Main Line and Stopping up to S-2	R	Y	Y	YY	G	G
Stopping on UP Main Line upto S-4	--	R	Y	YY	G	G
Stopping on UP Main Line upto S-16	--	--	R	Y	YY	G
Stopping on Loop Line	--	--	--	YU (Yellow With Route Indicator)	YY	YY
Stopping on Home	--	--	-	R	Y	YY

10-a TRACK CIRCUITS:

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

UP&DN MAIN LINE	C18T,18/19T(18/19XT),BXT1/BXT2(KHOH-BIP),17T,299T,297T,UDMT3,UDMT2,UDMT1,205T,203T,C5T,16AT(16AXT),16T,201T,4T, BXT1/BXT2(CKTD-KHOH)1/2T,C1T
UP & DN Ist LP LINE	296T,UDL1T3,UDL1T2,UDL1T1,208T,204T
UP & DN IInd LP LINE	298T,UDL2T6,UDL2T5,UDL2T4,UDL2T3,UDL2T2,UDL2T1, 202T

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 SE/JE/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.

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12 UNSIGNALLED MOVE OVER ELECTRICALLY OPERATED POINTS:

Whenever any unsignalled move has to be taken place on a point operated by a electric point machines 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) DN DISTANT SIGNAL No-D-01:**

This signal is provided at a distance of 2000 meter (minimum) from DN Home signal S-01. This signal has two aspects Double Yellow and Green. The normal aspect of the signal is Double Yellow i.e. Attention aspect.

CLEAR ASPECT:

Green light of this signal is controlled automatically in conjunction with clear or attention aspect of DN INN DIST. Signal of S-01.

ii) DN INN DISTANT SIGNAL No-ID-01:

This signal is provided at a distance of 1000 meter (minimum) from DN Home signal S-01. This signal has three aspects Yellow, Double Yellow and Green. The normal aspect of the signal is Yellow i.e. Caution aspect.

ATTENTION ASPECT:

Double yellow light of this signal is controlled automatically in conjunction with double yellow or yellow or yellow with route aspect of DN Home signal S-01.

CLEAR ASPECT:

Green light of this signal is controlled automatically in conjunction with clear aspect or Double yellow aspect of DN Home signal of S-01.

ii) Down Home signal(S-1): Normal aspect of the signal is Red.

Caution aspect (one yellow light) of the signal is controlled by signal button No. S-1 & Main line route button **B** on the panel.

One yellow light with route indicator of the signal is controlled by signal button No. S-1 and Up & Dn Extended Loop line route button **C** on the panel & **C1** run through.

“Clear aspect” is automatically controlled in conjunction with clear aspect of DN main line starter number S-17& S-5 or Caution Aspect of DN main line starter number S-17 and also Attention aspect DN Routing Home signal No.S-5

iii) Down Routing Home signal(S-5): Normal aspect of the signal is Red.

Caution aspect (one yellow light) of the signal is controlled by signal button No. S-5 & Main line route button **B** on the panel.

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One yellow light with route indicator of the signal is controlled by signal button No. S-5 and UP 1st loop DN line route button A on the panel and A1 run through.

Attention aspect (Two yellow light) is automatically controlled in conjunction with Caution aspect of DN main line starter number S-17.

“Clear aspect” is automatically controlled in conjunction with clear aspect of DN main line starter number S-17.

- .iv) **Down loop line 1st DN 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 DX on the panel.
 - v) **Down loop line 2nd DN starter (S-15):** Normal aspect of the signal is red.
“Caution aspect” (one yellow light) of the signal is controlled by SM signal button S-15 and route button DX on the panel.
 - vi) **Down Main line starter(S-17):** Normal aspect of the signal is red.
“Caution aspect” (one yellow light) of the signal is controlled by SM signal button S-17 and route button DX on the panel.
- Clear aspect** (one green light) of the signal is controlled by SM signal button S-17 and route button DX on the panel in conjunction with clear aspect of down advance starter number S-19.
- vii) **DN Advance starter (S-19):** Normal aspect of the signal is Red.
“Clear aspect” is controlled by BAHILPURWA side block instrument in TGT position and also by SM signal button S-19 and route button DZ on the panel.
 - viii) **UP DISTANT SIGNAL No- D-18:**
 This signal is placed at a distance of 2000 meter (minimum) from UP Home Signal S-18. This signal has two aspects Double Yellow and Green. The normal aspect of the signal is Double YELLOW i.e. Attention aspect.
CLEAR ASPECT:
 Green light of this signal is controlled automatically in conjunction with clear aspect or attention aspect of UP Inner Distant Signal of UP Home signal S-18.
 - ix) **UP INN DISTANT SIGNAL No-ID-18:**
 This signal is provided at a distance of 1000 meter (minimum) from UP Home signal S-18. This signal has three aspects Yellow, Double Yellow and Green. The normal aspect of the signal is Yellow i.e. Caution aspect.
ATTENTION ASPECT:- Double yellow light of this signal is controlled automatically in conjunction with yellow or yellow with route aspect of UP Home signal S-18
CLEAR ASPECT:-
 Green light of this signal is controlled automatically in conjunction with clear aspect or Double yellow aspect of UP Home signal of S-18.
 - x) **UP Home signal (S-18):** Normal aspect of the signal is Red.
“Caution aspect” (one yellow light) of the signal is controlled by SM signal button No.S-18 & Main line route button on the panel.

One yellow light with route indicator of the signal is controlled by SM signal button No. S-18 and 1st loop or 11nd loop line route button on the panel.

“**Attention**” aspect (Two yellow light one above the other) is displayed automatically in conjunction with ‘caution’ aspect of up Main Line starter signal number S-16.(For Main line.)

“**Clear aspect**” is automatically controlled in conjunction with clear aspect of UP main line starter number S-16.

- xi) **UP main 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 UX on the panel.
 “**Clear aspect**” is automatically controlled in conjunction with clear aspect of UP Intermediate starter number S-4.
- xii) **UP loop line 1st UP 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 UX on the panel.
- xiii) **UP Intermediate Starter (S-4)** Normal aspect of the signal is red.
 “**Caution aspect**” (one yellow light) of the signal is controlled by SM signal button S-4 and route button UX on the panel.
 “**Clear aspect**” (one Green light) of the signal is automatically controlled in conjunction with clear aspect of Up main line Advance starter signal number S-2.
- xiii) **Up & Dn 2nd loop line 2nd up starter(S-6):** Normal aspect of the signal is red
Caution aspect (one yellow light) of the signal is controlled by signal button No. S-6 & route button UX on the panel.
- xiv) **Up Advance starter (S-2):** Normal aspect of the signal is Red.
 “**Clear aspect**” is controlled by CHITRAKOOT DHAM side block instrument in TGT position and also by SM signal button S-2 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 laying 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 hand danger signal.

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- (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:

While the S&T staff is attending to disconnected defective points and traffic has to be passed over them, the SM/ASM on duty will proceed to the concerned points with the object of setting the points in the required position for the move. The SM/ASM will also take with him special register opened for the purpose in which an entry of the move will be made and the Signature of S&T staff attending to the points will be obtained against that entry as a assurance that the S&T staff has agreed to the move. The SM/ASM on duty will also sign against that entry. After the both end points have been set, clamped and padlocked for the contemplated move by the SM/ASM. He will retain the padlock keys in his personal custody and then returned to the station for undertaking the move. After the passage of traffic the SM will return the padlock keys to the S&T staff to continue their work on points.

- (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 which can be verified from the control panel before interfering with the points 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.

15(a) AXLECOUNTERS ARE INSTALLED IN BLOCK SECTION.

- (i) Between CKTD station DN advance starter Signal S-20 to UP advance starter Signal S-2 KHOH station (BXT1/BXT2- CKTD-KHOH)
- (ii) Between BIP station UP advance starter Signal to DN advance starter Signal S-19 KHOH station (BXT1/BXT2- KHOH-BIP)

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15.(b)FUNCTION OF AXLE COUNTER IN BLOCK SECTION :-

- (a) In lieu of the conventional Track Circuits for the running line between CKTD– KHOH, BIP-KHOH block section, Axle counter have been provided. Indication for the occupation and clearance of Axle counter is given on the indication panel. These indications show green/white light when portion of the block section is clear and RED light when the train is occupied or when the axle counter equipment has failed.
- (b) When the Axle counter equipment controlled the Axle counter section fails, the SM-KHOH will advise to SM-CKTD/KHOH accordingly, supported by private number and obtain his confirmation supported by private Number in regard to the complete arrival of the last train and the clearance of the block section between block section. Then SM- CKTD/KHOH and SM- KHOH will operate the relevant reset push button along with Key and preparatory reset mode indication (Green LED small size) will glow and **one Digit** increase the reset counter reading after resetting. After resetting preparatory reset mode indication (Green LED small size) glow for first Pilot train advance signal can be taken “OFF” after taking fresh line clear through Block Instrument and pilot train will go on proper signal.

NOTE:- Last reading of the resetting counter must be entered on Train Register by the SM on duty while handing over taking over charge.

16 C) FAILURE OF DIGITAL AXLE COUNTER:

- (i) When at reset box clear (Green) LED indication is available but block section including it's 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.

16(D) RESET BOX FOR RESETTING 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 Main DN line of a block section and a reset -operation button (one) for each DIGITAL AXLE COUNTER.
- 2- On reset box one reset key/ lock (key insert, press and turn). One reset push button 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) |

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- 3- Glowing of Green LED (small) indication indicates Digital axle counter after failure has been re-setted by inserting (turning and pressing the) key with reset button at both the ends with the glowing of this indication Green **LED (small size)** along with 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, but the last stop signal can be taken to “OFF” position, so the Pilot train will be passed on proper Signal.** As this train passes the Home signal at receiving end and clears 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 pilot train which was passed on proper signal (when Axle Counter is in preparatory reset Mode)
 - 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 SE/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.

16 E) -RESET 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).

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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.

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

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 RIGHT 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 RIGHT AND PRESS ALONG WITH THE 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

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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 PROPER SIGNAL (AXLE COUNTER IS IN PREPARATORY RESET MODE.) 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.
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.

Note:

(i) One Pilot train on proper Authority (Axle Counter is in preparatory reset mode) is to be passed in the section to make the system normal.

(ii) If section clearing Axle counter indication (Green LED large) is not glowing after passing the pilot train on proper signal causes Axle counter failed and Red LED (large) indication is glowing the reset box the advance starter can not be taken "OFF" then ASM/SM will issue PLC/T.369 (3b) till the section is normalized.

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 can not be turned to line closed position unless whole of train passes home signal and clears not only the block section, but over lap section also and track circuit/ axle counter shows clear indication also.

The "normal indication" provided on the block instrument appears with the clearance of block section with overlap track circuit and Axle counter. After getting the "Normal indication" commutator handle of block instruments can be brought from train on line position to line closed position.

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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.

16(A)WORKING OF DUAL BLOCK PROVING AXLE COUNTER BLOCK PANEL INSTRUMENT BETWEEN KHOH-CKTD & KHOH- BIP

For the purpose of line clear working Dual Block Proving Axle counter panel block instruments have been provided between KHOH-CKTD & KHOH-BIP. 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	(i) To transmit BELL codes (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.

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(ii) Description of Keys :

Key	Functions
S.M. Key	This key when taken out prevents the following: i) Transmission of BELL Code operations: ii) Transmission of Line Clear enquiry code. iii) Cancellation of line clear
LCB Key	Line Clear Blocking key. It's Server the following, when out, to prevent station in rear to take Line Clear. To prevent closing of block.
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.

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(B) WORKING OF SINGLE LINE DUAL BLOCK PROVING AXLE COUNTER PANEL BLOCK INSTRUMENTS FOR DISPATCHING TRAINS KHOH -BIP:-

Whenever a train is to be dispatched from KHOH to BIP, the ASM on duty at KHOH shall ask 'line clear' from SM on duty at BIP and shall inform SM on duty at BIP, the trains & its description supported by his Private Nos, requesting for granting 'line clear'. Making suitable entries in the train register, ASM on duty at BIP 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 BIP, the ASM on duty at KHOH 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 KHOH, and TCF' at BIP 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 setting of route for Dispatch of an UP train/DN train, ASM/KHOH on duty shall lower the Starter & Advanced 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 KHOH & BIP respectively. To stop the buzzer ASM on duty shall press the ACKN button.

After this, ASM BIP 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 BIP.

To stop the buzzer at BIP, 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 KHOH. ASM on duty at KHOH acknowledges the buzzer by pressing ACKN button. 'TRAIN GOING TO' indication disappears and LINE CLOSED indication appears at KHOH.

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

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(C) WORKING OF SINGLE LINE DUAL BLOCK PROVING AXLE COUNTER PANEL BLOCK INSTRUMENT FOR RECEPTION OF TRAINS BIP TO KHOH

When a request for granting 'line clear' is received from ASM- BIP, for particular train supported by his Private Number, the ASM on duty at KHOH 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/KHOH, the ASM on duty at BIP 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 BIP, and TCF' at KHOH 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 BIP 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 BIP & KHOH respectively.

To stop the buzzer ASM on duty shall press the ACKN button. After setting of route for reception of UP/DN train, ASM/KHOH on duty shall lower 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 ;KHOH. To stop the buzzer at KHOH 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 BIP. ASM on duty at BIP acknowledges the buzzer by pressing ACKN button. 'TRAIN GOING TO' indication disappears and LINE CLOSED indication appears at BIP

WORKING OF AXLE COUNTERS IN REDUNDANCY MODE FOR BLOCK PROVING AND BLOCK WORKING BETWEEN KHOH-CKTD SECTION AND KHOH-BIP SECTION:-

Block working between **KHOH-CKTD** and **KHOH-BIP** has been achieved through two Axle Counters for each track section. This is achieved by providing two Axle Counters having own Resetting Boxes.

DIGITAL AXLE COUNTER FOR DUAL DETECTION HAVING SINGLE TRACK SECTIONS IN KHOH-CKTD SECTION WITHOUT PROVISION OF IBS AND SINGLE TRACK SECTION IN KHOH-BIP SECTION WITHOUT PROVISION OF IBS:-

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Axle Counters provided in (KHOH-CKTD) with one Track sections.	BXT 1 (KHOH-CKTD)/ BXT2 (KHOH-CKTD)	Detection for track section is provided from foot of UP Advance Starter signal to 180m ahead of UP Home Signal of station in ahead.
Axle Counters provided in (KHOH-BIP) with one Track section.	BXT 1 (KHOH-BIP)/ BXT2 (KHOH-BIP)	Detection for track section is provided from foot of DN Advance Starter signal to 180m ahead of DN Home Signal of station in ahead.

WORKING OF DUAL DETECTION AXLE COUNTER IN PARALLEL TO EXISTING DIGITAL AXLE COUNTER INSTALLED BETWEEN FOOT OF DN ADVANCE STARTER SIGNAL OF KHOH (KHOH) STATION TO DN HOME SIGNAL OF BAHILPURWA (BIP) STATION AND BETWEEN FOOT OF UP ADVANCE STARTER SIGNAL OF KHOH (KHOH) STATION TO UP HOME SIGNAL CHITRAKUTDHAM KARWI (CKTD) STATION.

The Dual Detection Axle counter provided in KHOH –CKTD section is nominated as BXT 1 (KHOH-CKTD) for main mode axle counter and BXT 2 (KHOH-CKTD) for redundancy mode axle counter. Similarly Dual Detection Axle counter provided in KHOH – BIP section is nominated as BXT 1 (KHOH- BIP) for main mode axle counter and BXT 2 (KHOH- BIP) for redundancy mode axle counter. Both axle counters i.e. main and redundancy 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 resetted 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:-

- 1- 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.
- 2- Axle counter BXT2(KHOH-BIP) & BXT2 (KHOH-CKTD) are used for redundancy mode.

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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.

17 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.

- 18. 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.

19. POWER SUPPLY EQUIPMENT AND POWER SUPPLY FAILURES:

19(a)i Normally all the signaling circuits are fed and worked by AT Supply and local SEB supply. An illuminated red pilot lamp fitted on the auto change over panel in the SM's office indicates that the AT and local supply is available. The above red pilot lamp when not burning will indicate that AT and local power supply has failed. In the event of AT supply failure, auto change over panel is automatically transferring the load on to local power supply if local power supply also failed then auto change over panel transferring to generator power supply.

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

- a) AT Power supply
- b) Power supply from S.E.B.
- c) Power supply of Diesel Generator.

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

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- iii. After the above operation of the switch the generator should be used as per the instructions for starting and stopping of the Diesel Generator. When the AT and local supply is not available and IPS indication panel indicate start generator indication SM/ASM will start the Generator and extend the supply.
- iv. On failure of AT/ SEB supply for more than 2 hours ASM on duty will hand over the key of DG set room provided in Panel room to on duty Pointsman, to operate DG set After two minutes, on duty Pointsman will operate the change over switch to the DG mode to transfer the load over DG set.
- v. D.G. set provided at this station cannot take continuous load of the installation for more than 2½ hours. DG set will be started after duration of 2 hours by on duty Pointsman by operating key of DG set.
- vi. The working of the D.G. set will help in keeping the batteries of I.P.S. charged at all the time and prevent them from running down.
- vi. On resumption of AT or SEB supply, the D.G. set shall be stopped and then on duty Pointsman will operate the change over switch to the normal mode AT or SEB. In case DG set fails to start by key, the Pointsman on duty will operate DG set by crank handling.
- vii. A record of failure of AT / SEB supply and duration of working of D.G. set shall be maintained properly in the register provided for this purpose by ASM & failure of DG sets should be intimated to concerned S&T staff to rectify the defect.
- v. **Failure of Panel Indication:**
In case Panel goes blank, ASM on duty on Panel should check whether AT 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 and 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, 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.
- 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) & ESM of the section through 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 generators has been provided with ASM on duty separately for 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 /SSE/Signal of the Section immediately by XR Telegram.

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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.

- 19(b) i. Signal lights are normally lit by power available from AT Supply commercial power supply if AT Supply is not available then Commercial power supply. In the event of failure of AT and commercial power supply both, the Signal Lamps are lit by means of Stand by Diesel Generator.
- ii In the case of AT and commercial 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 pilots 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 or commercial 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/Commercial Power Failed	Time AT/Commercial Power Restored		Duration of AT/Commercial 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	

vi) Diesel Generator set may also be operated in case of Low Voltage of AT and commercial Supply.

vii) In case of failure of D.G. Set, S.M. will inform the Signal Staff.

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19. (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. (d) SIGNAL AND ROUTE TABLE:

Signal and Route Buttons to be pressed and released for taking "OFF" a particular signal are given below-

S.N.	Signal No.	Description	Signal Button	Route Button
1	S-1 (i) a	DN home to UP & DN longer Loop line Up to S-15	S-1	C
2	S-1 (i) b	DN home to UP & DN longer Loop line Up to S-15 run through.	S-1	C1
3	S-1 (ii)	DN home to DN Main line. up to S-5	S-1	F
4	CO-1 (i)	DN Calling 'ON to UP & DN longer loop line. up to S-15	S-1	COG GN+ C
5	CO-1 (ii)	DN Calling 'On to DN Main line. up to S-5	S-1	COG GN+ F
6	S-2	UP advance starter signal	S-2	UZ
7	S-4	UP Intermediate starter signal upto advance starter signal S-2.	S-4	UX
8	S-5(i)	Routing DN home to UP main DN line upto S-17	S-5	B
9	S-5(ii)a	Routing DN home to UP 1 st loop DN line up to S-11	S-5	A
10	S-5(ii)b	Routing DN home to UP 1 st loop DN line upto S-11 run through.	S-5	A1
11	CO-5(i)	Routing DN Calling On to UP main DN line upto S-17	S-5	COGG N+B
12	CO-5(ii)	Routing DN Calling On to UP 1 st loop DN line up to S-11	S-5	COGG N+A
13	S-6	UP starter from UP& DN Longer loop upto signal no. S-2	S-6	UX
14	S-11	DN Starter from UP 1 st loop DN line up to Sig no.S-19.	S-11	DX

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15	S-12	UP Starter from UP 1 st loop DN line upto Sig no.S-4	S-12	UX
16	S-15	DN Starter from UP & DN longer loop line to sig no.S-19.	S-15	DX
17	S-16	UP Starter from UP Main DN line to signal no. S-4	S-16	UX
18	S-17	DN Starter from UP Main DN line to signal no. S-19	S-17	DX
19	S-18 (i)a	UP home to UP 1 st loop DN line upto signal no.S-12.	S-18	A
20	S-18 (i)b	UP home to UP 1 st loop DN line upto signal no.S-12 run through.	S-18	A1
21	S-18 (ii)a	UP home to UP Main DN line upto signal no. S- 16	S-18	B
22	S-18 (iii)a	UP home to UP & DN longer loop line upto signal no S-6	S-18	C
23	S-18 (iii)b	UP home to UP & DN longer loop line upto signal no S-6 run through.	S-18	C1
24	CO-18(i)	UP Calling ON to UP 1 st loop DN line upto signal no.S-12.	S-18	COGG N+A
25	CO-18(ii)	UP Calling ON to UP Main DN line upto signal no. S-16	S-18	COGG N+B
26	CO-18(iii)	UP Calling ON to UP & DN longer loop line upto signal no S-6.	S-18	COGG N+C
27	S-19	DN advance starter signal.	S-19	DZ

19. (e) SHUNT SIGNAL AND ROUTE TABLE:

Shunt Signal and Route Buttons to be pressed and released for taking "OFF" a particular Shunt signal are given below-

S.N	Signal No.	Description	Signal Button	Route Button
1	SH-101 (i)	DN Shunt from Main line to UP & DN longer loop line upto signal no. S-15	SH-101	C
2	SH-101 (ii)	DN Shunt from Main line upto S-5/ SH-105	SH-101	F
3	SH-105(i)	DN Shunt from Main line to UP main DN line upto signal no. S -17	SH-105	B
4	SH-105(ii)	DN Shunt from Main line to UP 1 st loop DN line up to signal no.S-12	SH-105	BD
5	SH-105(iii)	DN Shunt from Main line to A & D siding	SH-105	AD

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6	SH-108	UP Shunt from A & D Siding upto Sig no.S-12/SH-112.	SH-108	BD
7	SH-110	UP Shunt from Main line to UP 1 st loop DN line up to signal no. S-12/SH-112.	SH-110	BD
8	SH-112	DN Shunt from UP 1 st loop DN line upto Sig no.S-4	SH-112	F
9	SH-198 (i)	UP Shunt from Main line to UP 1 st loop DN line up to signal no. S-12/SH-112	SH-198	A
10	SH-198(ii)	UP Shunt from Main line to UP Main DN line upto signal no. S-16.	SH-198	B
11	SH-198(iii)	UP Shunt from Main line to UP II ND loop DN line up to signal no.S-6	SH-198	C

20. WORKING OF AXLE COUNTER EQUIPMENTS ON UP MAIN DN LINE: i.e. 16AT(16AXT) & 18/19T (18/19 XT).

- I. Axle counters with/without trolley suppression track circuit are provided on the exit portion of UP Main DN Line over protection in lieu of conventional track circuits to indicate their clearance.
- II. Passage of vehicle over the track equipment of axle counter counts the entry or exit of the axles [of vehicles].
 - a. When UP Main DN line is clear, i.e. no vehicle is occupying the track circuit No 16AT(16AXT) & 18/19T (18/19 XT) of UP Main DN Line, the axle counter equipment will show "Track Clear" indication on the control panel.
 - b. It will show "Track Occupied" indication on the control panel by red light. When the UP Main DN line is occupied or when Axle Counter has failed.
 - c. Line Verification Box has been provided outside the SM room/ mounted in Location Box at suitable place with phone communication for Re-setting the Axle Counter equipment in case of its failure. The line verification box is provided with SM's key lock, the keys of which are in the personal custody of SM/ASM on duty.
 - d. Before taking "OFF" reception/departure signal for Receiving/departing an UP/DN train on UP Main DN Line, SM/ASM on duty must observe the "Clear" indication on the axle counter (16AXT) & (18/19 XT) indicator.
 - e. The provision of axle counter equipment for track circuit No 16AT(16AXT) & 18/19T (18/19 XT) of UP Main DN Line is intended to serve as additional "Safe- Guard" to prevent any lapse on the part of the SM on duty in taking "OFF" the signals for the train on line which is occupied. It is, therefore, essential that SM/ASM on duty should satisfy himself that the line is "Clear" before taking "OFF" the reception/ departure signals for receiving/departing a train on UP Main DN Line.
 - f. Conventional track circuit detects obstruction on the line throughout the length of the track-circuited portion. In case of Axle Counters, an obstruction (like that of Material Trolley/Dip Lorry etc.) if placed on the track without passing through the track equipment, is not detected.

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Therefore, it is important for SM/ASM on duty to ensure that the reception line is clear of any obstruction before taking 'OFF' reception signals for a train on that line by personal verification, in addition to observing Axle Counter indicator and the Control Panel.

- g. SM/ASM on duty shall personally verify fouling of A&D Siding Line after each Shunting or movement in to /from siding.

(B) FAILURE OF AXLE COUNTER.

When the Axle Counter equipment shows occupied (Red) indication even though the UP Main DN Line, is free & clear of any obstruction; it indicates that the Axle Counter equipment has failed and track circuit also failed.

- a) In such case, SM/ASM on duty will pass a written memo to the ESM of the station/section to attend the failure. The failure should be recorded in the 'Signal and Telecommunication Failure Register'. The re-setting of the faulty Axle Counter should be done jointly by SM/ASM on duty along with other ASM/SM/ points man/ other traffic staff or ESM, as the case may be.
- b) The SM/ASM on duty along with other ASM/SM/ points man/ other traffic or ESM, as the case may be, must jointly verify and ensure physical clearance of the UP Main Line other point portion line, as the case may be, by coming out of his office. After ensuring that the UP Main DN Line is clear and free from obstructions, SM/ASM on duty and Off duty ASM/SM/ points man/ other traffic or S&T staff available at the station have to press simultaneously the push button provided in the Line Verification Box installed outside SM office or in Location Box and resetting push button in panel UP Main DN Line in SM's office. Whenever these setting push button for re setting the axle counter equipment is operated, the counter associated with it shows next higher number.
- c) In case neither other ASM/SM nor ESM is available, and if trains have to be received on the UP Main DN Line of which axle counter equipment has failed, the train may be received on Calling-On Signal and if Calling-On Signal also fails, SM/ASM on duty must ensure that requisite points in the route are correctly set & locked by route setting with steady point indication otherwise points should be clamped and padlocked and trains must be piloted as per SR 3.69-3 till the time the faulty axle counter has jointly been reset.
- d) After resetting of the axle counter, which has failed, the indicator will show "Clear" indication. Reception signal for receiving train on the UP Main DN Line can then be taken "OFF". SM/ASM on duty shall make an entry for every re-setting operation in the register provided for this purpose. Following particulars shall be recorded in the register and jointly signed by SM/ASM on duty along with "OFF" duty ASM/SM or ESM, as the case may be.
 - i) Date, time and train number for which re-setting of the axle counter has been done;
 - ii) Reading of the axle counter before re-setting;
 - iii) Reading of the axle counter after re-setting;

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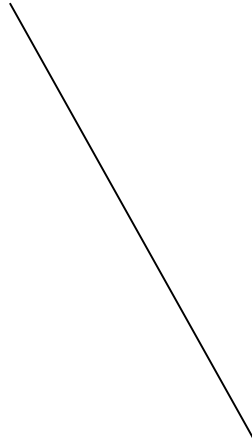
- iv) Number and description of the last train admitted and dispatched from the UP Main DN Line (Nominated number axle counter) line after which the axle counter equipment has failed.
 - v) Date and time the train clears the UP Main DN Line 16AT(16AXT) & 18/19T (18/19 XT).
 - vi) Date and time axle counter equipment is jointly re-set by SM/ASM on duty along with "OFF" duty ASM/SM or ESM.
 - Vii) Signature of SM on duty re-setting the axle counter equipment.
 - Viii) Signature of "OFF" duty ASM/SM or ESM who so ever associated with SM/ASM on duty for re-setting of the axle counter.
- e)** If the defective axle counter equipment controlling the portion of the UP Main DN Line 16AT(16AXT) & 18/19T (18/19 XT) cannot be re-set for the first train or if it can be re-set for the first train, but cannot be re-set for the next train, then in either case the SM/ASM on duty must immediately inform ESM concerned regarding the failure of axle counter equipment, endorsing the copy of the message to SSE/Sig/M concerned to rectify the axle counter equipment.

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APPENDIX 'C'**Anti-collision Device (Raksha Kavach)**

Not applicable



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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.
- 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.
- 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.
- 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 SR.3.36 (2) of G&SR.
- 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-man 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/Token to the loco pilot 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 lawful orders given to him by SM / ASM on duty.

DUTIES OF THE GATEMAN

- 1) Gateman will be responsible for closing of gate as per instructions of SM/ASM and remain alert for passing trains as per GR. 16.04 of G&SR.
- 2) He shall work as Fog signal man when such need arises.

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APPENDIX 'E'**LIST OF ESSENTIAL EQUIPMENTS PROVIDED AT THE STATION::**

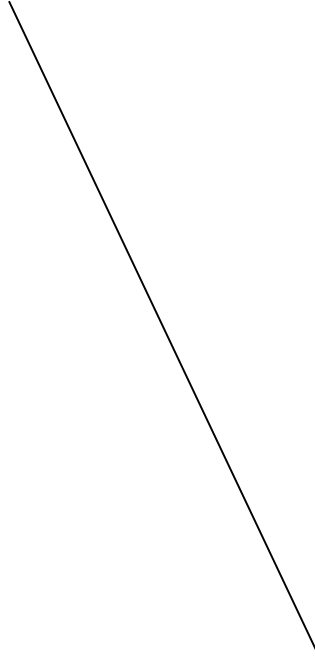
S.N.	Name of equipment	Total number
01	Switch clamps	10
02	Padlocks	12
03	Button collar	08
04	LED based H.S. Lamp	06 (03 Station & 03 at L.C. Gate. 499)
05	Flags Green	06
06	Flags Red	08
07	Safety chain	02
08	Fire extinguisher	02
09	Stretcher	01
10	Fire buckets with stand	04
11	First Aid Box.	01
12	Wooden wedges	06
13	Detonator	20
14	Safety Rubber Gloves	02

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APPENDIX 'F'

Rules for working of 'DK' stations, Halts, IBH, IBS and outlying siding- Not applicable



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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 KV AC 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 Traction Foreman or 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.

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- 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.
- 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.

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