

**NORTH CENTRAL RAILWAY  
JHANSI DIVISION**

Station Working Rule. No.512

Date of issue:

Date brought into force:

**KONCH STATION (B.G)**

**NOTE:** The Station Working Rules must be read in conjunction with General and subsidiary rules and block working Manual. These rules do not in any way supersede any rule in the above books.

**1. STATION WORKING RULES DIAGRAM: -**

The track accommodation is as shown on the diagram No. SIP-D2279/B dated 26-10-2018 attached based on SIP-D2279/B dated 19-09-2018.

**2. DESCRIPTION OF STATION:**

**2.1 GENERAL LOCATION:**

KONCH station is the terminal station of AIT–KONCH branch line taking off from AIT on JHS-CNB section of Jhansi division situated at KM 1230.37 from CSTM. It is a ‘B’ Class station interlocked to Std-I (R) with Multiple Aspect Colour Light Signalling (MACLS) and panel Interlocking, (Route setting type) Central Panel in SM’s office for operation of points & signals.

**2.2 BLOCK STATIONS, IBH, IBS ON EITHER SIDE AND THEIR DISTANCE AND OUTLYING SIDINGS: -** No block station, trains are worked on the “ONE TRAIN ONLY” system.

AIT                      13.68 Kms.                      Jhansi end.

**NOTE-** There is no ‘D’ Class station between Ait-Konch Station.

**2.3 BLOCK SECTION LIMITS ON EITHER SIDE OF STATIONS ON DIFFERENT ROUTES.**

**The Limits of the Block sections are: -**

Between Stations	The point from which the ‘Block Section’ Commences	The point at which the ‘Block Section’ ends
KONCH - AIT	KONCH advance starter signal No. S-01	AIT advance starter signal No. S- 3 of Branch Line

**2.4 GRADIENT IF ANY: NIL**

**2.5 LAY OUT:**

There are following lines, namely:-

- i) UP Main down line.
- ii) UP loop down line (Platform line)

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**2.5.1 RUNNING LINES DIRECTION OF MOVEMENT AND HOLDING CAPACITY.**

S.N.	Line number	CSR in Meters
1	Up Main Down Line.	281.53
2	Up loop down line. (Platform line)	281.53

**2.5.2 NON – RUNNING LINES AND THEIR CAPACITY IN CSR: NIL****2.5.3 ANY ABNORMAL FEATURS IN THE LAYOUT: --NIL---****2.6 LEVEL CROSSING:** These gates as given below are not provided with TAWD

<b>Gate number.</b>	<b>196</b>
Classification	'B' Class
Traffic/Engg.	Traffic
Section	AIT end
Kms	1229/14-15
Normal position	Open
Int / NI	Int.
L.B. / Leaves	P.O.L.B. + Sliding Boom
Telephone with	SM/KONCH
Operated by	G/man Optg

**NOTE:** - For detailed working – See Annexure 'A'.

**2. SYSTEM AND MEANS OF WORKING.**

The Trains between AIT-KONCH are worked on “One train only system”.

A single metal token bearing the inscription on one side 'Authority to proceed on AIT-KONCH section' and on the other side 'ONE TRAIN ONLY' system with its Hindi version as appended below have been supplied at AIT station.

<b>AUTHORITY TO PROCEED ON AIT-KONCH SECTION एट कोच खंड का प्राधिकार</b>	<b>ONE TRAIN ONLY SYSTEM केवल एक गाडी पद्धति</b>
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This token shall be the sole Authority to proceed for a train on sections AIT-KONCH. The Loco Pilot of the train shall not enter the section until he has this token in his possession. A glass fronted case is provided at AIT and KONCH stations, the token shall be kept locked in this case and the key shall be kept by the SM/ASM on duty in his personal custody. The absence of this token shall indicate that the section is occupied.

**NOTE:** While handing over this token to the Loco Pilot for starting a train, the SM/ASM on duty must obtain the clear Signatures of the Loco pilot on a register. The Loco Pilot on reaching the destination must handover this token personally to the SM/ASM on duty, who should keep it under lock and key in the case provided for this purpose.

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#### **4. SYSTEM OF SIGNALLING AND INTERLOCKING:**

##### **4.1(A)**

- a) KONCH is a 'B' class station is equipped with Panel operated multiple aspect colour light signals and interlocked to Std. I (R). The Points and signals are worked from Panel.
- b) Track circuiting is provided between stop board to home signal including 'Calling On' track circuits and point zone area.
- c) SM's key Box way with lock Up key is also provided in the Station Master's office.
- d) Point indicators are provided on hand point.
- e) Distant signal, home signal and starter signals are provided towards AIT side only.
- f) All the movements including shunting are controlled from Control panel.
- g) Three detection Axle counters provided on point zone area of point No.201  
(Details of Signaling and Interlocking are given in appendix 'B'.)

**4.1(B) Calling 'ON' Signal :-** CO-2 is provided below home signal number S-2.

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

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

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

#### **4.3 POWER SUPPLY:**

##### **(1) PROCEDURE TO BE ADOPTED IN CASE OF FAILURE OF NORMAL POWER SUPPLY BY THE SM/ASM ON DUTY:**

There are two power supplies available at this station namely [1] SEB local Supply, [2] AT supply. Indications of availability of all these supplies are made available on Automatic cum Manual changeover panel in SM's room.

- (A) Power supply for signaling system of this station is provided through auxiliary transformers connected to Main Line OHE supply. The availability of power for AT is indicated on the change over panel by illumination, which indicates the availability of power.
- (B) Normally AT supply is connected to signaling load which is indicated by an illuminated indication on the Auto Changeover panel whenever this AT supply fails signaling load will be switched over to SEB local Supply automatically which is indicated by an illuminated indication on the Auto Changeover panel. The arrangements will be in the automatic Change over Panel provided in the SM room at this station. In case Supply available and automatic change over not taken place One switch provided on Auto change over in panel to change manually by turning the Switch on position the ASM/SM should turn Switch, whichever Supply is available.

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The indication of AT supply is provided in the panel and SM/ASM on duty shall take action to inform OHE staff in case any of the indication is not there. In the event of failure of AT supply a bell provided in panel will ring continuously which pressing button provided near AT supply indication on the panel can silence.

- (C) The SM/ASM on duty will advise TPC and concerned OHE staff and concerned SSE/JE/SIG whenever catenary supply fails.
- (D) A Register will be maintained by SM/ASM on duty indicating the time of failure of catenary supply, the time OHE authorities informed on TPC or otherwise, the time ESM/JE/SSE was advised, the time OHE staff/attended and restored the normal supply.
- (E) When the normal catenary supply & stand by Supply does not appears, the ASM/SM on duty shall check up the signal indications and or the signal aspects from the station. In case, there is no signal indication at the Station and no light on the signals. The SM/ASM on duty will treat the signals as defective arrange to receive and/or despatch the trains in according with GR: 3.68, 3.69, 3.70, 3.71, 3.75 and SRs there under.

**2) Power supply system for S&T equipments Signals, Points, Control panel etc.**

An integrated power supply system (IPS) is provided in equipments room to fulfill requirement of various power supplies required for S&T equipments, Signals, Track circuits, Points, control panel etc.

This Power supply system ensures uninterrupted supply to signaling system to avoid failure of signaling gear even when the Main supply fails. The system has very limited capacity to feed power in the absence of Main supply. There is an indication panel provided in the SM's room indicating the health of battery and action required to be taken by SM. Depending up on the alarm received on IPS indication Panel, SM must immediately take action and inform sectional Signalling and Electrical staff as early as possible.

Note: AT supply defect and battery low status following information should be given by SM/ASM to maintenance staff well in time:-

- a. Availability and working of auto changeovers and functioning of AT supply indicators in ASM rooms.
- b. Counseling of SM/ASM to keep watch on audio/visual indication and prompt reporting to maintenance staff and section controller/Signal controlling AT failures/IPS low battery indication and alarm. Alarm shall be acknowledged only after it has been reported to concerned staff.

**5. TELECOMMUNICATION:**

Sr.	Type of Communications	Location
1	Block Telephone	Nil
2	Railway phone/ BSNL phone	SM s Office BSNL No. 0516524462
3	Group Telephones LC-196 AIT END	Between SM/ASM s Office and Gateman
4	Control Telephone of JHS-CNB control Telephone	SM/ASM's Office Between SM's Office KNH & SM Office AIT
5	VHF sets	In SM Office
6	MTRC	NIL
7	TPC	In SM Office

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**6. TRAIN WORKING:**

**6.1 TRAIN WORKING STAFF IN EACH SHIFT:** (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	1	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:**

SM/ASM on duty is responsible for ascertaining clearance of the line for the passage of the train.

**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 train worked between AIT-KONCH section as per Chapter XII of G&SR rules viz the one train system.

**6.2.1 ANY SPECIAL CONDITIONS TO BE OBSERVED WHILE RECEIVING A TRAIN:**

**6.2.1.1** Setting of points against block line. Nil

**6.2.1.2** Reception of train on blocked line. As per GR 5.09

**6.2.1.3** Reception of train on non- signaled line. – N/A

**6.2.1.4** Despatch of Train from non-sigaled line - N/A.

**6.2.1.5** Despatch of train from line provided with common starter signal- N/A.

**6.2.1.6** Any other special condition should be mentioned giving reference to the G & SR.- Nil.

**Note:-**The responsibility of personally ensuring the correct setting clamping and pad Locking of the points will be of the SM/ASM on duty.

**6.3(A) CONDITIONS FOR TAKING OF APPROACH SIGNAL: (GR 3.40)**

Before the Home Signal is taken 'Off' by the Station Master for the reception of trains the following conditions must be complied with:-

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

Points no 201 must be set and locked for Main line and points nos K-1 and must be set and locked for straight i.e. for main line and the line must be clear upto the buffer stop.

**ii) TRAINS TO BE RECEIVED ON THE UP LOOP DOWN LINE.**

Points Nos and 201 must be set and locked for loop line. Points no 1K must be set and locked to connect with the main line. Points no K-1 must be set and padlocked for dead end siding.

**NOTE** On duty SM/ASM must ensure the closure and locking of L.C. Gate No 196 falling in the path of train before allowing reception signal to be taken off.

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**6.3 (B) WORKING OF TRAINS ON THE KONCH-AIT:**

A metal token bearing the following inscription has been provided at this station. This token shall be the sole authority for the train to enter the section KONCH-AIT. The loco pilot of the train shall not enter the section until he has the token in his possession. A glass fronted case is provided both at KONCH-AIT. The token shall be kept locked in this case and the key of the case shall be kept by the SM/ASM on duty in his personal custody. The absence of this token shall be taken to indicate that the section is occupied by a train. The token shall be inscribed as under:-

FRONT SIDE	REVERSE SIDE
“AUTHORITY TO PROCEED KONCH-AIT SECTION”	“ONE TRAIN ONLY SYSTEM”

- i) When a train is ready at KONCH station to proceed to AIT, the SM/ASM on duty at KONCH will ask line clear from SM/ AIT and then before allowing the train to enter the section will personally handover the token to the loco pilot of the train obtaining his acknowledgement in a register to be maintained for the purpose. Thereafter he will set and lock the requisite route and ensure that all the L.C. Gate 196 is closed & locked against road traffic and then take “OFF” the starter signal. After verifying that the starting signal has been taken “OFF”, the SM/ASM shall advice take “OFF” the concerned starter and allow the Guard of the train to start his train. After the train has passed the signals, SM/ASM on duty will put back the signal to normal and will advice the SM/ASM AIT the departure time of the train on telephone. On arrival of train at AIT station the Loco pilot of the train will hand over the token personally to SM/ASM on duty and SM/ASM will immediately secure it in the case provided for this purpose.
- ii) When the train is ready to leave AIT the SM/ASM on duty will ask line clear from SM/ASM on duty at KONCH station and then after personally satisfying himself that the points for the despatch of the train are correctly set and locked will hand over the token to the Loco pilot and obtain his acknowledgement on the register.  
After the train has left AIT, the SM/ASM on duty at AIT will advice SM/ASM KONCH the departure time of the train on telephone.  
After receiving the departure from AIT, SM/ASM on duty at KONCH will arrange to receive the train. After the arrival of the train at KONCH station, the Loco pilot will hand over the token to the SM/ASM on duty and SM/ASM will sign the acknowledgement register maintained for the purpose in token of having received the token.
- iii) If the token is lost, the SM/ASM KONCH/AIT will report the matter to DRM JHS for replacement and until the new token is received will issue an authority on the manuscript form to the Loco pilot as shown below.

FORM  
**North Central Railway**

Station \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_  
To the Loco pilot of \_\_\_\_\_ Train \_\_\_\_\_  
You are hereby authorised to proceed with train to \_\_\_\_\_ Station and  
Return to this station with your train.

\_\_\_\_\_  
STATION MASTER  
STATION.

As soon as the new token is received it must be brought into use and the issue of manuscript authority shall immediately be discontinued.

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

The procedure as laid down in Para 8.03 of BWM must be followed.

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

Simultaneous reception is not permitted at this station.

### 6.5 COMPLETE ARRIVAL OF TRAINS:

Station master/Assistant station master on duty responsible for ascertaining complete arrival of a train by sending the 'Train intact Register' to the guard for his signature in token of the train having been arrived complete at the station.

### 6.6 DESPATCH OF TRAINS:

- i. When a train is ready to leave, the SM/ASM on duty will then advise the gateman to close the Level crossing gate No. 196 against the road traffic under exchange of Private Number. The gateman will close the gates and will advise the SM/ASM on duty on telephone supported by his Private Numbers.
- ii. On confirming personally that the required route is clear and concerned gates are closed and locked against road traffic; the SM/ASM will set the route and then take 'Off' the departure signals.(i.e. Advance starter signal shall first be taken OFF and then concerned starter signal should be taken OFF). The SM/ASM will then hand over the 'Authority to Proceed' i.e. metal token along with the starting.
- iii. After the complete passage of the train, the signals taken 'off' will go to 'ON' position automatically and the red indication on Panel will get extinguished. SM/ASM on duty is responsible to see that the signals taken OFF for passage of train have been restored to 'ON' position [GR as per Para 8.03 of BWM].

### 6.7 TRAIN RUNNING THROUGH: Not applicable since the Station is terminal station.

### 6.8 WORKING IN CASE OF FAILURE:

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

#### 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'.

#### 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 and SR: 3.68-1,3.68/7 and SR 3.51-1 must be followed rigidly.

#### iii) Failure of communication between Station and Level Crossing Gate 196:

In case of failure of communications between Station and Level Crossing Gate No.196, 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.

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**iv) 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 the procedure as laid down in SR 368/7 of G&SR must be followed.

**v) T.369(3b) for passing defective signal:**

The SM/ASM will hand over the 'Authority to Proceed' i.e. metal token along with the starting permit.

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.

**vi) Failure of Block Instruments:** Trains between KONCH-AIT are worked on "One train only system".**vii) Failure/ Resetting of Axle Counters:** - 3 Detection point axle counter 201-AXT provided on point zone of point no. Point no 201. (For detail working please see Appendix "B")**viii) Failure of Power supply-** Please see Appendix "B"**ix) failure of SM/ASM 's key box & way with lock up key :**

In case of failure of SM/ASM's key box when keys cannot be extracted from the SM/ASM's key box or key can not be extracted from the point H.P. Key lock the points shall be treated as non-interlocked. The Station Master must take section as laid down in SR 3.68-1, 3.39-1 and 3.69-1 of G & SR.

**6.9 ANY SPECIAL PROVISION FOR WORKING OF MOTOR TROLLIES/ MATERIAL LORRIES, TT. MACHINE.** as per GR 15.18 to 15.28 must be followed.**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/ASM 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/ASM diary.**vii.** 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:-

<b>Line occupied.</b>	<b>Button Collar to be placed on the route buttons.</b>
Up main down line.	Route Button of Up main down line.
Up loop down line.	Route Button of Up loop down line.

**NOTE:**

- a. Button collars should be removed when the line is cleared.
- b. Normal position of point No. K1 is for the Main line i.e. against the loop line.

**8. SHUNTING:**

**8.1 GENERAL PRECAUTIONS:**

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

**8.2 SHUNTING IN FACE OF AN APPROCHING TRAIN**

Not applicable being 'One Train Only' system in force.

**8.3 PROHIBITION OF SHUNTING ANY SPECIAL FEATURES:**

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

**8.4.1 SHUNTING OUTSIDE THE HOME SIGNAL:**

Shunting may be performed up to the home signal under personal supervision of Guard of the train/SM/ASM/SM/ASM person in charge of shunting. During the shunting operation the SM/ASM on duty must ensure that the "Metal Token" in his personal custody.

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.

The Loco Pilot shall be authorized to pass the relevant Advance starter signal in "ON" position by an endorsement on shunting order (T-806). Suitable entries to this effect shall be made in Train Signal Register of SM/ASM.

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**8.4.2 SHUNTING OUTSIDE STATION SECTION:** Refer Item 8.4.1 above

**8.4.3 DURING FAILURE OF BLOCK INSTRUMENT ON SINGLE LINE:** - N/A

**8.5 SHUNTING ON DOUBLE LINE:** Not applicable

**8.6 SHUNTING IN THE SIDING TAKING OFF FROM STATION YARD/GOODS SHED.-**  
Nil

**8.4 SHUNTING ON DOUBLE LINE –** Not Applicable

**9. ABNORMAL CONDITIONS:-**

**(a) The Rules to be observed in the Event of abnormal Conditions:-**

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

- (i) During partial interruption/failure of Electrical communication instrument; SR.6.02-4 of G&SR must be followed.
- (ii) The authority to proceed in the occupied Block section in case of obstruction of line or accident; SR.6.05/2 of G&SR must be followed.
- (iii) Trains delayed in Block section GR.6.04 must be followed.
- iv) Failure /passing of intermediate block stop signal at 'ON'. :- Nil
- (iii) Failure of Axle Counter Block/BPAC – Nil
- (iv) Failure of MTRC: - Nil

**(b) Procedure for emergency operation of points by crank handle.** Please see Appendix "B"

**(C) Certification of clearance of track before calling on signal operation is initiated.** Before taking calling on signal to 'OFF' position SM on duty must ensure clearance of track circuit of any obstruction.

**(D) Reporting Failure of Points, Track Circuit/Axle Counter and Interlocking: -**  
GR 3.68 must be followed.

**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).

- (v) During partial interruption/failure of Electrical communication instrument; SR.6.02-3 of G&SR must be followed. Nil
- (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 intermediate block stop signal at 'ON'. :- Nil
- (vi) Failure of Axle Counter Block/BPAC as per Para 7.29 of BWM. (Details working to please see in Appendix 'B'. Nil
- (vii) Failure of MTRC: - Nil

**(b) Procedure for emergency operation of points by crank handle.**  
Manual operation of motor point & custody and use of crank handle  
**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 Box specially provided for this purpose. This Box will be locked and the key shall be kept in the personal custody of SM on duty. The Crank Handle Box will be sealed by the ESM of the section in addition to the locking by SM/ASM.

- (2) For the purpose of Crank Handle Interlocking, the points have been divided into the Group No. 1 .. Point No. 201

**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/ASM 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/ASM 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/ASM will press the following buttons shown against each group simultaneously and release.
- | Group No. | Point No. | Buttons to be operated    |
|-----------|-----------|---------------------------|
| 1.        | 201       | 'CHYN' & Point Button 201 |
- iv) Before releasing the control of the crank handle, the SM/ASM 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. 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.

**(c) 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/ASM 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/ASM 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 to use 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/ASM 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/ASM on duty.
- ii)** After the purpose for which the Crank Handle was taken from the case is over, that will be replaced in the case by the S&T staff. The Crank Handle case will then be locked and sealed as laid down in clause (1) above. The particulars required in the crank handle register will then be posted against the relevant entry and will be signed by the S&T staff and SM/ASM 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 SM/ASM 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.

## **9.1 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/ASM on duty will first re-set the point to the last operated position and deposes the Point man SM/ASM an to find out if any obstruction is lying in between the tongue and stock rails.
- ii)** The Point man 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/ASM on duty for setting the Point. In case, obstruction is found, the Point man will display hand danger signal.
- iii)** On receipt of an all right signal from the Point man, the SM/ASM 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 Points man, the SM/ASM on duty will remove the Crank Handle and the relevant crank handle key, proceed to the site of defective point after locking the Control Panel and retaining the key in his personal custody. On reaching the defective point, he will set the point manually in the required position (both the ends in case of cross over points), clamp and padlock it and will come back to panel room and unlock the panel. He will operate point button along with point group button, so that point indication on the panel will be corresponding to that at site and then authorise the move.

**NOTE:** 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/ASM in manual setting of Points.

**(a) PASSAGAE OF TRAINS WHEN POINTS ARE DISCONNECTED:**

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

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

**(b) 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/ASM 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 SM/ASM is present at site.

**(c) Certification of Clearance of Track Before Calling On Signal Operation Is initiated**

- i) The calling on signals provided below the 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/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 two minutes 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.

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**Note:-** When ever in case of Main signal failed, Calling on Signal should be taken “OFF” the care should be taken the through signal (Starter Signal) must not be taken “OFF” otherwise Calling on Signal will not ‘Clear’.

- ii) Working of trains during the failure of track circuits when the ‘Calling ON’ signal has also failed.

The SM/ASM on duty will check up regarding the failure of track circuit and the latter will proceed to the affected track circuit along with a Point man. The SM/ASM after verifying the clearance of the defective track Circuit will set the requisite route, place reminder collar on the signal button and then issue ‘Authority to Proceed’ 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 ‘Authority to Proceed’ 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 point. Simultaneous movements are permitted only on the Straight routes under these circumstances.

- 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/ASM on duty shall operate the point to the normal/reverse settings for the purpose of setting the point. After the SM/ASM 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/ASM on duty.

- (h) Reporting Failure of Points, Track Circuit/Axle Counter and Interlocking**  
GR 3.85 of G & SR must be followed.

## **9.2 TOTAL FAILURE OF COMMUNICATION**

On failure of the communications viz group telephone between SM/ASM’s KNH and AIT and the control phone, when advise cannot be given for the departure of the train by SM/ASM AIT, SM/ASM / KNH on duty will be in readiness to admit the train in time as per procedure laid down in Para 6.3-1 above.

- 9.3 TEMPORARY SINGLE LINE WORKING ON A DOUBLE LINE SECTION.**  
Not applicable.

## **9.4 DESPATCH OF TRAINS UNDER AUTHORITY TO PROCEED WITH OUT LINE CLEAR OF UNDER BLOCK TICKET TO ASIST THE CRIPPLE TRAIN.**

If the train becomes disabled which renders it to proceed, and if the guard of the train conveys advice to the SM/ASM KNH, then SM/ASM KNH shall communicate this information to the SM/ASM AIT station which is the base station to enable him to arrange another engine or assisting train to enter the line as per GR 13.04 of G&SR Rules.

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**10. VISIBILITY TEST OBJECT**

Starter signals have been nominated as visibility test object at this station.

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

Whenever on account of Fog, dust, storm or rains, the main line starters are not visible from opposite the SM/ASM's Office, the SM/ASM on duty must immediately arrange for detonators to be placed in accordance with the provision of SR 3.61-1 of 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.**

S.N.	Names of the fog Signalmen	Design	Deptt	Remarks
(Only permanent staff to be nominated)				
<b>STATION MASTER KONCH</b>				

**LIST OF APPENDICES**

<b>Appendix 'A'</b>	Working of Level Crossing Gates.
<b>Appendix 'B'</b>	System of Signalling & interlocking and Communication arrangements at the station.
<b>Appendix 'C'</b>	Anti-Collision Device (Raksha Kavach): Not applicable
<b>Appendix 'D'</b>	Duties of Train passing Staff and Staff in each shift.
<b>Appendix 'E'</b>	List of Essential Equipments provided at the station.
<b>Appendix 'F'</b>	Rules for working of 'DK' Stations, Halts, IBH, IBS, and Outlying sidings – Nil
<b>Appendix 'G'</b>	Rules for working of trains in Electrified sections:

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## Appendix 'A'

## 1. GENERAL:

## 1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

S.No.	DESCRIPTION	
01	Number of LC gate	196
02	Engg/Traffic and Class	Traffic "B" Class
03	With SM/ SE -P.Way	SM/ASM KNH
04	Kilometers	1229/14-15
05	Station	KNH
06	Between Station	AIT – KNH
07	BG/MG/NG	BG
08	Single/Double/Mixed line	Single line
09	Normal Position	Open
10	INT / NI	Interlocked
11	Means of Interlocking	Interlocked with signals
12	Provision of Gate Signals at Kms.	-
13	Signalling arrangement	MACLS
14	Telephone/ Bell connected with	Station Master Konch
15	Width of L. C. gate	7.72 M
16	Type of Road (NH/SH/others)	Other
17	Name of Road	AIT – KNH
18	Packka/ Kachha	Metalled
19	Approach Road	Metalled
20	Width of Road	7.00 M
21	Angle of Road Crossing (in case of the skew gates).	90 <sup>0</sup>
22	Road gradient (If any)	-
	i) Towards N / E	Level
	ii) Towards/ W	Level
23	Road alignment (Straight/Curve).	-
	i) Towards N / E	Straight
	ii) Towards S/ W	Straight
24	Provision of Height Gauge	Yes
25	Type of Barrier	P.O.L.B. + Sliding Boom
26	Length of Check rail	9.72 M
27	Road surface in between LC gates	Metalled
28	Length of rumble strip/ Speed breaker	Provided
29	Road sign	Provided
30	Speed breaker indication board.	Provided
31	T.V.U.	68850 to 24.08.2020
32	Census next due on	24.08.2023
33	Demarcation for Placement of detonators	Provided
34	Number of gate man working	Two
35	Nearest Railway Medical assistance	OR
36	Nearest privately Medical assistance if any	KNH
37	List of equipment available (Yes/ No)	Yes

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**1.2 EQUIPMENT**

S.N.	Items	Quantity/Numbers
1	Hand Signal Lamp Tri Colour	3
2	Hand Signal Flag Green	1 Mounted on sticks.
3	Hand Signal Flag Red	3 Mounted on sticks.
4	Banner Flag Red	3
5	Posts for exhibiting red banner flag	2
6	Spare chains with padlocks	2 with stop mark.
7	Detonators	10 in tin 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
23	SM/ASM all size chain	2

**1.3 RECORDS TO BE KEPT AT GATE LODGE :**

	In addition to the above equipment, following records shall also be kept at the gate lodge.
1	Gate Working Instructions in Hindi/English.
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:** (As given in “working instructions” )

**1.5 DUTIES OF GATEMAN:**

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

**2 POSITION DURING PASSAGE OF TRAINS:**

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

- i. Gateman will stand attentively in front of the gate-lodge facing the approaching train.
- ii. In day time, gateman shall hold red and green flags furled up on separate sticks in right and left hands respectively
- iii. In 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 at non-interlocked level crossing and during emergencies or obstruction on track at there type of gate.
- ii. Gateman shall ensure the gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- iii. Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must closed lock the gates against rod traffic, before leaving the gate.
- iv. Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- v. Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle/wagons/trains/battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- vi. Gate man shall also be prepared to repeat any signal while guard may give to loco pilot on walkie-talkie or in any other way.
- vii. If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- viii. Gateman shall report to the nearest Station Master, Gang mate or SE (P-Way) any defect in his gate or apparatus pertaining to it, as soon as possible.
- ix. In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.
- x. At the gate whose signal have become defective, the gateman shall close and lock the lifting barriers 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.

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

#### **5 ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:**

- i. In case of an obstruction at the level crossing gate, gateman shall maintain the gate signals, if any, in the 'ON' position.
- ii. Thereafter, if he is unable to remove the obstruction gateman shall immediately advise the Station Master on duty, if connected by telephone, regarding the defects/obstructions at the gate, under exchange of private number.

#### **a) The Gateman shall protect the line as under:**

##### **(a) On Single line section:**

- (i) Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the direction from which a train is expected to arrive first.
- (ii) Then he will similarly protect the other side.
- (iii) Gateman shall then proceed to protect the gate along with detonators, and red flag by day and red hand signal lamp by night.
- (iv) Gateman shall proceed exhibiting red flag by day and red flashing hand signal lamp by night towards the direction from which a train is expected to arrive first, to a point 600 meters on BG and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track 10 meters apart. Having this protected the line he shall return to the level crossing Gate picking up the intermediate detonator on his way back.
- (v) Thereafter, he shall proceed towards the other direction, showing red flashing hand signal, similarly place detonators as described in sub-para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
- (vi) Having returned to the level crossing gate, he must then take steps to remove the obstruction and warn the Loco pilot of the approaching train.

- (vii) In case the gateman observe or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- (viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.
- 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.
  - ii. If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.
  - iii. He shall note down the particulars of the road vehicles, vehicle number, name of the Driver, owner and relay these details to the nearest SM or JE/SE/SSE/P. Way regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.
- 1.6** For visibility requirements at level crossings, provision of speed breakers on the approach roads of level crossings and census of traffic at level crossings are described in Para 916, 918, and 919 of IRPWM.

**TRAFFIC LEVEL CROSSING GATE-196 INTERLOCKED WITH STOP SIGNALS OF THE STATION PROVIDED WITH TELEPHONE, WITH NORMAL POSITION “OPEN TO ROAD TRAFFIC”.**

**01 Mode of Operation:**

- (i) This gate is interlocked and provided with lifting barriers operated by a power operated panel. The following Buttons & indications are provided this gate panel.

a)	Green Button	For opening the gate barrier.	d)	Red	Gate closed indication.
b)	Red Button	For closing the Gate barrier.	e)	Power ON/OFF key.	
c)	Green Button	Gate opened indication.			

- (ii) The normal position of lifting barriers is open for road traffic, which is indicated on the control panel by a green light
- (iii) Whenever the signals are required to be taken ‘off ‘for the reception of a UP train or for an DN train to leave across the level crossing gate, the SM on duty will instruct the gateman on duty to close the barriers against the road traffic (by pressing XXN and XRN button simultaneous).
- (iv) After disappearing gate control indication yellow light & Hooter start, the gateman will close the barrier against the road traffic by operating, the gate operated penal pressing the red button till the barrier is fully operated and closed against road traffic and a red indication appeared on panel after getting the gate closed red indication at gate & SM who will observing the gate closed indication yellow steady light will take off the signal.
- (v) After passing the 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

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**NOTE:-**After the control has been released from the panel for the gate to be opened, the steady (white light) indication on the control panel will change into a flashing (white 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 XXN button) on the control panel. The station master with drawn by the pressing XXN and XRN button simultaneously the steady Red light will change in to a flashing, Red light on the control panel which will continue till such time gate is closed by the concerned gate man then a steady white light indication will appear above the concerns XN button on the control panel.

## **2 Intimation to Gateman :**

- i. The SM/Cabin man/Cabin master 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 transfer the key to the Station Master/ Cabin master/ Cabin man.
- 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/Cabin master /Cabin man must ensure that the train is ready for departure in all respects before he advises the Gateman of closing the gate.
- v. If the gate is operated from the cabin itself, Station Master/Cabin master /Cabin man shall ensure that the gate is closed against road traffic, before taking 'OFF" reception/departure signals.
- vi. When a 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.

## **3. Failure of Telephonic Communication:**

When Telephonic communication falls or it does not get any response from the Gate man despite 2 or 3 attempts, the following procedure should be adopted:

- i. Station Master on duty shall send written advice to the through the Gateman/P/Man/Porter with full details of number, description and direction of the train.
- ii. Gateman On receipt of such advice shall close the gate and transmit the key to the Station Master which will enable them to take 'OFF' reception/departure signals.
- iii. When sufficient time is not available because of greater frequency of train 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 a 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 Gate-man If hand signal is not seen, loco pilot should be prepared to stop short of the gate and ensure that gate is closed following GR 3.73(2) (b).
- vi. In case of an approaching train the Station Master shall advise the Station Master at the dispatching end, under exchange of private number, that the telephone at the gate has failed.
- 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 also advise 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 staffs rectify the telephone and issue reconnection/fit memo for the same.

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**4. Failure of Lifting Barriers:**

- i. When the gate cannot be closed due to failure of lifting barriers, the Gate man will immediately inform the SM on duty, under exchange of private number, and ensure the lifting barriers do not foul the track.
- ii. He shall immediately fix Red danger flag by day and red flashing light by night on the post at that end first from which the trains is approaching and then at the other end.
- iii. Gate man 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 by night 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 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.
- vii. SM will also advise maintenance staff responsible for maintenance of lifting barriers gates to rectify the defect at the earliest.
- viii. Normal working will be resume only after maintenance staff repair the lifting barrier gates and issue reconnection/fit memo for the same.

**NOTE:**

- (A) In case of failure of lifting barriers gates worked from the cabin, SM will send station porter to secure the gate against road traffic by safety chains and padlocks.
- (B) Authority to pass signals at 'on' position as per rules shall also be issued to the loco pilot of both departing and arriving trains.

**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/CA SM 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 to rectify the defect at the earliest.
- vii. Normal working will resume only after S &T staff repair the gate and issue reconnection/fit memo for the same.

**USES 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 in a glass fronted , locked & sealed Box at the Gate Lodge for manual operation of gate, when the gateman operates the gate with the Crank Handle/key by breaking the sealed of glass box. If gate is required to be operated manually, when informed so by gateman to SM.

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The SM/ASM will maintain all the relevant signals permitting trains through the gate should be kept 'ON'. SM will further ensure that no trains shall be permitted unless crank handle is brought back to Gate Crank handle box, after closure of gate and relevant indications are available on panel. 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. S&T staff should also reseal the box after normal working is resumed.

### **WORKING OF SLIDING BOOM**

#### **i. Mode of operation for closing gate by sliding Boom:**

The gate is provided with one additional sliding boom on each side of power operated lifting barrier. Each sliding Boom will be parallel to the existing power operated lifting barrier of its side and would normally so positioned that the complete body of the boom is lying away from the road i.e. no part of the sliding Boom shall normally project on to the road leading to the L.C. gate. The Sliding booms installed are meant to be used in case of emergency when the power operated lifting barriers are damaged or close indication not found due to any reason. These are normally locked on its post, with padlock. The keys inside the locks provided on the boom stands. The stop boards fitted with sliding boom.

#### **There can be the following conditions necessitating the use of Sliding Boom Barriers:**

- a. When the gate barriers are damaged during Opening/Closing of the gate or the gate is in open condition.
- b. Whenever the gate is broken during closing, opening or in open condition the gateman will inform the SM on duty who in turn will inform the S&T staff for rectification/replacement of the damaged lifting gate/barriers.

#### **c. when the close indication failed due to any reason.**

The gateman, after getting specific instruction from SM on duty will turn the road switch provided at gate to reverse position to throw the road signal to danger and restrict the road traffic by closing the sliding boom during this process he will slide the sliding boom of side "A" by pulling the handle to close position up to stand provided for the purpose. He will insert the chained key marked "X" in the boom stand lock and lock it, a key marked "Y" will be released, thereafter he will go to the other side "B" and by pulling the handle to close position of the sliding Boom up to its boom stand will insert the chained key marked "X" in the boom stand lock and lock it.

Also insert the "Y" key in the lock marked "Y" and turn clockwise in boom stand of side "B". After locking both keys in "B" side a 3<sup>rd</sup> key "Z" will be released. The gateman will take the key, apply it to the T-2 lock/KLCR fitted in the gate lodge and turn it after doing that he will now turn barrier switch to reverse position to activate the gate control relays to energies. Before inserting the 'Z' key in the KLCR lock in gate lodge gate man will fix STOP BOARD on each pulled sliding boom. The stop boards fitted with sliding boom.

**NOTE:** (a) at the time of operating the sliding boom gate man can put back the road signal to RED by operating the RSR switch, provided in gate lodge and after complete closing of sliding boom the road signals get locked automatically in Red position.

- b) When the gate is secured by sliding Boom and close indication found the controlling signals allowing the train movements towards the gate will be taken off to caution aspect.

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**ii. Mode of operation for opening the sliding Boom:**

For opening of the sliding boom after passage of the train, gateman will get specific permission from ASM on duty for opening the sliding boom to clear the road traffic. After getting permission from ASM, gateman will take out Z key from T-2 lock/KLCR and apply it in sliding boom of Z lock and adopt procedure in reverse order of closing the sliding boom to clear the road traffic. Now he will turn the road signal switch to the normal to clear the road signal

**Road Traffic signals:**

Road traffic signals are provided on tubular posts on each side of the L.C. for road users at a suitable location so as to be visible clearly to the approaching road vehicles. The road traffic signals shall show the following aspect:

- i. Steady Red aspect to indicate the “Closed” condition on the road barriers.
- ii. Steady Yellow aspect to indicate the “OPEN” condition on the road barriers.
- iii. Gate man can put the road signal to “RED” by operating the switch provided on gate lodge for this purpose if it becomes necessary.

**Hooters:**

Hooters, mounted on posts near each barrier pedestal and working in conjunction with the road traffic signals, are provided at the LX to warn the road users to the imminent closing of the barriers while the barriers are being closed. The hooters shall cease sound when the barriers are closed.

**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 fouled 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 flashing 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.
- 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.

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- 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-D2279 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 I(R) and is provided with colour light signalling. Interlocking is by means of Relay Interlocking (Route Setting type) through Control Panel installed in SM/ASM’s office. Continuous Track Circuiting is provided between stop board to home signal including ‘Calling On’ track circuits and point zone area.  
2.2 Point No. 201/ 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.  
2.3 Points no.1-K connecting the Goods shed siding with the Loop line is fitted with a single H.P. key lock taking siding points key ‘Y’ (Normally in SM/ASM ’s key box). Points normally set and locked for loop line and released by SM/ASM ’s siding points key ‘Y’ sent out by hand key can be extracted from key lock only when points are set and locked for the loop line.

**3. WORKING OF CONTROL PANEL:****3.1 CONTROL PANEL:**

The control panel is installed in the SM/ASM’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. The point, signals and control 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/ASM’s lock up key to enable the SM/ASM on duty to lock up the panel. (The SM/ASM on duty must not permit unauthorized persons to operate the control panel and must lock the panel whenever he leaves his seat).

**Details of Signaling gears are as follows**

SIGNALS CONTROLLED BY PANEL		
(A) MAIN SIGNALS	Number	Details
UP advance starter.	S-1	2 Aspect
Down home to up main down line.	S-2	2 Aspect with three Route
UP main down line Starter signal.	S-5	2 Aspect
UP loop down line Starter signal.	S-7	2 Aspect
(B) SUBSIDIARY SIGNALS		
DN Calling ON Signal	CO- 2	Below DN Home signal
(C) SHUNT SIGNALS	SH-105, SH-107	Dependent.
	SH-102	Independent.
POINTS CONTROLLED BY PANEL		
Single Ended (Motor Operated)	201	UP Main DN line to UP Main DN line
<b>TRACK CIRCUITS</b> (Close track circuits)	01 BT, 01 BT, 02 BT, 02 AT, 201T, 5T, 1/2T, C2T	The limits and location are shown on control panel and Station Working Rule diagram.

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### 3.2 DESCRIPTION AND OPERATION OF CONTROL PANEL.

The combined Control Panel and illuminated diagram has been provided in SM/ASM's Office. This depicts a schematic reproduction of the track layout of the station; various buttons for operation of points, routes, signals, Level crossing Gate & crank handle key release. The signal aspects are provided on the control Panel. The adjoining track circuit has been shown in different colours. The following Colour Scheme is employed for the various buttons provided on the Control Panel. According to the colour scheme employed for the panel buttons, all the buttons the following colours.

1	Main Signal Buttons	RED
2	Emergency Signal Cancellation	RED
3	Common Button for Calling ON Signals	RED
4	Shunt Signal Buttons	YELLOW
5	Common button for point	BLUE
6	Emergency point button	BLUE
7	Individual point buttons	BLUE WITH WHITE DOT
8	Button for silencing buzzer for failure of point/signal/Route	White
9	Level Crossing Control Button	GREY
10	Route Cancellation/ Sub Route Emergency Cancellation	GREY
11	Common Button for releasing Control for Crank Handle/ Gate/ Siding	GREEN
12	Common Button for withdrawal of Control for Crank Handle/ Gate/ Siding	BLACK`
13	Button for overlap cancellation	WHITE

### 3.3 SIGNAL AND ROUTE TABLE:- Signal and Route Buttons to be pressed and released for taking "OFF" a particular signal are given below-

S. No	Signal No.	Description	Signal Button	Route Button
1	S-2(i)	Down home to up main down line.	S-2	BA
2	S-2(ii)	Down home to up loop down line.	S-2	BB
3	CO-2(i)	Down Calling On to up main down line.	S-2	BA
4	CO-2(ii)	Down Calling On to up loop down line.	S-2	BB
5	SH-102(i)	Dn shunt from up main down line to up main down line up to stop board SB2.	SH-102	BA
6	SH-102(ii)	Dn shunt from up main down line to up loop down line up to stop board SB1.	SH-102	BB
7	S-1	UP Advance Starter signal.	S-1	UZ
8	S-5	UP main down line Starter signal.	S-5	UX
9	S-7	UP loop down line Starter signal.	S-7	UX
10	SH-105(i)	UP main down line Starter signal.	SH-105	UX
11	SH-107(ii)	UP loop down line Starter signal.	SH-107	UX

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

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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 these signals to assume the corresponding aspect, depending upon the aspect displayed by home Signal ahead. The normal aspect displayed by distant signals is 'Attention' i.e. single yellow it changes to 'Proceed' aspect i.e. 'Double Yellow' when the concerned Home Signal is taken 'Off' for the main line. Normal aspect displayed by distant signal is 'Caution' i.e. single yellow, it changes to attention i.e. 'Double Yellow' when the concerned Home Signal ahead is taken "OFF" and it changes to 'Proceed' aspect i.e. 'Double Yellow' in conjunction with "Proceed or Attention aspect" aspect of the concerned Home Signal.

##### b. Point Button:

It is located near the point with the number of point inscribed by its side and is 'Blue' in colour. Whenever point is required to be set, the group button along with the point button is to be pressed. When the point is set, the 'Slit' in the direction of points setting will get illuminated indicating white light. When points is engaged by a route, this will be indicated on the panel by SM/ASM all white light provided in round slit on the points position indicating that point is 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 KLCR Box.
- ii) For withdrawing Control Slot, key of point put back at proper place in KLCR box and than SM/ASM on duty will press Control Button CHYRN along with WN simultaneously. This operation will lock the Key in the KLCR Box.
- iii) The slot button is provided for releasing key of L.C gate, XN along with GBN button in green colour are to be pressed simultaneously.
- iv) For withdrawing key, LC gate will be closed than SM/ASM on duty will press control button GBN along with XN simultaneously.

The following control buttons are provided

Sr.	Button No.	Colour	Functions
1.	CH1	Blue	Releasing/Withdrawing control on CH 'NX' Key for point 201
2	XN196	Green	Releasing/Withdrawing key for LC gate 196.

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- e. **Group Button:** The group buttons are normally provided on the top of control panel and be pressed simultaneously along with the respective crossover point buttons to set the points in the required direction. The following are the nomenclatures, colours and description etc. of the buttons.

Sr. No.	Group Code	Button Colour	Functions
1.	W W N	Blue	Group point button for individual operation of points / crossover. This button is to be pressed along with the concerned point button for point operation when track circuits are clear for setting the point to the required position
2.	CHYN	Blue	Group slot button for releasing slot to Crank Handles (To be pressed along with concerned point button).
3	CHYRN	Blue	Group slot button for withdrawing slot to Crank Handles (To be pressed along with concerned point button).
4	GBN	Green	Group slot button for releasing / withdrawing slot to LC gate (To be pressed along with concerned gate control button).
5	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.

- 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

Sr. No.	Group Code	Button Colour	Functions
1.	EWN with counter on the panel	Blue	Emergency group Button for point operation for operating the point individually when the track circuit controlling the point has failed. Button remains sealed normally, and is provided with counter 'EWN' to count the number of operation. SM/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 without SM/ASM's key in the panel.
3.	EUYN button key with counter on the panel. (Route release button when the track circuit has failed.)	Grey.	This button 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. SM/ASM on duty will have to break the seal to turn the key than press EUYN 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.	EUUYN with counter on the panel	Grey	Emergency route release button is used for releasing the route when locked and also the overlap when the train is not on the approach track. To cancel a route press concerned Signal and ERN buttons, release ERN keeping Signal button pressed, press EUUYN button, release it and press concerned route button keeping signal button press and the counter counts each cancellation.
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**NOTE:-**

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

**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 will be kept sealed by SE/JE/ESM. Whenever this button is made use of, after the seal is broken, the SE/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.

**g. Indication Buttons:**

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

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

Sr.	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.	N.C.R. 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.
	UNCR Button checking indication for route buttons.	R indication	This indication will appear when any of the route buttons fail to come back to normal position when released or kept pressed for long time. Indication appears with Buzzer.
7.	WNCR Button checking indication for point buttons	P indication	This indication will appear when any of the point buttons fails to come back to normal when released or kept pressed for a long time. Indication appears along with the Buzzer.
8.	CHYNCR Button checking indication for crank handle.	CH indication	In case of failure of crank handle & steady (CH) indication appears along with buzzer. Buzzer can be Silenced by pressing the Button but the indication will remain till the failure is put right. The concerned crank handle will flash to indicate failure.

**Note:**

- 1) All cancellation facilities are provided with Counter and that each number should be entered in the Register specially provided for along with brief reasons for cancellation.
- 2) Buttons provided with seal;- Assistant Station Master (Panel) can break such seal in emergency but the JE/SE/ESM on duty must be informed immediately for resealing the button / buttons.
- 3) EUYN (Sub route cancellation) is meant for releasing any sub route, if not released by passage of train or otherwise but the same can be used in emergency for release of full route also if process of EUUYN fails to release full route.
- 4) The Assistant Station Master (Panel) on duty will be responsible for all emergency operations done by him and it is to be explained in the Special register giving corresponding numbers of the respective counters. The numbers on each counter will be registered in the Assistant Station Master's (Panel) charge book while handing over & taking over charge of the panel.
- 5) Facility is provided to the Assistant Station Master (Panel) on duty for operation of Motor Operated points in case of failure of point controlling track circuits by means of 'EWN' button. Before breaking the seal of the button and operating the same, Assistant Station Master (Panel) on duty should physically verify or get the same verified by Platform Assistant Station Master that the point/ track is not occupied by any vehicle and that the track concerned is intact and safe for the passage of trains.

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- 1) When one Signal or point failure is already indicated and the buzzer/bell already silenced, the second Signal or point failure will not be indicated by the Sounding of buzzer/bell. However, the respective Signal or point failed will be flashing on the panel.
- 2) The audible buzzer sounded along with button checking indication 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/SE/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 circuit controlling the points is clear or a steady red light if the track circuit controlling the points are occupied or have failed.

In the event of a point failing to set properly, this steady white light change into white 'flashing' light. The flashing light indication will also appear for a short period when the points are being moved from one position to other. The Station Master should not mistake this as a point failure unless the flashing indication continues for more than 10 seconds. **No setting of route should be attempted over point showing flashing light.**

#### 5.1.1 Point Locking Indication:

When any particular point is engaged by a route, this will be indicated on the panel by a SM/ASM all 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 Inner 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 case of distant signal the normal position of distant signal is Attention aspect will be indicated on the control panel by a Double Yellow light and the 'OFF' aspect i.e. Green' aspects will be indicated by 'Green' light. In the case of ground type shunt signals, the 'ON' and 'OFF' aspects are indicated on the control panel by the horizontal white and diagonal white slits respectively.

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

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### 5.2.2 Indication of Directional Route Indicator:

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

### 5.2.3 Route Indications :

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

### 5.3 Track Circuit Indication:

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

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

### 5.4 FLASHER INDICATIONS:

A continuous flashing indication has been provided at the top row of the panel. Presence of this indication on the panel all the time will indicate to SM/ASM at the panel that the flasher relay equipment is working. Should that the equipment become faulty, this indication will become steady and accordingly even when the points are not set properly the flashing indication will not appear for that particular point and instead steady indication will appear, which is therefore misleading.

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

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

**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/ASM on duty should press the signal/point ack. 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 lines, SM/ASM on duty will immediately advise the concerned Station Master of the station in rear to issue caution order to the Driver 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.

### 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 SM/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 SM/ASM on duty should, therefore, be alert to notice NCR indication. Whenever, panel becomes inoperative, he should specially check NCR indication. Even after panel SM/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/SSE.

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## 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 SM/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 SM/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 EUUYN and EUYN counter. SM/ASM on duty will break the seal before the operation and will immediately inform ESM to reseal the EWN button and make necessary entries in the register.

### 6.2. Operation of Main Signals:

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

### 6.3 Operation of Shunt Signals:

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

### 6.4 Operation of Calling on Signals:

'Calling On' signals are fixed on the same post and below the Home stop signal No. S2 & S19 governing the admission of trains. This will show normally no light in the 'ON' position and miniature Yellow light in the 'OFF' position and will be provided with a marker, consisting of a white enamel disc with letter 'C' in Black. In the event of failure of stop signal or due to failure of any track circuit in the route, it is not possible to receive a train by taking "OFF" the Home signal, but it can be received on calling on signal. A train intended to be received on "Calling ON" signal should be brought to a dead stop short of the Home Signal occupying calling on track circuit CO2T or CO19T (as the case may be). For clearing calling on signal for a particular route (Required route to be set), when main signal is not clearing and the route is set, first press concerned home signal button and ERN button for throwing signal to danger to the signal, release the buttons and then again press concerned home signal button with COGGN button and then release COGGN button only and 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 on the panel which will become steady after two minutes and simultaneously the calling on signal will assume "OFF" aspect at site and white indication will appear in the calling on round slit on the panel. The calling on signal shall be automatically extinguished as soon as track circuit CO-2 or CO-19 as the case may be is picked up. Each time the calling on signal is operated, it is recorded on COGGN counter.

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

## **7. RESTORING SIGNAL TO 'ON' AND CANCELLATION OF ROUTES:**

### **7.1 Restoring Signal to 'ON':**

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

### **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/ASM on duty should first restore the Signal Controlling the movement over the route to 'ON' as indicated in Sub-Para [a] above.

The SM/ASM 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 SM/ASM all circular white light) at the right side of the signal.

The route locked indication will remain for stipulated time interval i.e. not less than 120 seconds for the release of the approach locking. The route should then be cancelled 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 SM/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/ASM ON DUTY SHOULD WAIT FOR TWO MINUTES AND THEN CANCEL THE ROUTE IN THE USUAL MANNER. FURTHER, THE SM/ASM SHOULD REPORT THE FAILURE TO THE ESM IMMEDIATELY AND RECORD THE SAME IN THE S&T FAILURE REGISTER.

- II} IN CASE OF ONE OR MORE TRACK CIRCUIT (S) IS/ARE DEFECTIVE, THE PARTICULAR ROUTE SECTION COVERED BY THE DEFECTIVE TRACK CIRCUIT WILL NOT GET CANCELLED EITHER BY THE PASSAGE OF THE TRAIN OR BY OPERATION OF EMERGENCY ROUTE RELEASE BUTTON. IN SUCH CASES, THE SM/ASM ON DUTY AFTER VERIFYING BY PERSONAL OBSERVATION THAT THE DEFECTIVE TRACK CIRCUIT IS NOT OCCUPIED BY A TRAIN OR VEHICLE AND AFTER BREAKING THE SEAL OF BUTTON EUYN & INSERTING THE KEY AND TURNING, THEN WILL OPERATE THE EMERGENCY ROUTE SECTION RELEASE BUTTON (EUYN) PROVIDED FOR THIS PURPOSE ON THE PANEL AND THEN RELEASE THE PARTICULAR ROUTE SECTION. SUCH ROUTE WILL BE CANCELLED BY PRESSING EUYN ALONG WITH (A) POINT BUTTON FOR ROUTE CONTROLLING THE POINT, (B) SIGNAL BUTTON FOR ROUTE CONTROLLED BY THAT SIGNAL.
- III] THE SM/ASM ON DUTY WILL MAINTAIN A REGISTER FOR RECORDING THE READING AND THE OTHER DETAILS OF THE ROUTE CANCELLATION WITH THE EMERGENCY ROUTE SECTION RELEASE BUTTON (EUYN) PROVIDED ON THE PANEL.
- IV) THE REGISTER WILL HAVE THE FOLLOWING COLUMNS: -
- 1) SR. NO.
  - 2) DATE & TIME
  - 3) ROUTE TO BE CANCELLED
  - 4) REASON FOR CANCELLATION OF THE ROUTE.
  - 5) THE TRAIN NO. BEFORE/AFTER, WHICH ROUTE TO BE CANCELLED
  - 6) SIG. OF THE SM/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

**CANCELLATION OF OVER LAP:** Not applicable

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

<b>1</b>	<b>EMERGENCY POINT BUTTON (EWN)</b>
<b>2</b>	<b>EMERGENCY ROUTE RELEASE BUTTON (EUYN).</b>
<b>3</b>	<b>EMERGENCY ROUTE SECTION RELEASE BUTTON (EUYN).</b>
<b>4</b>	<b>GROUP BUTTON FOR CALLING ON SIGNAL (COGGN).</b>

The SM/ASM 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/ASM on duty before handing over charge to his reliever should record the last reading of all the counters in the concerned Registers.

The SM/ASM 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/ASM on duty in token of it.

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**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 SM/ASM on duty should wait for two minutes after restoring the signal to ‘ON’ and then cancel the route in the usual manner. Further, the SM/ASM should advise the ESM of the section on duty immediately about the failure and also record the failure in S&T failure register. Each time the route is thus cancelled it will be recorded on EUUYN counter.

**7.3 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 EUUYN. The route will now be cancelled by another emergency operation called EUYN cancellation. This operation should be restored to only after verifying by personal observation by ASM/panel operator that the defective track circuit is not occupied by a train or vehicle.

a. The ASM/ Panel operator will first turn the emergency sub-section route release key (EUYN KEY) provided on panel to reverse position for authentic operation and then press EUYN button on panel.

b. By doing so, sub section route release timer will start and flashing yellow indication will appear on panel. Now EYUN button can be left but key will remain in turned in reverse position. After 120 sec of time lapse, flashing yellow indication will turn into steady yellow (ESUYKE) indication.

c. After that ASM/ Panel operator will press the EYUN button and concerned route point/signal button to release the sub –section route which increment the EYUN counter.

d. After releasing the concerned sub-section route, the ASM/ Panel operator will turn the EYUN key to normal position causing steady (ESUYKE) indication to disappear and remove the key to keep in his safe custody.

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 EUYN counter after cancellation of the route.
8. Remarks

**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: -

<b>1</b>	<b>EMERGENCY POINT BUTTON (EWN)</b>
<b>2</b>	<b>EMERGENCY ROUTE RELEASE BUTTON (EUUYN).</b>
<b>3</b>	<b>EMERGENCY ROUTE SECTION RELEASE BUTTON (EUYN).</b>
<b>4</b>	<b>GROUP BUTTON FOR CALLING ON SIGNAL (COGGN).</b>

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Panel SM/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 SM/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 INT CRANK HANDLE FOR POINT MACHINES:

### 8.1 Panel Control CH1 (201),

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 'NX' key. The NX 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 NX 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 NX Key :

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

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

1.	CH/LC control Buttons	For releasing or withdrawing the control on NX Key / LC gates.
2	CHYN & WN slot Button	For releasing control on NX Key, CHYN & XXN button to be pressed and released along with concerned Slot Button.
3	CHYRN & WN slot Button	For returning control on NX Key, CHYRN & XRN button to be pressed.
4	White Light	Provided above Slot Button, normally steady and flash as - soon as control is released .
5	Red Light	Provided adjacent to Slot Button, white flashing light turn to red steady no sooner NX Key extracted from KLCR 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 SM/ASM on duty who should issue it after making necessary entries in the register.

The staff concerned will go to the box of KLCR located in ASM/ASM s office to take NX Key for the concerned points. The Panel SM/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 NX 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.

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The NX key thus released is taken by the staff to the required Point Machine. After opening the keyhole cover, NX 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 SM/ASM on duty the respective steady white point indication on the panel, the NX Key is taken to relevant KLCR relay Box. NX 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 SM/ASM on duty on seeing this, presses and releases CHYRN and WN Slot buttons on the panel and flashing white light will now become steady indicating the return of the crank handle control to Panel.

Panel SM/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 SM/ASM on duty has to pilot the train as per G&SR 3.70 for defective points. The Panel SM/ASM himself can take the control back, only if the NX Key has not been extracted from KLCR. In that case Panel SM/ASM has to press 'slot' & 'CHYRN' buttons simultaneously and release them. As long as the NX Key is out and in case the key is inserted back in 'KLCR' and turned but the SM/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/SM/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/SM/ASM on duty.

### 8.5 Button Collars :

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

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

Sr. No.	Running Lines	Stop Collars to be placed on Route Button
1.	Up Main Down Line	CM
2.	Up loop Down Line	UDLP

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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 Signal. The distant signal has two aspects & the normal indication of the signal is caution or Attention aspect (Yellow). Clear (Double Yellow) of this signal is automatically displays in conjunction with the Clear, Attention and caution aspect for main line displayed by the home signal ahead.
- b. **Route Indicators :**  
Position light route indicators have been provided on Home Signal. 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)  
RI = Route Indicator.

i. **Down Trains :**

Down Train Movement from Down Main Line	Down Distant	Down Home S 2
Stopping on Down Main Line	YY	Y
Stopping on Loop Line	YY	YU (With Route Indicator )
Stopping on Home	Y	R

**10-a TRACK CIRCUITS:**

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

<u>Panel</u>	<u>Berthing Track</u>	
01 BT	01 AT	(On main line)
02 BT	02 AT	(On UP Loop DN line)
201 T 5T	1/2T C2T	(On main line)

**10-b AXLE COUNTERS: 201 AXT****11. BOBBING / FLICKERING OF THE SIGNALS:**

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

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

**12 UNSIGNALLED MOVE OVER ELECTRICALLY OPERATED POINTS:**

Whenever any unsignalled move has to be taken place on a point operated by 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.

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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:

Down inner distant signal (2D):

Normal aspect of the signal is “Caution”, “Attention”: (Yellow light) is displayed automatically in conjunction with OFF aspect of down home signal number S- 2.

**Down Home signal(S-2):** Normal aspect of the signal is Red. OFF aspect of down home signal (yellow light) of the signal is controlled by signal button No. S-2 & Main line route button on the panel. One yellow light with route indicator of the signal is controlled by SM signal button No. S-2 on the panel.

**UP Advance Starter signal (S-1):** Normal aspect of the signal is red. Clear aspect (Green light) of the signal is controlled by SM signal button S-1 and route button UZ on the panel.

**UP main down line Starter signal (S-5):** Normal aspect of the signal is red. Caution aspect (yellow light) of the signal is controlled by SM signal button S-5 and route button UX on the panel.

**Note-** in case of sliding boom working gate protecting signal will show only caution aspect.

**UP loop down line Starter signal (S-7):** Normal aspect of the signal is red. Caution aspect (yellow light) of the signal is controlled by SM signal button S-7 and route button UX 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/SM/ASM first set the point to the last operated position and depute a Points-man to find out if any obstruction is lying between the tongue and stock rails.
- (ii) The Points-man on arrival at the concerned point will look for any obstruction between the stock and switch rails at both ends in case of cross over point and remove the same if found & display alright signal to the SS/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.
- (iii) On receipt of an all right signal from Points-man the SM/ASM 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 come back 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.

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**(b) PASSAGAE OF TRAINS WHEN POINTS ARE DISCONNECTED:**

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

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

**(c)** Whenever a Motor Trolley or any other light vehicle is to be passed over a crossover controlled by a particular track circuit, SM/ASM 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.

**Note:**

One Pilot train (ie. PLC/T-369 (3b) issued) is to be passed in the section to make the system normal.

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 free indication provided near the block instrument appears with the clearance of block section with overlap track circuit/Axle counter. After getting the "free indication" commutator handle of block instruments can be brought from train on line position to line closed position. Normal working of following trains will be introduced. If after adopting the above method for resetting the digital axle counter, axle counter does not go in preparatory reset mode. ASM/ASM's at the both the ends will repeat the above procedure once again and inform ESM /JE/SSE/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.

**17 DOUBLE LOCK ARRANGMENT ON RELAY ROOM**

**17.1** 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 handover the key to the maintainer on demand whenever he visits for maintenance. SM/ASM on duty will ensure that the key is returned to him after maintenance.

**17.2** A register to record the transaction of Key on proper proforma will be maintained by the SM/ASM on duty.

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:**  
**Power supply system for S&T equipments, signals, points, control panel and IPS Indications:**

There are two power supplies available at this station namely [1] Local SEB supply [2] AT supply. Indications of availability of these supplies are made available on Automatic cum Manual changeover panel in SM's room.

AT supply shall be main source of supply while Local SEB supply shall be alternative sources of power supply.

Integrated power Supply (IPS) has been provided at the equipment room of the station to fulfill requirement of the outdoor signaling equipment i.e. signals panel circuits, points control and panel indication etc.

This Power supply system ensures uninterrupted supply to signalling system to avoid failure of signalling gear even when the Main supply fails. The system has very limited capacity to feed power in the absence of Main supply. There is an indication panel provided in the SM's room indicating the health of battery and action required to be taken by SM. Depending up on the alarm received on IPS indication Panel, SM must immediately take action and inform sectional Signalling and Electrical staff as early as possible.

**Procedure to be adopted in case of failure of normal power supply by the SM/ASM on duty**

Power supply for signaling system of this station is provided through auxiliary transformers connected to OHE supply. The availability of power for AT is indicated on the change over panel by illumination.

Normally AT is connected to signaling load which is indicated by an illuminated indication on the Auto Changeover panel whenever this AT supply fails signaling load will be switched over Local SEB supply automatically which is indicated by an illuminated indication on the Auto Changeover panel. The arrangements will be in the automatic Change over Panel provided in the ASM/SM room at this station. In case Supply available and automatic change over not taken place One switch provided on Auto change over in panel to change manually by turning the Switch on position the ASM/SM should turn Switch, whichever Supply is available. The indication of supply are provided in the panel and SM/ASM on duty shall take action to inform OHE staff in case any of the indication is not there. In the event of failure of Local SEB supply & AT supplies a bell provided in panel will ring continuously which pressing button provided near supply indication on the panel can silence.

The SM/ASM on duty will advise TPC and concerned OHE staff and concerned SSE/JE-SIG whenever catenary supply fails.

A Register will be maintained by SM/ASM on duty indicating the time of failure of catenary supply, the time OHE authorities informed on TPC or otherwise, the time ESM/SE/JE was advised, the time OHE staff/attended and restored the normal supply.

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When the normal catenary supply & stand by Supply does not appears, the ASM/SM on duty shall check up the signal indications and or the signal aspects from the station. In case, there is no signal indication at the Station and no light on the signals. The SM/ASM on duty will treat the signals as defective arrange to receive and/or despatch the trains in according with GR: 3.68, 3.69, 3.70, 3.71, 3.75 and SRs there under.

## **20 AXLE COUNTER RESETTING OF LOOP LINES/ POINT ZONES;**

Axle counters have been provided on the point zone area on point No. 201AXT at this station. Clear and occupied indications are provided with the SM for the point zone area axle counters. The clear indication on the axle counter will appear when the concerned point zone area is clear of any vehicles or train and occupied indication will appear when that point zone area is occupied by any train or vehicle. The occupied indication will also appear when the axle counting equipment on that point zone area has failed.

In the even of failure of axle counter when it is showing occupied indication even though that particular line is not occupied by any train or vehicle. SM on duty will attempt to reset the Axle counter by turning reset key in reset box simultaneously with points man at site (near the line for which resetting action are being indicated) who will open rest box at site insert the key and press in token of co-ordination for doing resetting than and than only resetting will be possible. Points-man at site must also verify the vacant line physically before attempting for resetting. Whenever the seal is broken, the S&T staff to be advised for re-sealing the box. The axle counter should be reset in the event of failure only. When it has been personally verified by ASM that line is free of all obstructions and no vehicle or train is standing on that line. Axle counter resetting of point zone shall not be resorted by SM on duty unless he has checked the above conditions. Reset key is provided with lock, one key of which shall be kept by SM on duty in his personal custody. The resetting key shall be released as soon as clear indication appears on the panel. If the axle counter is not reset and clear indication does not appear on the indication, SM on duty shall inform ESM on duty about the failures. SM on duty shall make an entry for every push button operation in manuscript register.

- a) Reading on the counter before resetting.
- b) Reading on the counter after resetting.
- c) Number and description of last train received on point zone area.
- d) Date and time the train cleared the point zone area.
- e) Whether it has been personally verified by SM on duty that point zone area is clear of any train or vehicle.
- f) Date and time the axle counter equipment is reset by SM on duty.
- g) Signature of the ASM on duty resetting the axle counters equipment.

### **v. Failure of Panel Indication:**

In case Panel goes blank, SM/ASM on duty on Panel should check whether AT 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/ASM 's Office.

In case of Local power supply is not available; he will operate the Local provided at the station for normal working on the panel. In case of Local Power supply and AT 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.

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**APPENDIX 'C'****ANTI COLLISION DEVICE (RAKSHA KAVACH)**

This device neither is nor use on this section of railways.

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## APPENDIX –‘D’

### **DUTIES OF THE SM/ASM / ASM/ASM:**

- a. The Station Master on duty shall be responsible for the efficient discharge of duties devolving upon the several members of the staff either permanent or temporarily under his orders at the station or within station limits and such staff shall be subject to his authority and direction in the working of the station. [GR 5.01]
- b. The Station Master on duty shall also be responsible that the general working at the station is carried out in strict accordance with the rules for the time being in force. [GR 5.01]
- c. No person other than the Station Master on duty shall ask for/or give line clear or give authority to proceed, T-369(3b), Caution order and Authority to proceed without line clear etc. [GR 5.01]
- d. The Station Master is responsible for giving ‘Train out of Section’ signal as per SR 4.56/1 of G&SR after ensuring that the train has passed with tail lamp/ tail board on the last vehicle or the Guard’s alright signal or Train intact register.
- e. The Station Master on duty is responsible for ensuring that signals taken off for a train are put back to ‘ON’ immediately the train has passed them as per 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. In case of failure of motor operated point, the SM/ASM on duty will be responsible for setting, clamping and padlocking of points as per SR: 3.51/1 and 3.68-1 Of G&SR.
- i. In case of failure of points, gates and signals etc. SM/ASM on duty will take suitable action and advise to the concerned officials.
- j. SM/ASM on duty shall personally verify fouling of A & D Sidings, Washing Pit Line/Sick line ART siding after each shunting movement into /from siding..

### **DUTIES OF THE POINT MAN**

- a) The Points-men on duty are responsible to clamp and pad lock points as and when required and to exchange hand signals with train crew of all passing through trains from ‘OFF’ side.
- b) The points-man on duty shall be responsible for handing over all the authorities to the driver and guard as & when required. He will be responsible for exchanging alright signals for run through trains from the opposite side of the Station Master.
- c) 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.
- d) He shall obey all orders given to him by SM/ASM / SM/ASM on duty.

### **DUTIES OF THE GATEMAN**

- a. 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.
- b. Gateman will be responsible to work on gate as per gate working instructions.

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**APPENDIX – ‘E’****ESSENTIAL EQUIPMENTS AT THIS STATION**

<b>(a)</b>	<b>DETONATORS</b>	<b>BANNER FLAGS</b>
i) At Station.	20 Nos.	–
ii) At Level crossing Gate No.196	10 Nos.	02
 <b>(b). ESSENTIAL EQUIPMENTS: -</b>		
i.	Switch Clamps.	15
ii.	Pad Locks.	20
iii.	Button Collars.	08
iv.	Hand Signal Lamps. LED Based	06
v.	Hand signal Flags (Green)	06
	-Do- (Red).	08
vi.	Safety Chains.	02
vii.	Wooden Wedges.	08
viii.	Fire Extinguishers.	02
ix.	First Aid Box.	01
x.	Fire Bucket with stand.	04
xi.	Stretcher.	01
xii.	Safety Rubber Gloves	02

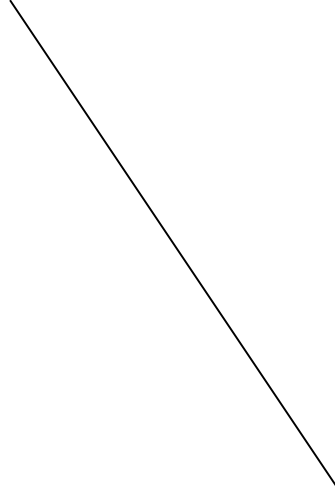
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**APPENDIX 'F'**

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



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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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# NORTH CENTRAL RAILWAY

JHANSI DIVISION

**KONCH STATION (B.G.)**

# STATION WORKING RULE

**No.512**

**Date of issue: . . .2013**

**Date brought into force:**