

**STATION WORKING RULES OF BIRPURUSOTTAMPUR STATION**

No. 171

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**NOTE:**

The Station Working Rules must be read in conjunction with General & Subsidiary Rules, Operating Manual and Block Working Manual. These rules do not in any way supersede any rules in the above books.

1.0 **STATION WORKING RULE DIAGRAM:**

The Station Working Rule Diagram No. SI/WRD/11148 based on CSTE/East Coast Railway's Signal Interlocking Plan No. SI/11148 ALT-C shows the complete lay out of the yard, normal position of points, the Signaling and Interlocking arrangements, Gradients and Level Crossings within the station limits. This must be referred to for giving details of the point numbers and signals when reporting accidents.

2.0 **DESCRIPTION OF STATION:**

2.1. **LOCATION:**

**BIRPURUSOTTAMPUR** is a 'B' class three lined station on the Khurda Road – Puri (branch line) single line electrified (BG) section in Khurda Road Division of East Coast Railway. It is situated at Km. 477.17 from Howrah. The station is provided with Standard-III Interlocking and equipped with Central Panel and Multiple Aspect Colour Light Signals. The station is worked under Absolute Block System of GR & SRs. There is no outline siding in both UP & DN direction.

[Refer GR 8.01 (1) a, c, 2 (b), 8.03 (2), a, b, c (ii), 8.09, 8.10 (1) (2), 8.12 to 8.15, 14.01 to 14.13 and Chapter-V of Block Working Manual]

2.2 **BLOCK STATIONS, IBH, IBS ON EITHER SIDE AND THEIR DISTANCE AND OUTLAYING SIDINGS:**

NIL

2.2(i) **BLOCK STATION ON EITHER SIDE AND THEIR DISTANCES:**

The adjacent Block Stations are DELANG (Code: DEG) situated at a distance of 6.5 km at Khurda Road end, SAKHIGOPAL (Code: SIL) situated at a distance of 5.5 Kms. at Puri end.

**PASSENGER HALT:**

JENAPUR ROAD (Code JERD) passenger halt is situated at Km. 473.8 between BRST-DEG station.

2.3.a. **BLOCK SECTION LIMITS ON EITHER SIDE OF THE STATION ON DIFFERENT DIRECTIONS:**

Between Stations	The Point from which the 'Block Section' Commences	The Point at which the 'Block Section' end
BRST-DEG DN direction.	DN Advanced Starter Signal of BRST station.	UP Advanced Starter Signal of DEG station

BRST-SIL UP direction.	UP Advanced Starter Signal of BRST station	DN Advanced Starter Signal of SIL station.
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b. **STATION SECTION:**

Station Section	The Point from which the 'Station Section' Commences	The Point at which the 'Station Section' end
Single Line section	UP Advanced Starter No. 9 of BIRPURUSOTTAMPUR	DN Advanced Starter No. 12 of BIRPURUSOTTAMPUR

**STATION LIMIT:**

From UP Distant signal to DN Distant signal.

2.4 **GRADIENTS:****TOWARDS PURI END:**

FROM	TO	GRADIENT
CSB	CH:798.00	Level
CH:798.00	Towards block section	1 in 200 'R'

**TOWARDS HWH END:**

FROM	TO	GRADIENT
CSB	CH:394.00	Level
CH:394.00	Towards block section	1 in 200 'R'

2.5 **LAYOUT:**

The station is provided with three running lines in the Main yard, namely 1<sup>st</sup> Loop (Line No. 1), Main Line (Line No.2), 2<sup>nd</sup> Loop (Line No.3).

**PLAT FORMS:**

- 1) Line No. 1 (1<sup>st</sup> Loop) : L.L.P.F.  
 2) Line No. 2 (Main Line) & Line No. 3 (2<sup>nd</sup> Loop) : H.L.P.F.

2.5.1. **RUNNING LINES, DIRECTION OF MOVEMENT & HOLDING CAPACITY IN CSL:****DIRECTION OF TRAFFIC:**

- i) The trains coming from PURI are DN trains and the trains coming from KHURDA Road are UP trains.

2.5.2. **HOLDING CAPACITIES:**

Line No. 1	1 <sup>st</sup> Loop	693	Meters	From Starter to Starter	Electrified
Line No. 2	Main Line	705	Meters	From Starter to Starter	Electrified
Line No. 3	2 <sup>nd</sup> Loop	698	Meters	From Starter to Starter	Electrified

2.5.3 **NON RUNNING LINE:**

NIL

2.5.3.(a) **ANY SPECIAL FEATURES IN THE LAYOUT:**

NIL

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b. **SPECIAL RESTRICTIONS:**

- (i) Shunting in the face of an approaching train is prohibited.
- (ii) Hand shunting is not permitted over the outer most facing points at both ends.

c. **SPECIAL INSTRUCTIONS:**

- (i) Both the loop lines are provided with Axle Counter. Point Zones at both end are also monitored by Axle Counter. In case of failure of Axle Counter the clearance of the nominated line/zone should be ensure physically before resetting the Axle Counter.
- (ii) In case of failure of digital Axle counter provided for monitoring the Block Section at both end the resetting should only be initiated for normalizing the block instrument after ensuring complete arrival of the train by physical verification of last vehicle by SM on duty.
- (iii) After a non-signal movement has taken place over a point/points operated by motor whether facing or trailing direction SM on duty shall operate the point/points to normal and reverse setting for the purpose of setting the point/points. After the SM on duty shall ensure that the indication regarding the normal and reverse setting are correctly available, further movement may be permitted over the point/points.

2.6 **LEVEL CROSSINGS:**

- i) There is a manned 'C' Class non-interlocked Level Crossing Gate No. KP-18 situated at Km. 472/12-13 between Birpurushottampur and Delang. Telephone communication is provided between the gate lodge and the SM/DEG.
- ii) There is a manned 'Special' Class interlocked Level Crossing Gate No. KP-22 situated at Km. 477/10-11 towards SIL end of the yard. Telephonic communication is provided between the Gate Lodge and SM/BRST.
- iii) There is a mid-section manned 'C' Class non-interlocked Level Crossing Gate No. KP-24 situated at Km. 478/9-10 between BRST-SIL Station. Telephone communication is provided between the gate lodge and the SM/BRST.
- iv) There is a mid-section manned 'B2' Class non-interlocked Level Crossing Gate No. KP-25 situated at Km. 480/9-10 between BRST-SIL Station. Telephone communication is provided between the gate lodge and the SM/SIL.
- v) There is a mid-section manned 'B2' Class non-interlocked Level Crossing Gate No. KP-26 situated at Km. 481/10-11 between Sakhigopal and Birpurushottampur station. Telephone Communication is provided between the gate lodge and the SM/SIL.

3. **SYSTEM AND MEANS OF WORKING:**

Trains are worked under Absolute Block System with Token Less Block Instrument for the section DEG-BRST and BRST-SIL.

The Block Instruments shall be operated by Station Master on duty and keys of the Block Instruments shall remain under personal custody of SM on duty. The Block Instruments are co-operative type. The authority for the Loco Pilot to proceed is taking 'OFF' of the last stop signal. [Refer Chapter-XIV of GR & SRs, Chapter-V of Block Working Manual and GR 14.08 (b) (iv)]. Line clear is granted/obtained through phone attached with the Block Instrument.

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

- 4.1 This Station is provided with Standard-III interlocking with Multiple Aspect Colour Light Signaling having maximum equipment of signals. The aspects and indications of the MACLS is governed by GR 3.08 (4) (b).

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The Station is provided with Central Panel Interlocking and having no end cabins. All signals and points are electrical operated from the central panel provided at SM's Office. Calling-on signals are provided below Home signals (i.e. in both UP & DN directions) as per GR 3.13 (1) (b), (2) (3) (4) & (6) (b). Central panel with miniature push buttons are provided in the Station Master's office to electrically control all signals, points, Gate key, etc., the control panel is provided with SM's key which shall always remain in the personal custody of the Station Master on duty in terms of SR 3.36.03 (a). The position of all points and signals and running lines are available in the panel. Reminder Block collars are provided for use on push buttons, which will be placed on point button and/or route button to prevent operation of the button in case concerned line is blocked.

### **CRANK HANDLE:**

When any point fails to operate normally by the route setting operation or through the concerned point button through panel, it is inevitable to operate the points with crank handle. Station Master on duty shall personally ensure clamping and pad locking of all facing and trailing points enroute. Crank handles are interlocked with signals and interlocking system. Normally the crank handle is locked in the RKT instrument in the Station Master's room and in the location boxes provided of either end of the yard. These crank handles are for all motor operated points of the station. The CH push button Nos. CH1 & CH2 and group button (White with Black Dot) are provided at the top of the panel board. Each button has two indications, viz. WHITE and RED. The WHITE indication suggests that the crank handle key is in its interlocked position of the panel. This is called Crank Handle Key 'IN' indication'. The Red indication suggests that the crank handles key is locked and not free for extraction from RKT. This is called 'Crank Handle Key Locked Indication'. The White indication when extinguished suggests that the 'CRANK HANDLE' key is extracted from RKT. This is called 'KEY OUT' indication. The key out White indication of the crank handle locks all reception and departure signals in their normal position. The crank handles are attached to the key in RKT at the Station Master's room and in the end locations and can be released from either of the RKT. The SM has to press CH1 & CH2 buttons and Trans button. This will enable SM to extract key from RKT, which in turn can be transmitted from the adjacent RKT to end location for release from RKT and crank handle there. After completion of point work, the Crank Handle to be inserted in the end location RKT and transmitted to station. The SM on getting information will press economizer button and will extract key from RKT and insert in original RKT and turn to lock in and key IN indication will appear on panel on pressing release button in the group.

The TPM after extracting the crank handle (attached to the RKT key) will operate the required points to the desired position. After the work is over, the TPM shall transmit the key back to SM on duty through RKT.

The SM on duty shall take back the key and put it in original RKT and turn to key 'IN' position. 'ON' pressing the release button on the group along with CH1 & CH2, Steady WHITE light glows indicating key 'IN'. The cases of failure of motor operated points should be promptly reported to the concerned Signal Maintainer/Signal Inspector for immediate rectification. SM as per Operating Manual Para 20.06 (d) shall maintain an Emergency Crank Handle Register. The procedure for use of crank handle for motor operated points shall be followed in terms of Operating Manual Para 20.06.

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**CRANK HANDLE**

CH-1	-----
CH-2	-----

**CONTROL POINTS**

18, 20
17, 19

After any non-signaled movement has taken place over a point/points operated by an electric point machine, whether in the facing or trailing direction, the SM on duty shall operate point/points to "NORMAL" or "REVERSE" settings for the purpose of testing the points and after ensuring correct indications of "NORMAL" or "REVERSE" setting of points, further movement shall be permitted over the points.

**TAKING OFF CALLING-ON SIGNAL:**

Miniature colour light Calling-on Signals are provided below the UP and DN Home signals in terms of General Rule 3.13 (6) (b). A Calling-on signal shows no light in the 'On' position. A calling on signal is taken "OFF" for reception of a train when the Home signal above it cannot be taken off due to failure or any other reasons or for admission of a train on blocked line.

To take 'off' calling on signal the UP and DN trains must come to a stop at the foot of the UP/DN Home signal occupying the track circuit in rear of the signal. When a train occupies the track circuit a 'RED' light strip will appear in the panel. The particular route on which train is intended to be received shall be set by operating individually the panel push button and group button or by signal and route button pressing or by Crank Handling in the event of failure of operation of points through panel. After the route is set the calling on signal switch shall be pressed simultaneously along with the concerned route button for 2-3 seconds and released. After a lapse of 120 seconds the calling on clears i.e. a Yellow light glows at the concerned calling on signal on the panel.

**NOTE:**

No train can pass through while receiving on Calling-on signal.

**SHUNT SIGNALS:**

Back shunt signals 11A/B/C and 14A/B/C are provided at DEG and SIL end respectively for shunting purpose.

**EMERGENCY CROSS OVER:**

NIL

**L.C. GATE OPERATION:**

Details described in Appendix-'A'.

**EMERGENCY POINT OPERATION (BLACK WITH RED DOT):**

Emergency point operation facility is provided to operate point in the event of failure of point controlling track circuit. A push button (Black with Red Dot) is provided on the top of panel. If such operation is necessary, the SM on duty, after ensuring that SM's emergency point key is 'IN' and no vehicle is standing on the concerned point track circuit, shall push the emergency point operation button and then operate the required point button and the point group button (Normal or Reverse). All such operations will be registered in the emergency point operation counter. Each operation of emergency point operation shall be recorded in the Station Diary and in the Register meant for this purpose.

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**EMERGENCY ROUTE RELEASE COUNTER:**

This counter is provided to register the number of operations made for emergency cancellation of route. The Station Master must record the last number registered on the counter while taking over/handing over duty.

**EMERGENCY ROUTE RELEASE INDICATION (WHITE) EMERGENCY ROUTE RELEASE BUTTON (WHITE WITH RED DOT):**

This panel interlocking is based on the principle of 'DEAD APPROACH LOCKING'. As such when a route is set and signal is taken 'OFF' on the route, the route gets locked. Normally the route is released by the passage of the train over the route.

When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02 (a), the concerned signal must be put back to Danger by pressing the signal cancellation button and the concerned signal button. Then the emergency route release button (White with Red Dot) positioned in the top of panel to be pressed and subsequently the concerned signal button pertaining the route is to be pressed. A 'WHITE' light will glow (UP or DN) indicating that the timer is working. After 120 seconds, the 'WHITE' light along with the 'WHITE' strip of light will disappear suggesting that the route has been released. In the event of normal passage of train, the route gets released automatically and the route lights disappear. In case the route illumination (a WHITE strip of lights) does not disappear, it suggests that the route is not released/cancelled. In such case the emergency cancellation of route has to be resorted to. The concerned S&T staff should be advised immediately to get the emergency route release button sealed after rectification of fault if any. Each operation of emergency cancellation of route is recorded in the emergency route release counter by registering the next higher number. All such operations and the new number should be recorded in the station Diary and in the train signal register.

**TRACK CIRCUITS:**

Main Line (Line No. 2) track circuited between starters. Track circuits are also provided between outermost trailing point and Advanced Starter at either end. (12 AT on DN direction and 9 AT on UP direction). In addition, there is one short length track circuit beyond home signal at either end for calling on signal (2 AT, 1 AT) and Last Vehicle Track Circuit (1T, 2T) inside home signal at either end. Track Circuits are also provided for Trolley protection in rear of Up and Down Starter (3T, 4T, 5T, 6T, 7T and 8T).

**AXLE COUNTER:**

Loop Line No.1, Loop Line No.3 and point zones at either end are provided with axle counters. Both side Block Sections are monitored by axle counter system. Electronic axle counters are provided at both end of the station just ahead of Advanced Starters. A pair of electronic Axle Counter are provided between BRST-DEG, one beyond Down Advanced Starter Signal of BRST and another just before Up Advanced Starter Signal of Delang Station for counting the axles 'IN' and for counting the axle 'OUT' to indicate whether the Block Section is clear of train as well as to verify the last vehicle of incoming train.

Similarly, a pair of axle counters is provided beyond the UP Advanced Starter of BRST and just before the DN Advanced Starter Signal of SIL for counting the axles "IN" and

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axles “OUT” to indicate whether the Block Section is clear of train as well as to verify the last vehicle of the incoming train.

The position of the running lines including point zone is indicated in the panel. It shows “RED” when the line is occupied and “WHITE” when the route is set and signal is cleared. Normally the panel is dark except for point and Block Section indication. Whenever a signal is cleared the route set indication “WHITE” appears for the particular route set. As the train occupies the track circuit the “WHITE” indication disappears and “RED” indication appears.

The position of Block Sections i.e. “Clear/Occupied” is referred in the panel provided in the Station Masters office which shows “GREEN” when Block Section is cleared and “RED” when occupied. Whenever a train enters the Block Section, “Block Section clear” indication ‘GREEN’ for particular Block Section disappears and ‘RED’ indication appears. If after complete arrival of a train, Block Section occupied ‘RED’ indication disappears and clear ‘GREEN’ indication appears. After complete arrival of a train, if occupied ‘RED’ indication continues and does not change to ‘GREEN’. It should be assumed as “Block Instrument failure” and necessary action as per GR 14.13 to be followed. The axle counter is interlocked with the Token Less Block Instrument for that Section.

In case of failure of axle counters the resetting of axle counter must be done as per the procedure given in Appendix “B2”. In the event of failure of Track Circuit/Axle Counter the clearance of Main & Loop Line concerned shall be ensured by physical check by the SMon duty and train shall be admitted as per GR 3.69 and SRS thereto.

All point are power operated through motors and all signals are colour light signal. Electrical Key Transmission System with Crank Handle are provided in both end location for the operation of point in case of failure.

Calling-on Signals have been provided below UP & DN. Home Signal. It shows no light when “ON” and “Yellow” Light when taken “OFF”.

#### 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 should be kept locked with a double lock, which can be opened only after both the keys are used. One key of the lock shall be kept with the Station Master on duty in his custody and the other with Signal Maintainer. Whenever asked, the key in the custody of Station Master shall be given to the Maintainer. After completion of work, the Maintainer will return the key to Station Master. The details of the transaction should be properly recorded in the relevant Register at the station duly signed by Station Master on duty and the Maintainer concerned.

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

- i). A changeover switch is provided in the Station Master’s Office with the three power supplies viz., AT, Local and DG set for changing the switch to the required supply

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- position. A luminous indicator above the circuit breaker for each supply indicates the availability of the supply.
- ii) Normally the switch will be kept towards AT position. Whenever power block is to be given on the line, the on duty SM must ascertain that power is available on the other supplies.
- iii) In case of failure of the AT supply without any power block, the on duty SM has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is down and when tripped it goes up). In case of failure of AT supply, the Local supply shall be utilized by operating the switch.  
If the circuit breaker is tripping even after resetting, no attempt shall be made to hold it by any other mean and a message shall be given to the AEE and CTFO/PSI for prompt rectification.
- iv) IPS (Integrated Power Supply) arrangement has been provided at the station to take care of the signaling system as well as to avoid blinking of signals in case of power failure.  
In case of AT/GRIDCO Power failure the IPS takes care of the signaling system approximate for 6 to 8 hrs.  
One Indication panel for monitoring of IPS voltage has been provided in SM's Room. The Indication panel shall display the voltage of IPS as well as health of the IPS provided to operate signaling gears. Audio Visual alarm has been provided in the panel to guide on duty SM to take action in case of low voltage or no voltage or any defect in IPS is shown in the SM panel. Details indications and alarm have been described below:

**SM INDICATION PANEL FOR IPS:**

- Call S&T - Red indication
- Signal system shut down - Red indication
- Emergency start DG - Red indication
- Start DG - Red indication
- Stop DG - Green indication

To acknowledge the indication on panel two push buttons are provided. Besides this the panel also has digital display of IPS battery voltage.

Whenever alarm appears on the SM panel due to any fault in the IPS system or due to low battery voltage on duty shall acknowledge the alarm by pressing the push button provided on the panel. Pressing on the push button shall mute the buzzer but relevant indication will continue to show till the fault is rectified by S&T staff. After acknowledgement of the alarm on duty SM shall immediately inform S&T staff at station regarding the alarm.

**5.0 TELECOMMUNICATIONS:**

- (a) Telephone attached to Token Less Block Instrument at either side.
- (b) Railway Auto phone is provided at this Station.
- (c) The Station is connected to PURI-KUR-BSDP control circuit.
- (d) The Station is connected to KUR-PUI traction power control.
- (e) Magneto Telephones are provided between SM's office and the Level Crossing gate at Km. 477/10-11 & 478/9-10.
- (f) Magneto telephone is provided at both end Crank Handle Location Boxes and SM/BRST.

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- (g) VHF set is provided at the station.
- (h) BSNL Phone is provided at the station.

**NOTE:**

- i). For obtaining line clear VHF should be used as a last alternative and not as a sole means of communication.
- ii). VHF & Walkie-talkie sets should not be used for un-necessary discussion with Loco Pilot/ Guards and any other staff.

**6 SYSTEM OF TRAIN WORKING:**

The movement of trains is controlled by section controller on duty whose orders shall be complied with provided they do not contravene any provisions of General Rules, Subsidiary Rules, Station Working Rules, Block Working Manual, Operating Manual and any other safe working instructions issued from time to time.

In the event of suspension of control working the Station Master on duty shall work independently in conjunction with the Station Master of adjoining Block Stations and shall be responsible to ensure that there is no undue delay to train operation in general.

**6.1 DUTIES OF TRAIN WORKING STAFF IN EACH SHIFT:**

The following is the complement of operating staff provided at the station in each shift for train passing duty.

		<b><u>In each shift each.</u></b>
SS	1 (One)	in each day shift
SM/ASM	1 (One)	in each Night shift
Traffic points man	1 (One)	in each shift
Traffic Gateman	1 (One)	in each shift.

The above staff shall work as per roster issued from time to time by Divisional Railway Manager (P) and these rosters shall be conspicuously displayed in the Station Supt's office and in Gate lodge for traffic gateman (details duties are given in APPENDIX-'D').

**6.1.2 RESPONSIBILITY FOR ASCERTAINING CLEARANCE OF LINES AND ZONES OF RESPONSIBILITY:**

The Station Master on duty shall be personally responsible to ensure clearance of the Line between the UP and DN Advanced Starters for reception of trains.

**6.1.3. ASSURANCE OF THE STAFF IN THE ASSURANCE REGISTER:**

All staff before taking up independent charge of their duties at this station shall make a written declaration in the Assurance Register that they have read the SWR thoroughly and understood the system of working in force at the station and must sign such declaration.

No Railway servant shall be entrusted with any duty involving the safety of the public unless the Station Supdt. is satisfied that the concerned staff is competent for the post. No Railway servant unless duly examined and certified shall be allowed to work the points and signals. The Station Supdt. is responsible to see that all the staff are well conversant with the Station Working Rules of the Station and their signature obtained in the Assurance Register after he is satisfied that they have thoroughly understood the working Rules of the Station. In case of Class-IV staff, their signature/thumb impression must be obtained after explaining full about their duties and responsibility.

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The Station Supdt. is personally responsible for maintaining the Assurance Register and for obtaining declaration from the staff working under him. The Assurance Register must be maintained in two parts one for Group-'C' staff and other for Group-'D' staff & duplicate copy of the Assurance Register must be maintained and kept in the personal custody by the Station Supdt.

The declarations are to be renewed in the following cases:

- (i) Whenever there is any change in the Station Working Rules.
- (ii) For any staff who have not worked at the station or were away from the station for a period of 15 days and over.

**6.1.4 USE OF PRIVATE NUMBER BOOKS AND IDENTIFICATION NUMBER SHEETS:**

Sufficient private number books and identification number sheets in sealed covers shall always be kept in stock by SS, under lock and one register shall be maintained for this purpose.

**6.2 CONDITIONS FOR GRANTING LINE CLEAR:**

The Conditions of GR 8.03 (2) (a) (b) (c) (ii) shall be complied with by the SM on duty before granting line clear for a train. The line shall not be considered clear and "LINE CLEAR" shall not be given unless: -

- i) The whole of the Last Preceding train has arrived complete inside the first facing point on both UP and DN directions.
- ii) The relevant approach signals have been put back to "ON" position behind the said train.
- iii) The line is clear up to the DN Advanced Starter Signal No. 12 for UP trains and up to UP Advanced Starter Signal No. 9 for DN Trains.

**NOTE:**

- a) All Signal lights pertaining to the train are burning properly. If the light of the reception signal is not burning, line clear shall not be granted for train till such time it is ensured that the concerned Loco Pilot is notified of the fact in writing by the Station Master of the Station to which such line clear is to be granted.
- b) Before granting line clear to a DN train, the SM on duty shall ensure the closure of L.C. Gate at Km. 478/9-10 from the gatemen on duty under exchange of Private Number.

**RECEPTION OF TRAINS:**

- (i) For reception of UP Train on Loop Line No. 1/Loop Line No. 3, the line shall be kept clear up to the far end of the sand hump at SIL end or up to the UP Advanced Starter Signal.
- (ii) For reception of DN Train on Loop Line No. 1/Loop Line No. 3, the line shall be kept clear up to the far end of the sand hump at Delang end or up to the DN Advanced Starter Signal.
- (iii) For admission of UP/DN. Train on Main Line No. 2 the line shall be kept clear up to the Advanced Starter Signal.

Before admitting a train on any line, it must be ensured that the correct route set indication for the respective line shows 'YELLOW' indication in the illuminated panel diagram. To receive a train for which line clear is given, the Station Master on duty shall nominate a clear line in consultation with the Section Controller on duty. He shall

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personally satisfy himself that the nominated line is clear and free from all obstructions by seeing the panel indication or by physical verification of the nominated route in case of failure of Track Circuit/Axle Counter.

He shall suspend all non-isolated shunting and thereafter set the points of the nominated route by means of push button switch provided on the control panel. He shall then verify from the visual indication available in the panel that points are set to the desired route. The interlocked L.C. Gate is to be closed and the key is to be transmitted to panel through EKT.

Unless the panel indication for the concerned line is 'Clear' even with other conditions satisfied, the operation of panel control button by the Station Master on duty will not permit the concerned Home signal to be taken "OFF". However, reception of trains will be possible in such case with "Calling-on signal" provided below Home signal unless the first track circuit in advance of home signal does not show Red indication.

The Station Master on duty shall then operate the concerned push button on control panel for taking "OFF" the reception signal. He shall then verify on the panel that the correct reception signal is taken "OFF".

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

##### 6.2.1.1 **SETTING OF POINTS AGAINST BLOCK LINE:**

When a running line is blocked by stabled load wagon, vehicle or by a train which is to cross or give precedence to another train or immediately after the arrival of a train, the points in rear shall be set against the blocked line except when shunting or any other movement is required to be done on-that line. [Refer SR 3.51.06 (a)].

If all the lines at a station happen to be blocked, when line clear has been granted to a train, the point should be set for the line occupied by a stabled load or a Goods train in that order so that in case any mishap the chances of causalities are minimized.[Refer SR. 3.51.06 (b)].

In case all lines are occupied by passenger carrying trains points should be set for a loop line to negotiate the speed of the incoming train would be reduced which in turn would minimize the consequences causalities. While doing so points may be set for a loop occupied by a train if any whose engine is facing the direction of approach of the incoming train rather than for a loop occupied by a train where a passenger coach will in case of collision receive the impact. [Ref: SR 3.51.06(b)].

##### 6.2.1.2 **RECEPTION OF A TRAIN ON BLOCKED LINE**

Whenever trains are to be admitted on an obstructed line the Calling-on signal may be taken off. If Calling-on signal failed then the SM on duty shall authorize the on duty TPM with form T/509 indicating the reason for such admission the line number and the nature of obstruction on that line.

Before handing over the authority the SM on duty shall ensure the correct setting clamping and padlocking of both facing and trailing end of the concerned route vide SR 3.69.03.

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A stop hand signal shall be exhibited by the SM on duty at a distance of not less 45mts from the point of obstruction to indicate to the Loco Pilot as to whose the train shall be brought to a stand.

**6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE**

NIL

**6.2.1.4 DESPATCH OF TRAIN FROM NON-SIGNALLED LINE:**

NIL

**6.2.1.5 DESPATCH OF TRAIN FROM LINE PROVIDED WITH COMMON STARTER SIGNAL:**

NIL

6.2.1.6 Line No. 2 is Track Circuited whereas line No. 1 & 3 are Axle Countered. In case of failure of Track Circuits/Axle Countered, the clearance of the nominated line has to be ensured physically before piloting 'IN' a train.

**6.3 CONDITIONS FOR TAKING "OFF" APPROACH SIGNALS:**

Reception of trains is governed by General Rules 3.36, 3.38, 3.40, 3.47, 4.17 and Subsidiary Rules 3.42.02 (a) (iv), 3.42.03, 3.36.02, 3.36.04 and other relevant provisions of General and Subsidiary Rules, Block Working Manual and Station Working Rules of the station.

**6.3.1 RESPONSIBILITY OF STATION MASTER FOR RESTORATION OF SIGNALS TO "ON":**

If a signal once taken 'OFF" for reception/dispatch of a train, has to be, in an emergency put back to 'ON' In case of reception signal, the route over which the train would pass shall not be altered until after the train has come to stand unless the route has to be altered to avert an accident. In case of departure signal, before changing the points or allowing any other movements the "Authority to Proceed" if any, handed over to the Loco Pilot must be withdrawn and the Loco Pilot of the train concerned shall be advised of the change in writing and his acknowledgement will be obtained in a memo. [Refer SR 3.36.02 (a) & (b)]

**6.4. SIMULTANEOUS RECEPTION/DISPATCH, CROSSING AND PRECEDANCE OF TRAINS:**

The following simultaneous reception and dispatch facilities are provided at this station.

1.	Reception of an UP train on line No. 1	Reception of a DN train on line No. 3 OR dispatching of an UP train from the line No. 2 or 3.
2.	Reception of an UP train on line No. 3	Dispatching of an UP train from the line No. 1 or 2 OR Reception of a DN train on line No. 1
3.	Reception of a DN train on line No. 3	Reception of an UP train on line No. 1 OR dispatching a DN train from the line No. 1 or 2.
4.	Reception of a DN train on line No. 1	Reception of an UP train on line No. 3 OR dispatching a DN train from the line No. 2 or 3.

**ADEQUATE DISTANCE (SIGNAL OVER LAP):**

To take off the Home Signals for admission of a train, the adequate distance (Signal Over Lap) as mentioned below shall be kept clear. [Refer GR 3.40 and SR thereto].

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**CLEARANCE OF ADEQUATE DISTANCE**

<b>FOR UP TRAINS:</b>		
Line Number	From	To
1.	UP Starter Signal No. 3	The end of the sand hump when point No. 18 is normal OR UP Advanced Starter Signal No. 9 when Point No. 18 is reversed.
2. Main line	Last trailing point No. 18B	UP Advanced Starter Signal No. 9.
3.	UP Starter Signal No. 5	The end of the sand hump when point No. 20 is normal OR UP Advanced Starter Signal No. 9 when Point No. 20 is reversed.
<b>FOR DOWN TRAINS:</b>		
1.	DN Starter Signal No. 6	The end of the sand hump when point No. 19 is normal OR DN Advanced Starter Signal No. 12 when point No. 19 is reversed.
2. Main line	Last trailing point No. 17A	DN Advanced Starter Signal No.12.
3.	DN Starter signal No. 4	The end of the sand hump when point No. 17 is normal OR DN Advanced Starter Signal No. 12 when Point No. 17 is reversed.

**RECEPTION OF TRAINS:**

- (i) For reception of UP Train on Loop Line No. 1/Loop Line No. 3, the line shall be kept clear up to the far end of the sand hump or up to the UP Advanced Starter Signal.
- (ii) For reception of DN Train on Loop Line No. 1/Loop Line No. 3, the line shall be kept clear up to the far end of the sand hump or up to the DN Advanced Starter Signal.
- (iii) For admission of UP/DN Train on Main Line No. 2 the line shall be kept clear up to the Advanced Starter Signal.

To receive a train for which line clear is given, the SMon duty shall nominate a clear line in consultation with the Section Controller on duty. He shall personally satisfy himself that the nominated line is clear and free from all obstruction by verifying the track indication in the panel or by physical verification of the nominated route in case of failure of track circuit/axle counter. He shall suspend all non-isolated shunting and thereafter set the points of the nominated route by means of push button switches provided in the control panel. He shall then verify from the visual indication available in the panel that points are set to the desired route.

Unless the track circuit/Axle counter for the concerned line is "Clear", even with other condition satisfied the operation of panel button by the SM on duty will not permit the concerned Home Signal, to be taken off. However reception of train will be possible in such case with calling-on signal provided below Home Signal unless the first track circuit in advance of Home Signal does not show "RED" indication.

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After correct setting of points the SM on duty shall operate the concerned push button on the control panel for taking OFF the reception signal. He shall verify on the panel that the correct reception signal is taken off. Alternatively point operation and signal clearing can be done by one operation by pressing signal button and route button.

If for any reason after taking off signal it is required to put back the signals and alter the route in terms of SR 3.36.02 a time relay of 2 minutes shall be observed before the points can be altered.

#### 6.5 **COMPLETE ARRIVAL OF TRAINS:**

The entire block section between DEG-BRST and BRST-SIL are monitored by axle counter system and the position of the block section whether occupied or clear is indicated in panel board at SM's office. As soon as train enters in to that block section. The RED indication appears on control panel. After whole train clears the block section GREEN indication appears on the control panel. This confirms the complete arrival of train and the SM on duty shall give 'Train Out of Block Section' report on seeing the section clear indication (GREEN) on the control panel.

If a train passes through the station without confirming the last vehicle indicator, the station master on duty shall advise the station in advance to stop the train for last vehicle verification & he need not to withhold closing of block section in rear. He shall obtain confirmation under exchange of private number about the complete arrival of the train with its last vehicle from the station in advance and subsequent trains may be dispatched.

In case of failure of Axle Counter between SIL-BRST, the traffic gateman shall ensure that the train has arrived complete and shall give one Private Number to the SM on duty vide SR 4.17.01 (e) (iv) for the stopping train.

In case of failure of Axle Counter between BRST-DEG, the SM on duty shall obtain complete arrival certificate from the guard of the train in the complete arrival register (T/1410) maintained at the station for stopping train. For through passing train the SM on duty shall satisfy himself the complete arrival of the train by verification of the last vehicle indicator that the train arrived complete.

On occasions when motor trolley follows a train the points shall not be operated until the following motor trolley is admitted on the same line. In the event of motor trolley is delayed in the section the SM on duty shall take action in terms of SR. 15.25.03 (b) (vi).

#### 6.6 **DESPATCH OF TRAINS:**

To dispatch a train, the Station master on duty having obtained line clear for that train, shall set the route for the outgoing train correctly and satisfy himself by observing the visual indication on the panel board. He shall suspend all non-isolated shunting and the Station Master will ensure that the Level Crossing Gate is closed against road traffic and then shall take "OFF" the concerned route starter and advanced starter signal. The 'OFF' aspect of the route starter and Advanced Starter is the authority to proceed into the block section. [Refer GR 3.38, 3.42, SR 3.36.04 (b), 3.42.04 and BWM 2.07.5(a)]

The Station Master on duty shall watch the safe passage of the train with its last vehicle indicator. After the train passes the advanced starter complete, he shall send the train

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entering block section signal to the station in advance. If a train worked without Guard or Brake Van the instruction laid down in Subsidiary Rule shall be followed. The level crossing gate shall remain closed against road traffic [Refer SR 4.23.02 & 4.25.02]

**NOTE:**

- (i) Before dispatching an UP train, the SM on duty shall ensure closure of the L.C. Gate at Km. 478/9-10 from the gateman on duty under exchange of Private Number.
- (ii) Before dispatching an UP train, the SM on duty shall ensure closure of the L.C. Gate at Km. 480/9-10 & 481/10-11 from SM/SIL under exchange of Private Numbers.
- (iii) Before dispatching a DN train, the SM on duty shall ensure closure of the L.C. Gate at Km. 472/12-13 from the gateman on duty under exchange of Private Number.

**6.7 TRAINS RUNNING THROUGH:**

The procedure detailed in Para 6.4 and 6.5 shall be observed. The Station Master is responsible to observe/watch the condition of the vehicles on a passing train and shall wave green hand signal horizontally until anything wrong is noticed on train. For this purpose the Station Master on duty shall stand in such a position that he sees a clear view of the passing train and that his hand signals can clearly be seen by the Loco Pilot and Guard of the train. [Refer GR 3.42, 4.17, 4.42 & 4.42.2]

The SM on duty shall depute his pointsman to other side to observe/watch the condition of the vehicles of the passing train. The TPM on duty shall wave green hand signal horizontally. The TPM on duty at the other side shall show danger hand signal if he notices anything is wrong on the vehicle of a passing train.

The Station Master on duty is responsible to see that a train passes complete with its last vehicle indicator. If a train passes without last vehicle indicator or its authorized substitute, action shall be taken as per General and Subsidiary Rule. [Refer GR 4.17 & SR 4.17.02]

**6.8. WORKING IN CASE OF FAILURE:  
PROCEDURE TO BE FOLLOWED FOR WORKING OF TRAINS DURING FAILURE  
/SUSPENSION OF INTERLOCKING /SIGNALS/ POINTS:**

**A. TRACK CIRCUIT:**

In the event of failure of track circuit in the yard, trains shall be admitted in to yard after piloting 'IN' before piloting a train in to the yard the clearance of the track must be ensured by physical verification.

**B AXLE COUNTER:**

In the event of failure of axle counter in the yard, trains shall be admitted in to yard after piloting 'IN'. Before piloting a train in to the yard the clearance of the track must be ensured by physical verification. In case of failure of Axle counter in the block section, initiation will be taken for resetting after ensuring the complete arrival of the train at either end SM on duty. After resetting, the first train shall be piloted OUT to the concerned Block section for normalizing the system of working. Details of operation involved in resetting of axle counter are given in Appendix-'B'.

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**C. BLOCK INSTRUMENT:**

In the event of partial/total failure of Block Instrument the concerned block instrument shall be suspended till its rectification and trains shall work as per GR [Ref. SR 6.02.04 & 6.02.06]. During this period the authority i.e. paper line clear ticket shall be issued to the loco pilot of all the trains to pass the last stop signal at on position.

**D. RECEPTION OF A TRAIN ON BLOCKED LINE:**

Whenever trains are to be admitted on an obstructed line the Calling-on signal may be taken off. If calling-on signal failed then the SM on duty shall authorize the on duty TPM with form T/509 indicating the reason for such admission the line number and the nature of obstruction on that line.

Before handing over the authority the SM on duty shall ensure the correct setting clamping and padlocking of both facing and trailing end of the concerned route vide SR 3.69.03.

A stop hand signal shall be exhibited by the SM on duty at a distance of not less 45mts from the point of obstruction to indicate to the Loco Pilot as to where the train shall be brought to a stand.

**E. RECEPTION OF TRAIN ON NON-SIGNALLED LINE:**

NIL

**F. DEFECTIVE SIGNALS:**

When signals become defective, the procedure laid down in GR & SR shall be followed. A signal in the OFF position is the final indication that the points are correctly set for the route for which it applies and if it is found impossible to take OFF a signal, the setting of points on the route to which it applies shall be inspected by the Station Master on duty before the signal is declared as defective irrespective of what is indicated by the position of the route. [Refer GR 3.68 to 3.71, 3.80 and SR 3.68.01 (c)].

In case of disconnection of signal and interlocking for repairs and maintenance, procedure laid down in GR and relevant SRs shall be followed. In the event of signal showing no lights, Station Master on duty shall before giving line clear initiate action in accordance with the procedure prescribed in GR and the relevant SRs. [Refer GR 3.51, 3.69, 3.49 (4), 3.68 to 3.77]

**G) INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:**

However, before declaring a signal is defective, the setting of the point on the route to which it applies shall be inspected by the Station Master irrespective of the position of the switches point laid down in GR with relevant SRs shall be followed. [Refer GR 3.68, 3.70 & SR 3.77.01 (b)]

Initiate action in accordance with the procedure prescribed in GR and relevant Subsidiary Rules thereto. [Refer GR 3.49 (4) and 3.68, 3.77]

**H) DEFFECTIVE INTERLOCKING:**

When interlocking becomes defective the SM on duty shall be responsible for correct setting, clamping and padlocking of points for admission of train.

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**I) DEFFECTIVE/DAMAGED POINTS:**

When any point fails to operate normally by the route setting operation or through the concerned point button through panel, it is inevitable to operate the points with crank handle. SM on duty shall personally ensure clamping and pad locking of all facing and trailing points enroute. Crank handles are interlocked with signals and interlocking system. Normally the crank handle is locked in the RKT instrument in the Station Master's room and in the location boxes provided of either end of the yard. These crank handles are for all motor operated points of the station. The CH push button Nos. CH1 & CH2 and group button (White with Black Dot) are provided at the top of the panel board. Each button has two indications, viz. WHITE and RED. The WHITE indication suggests that the crank handle key is in its interlocked position of the panel. This is called Crank Handle Key 'IN' indication'. The Red indication suggests that the crank handles key is locked and not free for extraction from RKT. This is called 'Crank Handle Key Locked Indication'. The White indication when extinguished suggests that the 'CRANK HANDLE' key is extracted from RKT. This is called 'KEY OUT' indication. The key out White indication of the crank handle locks all reception and departure signals in their normal position. The crank handles are attached to the key in RKT at the Station Master's room and in the end locations and can be released from either of the RKT. The SM has to press CH1 & CH2 buttons and Trans button. This will enable SM to extract key from RKT, which in turn can be transmitted from the adjacent RKT to end location for release from RKT and crank handle there. After completion of point work, the Crank Handle to be inserted in the end location RKT and transmitted to station. The SM on getting information will press economizer button and will extract key from RKT and insert in original RKT and turn to lock in and key IN indication will appear on panel on pressing release button in the group.

The TPM after extracting the crank handle (attached to the RKT key) will operate the required points to the desired position. After the work is over, the TPM shall transmit the key back to SM on duty through RKT.

The SM on duty shall take back the key and put it in original RKT and turn to key 'IN' position. 'ON' pressing the release button on the group along with CH1& CH2, Steady WHITE light glows indicating key 'IN'. The cases of failure of motor operated points should be promptly reported to the concerned Signal Maintainer/Signal Inspector for immediate rectification. SM as per Operating Manual Para 20.06 (d) shall maintain an Emergency Crank Handle Register. The procedure for use of crank handle for motor operated points shall be followed in terms of Operating Manual Para 20.06.

<u>CRANK HANDLE</u>	-----	<u>CONTROL POINTS</u>
CH-1	-----	18, 20
CH-2	-----	17, 19

After any non-signaled movement has taken place over a point/points operated by an electric point machine, whether in the facing or trailing direction, the SM on duty shall operate point/points to "NORMAL" or "REVERSE" settings for the purpose of testing the points and after ensuring correct indications of "NORMAL" or "REVERSE" setting of points, further movement shall be permitted over the points.

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6.9 **PROVISIONS FOR WORKING OF TROLLIES/ MOTOR TROLLIES/MATERIALS LORRIES ETC”:**

Motor trolleys are run in accordance with rules laid down in SR 15.23.03 to 15.25.07. Material trolleys will work in accordance with SR 15.27.05 to 15.27.08 & 5.39, 5.40 & 5.41 of BWM.

7.0 **BLOCKING OF THE LINES:**

A clear remark in Red ink shall be made immediately in the train signal Register indicating Time and number of running line blocked and a record shall be made in station Diary. Reminder collar must be placed on the concerned route and signal button controlling the blocked line vide SR 3.36.03 (b).

7.1 **SECURING OF VEHICLES:**

As far as practicable, loose vehicles shall not be allowed to stand on the running lines. However under unavoidable circumstances, if it is necessary to detach vehicles from a train or to stable a train and leave them standing on the running line, the SM on duty shall be responsible to secure the vehicle/stabled loads in accordance with General Rule 5.23 and Subsidiary Rule 5.23.01 to prevent rolling down of vehicles and arrest obstruction and fouling.

7.2 **USE OF REMINDER BLOCK COLLARS:**

Whenever any running line is blocked or whenever a train is stopped to cross another train or detained for any reason even for a short while or during shunting operations, reminder block collars shall be used by the SM on duty on the push button concerned as per Subsidiary Rule 3.36.03 (b).

C. **ALTERATION OF A POINT TO A CLEAR LINE WHENEVER A RUNNING LINE IS BLOCKED:**

- a) When a running line is blocked by stable load, wagon, vehicles or by a train, which is to cross or to give precedence to another train or immediately after the arrival of a train at the station etc, the points at either end should immediately be set against the blocked line except when any shunting or any other movement is required to be done immediately in that direction on that line.
- b) If all the lines at a station happen to be blocked, when “Line Clear” has been granted to a train, the points should be set for the line occupied by a stable load or a goods train in that order, so that in case of any mishap, the chances of causalities are minimized. In case all the lines are occupied by passenger carrying trains, points should be set for a loop line to negotiate of which the speed of the incoming train would be reduced, which in turn would minimize the consequences/causalities. While doing so, points may be set for a loop occupied by a train, if any, whose engine is facing the direction of approach of the incoming train rather than for a loop occupied by a train whose passenger coach will in case of collision, receive the impact.

D. **LOADING AND UNLOADING OF VEHICLES ON RUNNING LINES:**

Except smalls loading and unloading of vehicles on running line is prohibited unless permitted by DOM vide SR 5.19.01.

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8. **SHUNTING:**

Shunting will be carried out at this station in accordance with General Rule 5.13, 5.14, 5.16, 5.19, 5.20 to 5.23, 8.09 to 8.11, 8.13 to 8.15 and relevant Subsidiary Rules thereto and Block Working Manual.

The Guard/Station Master/Traffic pointsman on duty is authorized to supervise shunting operations. Normally caution aspect of starter signals and back shunt signals shall be used for shunting operations. The official supervising shunting shall ensure the correct setting clamping and pad locking of the points. The SM on duty and the official supervising shunting shall co-ordinate with each other regarding shunting operations. Neither reception signals nor departures signals shall be taken off unless the shunting is isolated and the path of incoming/outgoing train is free from all obstructions.

8.1 **SHUNTING IN THE FACE OF AN APPROACHING TRAIN:**

Shunting in the face of an approaching train is prohibited.

8.2. A. **SHUNTING OUTSIDE HOME SIGNAL:**

The concerned section shall be blocked back for shunting outside Home Signal provided the section is clear.

B. **SHUNTING OUTSIDE STATION SECTION:**

Shunting outside Advanced Starter Signal and up to the First Stop Signal of the opposite direction is permitted vide Para 5.36 of Block Working Manual provided the Block section is clear and Home Signal is kept at 'ON' position.

8.3 **PROHIBITION OF SHUNTING SPECIAL FEATURE, IF ANY:**

NIL

9.0 **ABNORMAL CONDITION:**

9.1 **PARTIAL FAILURE:**

In the event of suspension of Lock and Block Instrument and during partial failure of other available means of communication, the procedures detailed below shall be followed for working of trains in different situations.

- A. Failure/Suspension of Block Instrument or Track Circuit or Axle counters-  
'Line Clear' shall be obtained on the Telephone attached to the Block Instrument or station telephone where provided exchanging ID number and supported by Private Number.
- B. Failure/Suspension of Block Instrument or Track Circuit or Axle Counters or telephone attached to the Block Instruments or station fixed telephones-  
'Line Clear' shall be obtained on Railway auto phone or BSNL phone by exchanging Identification Number supported by a Private Number.
- C. Failure/Suspension of Block Instrument or Track Circuit or Axle counters or telephone attached to the Block Instruments or Railway auto phone or BSNL phone. 'Line Clear' shall be obtained on control phone by exchanging Identification Number supported by a Private Number.
- D. Failure/Suspension of Block Instrument or Track Circuit or Axle counters or Telephone attached to the Block Instruments or Railway auto phone or BSNL phone or control phone.

'Line Clear' shall be obtained on the VHF sets by exchanging identification Number supported by a Private Number.

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The authority to proceed for the Loco Pilot of a train is a paper line clear ticket to pass the last stop signal at 'ON' position.

9.2 **TOTAL FAILURE OF COMMUNICATION:**

In the event of total failure of Communications occurring between Delang – Birpurushottampur or Sakhigopal - Birpurushottampur Station is when line clear cannot be obtained by one of the following means stated in order of performance viz.

- a) Block Instruments, Track Circuits or Axle Counters.
- b) Telephone attached to Block Instruments.
- c) Fixed telephone such as Railway auto phones.
- d) Control telephone.
- e) VHF set

Then the train shall be worked in terms of SR 6.02.04 which is summarized as follows.

The train which is to be dispatched to the affected section will be stopped and the Loco Pilot and Guard of the Train shall be informed of the Situation.

To open communication of the affected Block Section the SM on duty may send any one of the modes of transport.

- |                                 |                                           |
|---------------------------------|-------------------------------------------|
| a) Light engine                 | d) Tower Wagon with Guard/ SM             |
| b) Train Engine                 | e) Diesel Car/ Rail Motor Car/ detraining |
| c) Motor Trolley with Guard/ SM | Passengers                                |

The SM on duty shall hand over an authority (T/B-602) for opening of communication during total interruption of communication on single line section to the Loco Pilot/Guard/Motorman/SM who is being sent to open communication which includes.

- a. An "Authority to proceed without line clear"
- b. A caution order restricting the speed of the train to 15 KMPH by day or when view ahead is clear and 10 KMPH during Night or when the view ahead is obstructed in addition to other speed restriction in force.
- c. An authority to pass the last stop Signal at "ON" Position.
- d. A line clear enquiry message asking line clear for the waiting train.
- e. A conditional Line Clear Message for the light engine to return with or without a train attached supported by private number.

On arrival of the engine at the next station the conditional line clear message and enquiry message shall be collected by the SM on duty who shall prepare a conditional line clear ticket for engine to return either light or a train attached to it, and conditional line clear reply message for the enquiry message giving the line clear for the train waiting at other end shall be handed over to the Loco Pilot of Light engine on return trip the Loco Pilot will come on booked speed subject to any other speed restriction in force.

If there be an even flow of trains in both directions, enquiry and conditional line clear message for each succeeding train may be sent through the guard of preceding train.

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If the Station master at one end has more than one train to dispatch in the same direction he may ask line clear not only for one train but also for following trains. It must be stated that these later trains will be dispatched after the first train at an interval of 30 minutes. When dispatching, the second and subsequent trains particulars of last preceding train along with its departure time will be endorsed on the line Clear ticket and the train which will follow and a caution order restricting the speed to 25 KMPH over straight when view ahead in clear and 10 KMPH when view ahead is obstructed is to be issued while adopting this procedure the guard and the Loco Pilot should be instructed to keep a sharp look out and be prepared to stop short of any obstruction. Trains must continue to work on this system until any one of the means of communication is restored. As soon as any one of the means of communication has been restored, the conditional line clear working of trains shall be cancelled when there are no trains in the affected block section and message shall be exchanged supported by Private Number keeping section controller in formed.

9.3. **DESPATCH OF TRAINS UNDER AUTHORITY TO PROCEED WITHOUT LINE CLEAR OR TO ASSIST THE CRIPPLED TRAIN:**

Rules and regulations for working trains on an obstructed line in case of obstruction or accident on the authority of block ticket (T/A-602) when communications are available shall be followed in accordance with the provisions which are summarized as follows. [Refer SR 6.02.05]

SM on duty will suspend the absolute block system of working and both SM's concerned should arrange for running of trains on the authority of Block Ticket.

SM at the dispatching end will hand over to the Loco Pilot the authority as BLOCK TICKET which includes.

- a) Caution order restricting the speed to 15 KMPH during clear visibility and 10 KMPH when visibility is obstructed. Existing speed restriction if any shall be clearly indicated in caution order portion.
- b) An authority to pass the signals at 'ON' position.

Before resumption of normal working a message between the SM's of the concerned section shall be exchanged with private number. [Refer SR 6.02.05 (d) (vi)].

The block ticket so issued must be collected by SM of either end with a certificate about the complete arrival of the train with its time and the section is clear of all obstructions from the Loco Pilot/Guard of the train and cancels it.

10. **VISIBILITY TEST OBJECT:**

The Line No.1 (1<sup>st</sup> Loop) UP starter signals No. 3 and DN Starter Signal No. 6 during day and night are treated as the visibility test objects for UP & DN lines vide GR 3.61 (2) (b) (iii).

11. **ESSENTIAL EQUIPMENT AT THE STATION:**

(Details are given in Appendix-'E')

12. **FOG SIGNAL MEN NOMINATED TO BE CALLED IN CASE OF FOG:  
FOG SIGNALLING:**

In case of thick, foggy or tempestuous weather impairing visibility, whenever it is necessary to indicate to the Loco Pilot of an approaching train the locality of a signal, the

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SM on duty at station shall arrange for signaling in terms of General Rules 3.61 and Subsidiary Rules thereto. The assurance of the staff shall be obtained in the month of OCTOBER every year in the Fog Signal Register vide SR 3.61 as a token of their acknowledgement in fog signaling Rules.

Fog signalmen shall be detailed for duty at stations being recruited partly from the station traffic staff and partly from Engineering Gangman and must not be substitutes or casual labour but regular employees of the railway.

**STATION DETONATOR REGISTER (OPT/124):**

A Register regarding detonator is maintained at the station.

**INSTRUCTIONS:**

- a. This register contains the following parts.
  - Part – I : Particulars of fog signal men posted at the station from time to time.
  - Part – II : Particulars of receipt and stock of detonating (fog) signals at the station to be filled in whenever detonators are used or received.
  - Part – III : Periods of fogs, fog signalmen on duty and details of detonators used.
  - Part – IV : Particulars of issue and testing of fog signals at the station.
- b. As soon as a man is posted to or detailed for duty at a station as a Fog Signalman, the Station Master must satisfy himself that the man is fully acquainted with and understands the rules relating to the placing of detonating (fog) signals at stations during thick or foggy weather. As an assurance of this, the Station Master shall take the signature or thumb impression of such men in the appropriate column of Part - I of this register.
- c. In-charge of the station shall ensure that the information maintained in the register is kept up to date and is accurate in all respects.
- d. Transportation inspectors shall check the registers and also the stock of detonators on hand each time they visit the station and initial with date as an indication having done so.

**APPENDICES**

- APPENDIX-A : WORKING OF LEVEL CROSSING GATES
  
- APPENDIX-B : SYSTEM OF SIGNALING AND INTERLOCKING AND COMMUNICATION ARRANGEMENTS AT THE STATION.
  
- APPENDIX-C : ANTI COLLISION DEVICE (RAKSHA KAVACH)
  
- APPENDIX-D : DUTIES OF TRAIN PASSING STAFF AND STAFF IN EACH SHIFT
  
- APPENDIX-E : LIST OF ESSENTIAL EQUIPMENTS PROVIDED AT THE STATION
  
- APPENDIX-F : RULES OF WORKING OF DK STATION, HALTS, IBH, IBS AND OUTLYING SIDINGS
  
- APPENDIX-G : RULES FOR WOKING OF TRAINS IN ELECTRIFIED SECTIONS

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**1.2 A EQUIPMENT TO BE AVAILABLE AT THE GATE:**

Sl. No.	Items	
01	Battery operated LED based flashing lamp	3
02	Hand signal flag Green	1 mounted on stick
03	Hand signal flag Red	3 mounted on sticks
04	Banner flag Red	3
05	Posts for exhibiting Red banner flag	2
06	Spare chains with padlocks	2 with stop mark
07	Detonators	10 (In tin case)
08	Gate lamps	2
09	Tommy bar	1
10	Mortar pan	1
11	Spade/Fowrah	1
12	Rammer	1
13	Pick axe	1
14	Tin case for flag	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	Small chain with padlock	2

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

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

- i) Gate Working Instructions in Hindi/English.
- ii) Gate Working, Instructions in local vernacular language.
- iii) Gateman Rule Book in local vernacular language.
- iv) List for tools and books.
- v) Duty Roster.
- vi) Certificate for working as Gateman.
- vii) Bio-data particulars of Gatemen, including date of passing vision test, initial/refresher course, safety camp, etc.
- viii) Accident Register.
- ix) Record of last census of road traffic at Level Crossing Gate.
- x) Public Complaint Book.
- xi) Inspection Book.

**1.3 MODE OF OPERATION:****NORMAL WORKING OF THE LEVEL CROSSING (INTERLOCKED):**

The level crossing gate is normally kept open against road traffic. This gate is interlocked with DN reception signals and UP dispatch signals. The interlocking is achieved by means of Electrical Key Transmission system. A two-lever frame is provided

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at the gate lodge. The key of the L.C. Gate remains in the winch when the gate is in open condition. When it is necessary to close the gate for taking off signals or for shunting operation the Station Master on duty shall take following steps.

**INTIMATION TO GATEMAN:**

- Before taking off reception/departure/shunt signals, station master shall inform the gateman, the number, description and direction of the train.
- The gateman shall close the gate and transmit the key to the station master. (the detail procedure is described below)
- The reception/departure/shunt signals will be taken "OFF".
- In order to ensure that road traffic is not held up for a long time, the station master must ensure that the train is ready for departure in all respects before he advises the gateman for closing the gate.
- 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 trains or to perform the 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.

The Gateman on duty shall then close the barriers of the L.C. Gate by operating winch. The key 'P' is to be extracted from the winch, which will be inserted in the GF-1. When GF-1 reversed, locks the booms of the gates and releases Key 'Q' and GF-2. This key 'Q' will be inserted in the EKT and turned and GF-2 will be reversed for taking "OFF" DN Home/Calling-on Signals, UP Starter Signal No. 3, 5 & 7 and Shunt 14-A/B/C. Station Master on duty will press level crossing control button No. 21 (Chocolate) and group button (release), L.C. Gate closed indication will appear in the panel and concerned signals automatically get released.

After the passage of train or completion of shunting the Station Master on duty shall inform the Gateman and press L.C. Gate controlling button No. 21 and common group button (Trans) and keep it pressed till such time the Gateman extracts the gate control key 'Q' from the EKT instrument. After getting the Key 'P' the Gateman will open the L.C. Gate by normalizing the levers.

Emergency gate release operation facility is provided in the panel when the route gets locked due to some failure. For emergency release of gate, the SM on duty shall press signal cancellation button and then emergency gate release button and gate button No.21. A red flashing (Gate lock) indication will appear and after a lapse of 120sec. Gate lock indication will disappear and a white light will glow over the emergency gate release button indicating that the operation is matured. The SM on duty shall then operate push button for gate and Group Trans Button to release the key from EKT in gate Lodge. All such operation will be registered in the emergency gate operation counter. All such emergency operation shall be recorded in the station diary and in the register meant for it.

Lever No. 2 is provided at the gate lodge to put back the concerned signal to danger in case of emergency.

To avoid the detention to the road traffic at the Level crossing gate, the gate signals should not be taken off too early in advance and L.C. Gate should not be kept closed for more than 10 minutes at a stretch.

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**1.4 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, gateman will stand in the manner indicated below:
- (i) Gateman will stand attentively in front of the gate lodge facing the approaching train.
  - (ii) In day time, gateman shall hold red and green flags furled up on separate sticks in right and left hands respectively.
  - (iii) In night time, gateman shall hold lighted hand signal lamp with white light facing the track.
  - (iv) He shall keep the whistle slung around his neck from a cord.
- (3) **ROUTINE DUTIES OF GATEMAN:**
- (i) Gateman shall place red banner flag across the track during emergencies and obstruction on the track.
  - (ii) Gateman shall ensure that 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 close and lock the gates against road traffic and inform the same to on duty SM, 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 / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vaccum cylinder or any other situation endangering safe running of trains.
  - (vi) Gateman shall also be prepared to repeat any signal which guard may give to Loco Pilot on walkie – talkie or in any other way.
  - (vii) If lifting barriers / leaf gates 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 SM, Gangman or Permanent Way Inspector 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 and lifting barriers / leaf gates on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco Pilot to report the defect at the next station.
  - (xi) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
  - (xii) Gateman shall ensure that he is having competency certificate in his possession while on duty.
  - (xiii) Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.
  - (xiv) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.

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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 unmetalled 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 trespassing by persons or cattle to the maximum extent.

(4) **ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:**

- In case gateman observes anything unusual with a passing train, he shall take following action.
- (i) He shall take prompt action to warn the Loco Pilot / guard of the passing train by showing red flag by day and red light by night.
  - (ii) He shall simultaneously try to draw the attention of the Loco Pilot / guard by whistling continuously, shouting, gesticulating, throwing ballast on the brake van or by any other means.
  - (iii) If Loco Pilot/guard fails to take notice, gateman shall immediately inform the Station Master, if connected on telephone, to take appropriate action, under exchange of private number.
  - (iv) In case of train parting, gateman shall not show stop hand signal but shall show prescribed signal for train parting.
  - (v) He shall endeavor to attract the attention of the Loco Pilot/guard by whistling continuously, shouting, gesticulating and by raising both hands vertically above, quickly parting them and bringing them together in repeated Up and Down motion as high and as low as possible.
  - (vi) In case the train does not stop, gateman shall immediately inform the Station Master, 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 connecting by telephone, regarding the defects/obstructions at the gate, under exchange of private number.
  - iii) 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.
- a) **The gateman shall protect the line as under:**
- i) Gateman shall plant 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 plant the other red banner flag by day and red light by night towards the other direction 5 meters away from the site of obstruction.
  - iii) Gateman shall then proceed to the gate along with detonators, Battery Operated LED Based Flashing Lamp and red flag by day and red hand signal lamp by night.
  - iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction from which a train is expected to arrive first, to a point 600 meters on BG and place one detonator on the line. Thereafter he shall proceed to a distance

- 1200 meters on BG from the level crossing gate and place 3<sup>rd</sup> detonators on the track 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v) Thereafter, he shall proceed towards the other direction, showing red hand signal, similarly place detonator as described in Para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
  - vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
  - vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators he shall place detonators on the line at a distance as far away as he can go.
  - viii) Thereafter, he shall light Up the Battery Operated LED Based Flashing Lamp to 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 as described in sub Para (a) above.
  - ii) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers/leaf gates or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.
  - iii) He shall note down the particulars of the road vehicle, vehicle number, name of the Driver, owner and relay these details to use nearest SM or Permanent Way Inspection regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

#### 1.5 **FAILURE OF TELEPHONE COMMUNICATION:**

- When Telephonic Communication fails or it does not get any response from the Gateman despite 2 or 3 attempts, the following procedure should be adopted:
- (i) Station Master on duty shall send written advice to the gateman through the 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 signaled by the gateman. 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 staff rectify the telephone and issue reconnection/ fit memo for the same.

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**1.6 FAILURE OF LIFTING BARRIERS OR LEAF GATES:**

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

**NOTE:**

Authority to pass signals at "ON" position as per rules shall also be issued to the Loco Pilots of both departing and arriving trains.

**1.7 FAILURE OF GATE KEY WITH THE GATE IN CLOSED POSITION WHEN GATE KEY CANNOT BE EXTRACTED FOR OPENING THE GATE:**

- (i) If the gate key cannot be extracted from the winch, the gate leaves or the key transmitter then gateman must immediately inform the Station Master on duty on telephone, under exchange private number.
- (ii) If Emergency Key is available at the gate lodge/Gateman will take it out from the sealed box by breaking the seal and open the gate for road traffic. No emergency key is available at this gate.
- (iii) 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.
- (iv) Station Master on duty shall issue a caution order to the Loco Pilot of a departing train.
- (v) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vi) Station Master shall advise S & T staff responsible for maintenance of winch/gate leaves/key transmitter to rectify the defect at the earliest.
- (vii) Normal working will be resumed only after S & T staff repairs the winch/gate leaves/key transmitter and issue reconnection/ fit memo for the same.

**1.8 FAILURE OF GATE KEY WITH THE GATE IN OPEN CONDITION:**

- (i) If the gate key cannot be extracted from the winch, gate lever or key transmitter then gateman must immediately inform the Station Master 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) Gateman shall secure the gate against road traffic by means of chains and padlocks and pass trains on hand signals.

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- (iv) Station Master on duty shall issue caution order to the Loco Pilot of a departing train.
- (v) He shall also advise the Station Master at the dispatching end, under exchange of private number to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vi) Station Master shall advise S & T staff responsible for maintenance of winch/gate leaves/key transmitter to rectify the defect at the earliest
- (vii) Normal working will resumed only after S & T staff repair the winch/gate leaves/key transmitter and issues reconnection/ fit memo for the same.

### **1.9 OBSTRUCTION AT THE GATE:**

- (i) If the gate is broken by a road vehicle which is fouling the track or if lifting barriers/ leaf gates or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- (ii) Immediately after this, the gateman shall advise the Station Master on duty, regarding the defects / obstructions 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) Gateman shall then rush with detonators, Battery Operated LED Based Flashing Lamp , and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect gate vide GR.16.07.
- (vi) Thereafter he shall protect the gate from the other direction also.
- (vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and relay these details to the Station Master who shall not start the train unless he has been assured by the gateman that the road vehicle or the lifting barriers/ leaf gates are not fouling the track.
- (viii) The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.
- (ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- (x) Station Master shall then issue 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 obstruction.
- (xi) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and there after exhibit green hand signal, if the gate is not obstructed.
- (xii) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers/leaf gate to repair the same at the earliest.
- (xiii) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers/ leaf gates and issue reconnection/ fit memo for the same.

### **10.0 OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:**

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.1.9 above. If the obstruction fouls the Level Crossing Gate, gate man must keep the gates closed against road traffic till the track is cleared of the obstruction.

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**2.0 WORKING INSTRUCTION FOR THE MANNED MID SECTION NON-INTERLOCKED 'C' CLASS LEVEL CROSSING GATE NO. KP-24 SITUATED AT KM. 478/9-10 BETWEEN BRST-SIL.**

Note: These instructions shall be read together with provision in General and Subsidiary Rule.

**2.1 BRIEF DESCRIPTION:**

1.	Number of level crossing gate	KP-24	
2.	Traffic gate or Engineering	Engineering	
3.	Under control of	SSE/(P.WAY)/KUR	
4.	Location at	Km. 478/9-10	
5.	At station	-	
6.	In between station	BRST-SIL	
7.	BG/MG/NG	BG	
8.	Single line /Double line	Single Line	
9.	Normal position	Close to road traffic.	
10.	Interlocked/Non-interlocked	Non-Interlocked	
11.	Means of interlocking	-	
12.	Provision of gate Signal	UP-	DN-
13.	Signaling arrangement	-	
14.	Means of communication	Telephone with SM/BRST	
15.	Width of Level crossing gate	7.50m	
16.	Type of Road	ODR	
17.	Name of Road	Sadanandapur	
18.	Metal led/Non metal led	Metalled	
19.	Approach Road	Metalled	
20.	Width of the Road	5.50m	
21.	Angle of Road crossing.	-	
22.	Road gradient	i) North East side – 1:30 ii) South West side – 1:30	
23.	Road alignment (straight / curve)	i) North East side – Straight ii) South West side – Straight	
24.	Provision of height gauge	Yes	
25.	Type of Barrier	Lifting	
26.	Length of check Rail	9.50m	
27.	Road surface in between L-Xing gates	CCB	
28.	Length of Rumbled strip/speed breaker	10.50m	
29.	Road signs	Available	
30.	Speed breakers indication boards	Available	
31.	TVU	15715 on May 2012	
32.	Census next due on	May 2015	
33.	Demarcation for placement of detonators	Available	
34.	No. of gateman working	02	
35.	Nearest Railway Medical Assistance	Puri	
36.	Nearest Private medical Assistance	Sakhigopal	
37.	List of equipment available Yes/No	Yes	

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**2. 2 A. EQUIPMENT TO BE AVAILABLE AT THE GATE:**

Sl. No.	Items	
01	Battery operated LED based flashing lamp	3
02	Hand signal flag Green	1 mounted on stick
03	Hand signal flag Red	3 mounted on sticks
04	Banner flag Red	3
05	Posts for exhibiting Red banner flag	2
06	Spare chains with padlocks	2 with stop mark
07	Detonators	10 (In tin case)
08	Gate lamps	2
09	Tommy bar	1
10	Mortar pan	1
11	Spade/Fowrah	1
12	Rammer	1
13	Pick axe	1
14	Tin case for flag	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	Small chain with padlock	2

**B. RECORDS TO BE KEPT AT GATE LODGE:**

In addition to the above equipment, following records shall also be kept at the gate loge. Gate Working Instructions in Hindi/English.

- (i) Gate Working, Instructions in local vernacular language.
- (ii) Gateman Rule Book in local vernacular language.
- (iii) List for tools and books.
- (iv) Duty Roster.
- (v) Certificate for working as Gateman.
- (vi) Bio-data particulars of Gatemen, including date of passing vision test, initial/refresher course, safety camp, etc.
- (vii) Accident Register.
- (viii) Record of last census of road traffic at Level Crossing Gate.
- (ix) Public Complaint Book.
- (x) Inspection Book.

**2.3 MODE OF OPERATION:****NORMAL WORKING OF THE LEVEL CROSSING GATE (NON-INTERLOCKED):**

The level crossing gate is normally kept closed against road traffic and it will be opened for passage of road traffic only when it is necessary and safe to do so. The Gateman on duty before opening the gate shall ensure that he has not exchanged any Private

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Number with the station or if he has exchanged Private Number with the station, the whole of the train with last vehicle indicator has passed over the level crossing gate and the Station Master has not exchanged Private Number with him for any movement immediately in the rear of that train or on the adjacent line (s). Before opening the gate, he shall display a banner flag across the track.

#### 2.4 **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, gateman will stand in the manner indicated below:

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

(3) **ROUTINE DUTIES OF GATEMAN:**

- i) Gateman shall ensure that red banner flag is placed across the track whenever the gate is kept in open condition for passage of road vehicles.
- ii) Gateman shall ensure that 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 close and lock the gates against road traffic, before leaving the gate.
- iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- vi) Gateman shall also be prepared to repeat any signal which guard may give to Loco Pilot on walkie – talkie or in any other way.
- vii) If lifting barriers / leaf gates 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 SM, Gangman or Permanent Way Inspector 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 and lifting barriers / leaf gates on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco Pilot to report the defect at the next station.
- xi) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.

- xii) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- xiii) Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.
- xiv) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- xv) Gateman shall see that the channel for the flange of the wheel is kept clear.
- xv) Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
- xvi) 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 trespassing by persons or cattle to the maximum extent.

(4) **ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:**

- In case gateman observes anything unusual with a passing train, he shall take following action.
- i) He shall take prompt action to warn the Loco Pilot / guard of the passing train by showing red flag by day and red light by night.
  - ii) He shall simultaneously try to draw the attention of the Loco Pilot / guard by whistling continuously, shouting, gesticulating, throwing ballast on the brake van or by any other means.
  - iii) If Loco Pilot/guard fails to take notice, gateman shall immediately inform the Station Master, if connected on telephone, to take appropriate action, under exchange of private number.
  - iv) In case of train parting, gateman shall not show stop hand signal but shall show prescribed signal for train parting.
  - v) He shall endeavor to attract the attention of the Loco Pilot/guard by whistling continuously, shouting, gesticulating and by raising both hands vertically above, quickly parting them and bringing them together in repeated Up and Down motion as high and as low as possible.
  - vi) In case the train does not stop, gateman shall immediately inform the Station Master, 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 connecting by telephone, regarding the defects/obstructions at the gate, under exchange of private number.
- iii) 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.

(a) **The gateman shall protect the line as under:-**

- i) Gate man 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 plant the other red banner flag by day and red light by night towards the other direction 5 meters away from the site of obstruction.
- iii) Gatemen shall then proceed to protect the gate along with detonators, LED tricolor hand signal Lamps and red flag by day and red hand signal lamp by night.
- iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction from which a train is expected to arrive first, to a point 600 meters on BG and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters on BG and from the level crossing gate and place 3 detonators on the track 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v) Thereafter, he shall proceed towards the other direction, showing red hand signal, similarly place detonators as described in Para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
- vi) Having returned to the gate, he must then like steps to remove the obstruction and warn the Loco Pilot of the approaching train.
- vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- viii) Thereafter, he shall light up the Battery Operated LED Based Flashing Lamp to warn the Loco Pilot and stop the approaching train by waving this 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 as described in sub Para (a) above.
- ii) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers / leaf gates or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.
- iii) He shall note down the particulars of the road vehicle, vehicle number, name of the Driver, owner and relay these details to the nearest Station Master or Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

**2.5 EXCHANGE OF PRIVATE NUMBER:**

- (i) The normal position of the level crossing gate is "Closed to Road Traffic".
- (ii) The Station Master before permitting each train to enter into the block section, shall ask Gateman on the telephone by giving a Private Number whether, gate is closed against road traffic for the passage of train. The Gateman only after ensuring that the gate is actually closed and locked against road traffic shall give a Private Number to the Station Master in assurance of gate being closed & locked against road traffic.
- (iii) The Station Master shall not permit any train to enter the block section, unless he is assured of the closure and locking of the gate by the gateman supported by exchange of Private Number.
- (iv) When the gateman desires to open the gate for passage of road traffic he should ensure that:
  - (1) He has not exchanged any private number with the station as per 2.5 (ii) above,
  - or

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(2) If he has exchanged private number with the Station Master, the whole of the train with last vehicle indicator has passed over the level crossing gate and the Station Master has not exchanged private number with him for any other movement immediately in rear of that train or on the adjacent line (s).

Before opening the gate for road traffic, he shall display banner flag/danger signal at either side of the track at a distance of 5 meters away from the gate. Then he shall open the gate for passing the road traffic, keeping a red flag/red hand signal lamp ready by his hand to stop approaching train if any.

- (v) In case the Gateman is not responding on the telephone or incase the telephone becomes defective or private number is not received from the Gateman, the Station Master shall adhere to the procedure prescribed in SR 16.03.04.
- (vi) In the event of failure of telephone, if the gate is required to be opened for the passage of road traffic, the gateman shall look out in both directions before opening the gate to ensure that no train is approaching from either end. He shall then plant a banner flag during day and a hand signal lamp with the red light during night, 5 meters away from the gate on the track on either side. He will thereafter, open the gate for passing the road traffic keeping a red flag/red hand signal lamp ready in his hand to stop approaching train if any.

## 2.6 **FAILURE OF TELEPHONIC COMMUNICATION:**

When telephonic communication fails or it does not get any response from gateman despite 2 or 3 attempts, the following procedure should be adopted:

- i) Station master at dispatching end shall issue caution order to the Loco Pilot of the departing train.
- ii) The caution order shall advice the Loco Pilot to whistle continuously and approach the gate cautiously.
- iii) The Loco Pilot shall be instructed to pass the gate cautiously, on being hand signaled by the gate man. If hand signal is not seen, the Loco Pilot should prepared to stop short of the gate and depute his assistant Loco Pilot to see the condition of the gate. If gate is closed, the assistant Loco Pilot will give all right signal and if the gate is not closed the assistant Loco Pilot must close the gate and then give all right signal. In the absence of the assistant Loco Pilot, the Loco Pilot may take the assistance of assistant guard/guard.
- iv) In case of an approaching train, the station master shall advise the station master at the dispatching end, under exchange of private number that the telephone at the gate has failed.
- v) The station master at the dispatching end shall then issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- vi) The station master shall advise the gateman through gangman/patrol man or the Loco Pilot of the first train that the telephone has become defective.
- vii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.
- viii) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection/fit memo for the same.

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**2.7 FAILURE OF LIFTING BARRIERS OR LEAF GATES:**

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

**2.8 OBSTRUCTION AT THE GATE:**

- i) If the gate is broken by a road vehicle which is fouling the track or if lifting barriers/ leaf gates or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- ii) Immediately after this, the gateman shall advise the Station Master on duty, regarding the defects / obstructions 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) Gateman shall then rush with detonators, Battery Operated LED Based Flashing Lamp , and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate vide GR.16.07.
- vi) Thereafter he shall protect the gate from the other direction also.
- vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and relay these details to the Station Master who shall not start the train unless he has been ensured by the gateman that the road vehicle or the lifting barriers/ leaf gates are not fouling the track.
- viii) The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.
- ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- x) Station Master shall then issue a caution order to Loco Pilots of all trains to proceed cautiously, and pass the gate on green hand signal of the gateman, if the gate is broken, but clear of any obstruction.

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- xi) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and there after exhibit green hand signal, if the gate is not obstructed.
- xii) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers/leaf gate to repair the same at the earliest.
- xiii) Normal working will be resumed only after maintenance staff rectify the defective lifting barriers/ leaf gates and issue reconnection/ fit memo for the same.

2.9 **OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:**

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. 2.8 above. If the obstruction fouls the Level Crossing Gate, gate man 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, INTERLOCKING AND COMMUNICATION ARRANGEMENTS AT THE STATION****BRIEF DESCRIPTION OF SIGNALLING AND INTERLOCKING INSTALLATIONS.**

This is a 'B' class station on KUR-PUI Branch single line section with standard III interlocking (with isolations). The station is equipped with Panel operated Multi Aspect Colour Light Signaling.

**1. DESCRIPTION OF PANEL**

The yard layout is depicted on the panel. All the points and Signals of station are operated from the Control Panel located at the station. The Control panel consists of an inclined console on which there is a clear geographical representation of the entire track layout with signals and points. The track layout is subdivided according to the track circuits configuration with distinctive colours for each track circuit on the track line adjacent to each signal. There exists an entrance Push Button at the center of the berthing of each route. The entrance Push Button (Signal Button) is coloured with 'RED' for running signals with the number of relevant signal printed just by the side of the button. The entrance Route Push Buttons are coloured with "WHITE". The signal buttons are to be operated in conjunction with Route buttons. All the various Push buttons on the panel are spring loaded and required Push buttons are pressed for operation. Common Route buttons for taking 'OFF' common starters and individual Route buttons for taking of Advanced Starters are provided.

- 1.1(a) Down Home Signal No. 2/A/B/C from Sakhigopal end is interlocked with Block Instrument at station for section BRST-SIL. in such a way that unless the Down Home Signal No. 2/A/B/C is put back to 'ON' position after the preceding train has arrived inside all the facing & trailing points at that end, the Block Instrument can not be normalized.
- 1.1(b) The Single line Block Instrument at station for section Delang- Birpurusottampur in UP directions can be normalized after the preceding train has arrived inside all the facing and trailing points at that end and after putting back the respective Up Home Signal No. 1A/B/C to on position
- 1.2(a) Up Advanced Starter Signal for section Birpurusottampur-Sakhigopal is interlocked with TLBI and DN Advanced Starter signal for section Birpurusottampur - Delang is interlocked with TLBI in such a way that unless 'Line Clear' is received for a train on the respective Block Instruments, the respective Advanced Starter Signals can not be taken 'OFF'.
- 1.2(b) 'ON' aspect of First Stop Signal and Last Stop Signals are proved in the interlocking of respective Block Instruments in such a way that it is not possible to close the line and grant or receive 'Line Clear' unless these signals assume 'ON' aspect.



### 1.3 **TRACK CIRCUITS/AXEL COUNTERS**

The entire station yard is continuously track circuited between respective Up & DN Home Signals in both the directions

Track circuits between FM to FM on berthing tracks are :-  
L2T1 & L2T2.

- Point Zone Axle counters are :-  
18/20BXT, 18AXT, 20AXT, 17/19AXT, 19BXT&17BXT.
- Loop Line Axle Counter are  
L1AXT, L3AXT.
- FM to BSL track circuits are :-  
9AT & 12AT.

Home Signal to FM straight portion are :-  
1T & 2T.

- Advanced Starter Replacement track circuits are :-  
9T & 12T
- Calling on approach track circuits are :-  
1AT & 2AT.

### 1.4 **AXLE COUNTERS**

The Station is provided with Axle Counters with adjacent Stations for last vehicle verification

### 1.5 **PUSH BUTTONS**

Various coloured Push Buttons are provided on the panel to carryout operations which are mentioned in Appendix –B1.

### 1.6 **POINT PUSH BUTTON**

Points are normally operated automatically during route setting operation. However, required points can be operated individually also. For this point, point push buttons, which are BLACK in colour are fitted over the point layout in the panel board. The individual operation of the electric point machine is controlled by these point push buttons in conjunction with the electric point group button (Black with Red Dot) (N) or (R) as per requirement. These 'N' and 'R' positions are indicated on a small name plate below point buttons.

On the name plate three luminous indications are provided for each point as follows :-

- 1.6.1 When a point is set and locked in NORMAL position, a 'WHITE' indication appears suggesting that the point is in NORMAL position.
- 1.6.2 When a point is set and locked in REVERSE position, a 'WHITE' indication appears suggesting that the point is in REVERSE position.
- 1.6.3 When the points of any route have been correctly set and relevant signal taken 'OFF', RED indication appears indicating that the concerned points are locked either in NORMAL or REVERSE position as the case may be.

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1.6.4 When the points are either not set or not locked either in NORMAL or in REVERSE correctly, the normal and reverse indication will not be there but the RED indication will start flashing till such time the point is set & locked properly in one of the positions. This RED indication will flash during operation of point also.

### **1.6.5 OPERATION OF POINTS**

Points are operated for NORMAL to REVERSE or vice versa by operating concerned point push button along with common point group (N or R) buttons. When the points are required to set in reverse condition, the point buttons along with point group (R) push buttons to be pressed simultaneously. The Red indication will start flashing till the point is set to reversed and locked. Then the WHITE indication will glow. Only one point can be operated at a time. Red indication glows when the points are electrically locked i.e. after taking 'OFF' signal for the set route. In this position points can not be operated unless, special recourse is taken for operation through emergency crank handle.

1.6.6 All points over running lines are operated by electric point machines.

1.6.7 The cause for not setting of the point in the desired position shall be checked up by the SM on duty according to G & SR 3.68.1 (c). If there is a defect other than obstruction, then point shall be considered defective and action shall be taken for clamping and pad locking of these points in the desired position by SM on duty himself for all trains according to SR 3.69.30 (c).

## **2. SIGNALS AND ROUTE PUSH BUTTONS**

- i) Each stop signal is provided with a RED coloured push button very close to the signal and on the track route to be operated in conjunction with route button.
- ii) Each route push button (WHITE COLOURED) is provided on the track layout and to be operated in conjunction with signal button.
- iii) Each aspect of each signal is repeated on the panel.
- iv) All signals will however go back to danger automatically on occupation of the track circuit ahead of the signal by a train.

## **3. TRAIN ARRIVAL INDICATION THROUGH AXLE COUNTER.**

The system provides for automatic check for last vehicle arrival through provision of axle counters. Axle counters are provided with adjacent station Sakhigopal and Delang to check the complete arrival of trains. The system is interlocked with respective TLBI . When the axle counter section indication provided on the bottom side of the panel individually for either side direction indicates (R) RED i.e. occupied even after the complete arrival of trains, the Block Instrument of respective section can only be normalized after ensuring complete arrival of the trains by physical verification of Last Vehicle either for stopping or through train (Refer reset procedure).

### **4.(a) L.C. GATE CONTROL BUTTON (KM. 477/10-11)**

The Level Crossing control button No. 21 of 'CHOCOLATE' colour with two indications "WHITE" for gate closed and "RED" for gate locked are provided on station panel layout just below the L.C Gate. The gate control push button is to be pressed along with group "TRANS" button for transmitting the control to open the gate and when gate is closed, control is withdrawn by pressing gate control button and group 'RELEASE' button.

**4. (b) EMERGENCY GATE RELEASE**

This is a control provided with a button coloured 'CHOCOLATE' with RED DOT on the top of the station panel. Gate is locked when signal is given. Locking is released after train comes and signal route is cancelled. For some reason, if gate remains locked, emergency operation is required. This emergency operation is to be carried in the following manner.

Emergency gate 'RELEASE' push button and group 'TRANS' button are pressed. Flashing light will come on the top of Emergency Gate Release Button. When the flashing becomes steady (i.e. after 120 seconds), the gate key is transmitted to open the gate.

**5. POINT FAILURE INDICATION (RED)/POINT FAILURE BUZZER/POINT FAILURE MUTING/ACK BUTTON(RED WITH WHITE DOT)**

Whenever there is failure of point due to non setting, point failure indication flashing RED appears near the point name plate and a RED light on the panel besides AUDIBLE BUZZER. The buzzer stops when the point muting button is pressed, but the flashing RED of the concerned nameplate and a RED light above the muting button shall continue to glow. The defective point can be identified by the flashing RED light at the concerned point nameplate. After the failure is rectified, the flashing RED and the RED light above the muting button will disappear.

**6. SIGNAL LAMP FAILURE/POINT FAILURE INDICATION (RED) AND ACK/MUTING BUTTON RED COLOUR WITH WHITE DOT.**

An 'AUDIO VISUAL' indication is provided on the panel to indicate that a signal lamp is fused or a point has failed. In such case, flashing RED indication appears on the panel with an audible alarm. When the muting button is pressed for 2 to 3 seconds and released, the alarm stops but the flashing RED indication continues to glow till the particular signal lamp is replaced or the aspect of the signal is changed or point is rectified. The concerned signal on the panel/the RED light on point nameplate will start flashing in order to indicate the failure.

**7. EMERGENCY ROUTE RELEASE COUNTER**

This counter is provided to register the number of operations made for emergency cancellation of route. The SM must record the last number registered on the counter while taking over/handling over duty.

**8. EMERGENCY ROUTE RELEASE INDICATION (WHITE)/EMERGENCY RELEASE BUTTON (WHITE WITH RED DOT)**

This panel interlocking is based on the principle of 'DEAD APPROACH LOCKING'. As such when a route is set and signal is taken 'OFF' on the route, the route gets locked. Normally the route is released by the passage of the train over the route. When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), the concerned signal must be put back to Danger by pressing the signal cancellation button and the concerned signal button. Then the emergency route release button (White with Red Dot) positioned in the top of panel to be pressed and subsequently the concerned signal button pertaining the route is to be pressed. A 'WHITE' light will glow (Up or Down) indicating that the timer is working. After 120 seconds, the 'WHITE' light along with the WHITE strip of light will disappear suggesting that the route has been released. In the event of normal passage of train, the route gets released automatically and the route lights disappear. In case the route

illumination (a WHITE strip of lights) does not disappear, it suggests that the route is not released/cancelled. In such case the emergency cancellation of route has to be resorted to. The concerned S&T staff should be advised immediately to get the emergency route release button sealed after rectification of fault if any. Each operation of emergency cancellation of route is recorded in the emergency route release counter by registering the next higher number. All such operations and the new number should be recorded in the Station Diary and in the Train Signal Register.

9. **EMERGENCY POINT OPERATION**

Emergency point operation facility is provided to operate point in the event of failure of point controlling track circuit. A push button (Black with Red Dot) is provided on the top of panel. If such operation is necessary, the SM on duty, after ensuring that SM's emergency point key is 'IN' and no vehicle is standing on the concerned point track circuit, shall push the emergency point operation button and then operate the required point button and the point group button (Normal or Reverse). All such operations will be registered in the emergency point operation counter. Each operation of emergency point operation shall be recorded in the Station Diary and in the Register meant for this purpose.

10. **BUTTON HELD ACK**

All push buttons are self-restoring type. A button held acknowledgement push button (White with Red Dot) along with a White indication is positioned at the top of the panel. When any button gets stuck in pressed condition, a buzzer will sound along with flashing White Light indication. The SM shall stop the buzzer by pressing the button held acknowledgement button (White with Red Dot). The buzzer will stop but the flashing White light will continue to glow till the pressed button is normalized. The SM on duty shall try to find out the pressed button for normalization or otherwise inform the maintenance staff for rectification.

11. **STATION MASTER'S PANEL CONTROL KEY**

The panel is fitted with Station Master's lock up key to prevent any unauthorised operation of the panel. The SM on duty is the only authorised person to operate the panel and the panel key must always remain in his personal custody vide Subsidiary Rule 3.36.03 and General Rules 5.08. The key locks the panel board and no operations are possible. In case of emergency, signals can be put back to danger by operating concerned signal button and signal cancel button without inserting the SM's key. However the provisions of Subsidiary Rule 3.36.02 shall be followed while replacing the signals to 'ON'.

12.1 **CRANK HANDLES**

When any point fails to operate normally by the route setting operation or through the concerned point button through panel, it is inevitable to operate the points with crank handle. SM on duty shall personally ensure clamping and pad locking of all facing and trailing points enroute. Crank handles are interlocked with signals and interlocking system. Normally the crank handle is locked in the RKT instrument in the Station Master's room and in the location boxes provided of either end of the yard. These crank handles are for all motor operated points of the station. The CH push button Nos CH1 & CH2 and group button (White with Black Dot) are provided at the top of the panel board. Each button has two indications, viz. WHITE, AND RED. The WHITE indication suggests that the crank handle key is in its interlocked position of the panel. This is called Crank handle Key 'IN' indication'. The Red indication suggests that the crank handles

key is locked and not free for extraction from RKT. This is called 'Crank Handle Key Locked Indication'. The White indication when extinguished suggests that the 'CRANK HANDLE' key is extracted from RKT. This is called 'KEY OUT' indication. The key out White indication of the crank handle locks all reception and departure signals in their normal position. The crank handles are attached to the key in RKT at the Station Master's room and in the end locations and can be released from either of the RKT. The SM has to press CH1& CH2 buttons and Trans button. This will enable SM to extract key from RKT, which in turn can be transmitted from the adjacent RKT to end location for release from RKT and crank handle there. After completion of point work, the crank handle to be inserted in the end location RKT and transmitted to station. The SM on getting information will press economizer button and will extract key from RKT and insert in original RKT and turn to lock in and key IN indication will appear on panel on pressing release button in the group.

The TPM after extracting the crank handle (attached to the RKT key) will operate the required points to the desired position. After the work is over, the TPM shall transmit the key back to SM on duty through RKT.

The SM on duty shall take back the key and put it in original RKT and turn to key 'IN' position. 'ON' pressing the release button on the group along with CH1& CH2, Steady WHITE light glows indicating key 'IN'. The cases of failure of motor operated points should be promptly reported to the concerned Signal Maintainer/Signal Inspector for immediate rectification. SM as per Operating Manual 20.06 (d) shall maintain an Emergency Crank Handle Register. The procedure for use of crank handle for motor operated points shall be followed in terms of Operating Manual 20.06.

After any non-signaled movement has taken place over a point/points operated by an electric point machine, whether in the facing or trailing direction, the SM on duty shall operate point/points to "NORMAL" or "REVERSE" settings for the purpose of testing the points and after ensuring correct indications of "NORMAL" or "REVERSE" setting of points, further movement shall be permitted over the points.

## **12.2 SETTING OF ROUTE AND TAKING OFF RECEPTION SIGNALS**

For setting a route, all the concerned points must be set by operation of relevant point button and group button one at a time in the desired position or by operating signal button and route button. For route setting operation, as soon as the required points are set to the required position, the concerned signal of the route will clear and a White strip of light will appear on the entire route confirming that the route is set and locked. The signal 'OFF' indication will appear on the panel. The indication turns to RED when track is occupied. When train movement is completed, WHITE route light disappears.

## **12.3 SETTING OF ROUTE AND TAKING OFF DEPARTURE SIGNAL**

For setting a particular route for departure of a train, all the concerned points must be set by operation of point button and group button one at a time in the desired position or by operating signal button and route button. To take 'OFF' Advanced Starter, 'Line Clear' must be obtained from the concerned block station in advance. Then the concerned Advanced Starter signal button shall be pressed along with the Advanced Starter route button to be pressed for two to three seconds and released. This will clear the Advanced Starter signal and a

White strip of light will appear on the panel up to the foot of the Home Signal in case of single line.

To take 'OFF' Starter signal, the concerned signal button to be pressed and at the same time common route button to be pressed for two to three seconds and released. This will clear Starter signal and a White strip of light will appear on the route from the concerned starter to the Advanced Starter.

#### 12.4 **TAKING OFF CALLING ON SIGNAL**

Miniature Colour Light Calling on signal is provided below Up & Down, Home Signals in terms of General Rules 3.13 (6) (b). A Calling on signal shows no light in the 'ON' position. A calling on signal is taken 'OFF' for reception of a train when the Home Signal above it cannot be taken 'OFF' due to failure or any other reason or for admission of train on blocked line. To take 'OFF' Calling on signal, the train must come to a stop at the foot of the Home signal occupy the track circuit in rear of the signal. When a train occupies the track circuit, a RED light strip will appear on the panel. The particular route on which train is intended to be received shall be set by operating point push button and group button individually or by route by signal and route button pressing or by crank handling in the event of failure of operation of points through panel. After the route is set the Calling on signal switch CI&C2 (Red with White Dot) (as the case may be) shall be pressed simultaneously along with the concerned route button for 2-3 seconds and release. After a lapse of 120 seconds the calling on signal clears a White light glows at the concerned Calling on signal on the panel.

#### 12.5 **RELEASE/CANCELLATION OF ROUTE**

Normally when a train is received on any route and dispatched, the route illumination will disappear automatically after passage of the train suggesting that the route is released.

#### 12.6 **REPLACEMENT OF SIGNALS TO 'ON'**

Signals are replaced to 'ON' automatically by the passage of a train past the signals. It will not be possible to reclear the signals again unless the due process for clearing the signal is repeated again. For replacement of any signal to 'ON' position manually, the respective signal button and the signal cancellation button (RED) to be pressed simultaneously.

#### 12.7 **INTERLOCKING OF SIGNAL/POINTS**

All the running line points are fitted with facing point locks in the point machine and are electrically detected by the relevant Home signal and starters.

12.8 Signals once taken 'OFF' can be put back to danger in case of emergency by pressing concerned signal button and signal cancellation button even when the panel is locked up with Station Master's key.

#### 12.9 **PILOTING OF TRAINS**

In the event of failure of both Home and Calling-on signal simultaneously, it is inevitable to pilot the train 'IN'. For piloting the train, the setting of route must be ensured by SM on duty personally and the points on route must be clamped and padlocked at both facing and trailing end.

Facing and corresponding trailing ends of all motor operated points must be clamped and pad locked while piloting 'IN' or 'OUT' and during non-signaled-movement.

**NOTE :**

Before piloting 'IN'/'OUT' the train, the SM on duty shall ensure closure of the Traffic interlocked L.C. Gate from the gateman on duty under exchange of Private Number.

13. **NON-RUNNING LINE**  
NIL

13.1 **DESCRIPTION OF SIDING**  
NIL

14. **VERIFICATION OF LINE CLEARANCE BY SMON DUTY FOR RECEPTION OF TRAIN IN STATION YARD.**

In the station yard, a route on the running line comprises of entrance, berthing and dispatch portion of the yard and this portion of the yard should be clear of any obstruction for the passage of any train or for any other movements.

The clearance of the route including overlap must be ensured by the SM on duty personally through panel indications of track before any movement of trains are permitted on the concerned route subject to the other conditions such as locking the points etc.

14.1 **CRANK HANDLING IN EMERGENCY OPERATION OF POINTS**

Crank handles are interlocked with the Signalling and Interlocking System at this station. Crank handles which are normally locked inside the RKT instrument at the station, can be taken out only when all the signals are in the 'NORMAL' position and the route is not locked for whatever reasons. Crank handles can be released by operating common 'TRANS' push button and control push button No. CH1 & CH2 simultaneously. When the key is taken out, no signal can be taken 'OFF' in the yard. This key can be electrically transmitted at both ends of the yard.

14.2 On account of the doubtful operation of any track circuit/Axel Counter by a light vehicle including self propelled vehicle such as Motor Trolley or Light Steam/Diesel shunting engine or Tower Wagon, indicating the occupancy of track, it is necessary that the Station Master on duty satisfies himself that the said vehicle has cleared the point zone track circuits by observing the track indications or the track on either side of the cross over by positively checking the 'Entrance' and 'Exit' track circuits are showing occupancy are clearance in accordance with the train movement.

14.3 **INSTRUCTIONS REGARDING STABLING OF TRAINS ON RUNNING LINES**

When a train is stabled on a running line for duration exceeding ten hours, the use of the said running line for passing the trains 'IN' 'THROUGH' or 'OUT' at the station shall be done with a lot of care and diligence. SM on duty shall meticulously observe the proper functioning of the relevant track circuits (occupancy/clearance) while admitting a train. Such observance should continue for a minimum of four to five trains thereafter. If the SM on duty is not satisfied with the proper functioning of the track circuits on which the train was earlier

stabled, the signals leading on the line shall be suspended and the S&T maintenance staff be informed for attending to this.

## 15. **EMERGENCY OPERATIONS**

The following are the instructions for emergency operations.

### 15.1 **CANCELLATION BUTTON AND VEEDER COUNTER**

For the purpose of the emergency operation, there is an emergency route release. There is a 'VEEDER COUNTER' for the purpose of the emergency operations involving operation of the emergency route release button (Provided at the left of the panel). The SM on duty must press the emergency route release button conforming to the section for which emergency route release is desired.

An indication will appear indicating that the timer has started operation and after lapse of 120 seconds, the desired route will release provided all other conditions are favorable for route release.

- 15.2 The Veeder counter registers the number of such emergency release operations. SM on duty should specify the cause for its usage giving the particulars of causes and the time of operation as related to a particular train etc. in the Train Signal Register as well as in a separate Register meant for this purpose. The detailed operational instructions are as follows.

## 16. **EMERGENCY OPERATIONS-CANCELLATION OF THE LOCKING OF POINTS NOT RELEASED AFTER THE PASSAGE OF THE TRAIN FOR WHATEVER MAY BE THE REASON**

If the locking of the route does not get released for one reason or the other after passage of the train, it is necessary to take resource to the following emergency operations.

- (a) Firstly, it must be ensured that the signal is in the 'NORMAL' position.
- (b) Operations as detailed in Para 9 to be followed.
- (c) In case, route is not released even after emergency route cancellation, facility of crank handling of points shall be used. For releasing the crank handle even when lock indication of crank handle appears on the panel, press Group Trans Button and Crank Handle Button. After two minutes key from RKT can be extracted.

## 17. **LOCKING OF RELAY ROOM**

The relay room should be kept locked with a double lock, which can be opened only after both the keys are used. One key of the lock shall be kept with the SM on duty in his custody and the other with Signal Maintainer. Whenever asked, the key in the custody of SM shall be given to the Maintainer. After completion of work, the Maintainer will return the key to SM. The details of the transaction should be properly recorded in the relevant Register at the station duly signed by SM on duty and the Maintainer concerned.

## 18. **MAINTENANCE OF S&T INSTALLATION & ADHERENCE TO MAINTENANCE SCHEDULES.**

- 18.1 Regular maintenance of the S&T Installations, adherence to Schedules of Maintenance, testing of points, track circuits, ground frames, level crossing gates, associated interlocking apparatus, cables and the interlocking functional tests is must for satisfactory working of these installations at this station.



- 18.2 The tests, checks and replacements etc. including overhauling shall confirm to the Schedules of Maintenance as indicated in the Signal Engineering Manual as also as per the current and Extant Instructions/Circulars on the subject.
19. **PROCEDURE TO BE FOLLOWED INCASE OF FAILURE OF A SIGNAL INTERLOCKING INSTALLATION**
- 19.1 In case of failure of any interlocking gear at the station, the Failure Report should be communicated by the Station Master to the Sectional Maintainer, the Section Engineer/Signal of the section and others through a Memo as per General and Subsidiary Rules 3.51.04 and 3.68.04 and documents of all such transactions.
- 19.2 **INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE**  
However, before declaring a signal as defective, the setting of the point on the route to which it applies shall be inspected by the SM on duty irrespective of the position of the buttons.
- 19.3 **RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING**  
After receipt of this information, the Sectional Maintainer shall attend to the failure after giving a Disconnection Memo. After rectification of the fault, the Sectional Maintainer shall give a Reconnection Memo detailing the rectification. Thereafter, the SM on duty shall personally check this defective apparatus. After satisfying himself that the gear is in good and proper working order, he shall resume the normal working of the said defective apparatus in terms of subsidiary Rules 3.68.04(c) & (d).
20. **PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORK**  
Whenever any normal maintenance or special works for major renewals etc. are involved, the Signal & Telecom should pre-plan these works. Field staff and the Section Engineer/Signal should give to the Station Master in writing an advance intimation about this work in terms of General and Subsidiary Rule 15.08.01
21. **EMERGENCIES**  
Notwithstanding anything contained in the aforesaid Paras when equipment is found to be defective and unsafe for passage of trains, the Signal and Telecom staff must at once suspend the working of the equipment and associated installations and issue 'Suspension Memo' explaining the seriousness of the defect or damage to the interlocking installation to the SM and take has acknowledgement. After this, the usual practice of exchange of Disconnection Memo and Reconnection Memo can follow. The SM must act promptly on such messages and take adequate precaution treating the S&T installation as defective and pass trains over the affected interlocking equipments according to Extant Instructions as contained in General and Subsidiary Rule 3.77.
22. **WORKING OF POINTS-POSITION OF POINTS**  
The normal position of all points is shown in the Station Working Rule Diagram and also in the panel provided in the Station Master's Office.
- 22.1 All cross over points are independent points on the running line and are worked by electric point machines. The point machines have in built locking and detection arrangements. Those points are remotely controlled from the panel installed in the Station Master's Office.

- 22.2 The operation and indication on the point and the route locking over them is already explained in earlier Para's of Appendix 'B2'.
23. **PROCEDURE TO BE FOLLOWED IN THE CASE OF FAILURE OF SIGNALS AND POINTS AND USE OF EMERGENCY CRANK HANDLE.**
- 23.1 Whenever a signal or a point becomes defective, any movement over the points on the running lines should be made after clamping and padlocking of both the facing and trailing points supervised by Station Master on duty personally for all trains at this station.
- 23.2 In case of failure of a signal or a point and in case the point can not be operated from the panel, the emergency crank handle which is interlocked with the interlocking system is to be extracted and the following procedure has to be observed.
- 23.3 Emergency Crank handle is provided for all motor operated points. This is mechanically attached to the key on RKT and can be released by pressing the common push buttons CH1&CH2 and TRANS BUTTON. All signals will be locked in the NORMAL position as soon as this key is released from the RKT. The SM on duty in case of point motor failure, will take out the key and transmit to each end of the yard to operate the point manually by inserting crank handle on the motor.
- 23.4 When the crank handle key is removed from RKT for operation of the defective motor operated points, the responsibility for its safe custody vests with the SM on duty, till it is replaced back in RKT.
- 23.5 The cases of failure of motor operated points should be properly reported to the concerned Signal Maintenance/Section Engineer/Signal for immediate rectification.
- 23.6. Whenever an Emergency Crank Handle is required to be used by signals official for maintenance work or attending to failure, the Signal Official will give a Disconnection memo to the SM on duty and after making necessary entries in the Emergency Crank Handle Register. The SM on duty will obtain the acknowledgement of the Signal Official in the Emergency Crank Handle Register and then hand over to him the Emergency Crank Handle. After completion of the work, the S&T staff will give a Reconnection Memo and return back the Emergency Crank Handle to the SM on duty with due signature to that affect in the Emergency Crank Handle Register.
- 23.7 Before parting with the Emergency Crank Handle either for attending failure or for maintenance work by Signal Maintenance Officials, the SM on duty will ensure that the reception and departure signals are put back to 'ON' position. The points for the affected line should be treated as non-interlocked. The SM on duty is responsible for introduction of non-interlocked working and the trains to be piloted 'IN' and 'OUT' duly clamping and pad locking both facing and trailing points over which the train is to pass, as per General Rules 3.69 and 3.70 with relevant Subsidiary Rules. The SM on duty will be personally responsible for setting and locking of points for reception or dispatch of all trains.

23.8 The emergency Crank Handle Register is to be maintained vide Operating Manual 20.00 Note (d) by the SM on duty wherein the particulars of the usage of the Emergency Crank Handle must be recorded.

24. **SUSPENSION OF LAST STOP SIGNALS**

When the Block Instrument is suspended with its handle in 'TRAIN GOING TO' for whatever reason, the concerned Last Stop signal controlled by the Block Instrument must be treated as suspended and trains shall be piloted 'OUT'.

24.1 The SM on duty shall not grant 'LINE CLEAR' unless he has ensured that the lamps of fixed signals, which apply, to the train are burning. If the signal lights can not be kept burning the SM on duty before giving 'LINE CLEAR' shall initiate action in accordance with the procedure prescribed in General Rules 3.61 to 3.72 and relevant Subsidiary Rules vide General Rule 3.40 (4).

24.2 The SM on duty shall not grant or ask 'LINE CLEAR' if the axle counter section indicates section occupied and will treat the Block Instrument as suspended.

25. **SIGNAL LIGHTS:**

The SM on duty at 00.00 hours (2<sup>nd</sup> night shift) must also ensure from panel that all the signal lights are burning properly and brightly. This fact must be recorded in the diary under a separate entry and confirmed to the Section Controller on duty.

26. **CORRECTING TIME IN STATION CLOCK:**

The SM shall set the time in the clock according to the time signal given by the Section Controller on duty at 16.00 hours every day according to General and Subsidiary Rules 4.01.01 and 4.01.02.

26.1 The SM on duty shall verify the visual indication of the correct setting of the required route on the panel and thereafter he shall receive and replace the emergency crank handle to its normal position locked in the RKT instruments.

27. **RESETTING OF AXLE COUNTER FOR LAST VEHICLE VERIFICATION:**

This station is provided with Axle Counters with adjacent station Delang at KUR end and Sakhigopal at Puri end to verify the Block section of either end of BRST-DEG and BRST-SIL clear or occupied.

Resetting facility is provided for each section after physical of last vehicle when Axle Counter fails.

27.1 **NORMALISATION OF THE AXLE COUNTER AND OF BLOCK WORKING BY RESETTING FEATURE:**

27.1.1 No train should be allowed to leave a station in any particular direction unless:-

Track clear indication is available for the relevant track circuited portion and Last Stop Signal can be taken OFF.

27.1.2 A resetting arrangement for the resumption of the track circuit by means of Axle counter under failure condition through co-operative feature of both the SM on duty at either end Station of the Block section is provided, which should only be resorted to after the train that was lastly sent, arrives fully at the receiving station and is certified

in this respect by the SM at the receiving station through exchange of Private Number.

27.1.3. Reset arrangements are provided in the operation cum indication panel in the SM office for both UP and DN direction, DEG-BRST and SIL-BRST. The resetting key and reset permission granting button on the resetting Panel should normally be kept sealed by the Maintainer and SM will inform the Maintainer for resealing the same for every such operation of the resetting button and shall be recorded giving details of date of use, train number, time, number registered on the counter and reasons for resetting and initial each such entry.

For BRST-SIL section resetting station – SIL, (i) Permission granting station - BRST  
For BRST-DEG section resetting station – BRST, (ii) Permission granting station – DEG

27.1.4. The procedure for resetting of the equipment should be as follows:-

<b>Action to be taken by the SM on <u>Duty at dispatching Station</u></b>	<b>Action to be taken by the SM on <u>duty at the receiving Station</u></b>
01. On advise from receiving station for resetting, the sending station will then unseal the " Permission Granted " push Button and press keeping for some time. An indication lamp provided on the panel for Granting Permission will lit up. Simultaneously the Veeder counter will also record the next higher number.	01. Shall call the attention of the Station in rear through magneto-phone provided with the operating panel for resetting and shall establish communication with the said station if resetting of equipment is considered necessary giving details of last train that left his station into the Station.  The receiving station shall inform the sending station as to whether the last train that entered in to the section has arrived or not. And, if arrived fully shall so intimate verified by exchanging Private Number with the sending station and ask for granting permission for resetting the Axle Counter.
02.	Shall unseal reset key and turn the same and keep it for some time simultaneously with the pressing of the permission button by the sending station.
03.	An indication lamp provided in the panel for permission to receive shall lit up. When the reset key as well as the permission granting button at the rear station can be released, simultaneously veeder counter also will record the next number.
04.	He will make entries in the Resetting Register as detailed in para GR 14.13.
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05. The next train is to be piloted 'OUT'.

Even after completion of reset operation, LVCD Axle counter will show clear only after next train is passed.

06.

The "Line Clear" on the Lock & Block Instrument for the next train to be given after resetting axle counter.

07. The SM shall record in the Train Register the resetting operation giving details of train number, time, Private Number exchanged with the receiving station for the operation, counter number on the veeder counter and reasons for use of axle counter.

08.

The SM shall record in his Train Register the resetting operation giving details of train number, time, Private Number exchanged with SM in rear, number on the counter recorded giving reasons for the resetting operation.

09.

If the axle counters functioning properly now, then Block Section cleared indication 'G' will exhibit on the panel and the concerned Block Section is to be normalised.

10.

If the axle counter section does not appear 'Green' indication and continues to show 'RED' indication, the concerned Block section shall be suspended and failure intimation to be given to sectional signal Maintainer/JE/SE (Signal) for early rectification.

## 27.2 **AXLE COUNTER AND DESCRIPTION OF RESETTING EQUIPMENT**

The station yard is provided with Multi Entry Axle Counters over Point Zones only in lieu of Track Circuits. Axle Counters of each point zone are grouped at respective ends as illustrated below.

Loop Lines are also provided with axle counters and they are grouped at L1 AXT,L3 AXT respectively.

<b>A.</b>	<b>KUR END</b>
Sl.No.	AXLE COUNTER ZONE
1.	17/19 AXT
2.	17 BXT
3.	19 BXT

<b>B.</b>	<b>PUI END</b>
Sl.No.	AXLE COUNTER ZONE
1.	18/20 BXT
2.	18 AXT
3.	20 AXT

When ever a particular Axle counter zone is occupied or failed, a visual "RED" indication appears on the panel at station and when verified for clearance and initiated for resetting, a "YELLOW" indication appears in the panel and when once the resetting is completed, then appears "GREEN" indication and the "YELLOW" indication extinguishes.

At station the panel is provided with Veeder Counters for each Axle Counter zone, SM's Key and Reset Key for resetting is installed to indicate the occupation/clearance of Track Circuit/Axle Counters of the full yard.

### **27.2.1 PROCEDURE OF RESETTING IN THE EVENT OF FAILURE OF AXLE COUNTER.**

Whenever any axle counter in any point zone fails, "RED" indication will appear in the Panel at station. The SM on duty shall depute a Traffic official for physical verification of zone/line at site. After physical verification, if there is no obstruction over the effected Axle Counter zone, the Traffic official will inform the fact to the SM over telephone provided in Location Box supported by a Private Number. A separate Location Box is installed with universal locking arrangement at both sides KUR end and PUI end. The SM will advise the Traffic official to press the concerned verification button. On advice of SM the Traffic official will press the verification button. On receipt of the zone verified indication i.e. "YELLOW" and zone clearance verification private number, the SM shall finally press the reset button to initiate resetting and advise the Traffic official who has been deputed to release the concern button. When once thus pressed the "YELLOW" indication which appeared previously extinguishes and after completion of resetting and the zone is clear, a "GREEN" indication appears in the panel.

### **27.2.2 PROCEEDURE OF RESETTING IN THE EVENT OF FAILURE OF LOOP LINE BERTHING ONE AXLE COUNTERS.**

When loop line berthing zone Axle Counter fails, "RED" indication will appear in the panel at station. SM on duty shall then physically verify the line. After physical verification if there is no obstruction over the line he should open the line verification box located by the side of the track and press the button. One "YELLOW" indication appears in the panel. He shall then press reset button. The "RED" & "YELLOW" indication will disappear from the panel and "GREEN" indication will appears.

The Veeder Counter provided on the panel will record next higher indicating the number of such operations. If "GREEN" indications doesn't appears on the panel and "RED" indication continuous to appear, the sectional ESM/JE(S)/SE(S), may be advised that the concerned Axle Counter has failed and to attend for rectification.

SM shall pilot the trains if any, till the rectification.

Separate register shall be maintained in the station to record every operation of resetting and the number in the Veeder Counter in addition this should be recorded in TSR. While taking over / handling over duties the SM's shall record in the TSR the number displayed in the Veeder Counter and shall acknowledge the same.

### **SIGNALS BUTTONS /ROUTE BUTTONS /POINT BUTTONS AND MISCELLANEOUS PUSH BUTTONS**

<b>SL. NO</b>	<b>PUSH BUTTON</b>	<b>COLOUR OF PUSH BUTTON</b>	<b>FUNCTION</b>

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		<b>SIGNAL BUTTONS</b>	
01.	S1	RED	Press to take 'OFF' UP Home Signal No. S1 A/B/C (3-Aspect signal with Route) along with respective Route Button (from KUR end)
02.	C1	RED WITH WHITE DOT	Press to take 'OFF' UP Calling 'ON' signal below UP Home Signal, No. C1 A/B/C along with respective Route Button (From KUR end)
03.	S2	RED	Press to take 'OFF' DN Home Signal No. S2 A/B/C (3-Aspect with Route) along with respective Route Button (From PURI end)
04.	C2	RED WITH WHITE DOT	Press to take 'OFF' DN Calling 'ON' signal below DN Home Signal No. C2 A/B/C along with respective Route Button (From PURI end)
05.	S3	RED	Press to take 'OFF' UP Starter Signal No. S3 along with respective Route Button. (Towards PURI end)
06.	S4	RED	Press to take 'OFF' DN L3 starter Signal No. S4 (Two Aspect) along with respective Route Button (Towards KUR end)
07.	S5	RED	Press to take 'OFF' UP Starter Signal No. S5 of L-3 (Two Aspect) along with respective Route Button (up to PURI end Advanced starter)
08.	S6	RED	Press to take 'OFF' DN Starter Signal No. S6 of loop Line-1 (Two Aspect Signal) along with respective Route Button) towards KUR end.
09.	S7	RED	Press to take 'OFF' UP Starter Signal No. S7 of L-2 (3 Aspect) along with respective Route Button (Towards PURI end)
10.	S8	RED	Press to take 'OFF' DN main Starter Signal No.S8 (Three Aspect Signal) along with respective Route Button (Towards KUR end)
11.	S9	RED	Press to take 'OFF' UP Advanced Starter Signal No. S9 (Two Aspect) along with respective Route Button (Towards PURI end)
12.	S-12	RED	Press to take 'OFF' DN Advanced Starter Signal No. S12 (Two Aspect Signal) along with respective Route Button (Towards KUR end)
13.	SH-11	YELLOW	Press to take 'OFF' Independent Shunt Signal No. SH-11 A/B/C along with respective Route Button (up to UP Starter)
14.	SH-14	YELLOW	Press to take 'OFF' Independent Shunt Signal No. SH-14 A/B/C along with respective Route Button (up to DN Starter)

<b>RECEPTION ROUTE BUTTONS</b>			
15.	L1-UN1	WHITE WITH BLACK DOT	Press to receive an UP train from KUR end or a DN train from Puri end on Signal/Calling 'ON' Signal or SH 11 or SH 14 on Line No.1 set to Sand Hump along with respective Signal Button.
16.	L1-UN	WHITE	Press to receive an UP train from KUR end or a DN Train from PUI end on Signal/Calling 'ON' Signal or SH 11 or SH 14 Line No.1 set to Main line along with respective Signal Button.
17.	L2-UN	WHITE	Press to receive an UP train from KUR end or a DN Train from PUI end on Signal/Calling 'ON' Signal/Shunt Signal No. 14 or Shunt Signal No. 11 on Line No.2 along with respective Signal Button.
18.	L3-UN1	WHITE WITH BLACK DOT	Press to receive a DN train from PUI end or an UP train from KUR end on Signal/Calling 'ON' Signal/SH 14 or SH 11 on Line No.3 set to Sand Hump along with respective Signal Button.
19.	L3-UN	WHITE	Press to receive an UP train from KUR or a DN train from PUI on Signal/Calling 'ON' Signal/Shunt Signal No. 11 or Shunt Signal No. 14 on Line No. 3 set to Main line along with respective Signal Button.
20.	9-UN	WHITE	Press to take off UP Advanced Starter Signal towards PUI end along with respective Signal Button
21.	9AT-UN	WHITE	Press to take off UP Starter Signals on line No. 1, 2 & 3 towards PUI end along with respective Signal Buttons.
22.	12-UN	WHITE	Press to take off DN Advanced Starter Signal towards KUR end along with respective Signal Button.
23.	12AT-UN	WHITE	Press to take off DN Starter Signals towards KUR end of line No.1, 2 & 3 along with respective Signal Buttons
<b>POINT PUSH BUTTONS</b>			
24.	17WN	BLACK	Crossover point button to be pressed for operating the point 'NORMAL' OR 'REVERSE' position along with respective point Group 'NORMAL' OR 'REVERSE' Buttons.
25.	18WN	BLACK	Crossover point button to be pressed for operating the point 'NORMAL' OR 'REVERSE' position along with respective point Group 'NORMAL' OR 'REVERSE' buttons.
26.	19WN	BLACK	Crossover point button to be pressed for operating the point 'NORMAL' OR 'REVERSE' position along with respective point Group 'NORMAL' OR 'REVERSE' buttons.



27.	20WN	BLACK	Crossover point button to be pressed for operating the point 'NORMAL' OR 'REVERSE' position along with respective point Group 'NORMAL' OR 'REVERSE' buttons.
<b>CRANK HANDLE PUSH BUTTON</b>			
28.	CH-1	BLUE	To be pressed to extract Crank Handle Key for operation of Point No. 18 & 20 along with 'TRANS' Push Button.
29.	CH-2	BLUE	To be pressed to extract Crank Handle Key for operation of Point No. 17 & 19 along with 'TRANS' Push Button.
<b>MISCELLANEOUS PUSH BUTTONS</b>			
30.	Group Trans Button	WHITE WITH BLACK DOT	To be pressed to initiate Slot or Crank Handle Or L.C Gate operation along with concerned Slot/Crank Handle / L.C. Gate Button.
31.	Group Release Push Button	WHITE WITH BLACK DOT	To be pressed to withdraw/ Normalise the control of slot/Crank Handle/L.C Gate operation along with concerned Slot/Crank Handle/L.C Gate Push Button.
32.	Point Group Normal Push Button	BLACK WITH RED DOT	To be pressed to initiate 'NORMAL' setting of point along with concerned point push button.
33.	Point Group Reverse Push Button	BLACK WITH RED DOT	To be pressed to initiate 'REVERSE' setting of point along with concerned point push button.
34.	Signal Cancellation push button	RED	To be pressed for canceling a signal which is already taken 'OFF' Or to release a Route after passage of train.
35.	Signal Lamp Failure/ Point Failure Acknowledgement Button	RED WITH WHITE DOT	To be pressed for acknowledging signal lamp failure/point failure Buzzer.
36.	Button Held Acknowledgement Push Button	WHITE WITH RED DOT	To be pressed for silencing button Held Buzzer in case of any push button remains pressed after the button is released.
37.	Emergency Gate Release Button for L.C Gate at KM 477/10-11.	CHOCOLATE WITH RED DOT	To be pressed for emergency Gate Release at Km. 477/10-11.
38.	L.C. Gate Control 21 Push Button	CHOCOLATE	To be pressed for extending Control to open L.C Gate at Km. 477/10-11.
39.	UP Block Release Push Button	CHOCOLATE WITH WHITE DOT	To be pressed for releasing UP Block Instrument Handle (BRST-SIL Section)
40.	DN Block Release Push Button	CHOCOLATE WITH WHITE DOT	To be pressed for releasing Down Block Instrument Handle (DEG-BRST Section)

41.	Acknowledgement Push Button for UP LVV (BRST-SIL )	BLUE	To be pressed for acknowledging Key Release at UP LVV Location Hut (BRST)
42.	Acknowledgement Push Button for DN-LVV (BRST-DEG)	BLUE	To be pressed for acknowledging key release at Down LVV Location Hut (BRST)
43.	Power Acknowledgement Push Button	RED	To be pressed for acknowledging power failure buzzer.
44.	Reset permission Received for LVV (DEG-BRST)	RED	To be pressed for initiating Reset for normalizing Block Instrument (Up train DEG-BRST Section)
45.	Reset permission Received for LVV (BRST-SIL)	RED	To be pressed for initiating Reset for normalizing Block Instrument (Up train BRST-SIL Section)
46.	Emergency Route Release Button	WHITE WITH RED DOT	To alter the route in emergency the signal cancellation button and concerned signal button are pressed, Than emergency route release Button is pressed and subsequently concerned signal button pertaining to the route is to be pressed.
47.	Emergency point operation Button	BLACK WITH RED DOT	To be pressed to operate point in the event of failure point controlling Track circuit/Axle Counter. SM's emergency point key is 'IN', press emergency point operation button then press point button and the point group button.
48.	SM's Key	---	To prevent any unauthorised operation of panel.
49.	SM's emergency point key.	---	For operation of point in emergency or failure of point controlling track circuit.
50.	Reset key on UP and DOWN direction.	---	A resetting arrangement for the resumption of track circuit by means of Axle Counter under failure condition by co-operative feature of either end station of the Block section.
51.	Common reset key for Axle Counter zone.	---	To be pressed along with concerned route button in case of failure of Axle Counter zone.

**APPENDIX 'C' TO STATION WORKING RULES OF BIRPURUSOTTAMPUR STATION**

**ANTI COLISION DVICE (RAKSHA KAVACH)**

=== NIL ===

(A.K.JENA)  
DSTE/KUR

(B.PANDA)  
DOM/KUR

## **APPENDIX 'D' TO STATION WORKING RULES OF BIRPURUSOTTAMPUR STATION**

### **STATION SUPERINTENDENT:**

He is In-Charge of the Station. He performs day shift duty for train passing duties in turn with his assistants. He is responsible for the efficient discharge of duties devolving upon all the staff employed at the station according to rules, safe working instructions issued from time to time and Station Working Rules. He shall see that all signals, points, L.C. Gates and whole machinery at the station are in proper working order. He shall report all defects to the concerned officials. He shall satisfy himself that the staff employed under him at this station are thoroughly conversant with Station Working Rules and perform their duties correctly. It is his personal responsibility to maintain the station working rules, other rule books and the Assurance Registers up to date. He shall see that all records of the station are properly maintained and due statements returns and other corresponding documents are up-to-date. He shall see that the staff are civil courteous and help full to all users of railway. He shall see that all station premises are kept clear and tidy. He is responsible for booking off all group 'C' and Group 'D' staff for PME and refresher course/safety camp in their due time.

His special attention is drawn to Chapter-II of GR and SR and GR 5.01 to 5.08 with relevant SRs, Chapter-XXII of operating Manual. He shall follow the instructions laid down in SR 3.68.01(c) & (d) and SR 14.07.01 Para 2.09 (e) of Block Working Manual. He shall supervise the works of staff and conduct night inspections. Safety Meetings and fire drills and report lapses of staff working under him. He shall also ensure that the safety equipments in the station and gate lodge as mentioned in the station working rules are supplied in full and they are good working order with necessary relief stock.

The SS's special attention is drawn to the GR 5.01 to 5.23 where details are indicated.

### **ASSURANCE REGISTER:**

All staff before taking up independent charge of their duties at this station shall make a written declaration in the Assurance Register that they have read and thoroughly understood the system in force and must sign such declaration.

No Railway servant shall be entrusted with any duty involving the safety of the public unless the Station Supdt. is satisfied that the concerned staff is competent for the post. No Railway servant unless duly examined and certified shall be allowed to work the points and signals. The Station Supdt. is responsible to see that all the staff are well conversant with the Station Working Rules of the Station and their signature obtained in the Assurance Register after he is satisfied that they have thoroughly understood the working Rules of the Station. In case of class-IV staff, their signature/thumb impression must be obtained after explaining fully about their duties and responsibility.

The SS. is personally responsible for maintaining the Assurance Register and for obtaining declaration from the staff working under him. The Assurance Register must be maintained in two parts one for Class-III staff and other for Class-IV staff. A duplicate copy of the Assurance Register must be maintained and kept in the personal custody by the SS in charge.

The declaration is to be renewed in the following cases:

- (i) Whenever there is a change in the Station Working Rules,

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- (ii) For any staff who have not worked at the station or were away from the station for a period of 15 days and over

1.2 **USE OF PRIVATE NUMBER BOOKS AND IDENTIFICATION NUMBER SHEETS:**

Sufficient private number books and identification number sheets in sealed covers shall always be kept in stock by Station Superintendent, under lock and key by maintaining one register for this purpose.

1.3 **ACCIDENTS:**

Accidents shall be reported and immediate action shall be taken by the Station Superintendent, in accordance with the instructions laid down in the Accident Manual. Whenever the Station Superintendent, receives report of an accident, he shall take all necessary precautionary measures to protect the traffic and shall arrange earliest possible assistance as required at the site of accident. He shall frame the accident message and reports and follow up all safety principles without delay.

- 1.4 The SS shall test the working of reception signals and emergency cross-over daily during the day when there is no train due to arrive/leave the station and record the results in the SM's diary.

1.5 **STATION MASTER/ASSISTANT STATION MASTER:**

He shall work in train passing duties and booking of traffic, coaching returns and other statements shall be prepared and submitted by him in time. The Dy.SS/SM on duty shall record in the diary the condition of all the running lines, the caution orders in force at the time of handing over charge. These entries shall be countersigned by the Dy.SS/SM coming on duty and taking over charge that the Station Master on duty who makes an entry in the train signal register shall continue till all the entries pertaining to the trains are completed vide SR 14.07.01. He shall promptly bring to the notice of SS all irregularities and accidents in course of his shift duties. During the absence of SS, the duty of SS will devolve on him. His special attention is drawn to Chapter-II of GR & SR 2000 and GR 5.01 to 5.08 with relevant SRs.

**TRAFFIC POINTSMAN/TOKEN PORTER:**

1. He shall work under the instructions of SM on duty and follow the GR 02.05 to 2.11 and other relevant rules laid down in GR and SR.
2. He shall remain responsible for:
  - Correct setting and locking and crank handling of points for reception/dispatch and shunting operation.
3. Coupling and un-coupling of vehicles.
4. Protection of line in an emergency
5. Piloting and hand signaling of trains when necessary and handing over caution orders/or any other line clear authorities to the Loco Pilot and guards of the trains.
6. Attending off side to observe safe running of run through trains at stations and correct display of hand signals and ringing the station bell.
7. Securing of vehicles, as directed, protection of vehicles of a train.
8. Being conversant with the layout of the yard and compliance of rules relating to shunting operation.
9. Observing General Rules 5.13 to 5.21 and relevant subsidiary Rules during shunting.
10. Cleaning and oiling of clamps and padlocks if and when required

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11. Loading and un-loading of parcels and luggage's, packages goods and guards boxes to and from the trains and watching the packages and other materials by properly stocking in the station premises.
12. Cleaning and Dusting of SM's office room furniture and equipments Office.
13. Carrying messages cell books etc where a separate call boy messengers are not posted.
14. Working as fog signal man as and when required.
15. Filling up the fire buckets with sand/water.
16. Getting train intact arrival register (T/1410) signed by the Guard as and when required.
17. Any other duties entrusted to him by the SM on duty from time to time.

**GENERAL**

1. A set of flags and a battery operated LED based flashing lamp will be part of the essential equipment of the staff while on duty. He shall not leave the station except when required by the SM on duty or with his permission and shall comply with Subsidiary Rules 4.42.02 (b) (i) and (d).
2. Staff working at the station must be able to distinguish UP and DN line clear tickets and educated in distinguishing other operational forms and documents, delivered to Loco Pilots and Guards and must also know how and when to ring the station bell.

## **APPENDIX 'E' TO STATION WORKING RULES OF BIRPURUSOTTAMPUR STATION**

A list of Essential Safety Equipment's which should be kept readily available in good working order with necessary relief stock.

Sl. No.	Description	Quantity
1.	Detonator Signals	20
2.	Battery operated LED based flashing lamp.	4
3.	Hand signal Flags	4 set (4 Red & 4 Green)
4.	Safety chain with Padlocks.	6
5.	Clamps with padlocks	08 (03 in each goomty & 2 at Station).
6.	Skids	06
7.	Fire and Sand Buckets.	02
8.	Fire extinguisher	02 (DCPT).
9.	Reminder Collar	06
10.	Motor Trolley on line label.	02
11.	First Aid Box	01
12.	Stretcher	01
13.	Block Suspension Board	03
14.	Power Block Collar	02

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**APPENDIX 'F' TO STATION WORKING RULES OF BIRPURUSOTTAMPUR STATION**

**RULES FOR WORKING OF DK STATIONS HALTS, IBH, IBS AND OUTLYING SIDINGS**

1.1 **MID-SECTION OUTLAYING SIDING:**

There is no mid-section siding on either end of block section.

1.2. **IBH, IBS/DK STATION:**

There is no IBH or IBS or DK station on either end of block section.

1.3. **HALT STATION:**

JENAPUR (Code JERD) passenger halt is situated at Km. 473.8 between BRST-DEG station.

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