

Sl. No.SWR/HKG/11

EAST COAST RAILWAY
SAMBALPUR DIVISION

STATION WORKING RULES OF HIRAKUD STATION (CODE:HKG)

BG/MG/NG: Broad Gauge.

Date of issue: 27.11.2009

Date brought into force: 28.11.2009

NOTE: - The Station Working Rule (SWR) must be read in conjunction with General and Subsidiary Rules and Block Working Manual. These rules do not in any way supersede any rule in the above books.

1. STATION WORKING RULE; -

1.1 **STATION WORKING RULE DIAGRAM NO.** S.I / WRD-22057Alt-'B'

1.2 **SIGNAL INTERLOCKING PLAN NO.:** - S.I – 22057 Alt-'B'

The Station Working Rule diagram and Signal Interlocking Plan shows the complete lay out of the yard, siding, normal position of points, the Signalling and Interlocking arrangements, Gradients and Level Crossings within the station limits. This must be referred to for giving details of the point's number and signals when reporting accidents

2. DESCRIPTION OF STATION: -

HIRAKUD is a Four-linestation situated in Sambalpur - Titlagarh section at KM 569.876 from Howrah. It is Standard – III (R) interlocked with central panel and Class 'B' station. LVCD Axle counter for either side of the section has been provided at the station for last vehicle check.

2.1 GENERAL LOCATION:-

2.1.1 **NAME OF STATION:** - HIRAKUD

2.1.2 **CLASSIFICATION OF STATION:** - 'B' class

2.1.3 **NAME OF THE SECTION:** - Sambalpur - Titlagarh, Single Line, Non-RE, BG section

2.1.4 **ROUTE:** - 'D' Spl.

2.1.5 **LOCATION:** - 569.876 km from Howrah.

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

- i) Jharsuguda end - Sambalpur (Code: SBP) inter distance 6.976 K.M.
- ii) Titlagarh end - Godbhaga (Code: GBQ) inter distance 9.424 K.M.
- iii) Passenger halt: - Nil
- iv) Flag station: - Nil
- v) Outlying siding: - Nil
- vi) D.K. station: - Nil.
- vii) IBH: - NIL
- viii) IBS: - NIL

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DSTE / SBP

B. Bhoi
DEN/Central/SBP

D.Nayak
DOM/ SBP

2.3 BLOCK SECTION LIMITS: -

Between stations	The point from which 'Block section' commences.	The point at which 'Block section' ends.
Between HKG - SBP	DN Advanced starter signal No.16 of HKG	UP Advanced starter signal of SBP Station
Between HKG-GBQ	UP Advanced starter signal No.15 of HKG	DN Advanced Starter Signal of GBQ Station

2.3.1 STATION SECTION:

The portion between UP&DN Advanced starters of Hirakud station.

2.3.2 STATION LIMIT:

The portion between UP and DNDistant signals of HIRAKUD Station.

2.4: GRADIENT: -

(a) FROM THE CENTER OF STATIONBUILDING TOWARDS SAMBALPUR

CHAINAGE IN METER		INTER DISTANCE	GRADIENT
FROM	TO		
0 m	665.68	665.68	LEVEL
665.68	BLOCK SECTION	---	1 in 150 R

(b) FROM THE CENTER OF STATIONBUILDING TOWARDS GODBHAGA

CHAINAGE IN METER		INTER DISTANCE	GRADIENT
FROM	TO		
0 M	782.42 M	782.42 M	LEVEL
782.42 M	BLOCK SECTION	---	1 in 250 R

2.5 LAY OUT: -

- i) No. of running lines :- 04 (Four)
- ii) No. of sidings :- 01 (One) [Hot Axle siding/Track machine siding]
- iii) No. of Passenger platform :- 02 (Two) High level Pass Platform beside Line No.-1(555M x 6.30M)& Rail level Pass Platform beside Line No.-3(350.52M x 9.45M).
- iv) No. of goods platform :- 02, One goods PF (60.96M x6.09M) beside HA/Track machine siding & One ballast stacking ground of 700 M length beside Line No-4.
- v) FOB :- 01, Provided at CH 52.5 M connecting PF-1 & PF-2.
- vi) One In motion Weigh Bridge has been provided in L-4 at CH 312.68 M at GBQ end.

2.5.1 RUNNING LINES, DIRECTION OF MOVEMENTS AND HOLDING CAPACITY IN CSL: -

DESCRIPTION	CSL	ISOLATION PROVIDED	
		TOWARDS SBP	TOWARDS GBQ
Line No.1 (1 st Loop)	906.6 mtrs. (Str. To Str)	Sand Hump	Over Run Line
Line No.2 (Main line)	862.1mtrs. (Str. To Str)
Line No.3 (2 nd Loop)	812.9mtrs. (Str to Str.)	Over Run Line	Over Run Line
Line No.4 (Goods Loop)	810.15mts (Str to Str)	DS	DS

- (II) **DIRECTION OF MOVEMENTS:** -
 (a) Trains arriving from Godbhaga end are DN trains.
 (b) Trains arriving from Sambalpur end are UP trains.

2.5.2 **NON-RUNNING LINES AND CSL:-**

Sl. No	Description	CAL	Takes off	Exit	Operation
1.	Hot Axle Siding/Track machine Siding	75 m (BJ-DE)	Line No. 1	One way	Operated locally by arc lever and controlled by No. 30 of Panel..

2.5.3 **ANY SPECIAL FEATURES IN THE LAYOUT:** - There is rising grade of 1 in 150 at CH 665.68 M at SBP end and 1 in 250 at CH 782.42 M at GBQ end in the yard.

2.6 (I) **LEVEL CROSSINGS: (STATION SECTION) :-**
 2.7

SL No	Location	K.M.	Normal Position	Class	Type	Operation	Communication
1	DN Advance Starter and outermost facing point	569/7-8(JT-28)	Open	'C'	Inter locked	Electrically Operated Lifting barrier	Magneto Telephone with SM/HKG

(II) **LEVEL CROSSINGS: (IN BLOCK SECTION)**

SL No	Location	K.M.	Normal Position	Class	Type	Operation	Communication
1.	UP Home signal and UP Inner Distant Signal	568/2(JT-27)	Open to Road traffic	'C'	Non-Inter locked	Winch Operated Lifting barrier	Telephone connection with SM/HKG
2.	HKG - GBQ	572/2(JT-29)	Open to Road traffic	'C'	Non-Inter locked	Winch Operated Lifting barrier	Telephone connection with SM/HKG
3.	HKG - SBP	566/1-2(JT-26)	Open to Road traffic	'Spl'	Inter locked	Winch Operated Lifting barrier	Telephone connection with SM/SBP

(Train Actuated Warning Device is not provided for above Level Crossing Gates.)
 (Working of Level Crossing Gate is detailed in appendix 'A')

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

(Rule no.: - Chapter XIV of G&SR, Chapter III & IV of BWM)

- (i). **System of working** : Absolute Block system on single line.
 (ii). **Type of block instrument** : Token less Block Instrument (DIADO) for HKG-GBQ&HKG - SBP Block sections.
 (iii). **Instrument** : Co-operative type

- (iv). **Block Telephone** : Provided with respective Block Instruments of section
- (v). **Staff responsible for their operations** : S.M. on duty
- (vi). **Custodian of keys** : S.M. on duty

4.0 SYSTEM OF SIGNALLING AND INTERLOCKING: -

4.1.1 STANDARD OF INTERLOCKING AND TYPE OF SIGNALLING: -

The station is provided with Standard III (R) interlocking, central panel with Multiple Aspect Colour Light Signalling and block proving Axle Counters. All the points are centrally operated from central panel by on duty Station Master. The Home signals and Advanced Starter signals are interlocked with respective single line tokenless block instruments. GR 3.08(4) (b) governs the aspect and indications of the signals. The station has no end cabins..

Maximum equipment of signal – Distant, Inner Distant, Home, Starter and Advanced starter signals in either direction. However, DN Distant signal of “Spl” class L.C.Gate at KM 566/1 has been combined with DN Advanced starter signal of the station vide CRS dispensation letter No.485, Dtd 24.05.2007 &DN Inner Distant signal of saidL.C.gatehas been provided within the station limit of the station.

4.1.2 STATION MASTER’S CONTROL PANEL: -

(i) A push button type electrical control apparatus (operation cum indication panel) is provided in the Station Master’s office to operate electrically the UP and DN points and signals. The control apparatus is provided with a lock up key named (SM’s Key) which shall always remain in the personal custody of the SS/Dy.SS/SM/ASM on duty in terms of Subsidiary Rule 3.36.03(a) and GR 5.08. The position of all points, signals and running lines are available in the Station Master’s illuminated panel diagram. Reminder collars are provided for use on push buttons, which will be placed on point button, route button, signal button or on any other button to prevent operation of the button in case of concerned line is blocked; or to prevent inadvertent operation of a particular button as and when required.

(ii) **SEALING OF EMERGENCY OPERATION BUTTONS/KEYS:** All emergency operation buttons on the Station Master’s control panel shall be kept sealed in normal condition by S&T staff. Whenever any emergency operation is initiated. SM on duty shall break open the seal of the concerned button to make the button operative. Immediately after completion of emergency operation SS/SM on duty shall inform concerned S&T staff for sealing of the concerned button.

4.1.3 TRACK CIRCUIT: -

All the lines including point zone between Home and Advanced starter signal on either direction is track circuited. The position of the running lines including point zones i.e. occupied/clear is indicated in the illuminated diagram at the Station Master’s office. Normally there will be no indication of track circuits. It shows ‘RED’ when the line is occupied and ‘WHITE’ when the line is clear provided the route is set.

4.1.4. AXLE COUNTER

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 is provided between HIRAKUD and SAMBALPUR, one beyond DN advanced starter of HIRAKUD and another just before UP advanced starter of SAMBALPUR station for counting the axles ‘IN’ and for counting the axles ‘OUT’ to indicate whether the block section is clear of trains as well as to verify the last vehicle of the incoming train. Similarly, a pair of axle counter is provided between HIRAKUD and GODBHAGA, one just ahead of UP advanced starter signal of HIRAKUD and the other just before the Down advanced starter signal of GODBHAGA station for counting the axles ‘OUT’ to indicate whether the block section is clear of trains as well as to verify the last vehicle of the incoming train.

The position of block section i.e. clear/occupied is reflected on the reset box panel provided in the Station Master's office which shows 'GREEN' when the block section is clear and 'RED' when the block section is occupied.

A reset BOX consisting of a counter and one resetting key with a push switch and three indications i.e. 'RED' and 'GREEN' and 'Miniature Green' with locking arrangement for each pair of axle counter is kept at the station masters office 'RED' and 'GREEN' indicates occupations and clearance of Block section respectively 'Miniature Green' indications glows during resetting operation. The resetting key of this panel is kept locked and sealed in a separate box. The key of the box is kept under the custody of stationmaster on duty.

Whenever a train enters into the block section, block section clear indication 'GREEN' disappears and occupied indication 'RED' appears. If after the complete arrival of the train, 'RED' indication 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 block instrument of respective block section.

4.1.5 **POSITION AND OPERATION OF POINTS:** -

The positions of all points are shown in station Working Rule Diagram and also on operating panel. All points are power operated through Station Master's control panel apparatus. All cross over points on running line are independently worked by electric point machine and have built in locking and detection arrangement.

4.1.6 **ELECTRICAL KEY TRANSMITTER (EKT):-**

EKTs with crank handle keys are provided at both end locations for the operation of points in case of failure of point motors and also at the LC gate Goomty at KM 569/7-8 for opening and closing of the gate. The keys for the crank handles are transmitted electrically to the crank handle locations for operating the points by crank handles.

4.1.7. **IBS:** NIL

4.1.8 **POINT AND TRAP INDICATOR:** NIL

4.1.9. **REPEATER (BANNER TYPE):** NIL

4.1.10. **CALLING ON SIGNALS:-**

'Calling on' signals have been provided below UP and DN home signals. It shows no light when 'ON' and 'YELLOW' light when taken off as per GR 13(6)(b).

4.1.11 **SHUNT SIGNALS:-**

Independent shunt signals are provided on top point at either end for back shunting movement .

4.1.12 **ANTI COLLOISION DEVICE:** - NIL

4.1.13 **L.C. GATE OPERATION:-** Given in detail in Appendix-A

4.1.14 **EMERGENCY CROSS OVER-** NIL

4.1.15 **CRANK HANDLE**

When any point fails to operate normally by the route setting operation or individual operation through panel it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank

handles are interlocked with signals and interlocking system. When points become defective, the signals controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle, for motor operated points shall be followed.

The crank handle key in RKT in the end locations can be released from the RKT. The SM has to press concerned crank handle button and Trans button. This will enable SM/TP to extract crank handle key CH-1/CH-2/CH-3/CH-4 from RKT at end location. SS/SM/TPM on duty after extracting the crank handle key from RKT at end-location, insert it in the space provided for it on the point machine and turn it to open up the slot for crank handle in the point machine. After inserting the crank handle in the point machine he shall operate it to set the point in desired position. After completion of point work the crank handle key is to be inserted in the RKT at end location and transmitted to station. Station Master on getting 'Key IN' flashing indication that will appear on panel, shall press relevant CH button & Group Release button to get the steady key "IN" indication. SS/SM on duty shall personally ensure clamping and padlocking of all facing and trailing points en-route. The cases of failure of Motor operated points should be promptly reported to the concerned ESM/Signal Inspector for immediate rectification. SS/SM on duty as per OM 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.

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

Emergency point operation facility is provided to operate the point from the panel in case of failure of point controlling track circuit. If such operation is necessary, the SM on duty, after ensuring that no vehicle is standing on the concerned point track circuit and SM's emergency point key is 'IN' and turned, shall press emergency point operation button by breaking the seal along with relevant point button simultaneously. Then retaining point button in pressed condition, emergency point operation button to be released and the point group button normal / reverse button is to be pressed for operating the point to '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.

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

The 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 simultaneously pressing the signal cancellation button and the concerned signal button. After this the emergency route release button (white with red dot) positioned in the top of panel to be pressed first by breaking the seal and subsequently the concerned signal button is to be pressed releasing the emergency route release button. A white flashing light will glow indicating that the timer is working. After 120 seconds, the white flashing light along with the white strip of light will disappear suggesting the route has been released.

In case the route illumination (white strip lights) does not disappear, it suggests that the route is not released/cancelled. In such case 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.

4.1.18 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.

4.1.19 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 two separate locks, the arrangement should be such that one key is kept with the on duty SM in his custody and the other key with the signal maintainer. Whenever required, the Station Master shall hand over the key to the maintainer with proper arrangement with proper acknowledgement in the basement/Relay room key register. The maintainer on receipt of the key from the station master may use the same and the key in his custody to open the relay room by inserting the keys one after another separately into the earmarked locks.

After completion of work, the relay room is to be locked using both the keys separately and designated key should be handed over to the SS/SM on duty. The details of the transaction should be properly recorded in the relevant register at the Station duly signed by SS/SM on duty and the signal staff concerned vide SR 3.51.05. If the relay room key is handed over to the Signal staff regarding the interference in safety gears, the train shall be piloted in and piloted out.

NOTE: Details of signalling and interlocking are given in Appendix 'B' of the SWR.

4.1.20 POWER SUPPLY: -

Normal power supply to the signalling and interlocking installations at this station is drawn from SEB power supply source (AC 230 Volt / 50 Hz). In SM's Office there is SM power panel, which represents the voltage of the integrated power supply system.

1. In case voltage drops 105.9V an audible buzzer appears for starting Generator.
2. In case voltage drops 105.1V an audible buzzer appears for emergency start of Generator.
3. In case voltage drops 104.3V an audible buzzer appears for system shut down.

The SM now has to start the diesel generator for standby (Auxiliary) power supply. After stable run of the Diesel generator, the SM/SS on duty has to operate the change over switch for connecting the auxiliary supply to the signalling installation. On resumption of power supply, the Diesel generator shall be stopped by SM/SS on duty after isolating Diesel generator by change over switch. Each time the power supply goes OFF or ON SM/SS on duty shall acknowledge. In case of any audible buzzer in SM's power panel, SM on duty should acknowledge the buzzer by pressing 'buzzer' stop button.

Secondary cell back up through integrated power supply system are provided to prevent possibility of blank signals in case of SEB power supply failure. Whenever SEB power supply fails Secondary cell back up through integrated power supply system will immediately extend power supply to signals thereby preventing blank signals.

Based on the indication shown in the SM's Power Panel SM on duty should start DG for avoiding any case of shut down of power sub system of integrated Power Supply system.

Solar Power supply is provided in the station as standby, power supply.

If there is any indication on SM's power panel regarding deviation in IPSystem S&T staff shall be called for rectification.

5.0 TELECOMMUNICATION FACILITIES: -

- (i) Telephone attached with Tokenless Block Instruments at either side of station.
- (ii) Station to Station fixed telephone (hot line) is provided
- (iii) Station is provided with Auto telephone connected with Railway Exchange.

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- (iv) BSNL telephone is provided.
- (v) The station is connected to Bolangir-Jharsuguda control circuit by a control telephone.
- (vi) Station to station 25 Watt VHF communication is provided.
- (vii) Telephone is provided between Station and both end crank handle locations.
- (viii) Telephone communication provided with L.C. gates at Km 569/7-8, KM 568/2 and KM 572/2.

NOTE:

1. For obtaining Line Clear, VHF should be used as a last alternative and not as a sole means of communication.
2. VHF and Walkie-Talkie sets should not be used for unnecessary discussions with Drivers, Guards or any other staff.
3. The on duty SM shall use the above electrical communication instruments stated in Para-5.0 from item No. (i) to (vi) strictly in order of preference for obtaining/granting line clear vide SR 14.01.01. In case of failure of any of the above means of communication the SM on duty shall work vide SR 6.02.06

(Details are mentioned in Appendix 'B' of the SWR.)

6.0 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 General Rules, Subsidiary Rules, Station Working Rules, Block Working Manual and 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 station and shall be responsible to ensure that there is no undue delay to train operation in general.

6.1 DUTIES OF TRAIN WORKING STAFF: -

Details of duties of operating staff are mentioned in Appendix 'D' of the SWR.

6.1.1 TRAIN WORKING STAFF: -

The following are the complement of train working and operating staff provided at this station to work in each shift.

SL NO.	Designation	Roster	No. of staff in each shift	Hrs. of Duty
1.	Station Manager-I--	-Excluded	---	-----
2.	SS/Dy. SS/SM/ASM--	-Continuous	-01	-----8 hrs.
3.	TP/Sr.TP/TPM-B/ TPM-A	Continuous	02	08 hrs.
4.	GK/Sr.GK	E.I	01	12 hrs.
5.	LCS	E.I	01	12hrs(In broken roster).

The above staff shall work as per the rosters issued by DPO/SBP from time to time and these rosters shall be displayed in the SM office.

6.1.2 RESPONSIBILITY OF ASCERTAINING CLEARANCE OF THE LINE: -

The SS/SM on duty is responsible to ascertain the clearance of the nominated line between outer most facing points of concerned line as per GR.14.10.

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6.1.3 **ASSURANCE OF STAFF IN 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 safety of the public unless the station in-charge 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 SS is responsible to see that all the staff are conversant with the Station Working Rules 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 Group 'D' staff, their signature/thumb impression must be obtained after explaining fully about their duties and responsibilities.

The station superintendent is responsible personally for maintaining the Assurance Register and for obtaining declaration of the staff working under him. The Assurance Register must be maintained in two parts, one for Group 'C' and the other for Group 'D' staff. A duplicate copy of the Assurance Register must be maintained and kept in personal custody of the Station Superintendent.

The declaration shall be renewed in the following cases: -

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

6.2 **CONDITIONS FOR GRANTING LINE CLEAR: -**

The conditions laid down in GR 8.01 (1) (a), (c), 8.01(2) (b), 8.03 (2) (a), (b), (c) (ii) and BMW 2.07(3) & (4) shall be complied with before the line is considered clear and 'Line Clear' is granted for a train by on duty SS/SM. The line shall not be considered clear and 'Line Clear' shall not be given unless:

- (i) The whole of the last proceeding train has arrived complete.
- (ii) All the necessary signals are put back to 'ON' behind the said train.
- (iii) Block section is clear of trains running in the direction towards the block section for which such line clear is being given.
- (iv) The line is clear up to the advanced starter of station nearest to expected train. (Up advanced starter signal No. 15 for a DN train and DN advanced starter signal No. 16 for an UP train).

NOTE:

If the light of the reception signal is fused/ not burning, 'Line Clear' shall not be granted for a train till such time it is ensured that the concerned driver is notified of the fact in writing by the SM on duty of the station to which such line clear is granted.

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

6.2.1.1 **SETTING OF POINTS AGAINST BLOCKED LINE: -**

All Points shall normally be set for the straight except when authorized by special instruction. When a running line is blocked by stable load, wagon, vehicle or by train which is to cross or give precedence to another train or immediately after arrival of a train at the station, the points at either end should immediately be set against the blocked line except when shunting or for any other movement towards the blocked line is required to be done vide 3.51.06(a). if all the lines at the station happen to be blocked then SR.3.51.06(b) will be followed.

6.2.1.2 RECEPTION OF TRAIN ON BLOCKED LINE:-

For admission of a train on a blocked line the SM on duty shall comply with the instructions laid down in GR 5.09 and SRs thereto.

6.2.1.3 OUTLYING SIDING: - NIL.

6.2.1.4 RECEPTION OF TRAIN ON NON-SIGNALLED LINE

In case reception of a train on a non-signalled line the SM shall follow GR 5.10 and SR there to.

6.2.2 DESPATCH OF TRAINS ON NON-SIGNALLED LINE

In case of dispatch of a train on non-signalled line the SMs shall follow GR 5.11 and SR thereto.

6.2.5. DESPATCH OF TRAINS FROM LINE PROVIDED WITH COMMON STARTER SIGNAL

N/A

6.2.6 SPECIAL RESTRICTIONS:

- (I) The ORL/sand hump shall not be obstructed for stabling vehicles or harboring an engine. If it is obstructed through any accident or for any cause it ceases to be a substitute for the adequate distance, in that case the train shall be passed over loop line as per Subsidiary Rules 3.40.02(a).
- (II) Shunting shall not be permitted at either end of the yard unless the engine is leading towards the falling gradient.
- (III) GR 5.20 and SR's thereto shall apply at this station.
- (IV) Hand shunting and fly shunting is not permitted at both end of the yard.
- (V) Shunting in face of an approaching train is prohibited.
- (VI) Speed is raised to 30 KMPH on first loop lines on either side of main line and over its turnouts. No train shall be allowed to negotiate at a speed more than 15 KMPH if it involves negotiating more than one crossover at a time.

6.2.7. SPECIAL INSTRUCTIONS: -

After a non-signal movement has taken place over a point, operated by electric machine, whether facing or trailing direction, SS/SM on duty shall operate the point to normal and reverse setting for the purpose of setting the point. After ensuring that the indications are correctly available, further movement may be permitted over the point.

6.3 CONDITIONS FOR TAKING 'OFF' APPROACH SIGNAL: -

Reception of trains is governed by General Rule 3.40(1),(b),(2)(b) and SR 3.40.01 and other relevant provisions of General and Subsidiary Rules, Block Working Manual and Station Working Rules of the station to be followed.

Adequate distances to be kept clear vide General Rule 3.40(3) (b) for reception of trains. CRS's dispensation obtained vide letter No.485, Dtd 24.05.2007 and No.129, Dtd 12.05.2009 for reckoning adequate distance from foot of starter signals.

A. CLEARANCE OF ADEQUATE DISTANCE:-

To take off the home signal for admission of a train the adequate distance (signal overlap) as mentioned below shall be kept clear: -

(I)

LINE NO.	UP TRAIN		DN TRAIN		
		FROM	TO	FROM	TO
1	Line No. 1	Foot of the UP starter Sig No.7	Up advanced starter No15 or Up to the end of Overrun line	Foot of the DN Starter Signal No. 8	DN advanced starter signal No.16 or UP to the end of sand hump

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LINE NO.	UP TRAIN		TO	DN TRAIN	
		FROM		FROM	TO
2	Line No. 2	Foot of the Up main line starter No.11	UP Advanced starter signal No.15	Foot of the DN main line starter signal No.14	DN advanced starter signal No.16
3	Line No. 3	Foot of the Up starter signal No.9	Up advanced starter signal No.15 Or Up to the end of Overrun line.	Foot of the DN starter signal No.10.	DN advanced starter signal No.16 or Up to the end of Over run line.
4	Line No. 4	Foot of the up starter signal No.13	Up advanced starter signal No.15 Or Up to the end of Overrun line.	Foot of the DN starter signal No.12.	DN advanced starter signal No.16 or Up to the end of Over run line.

Before admitting a train on any line, it must be ensured that the track indication for the respective line indicates 'WHITE' indication in the illuminated panel diagram. To receive a train, for which line clear is granted, the SS/SM on duty shall nominate a clear line in consultation with the Section Controller on duty. SS/SM shall personally satisfy himself that the nominated line is clear and free from all obstruction by seeing the track circuit indication on panel or by physical verification of the nominated route in case of failure of track circuit. 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.

In case any of the track circuit on the concerned route shows occupied by RED indication even though the other conditions are satisfied, the operation of panel control buttons by the SS/SM on duty will not permit the concerned signal to be taken off. However, reception of train will be possible in such cases with the "Calling On" signal fixed below Home signal at either end provided the first track circuit in advance of home signal does not show 'RED' indication.

Miniature colour light calling on signal is provided below the home signals in terms of GR 3.13(6)(b). A calling-on signal shows no light in the 'ON' position. The 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 a train on blocked line.

(II) TAKING OFF CALLING ON SIGNAL

To take off calling on signal, the train must come to a stop at the foot of the Home signal, occupying track circuit in rear of the signal. When train occupies the track circuit, RED light strip will appear on the panel. The particular route on which the train is intended to be received shall be set by individual point operation by operating point button & point group buttons or by setting route by pressing route button & signal button or by crank handling in the event of failure of operation of point through panel. After the route is set, the calling-on signal button C1 / C2 (Red with white dot), as the case may be, shall be pressed simultaneously along with concerned route button for 2-3 seconds and released after a lapse of 120 sec. The calling-on signal clears and a white light indication appears on the panel for the concerned calling-on signal.

6.3.1 **PUTTING BACK OF HOME SIGNALS: -**

If for any reason after taking off signals, it is required to put back the signal and alter the route, in terms of Subsidiary Rules 3.36.02(b)(ii), a time delay of 2 minutes shall be observed before the points can be altered.

6.4 **SIMULTANEOUS RECEPTION, DESPATCH, CROSSING & PRECEDENCE OF TRAINS: -**

- (i) According to the existing interlocking at the station, the simultaneous reception and despatch of trains is permitted as stipulated below: - (GR 3.47)

(i)	Reception of a DN train on Line No.1 set to Sand Hump.	Reception of an UP train on Line No. 3 or 4 with overlap set to over run line or Despatch of DN train from Line No. 2 or 3 or 4.
(ii)	Reception of an UP train on Line No 1 set to overrun line	Reception of a DN train on Line No. 3 or 4 with overlap set to over run line or Despatch of UP train from Line No. 2 or 3 or 4.
(iii)	Reception of an UP train on line No.3 set to overrun line.	Reception of DN train on line No. 1 with overlap set to sand hump or dispatch of UP train from Line No. 1 or 2.
(iv)	Reception of a DN train on line No.3 set to overrun line.	Reception of UP train on line No. 1 with overlap set to over run line or dispatch of DN train from Line No. 1 or 2.
(v)	Reception of an UP train on line No.4 set to overrun line.	Reception of DN train on line No. 1 with overlap set to sand hump or dispatch of UP train from Line No. 1 or 2.
(vi)	Reception of a DN train on line No.4 set to overrun line.	Reception of UP train on line No. 1 with overlap set to over run line or dispatch of DN train from Line No. 1 or 2.

- (ii) Setting of points during crossing of trains shall be done as per relevant provisions in SR 3.47.01 & 3.51.06.

6.5 **COMPLETE ARRIVAL OF TRAIN: -** (Rule no. GR 4.16 & SR 4.17.01,GR4.17.02, GR 14.10)

a) **STAFF RESPONSIBLE TO VERIFY COMPLETE ARRIVAL: -** SM on duty.

b) **MODE OF VERIFICATION:** Through AXLE COUNTER.

6.5.1 **L.V. VERIFICATION THROUGH AXLE COUNTER: -**

Entire block section at both sides of the station is monitored by axle counter system and the position of block section whether clear or occupied is indicated in the panel. As soon as a train enters in to the block section, the 'RED' indication appears in the axle counter indication panel. After the whole train clears the block section, 'GREEN' indication appears on the axle counter indication panel. This confirms the complete arrival of train and the SS/SM on duty shall give train out of section report on seeing the section clear (GREEN) indication at the panel.

6.5.2 L.V. VERIFICATION WHEN AXLE COUNTER FAILS:-

In case of failure of axle counter, the Station Master 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 station master on duty shall satisfy himself about complete arrival of train by verification of the last vehicle indicator vide Subsidiary Rule 4.16.05 that the train is complete. In case a train arrives/passes incomplete, action shall be taken as per Subsidiary Rules 4.17.02. 'The train out of block section signal' shall be withheld to the station in rear until complete arrival certificate is received from the station in advance supported by a Private Number.

6.5.3 L.V. VERIFICATION WHEN MOTOR TROLLEY FOLLOWING:-

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

6.6 DESPATCHING OF TRAINS: -

Despatch of trains are governed by General Rules 3.36, 3.38, 3.39, 3.42, 5.11 & 8.01 Subsidiary Rule 3.36.04(b), 3.42.04 and Block Working Manual 2.07(5)(a)(b) and other provision of General Rules, Subsidiary Rules, Block Working Manual and Station Working Rules of the station.

To despatch a train, the SS/SM on duty, having obtained line clear for that train, shall set the route for the out going train correctly and satisfy himself by observing the visual indication on the panel board. He shall suspend all non-isolated shunting, ensure closure of all L.C. Gates and then shall take off the concerned route starter and Advanced starter signal by operating concerned push button. After observing the 'OFF' aspect of the route starter and advanced starter signals the Driver shall start his train.

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 entering block section signal to the station in advance

If a train worked without Guard or Brake Van the instruction laid down in Subsidiary Rules 4.23.02 and 4.25.02 shall be followed.

6.6.1 PUTTING BACK SIGNALS TO 'ON' IN CASE OF EMERGENCY:

If a signal once taken 'Off' for reception/despatch of a train has to be, in an emergency, put back to 'ON', the procedure laid down in General Rules 3.36.02 shall be followed. In case of reception of train, route shall not be altered until the train has come to a stand outside Home signal. In case of departure signal before changing route, the line clear authority is to be withdrawn from the Driver with a memo, taking his acknowledgement thereof.

6.7 TRAINS RUNNING THROUGH: -

The procedure detailed in Para 6.06, 6.7 above and General Rules 4.17, 4.42 and Subsidiary Rules 3.36.04(b)(i) 3.42.02(a)(iv), shall be observed.

The SS/SM is responsible to observe/watch the condition of the vehicles on a train and shall wave green hand signal horizontally as per Subsidiary Rule 4.42.02 until anything wrong is noticed on train. For this purpose the SS/SM on duty shall stand in such a position that a clear view of the passing train is seen by him and that his hand signals can clearly be seen by the Driver and Guard of the train. He shall depute his points man with hand signal to the other side of

the passing train who shall exhibit hand danger signal to draw the attention of the guard/driver of the train in case of observing any unsafe condition/abnormalities of the train. He shall also report to the SS/SM on duty for taking further suitable action in terms of SR 4.42.02(d).

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 Rules 4.17 and Subsidiary Rules 4.17.02.

6.8 WORKING IN CASE OF FAILURE OF POINTS AND SIGNAL: -

In case of failure of S&T equipments on duty Station Master shall work in accordance to GR 3.68, 3.69 and 3.70 and SRs thereto.

6.8.1 PROCEDURE TO BE FOLLOWED INCASE OF FAILURE OF A SIGNAL & INTERLOCKING

INSTALLATION: -Whenever there is a failure of points, signals, track circuits or any other interlocking gear at the station that includes level crossing gate (s), if any etc. the SM on duty shall follow the procedure detailed in GR 3.68, 3.72, 3.74 and SR thereto. In case of defective approach signals, the trains will be piloted in vide SR 3.69.02, 3.69.03 & 3.69.05. In case of defective departure signals, trains will be piloted out vide GR 3.70 & SR 3.70.01. & 3.70.02.

6.8.2 TRACK CIRCUIT

In the event of failure of track circuit on any route, the clearance of the route must be physically checked before permitting any movement over the route either for reception or despatch of train or any shunting operations

6.8.3 AXLE COUNTER

In the event of failure of axle counter, Block Instrument of concerned block section will be suspended and all trains will be worked on PLCT till rectification.

6.8.4 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 3.46, 3.52 to 3.56, 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]

6.8.5 BLOCK INSTRUMENT

At the time of failure of Block Instrument between HKG-SBP&HKG-GBQ the authority will be Paper Line Clear Ticket (T/C 1425) with Identification number & Private Number issued from the Station in advance.

In the event of partial / total failure of Block instrument, trains shall be worked as per GR 14.01, 14.08 & SRs thereto and SR 6.02.06 and BWM Chapter III & IV, Part-II.

6.8.6 DEFFECTIVE INTERLOCKING

In the event of interlocking becoming defective, the points will be treated as defective. The SM on duty on receipt of this information will immediately introduce non-interlocking system of working at the station. Trains will be Piloted In or Out as the case may be. The SM on duty shall be responsible for correct setting, clamping and padlocking of points for admission of train.

6.8.7 DEFFECTIVE/DAMAGED POINTS

When any point fails to operate normally by the route setting operation through panel it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles are interlocked with signals and interlocking system. When points become defective, the signals controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle for motor operated points shall be followed as per operating manual para-20.06.

NOTE: -

1. The SM on duty shall personally supervise the correct setting, clamping and padlocking of the facing & trailing points, if any, and ensure clearance on the nominated route vide SR [Ref-SR3.69.03(c)]
2. The Key of padlock of the clamps put ON to the points on the route for piloting In or piloting OUT shall be in the personal custody of the SM on duty or any other authorized operating officials till such time the train/engine/vehicle has utilized the route or alternatively such movement is cancelled.

6.8.8 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 points 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 45 mts. from the point of obstruction to indicate to the Driver as to where the train shall be brought to a stand.

6.8.9 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 Superintendent/Station Master irrespective of the position of the switches, points 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 there to. [Refer GR 3.49(4) and 3.68, 3.77]

6.8.10. ISSUE OF CAUTION ORDER: - Whenever in consequence of the line being under repair or for any other reason special precautions are necessary, a caution order detailing the kilometers and speed at which a train shall travel and the reasons for taking such precautions shall be handed over to the driver in terms of GR 4.09 and SR thereto.

6.9 WORKING OF MOTOR TROLLEY, MATERIAL LORRIES ETC: -

- (a) Motor Trolleys are run in accordance with Subsidiary Rules 15.25.03 to 15.25.07.
- (b) Material Trolleys will work in accordance with Subsidiary Rules 15.27.05 to 15.27.08

The following precautions must be taken:

- i) The section where axle counters are provided in lieu of track circuits, trolleys, motor trolleys, Lorries etc which are not insulated, shall not be allowed to run except on line clear.
- ii) Motor trolleys / tower wagons / material Lorries are not likely to actuate the axle counter correctly. When they are to run over the sections split by axle counters, the whole section to be treated as one and next train to be started after the first train has arrived complete.

iii) In all other respects, the working of a light Motor trolley shall conform to the rules laid down for ordinary trolleys while running without block protection and to those laid down for motor trolleys while running under block protection or following another light motor trolley or a motor trolley.

7. BLOCKING OF LINES: -

Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement and reminder collars shall be placed on the concerned point push button and route button(s) for the blocked lines vide SR 3.36.03(b). A clear remark in 'RED' ink shall be made immediately in the train signal register and a record shall be made in the Station Master's diary also. Stable load register is also to be maintained. The stable load or loose vehicles are to be secured as per General Rules 5.23 and Subsidiary Rules 5.23.01 to prevent rolling down of vehicles.

7.1 STABLING OF VEHICLES ON RUNNING LINES :-

- a) Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement. Whenever a running line is blocked a clear mark in 'RED' ink shall be made immediately in Train Signal register.
- b) Register indicating time and number of running line on which vehicles are stabled. A record thereof shall be made in the Station Diary vide SR 5.23.01 (a) (c) & (d).

7.2 USE OF REMINDER COLLARS: -

Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train even for a short while or during shunting operations the reminder collars must be placed on concerned point push button, signal and route button(s) for the blocked lines on the operating panel by SS/SM on duty.

7.3 SECURING OF VEHICLES :-

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

NOTE: Special care shall be taken to secure special type vehicles fitted with roller bearings while standing in siding or on running lines A stabled load register to be maintained shift wise as per FORMAT given below: -

1	2	3		4	5	6
Date	Name of SM on duty	Duty Hours		Line on which stabled	Total no. of wagons	Time Line blocked
		From	To			

7(a)	7(b)	7(c)	7(d)
No. of Hand brakes pinned down	No. of wagons on which wooden wedges used	No. of safety chains with pad lock used	Clamps and pad locks used to set the line against blocked line

7(e)	7(f)		8	9	10
Switch nos. on which reminder collars applied	Time Line cleared		Signature of SM on duty	Signature of SM taken over	Remarks
	Date	Time			

7.4 ALTERING OF POINTS TO A CLEAR LINE WHEN RUNNING LINE IS BLOCKED:-

- a) When a running line is blocked by stable load e.g, wagons, vehicles or by a train which is to cross or give precedence to another train or immediately after arrival of a train at the station etc. the points at either end should immediately be set against the blocked line except when shunting or another movement is required to be performed in that direction on the same line.
- b) If all the lines at a station happens 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 a case of mishap, the chances of casualties are minimized.
- c) In case all the lines are occupied by passenger carrying trains points should be set for a loop line, to negotiate which the speed of the incoming train would be reduced, which in turn would minimize the consequences of casualties. While doing so, points shall 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 a loop line, occupied by a train whose passenger coach will, in case of collision, receive the impact.

7.5 LOADING AND UNLOADING OF VEHICLES ON RUNNING LINE:-

Loading and unloading of vehicles on running line is prohibited unless permitted by Sr. DOM / SBP vide SR 5.19.01.

8.0 SHUNTING: -

Shunting shall be performed in terms of General Rules 3.46, 3.52 to 3.56, 5.13, 5.14, 5.16, 5.17, 5.19, 5.20 to 5.23, 8.09, 8.10, 8.12, 8.13, 8.14, 8.15 and Subsidiary Rules thereto. The Guard/Asst. Guard/SS/SM/TPM on duty is authorized to supervise shunting operation. The authority for shunting is a shunting order (T-806) to be issued by the SS/SM on duty, which shall be withdrawn after completion of shunting, or in need when train movement is involved to receive/despatch trains on the adjacent line. The same shall be cancelled and pasted to its record foil. The staff supervising shunting shall ensure correct setting of points, clamping and pad locking of points, if necessary. Normally back shunt signals shall be used for shunting operation.

8.1 PROHIBITION OF SHUNTING AND ANY SPECIAL FEATURE: -

- (a) Hand Fly & Loose shunting is not permitted at both end of the yard.
- (b) SR 4.48.01 is applicable for this station.
- (c) Shunting in the face of approaching train is prohibited.

8.2

<u>SHUNTING ZONE</u>	<u>BLOCK SECTION IS CLEARED</u>	<u>BLOCK SECTION IS OCCUPIED</u>
Shunting outside home signal	The concerned section shall be blocked back vide GR 8.13.	Not permitted in face of an approaching train
Shunting within station section	Permitted	Permitted provided the conditions of GR 8.09 are complied.
Shunting outside station section and up to home signal.	Permitted vide GR 8.12	Not permitted in the face of approaching train

8.3 SHUNTING IN THE SIDING TAKING OFF FROM STATION YARD : -

When shunting is to be performed in the station yard/Hot Axle Siding/Track machine siding, proper shunting authority shall be issued to the trains staff with clear instruction and limit up to which the shunting is to be performed. After shunting in the siding it must be verified by SM on duty that the line is free from all obstructions.

For shunting of aspect of starter signals shall be used for back shunting. Shunt signals provided in each side of the yard shall be used.

9. ABNORMAL CONDITIONS:

(a) THE RULES TO BE OBSERVED IN THE EVENT OF ABNORMAL CONDITION: -

[I] PARTIAL FAILURE OF COMMUNICATION: -

In the event of suspension of Block Instrument and during partial failure of other available means of communications, trains will be worked in terms of Subsidiary Rule 6.02.06 and Chapter- III & IV, Part-I & II of Block Working Manual.

[II] DESPATCHING OF TRAINS ON THE AUTHORITY OF BLOCK TICKET: -

In case, it is necessary to allow a train into an obstructed block section due to engine failure, obstruction or accident, a block ticket shall be issued in terms of SR 6.02.05 Absolute Block System on the affected block section shall be suspended and concurrence of the SS/SM at other end shall be obtained and recorded in caution order register and train signal register.

On the block ticket (T/A 602) it shall be mentioned in detail the place of obstruction i.e. Engineering Km., B/Van Km., whether the train is to return or to wait at the place of obstruction for the arrival of another following train(s) or to proceed to next station.

A caution order shall be issued restricting the speed to 15 KMPH. in day light hours when the visibility is good and 10 KMPH at night or whenever clear view of 800 Mtrs. is not available.

On arrival at the station the block ticket shall be collected with necessary endorsement from Driver/Guard and cancelled and pasted to its record foil or shall be sent to the issuing station for cancellation.

R.Das.
DSTE / SBP

B. Bhoi
DEN/Central/SBP

D.Nayak
DOM/ SBP

In case of accident/engineering block assurance from SE/P.WAY concerned shall be obtained that the line is safe for movement of trains before resumption of normal working. When the obstruction is removed and assurance in writing is obtained from SE/P.WAY concerned or Guard/Driver the SS/SM on duty may resume normal working after exchanging proper messages supported by Private Number.

[III] **TRAINS DELAYED IN BLOCK SECTION: -**

In case of train delayed in the block section the Stationmaster will take action as per GR 6.04 and SRs thereto.

[IV] **FAILURE/PASSING OF INTERMEDIATE BLOCK STOP SIGNAL AT ON:- NIL**

[V] **FAILURE OF LV AXLE COUNTER: -**

Details of the operation are given in Appendix 'B' of SWR.

(b) **PROCEDURE FOR EMERGENCY OPERATION OF POINTS BY CRANK HANDLE: -**

Details of the operation are given in Appendix 'B' of SWR.

(c) **CERTIFICATION OF CLEARANCE OF TRACK BEFORE CALLING-ON SIGNAL IS OPERATED**

To take 'OFF' a calling on signal during failure of track circuit on the route, the clearance of the track over which the train would pass must be physically checked by the SS/SM on duty. After satisfying himself SS/SM on duty shall initiate the calling on signal operation. The procedure shall be strictly followed.

(d) **REPORTING FAILURE OF POINTS, TRACK CIRCUIT/AXLE COUNTER AND INTERLOCKING:-**

In case of failure of any interlocking gear at the station, the failure report should be communicated by the SS/SM on duty to the sectional Maintainer, the JE/SE/SSE (SIG) of the Section and others through a memo as per G & SR 3.68.04 and document all such transactions.

9.1 **TOTAL FAILURE OF COMMUNICATION: -**

In the event of total interruption of all communications occurring between HKG – SBP or HKG - GBQ, action is to be taken as per SR 6.02.04. The train, which is to be despatched to the affected section will be stopped, before the train engine is detached the Driver and Guard of the train shall be informed of the situation. SM on duty shall hand over to the Driver/Motorman /Guard /SM of the light engine/ train engine/Motor trolley/ Tower wagon etc, going to open communication "an authority for opening communication during total interruption of communication on single line section", which includes-

- (i) An Authority to Proceed without line clear.
- (ii) A Caution Order restricting the speed to 15 Kmph. by day when view ahead is clear and 10 Kmph. during night or when view is obstructed in addition to other speed restrictions in force.
- (iii) An authority to pass the last stop signal at 'ON' position.
- (iv) A Line Clear Enquiry message addressed to the SM of the block section at the other end asking for line clear for the train waiting to be despatched.
- (v) Conditional line clear message for the light engine to return with or without a train attached supported by a Private Number.

On arrival of the engine at the next station the conditional line clear message and enquiry message shall be collected by the Station Master on duty who shall prepare a conditional line clear ticket for engine to return either light or with train attached and conditional line clear reply message for the enquiry message giving line clear for the train waiting at other station shall be handed over to the Driver of light engine. On return trip the Driver will come on booked speed subject to speed and other restrictions in force.

If there be an even flow of in both directions, Enquiry and Conditional line clear message for each succeeding train may be sent through the Guard of the preceding train. If the Station Master at one end has more than one train to despatch in the same direction he may ask line clear not only for one train but also for the following trains. It must be stated that these later trains will be despatched after the first train at an interval of 30 minutes.

When despatching the second and subsequent train, particulars of last preceding train along with its departure time will be endorsed and a caution order restricting the speed to 25 Kmph. over straight when view ahead is clear and 10 Kmph. when the view ahead is not clear is to be issued. While adopting this procedure the Guard and Driver should be instructed to keep a 'sharp' lookout 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 is no train in the affected block section and message shall be exchanged supported by Private Number keeping Section Controller informed.

9.2 TEMPORARY SINGLE LINE WORKING ON A DOUBLE LINE SECTION: - N.A.

10 VISIBILITY TEST OBJECT: -

Not Applicable.

11 ESSENTIAL EQUIPMENTS AT THE STATION: -

This is mentioned in the Appendix 'E' of the SWR.
Essential equipment shall be kept ready on hand in good condition with necessary relief stock.

12 FOG SIGNAL MEN NOMINATED TO BE CALLED IN CASE OF FOG: -

The station has been provided with double Distant signals which give adequate prewarning to the loco Pilot. Hence, placing of detonators in case of fog shall be dispensed with vide SR 3.61.01.

Correction Slip No.02
Date of issue -04.06.2012

CERTIFICATE:-

NOTHING IN THESE RULES SHALL BE READ AS CANCELLING, AMENDING AND MODIFYING ANY OF THE GENERAL RULES, SUBSIDIARY RULES, BLOCK WORKING MANUAL AND PERATING MANUAL. THESE RULES HENCEFORTH CANCEL ALL PREVIOUS STATION WORKING RULES OF HIRAKUD STATION.

APPENDICES

APPENDIX 'A'	--	WORKING OF L.C. GATE.
APPENDIX 'B'	--	SYSTEM OF SIGNALLING AND INTERLOCKING AND COMMUNICATION ARRANGEMENTS AT THE STATION.
APPENDIX 'C'	--	ANTI COLLOISION DEVICE (RAKSHAKAVACH).
APPENDIX 'D'	--	DUTIES OF TRAIN PASSING STAFF AND STAFF IN EACH SHIFT.
APPENDIX 'E'	--	ESSENTIAL EQUIPMENT OF STATION.
APPENDIX 'F'	--	RULES FOR WORKING OF DK STATIONS, HALTS,IBH, IBS AND OUTLYING SIDINGS.
APPENDIX 'G'	--	WORKING OF TRAINS IN ELECTRIFIED SECTIONS.

Correction Slip No.01
Date of issue -25.04.2011

APPENDIX – ‘A’

DETAILS OF LEVEL CROSSING GATES TOGETHER WITH INSTRUCTIONS TO THE OPERATING STAFF (INCLUDING LEVEL CROSSING GATE MEN) ABOUT THEIR NORMAL WORKING, THEIR MAINTENANCE AND THEIR WORKING INCASE OF FAILURES, EMERGENCIES WITH SPECIAL PROVISIONS, IF ANY.

1.0 GATE WORKING RULES OF “C” CLASS, TRAFFIC, INTERLOCKED LEVEL CROSSING GATE AT KM 569/7-8 (No. JT-28) IN HIRAKUD STATION YARD.

1.1 DESCRIPTION OF THE LEVEL CROSSING GATE: -

- | | | | |
|-----|-------------------------------------------------------------|---|-------------------------------------------------------------|
| 1. | Number of level crossing gate | : | JT-28 |
| 2. | Engineering or Traffic Gate | : | Traffic |
| 3. | Under control of Station Manager or Permanent Way Inspector | : | SM/HKG |
| 4. | Location at KM | : | 569/7-8 |
| 5. | At station | : | Hirakud. |
| 6. | In between station | : | HKG-SBP |
| 7. | BG/MG/NG | : | BG |
| 8. | Single line/Doubling Line/Multiple Line | : | Single line |
| 9. | Normal position | : | Open to road traffic |
| 10. | Interlocked/Non-interlocked | : | Interlocked |
| 11. | Means of interlocking | : | R.K.T |
| 12. | Provision of gate Signal at Kms | : | NIL |
| 13. | Signalling arrangement | : | MACLS |
| 14. | Means of communications Telephone/Bell etc. | : | Telephone connection with SM/HKG |
| 15. | Width of Level Crossing Gate | : | 5.50 MTRS |
| 16. | Type of Road (NH/SH/Others) | : | Others |
| 17. | Name of Road | : | Village Road |
| 18. | Metaled/Non Metaled | : | Metaled |
| 19. | Approach Road | : | Metaled |
| 20. | Width of the Road | : | 5.50 MTRS. |
| 21. | Angle of Road Crossing (incase of the SKEW gates) | : | 90 degree |
| 22. | Road Gradient (if any) | : | (a) North/East side: Level
(b) South/West side: 1 in 100 |
| 23. | Road alignment (straight/curve) | : | (a) Noth/East side- Straight
(b) South/Westside- Curve. |
| 24. | Provision of height gauge | : | Not required |
| 25. | Type of Barrier | : | Electrical Lifting Barrier |
| 26. | Length of check Rail | : | 7.50M |
| 27. | Road surface in between level crossing gates. | : | Leveled with hexagonal concrete slabs |
| 28. | Length of Rumble strip/speed breakers. | : | 5.50m |
| 29. | Road Signs | : | Provided. |
| 30. | Spead breakers indication board | : | Provided |
| 31. | TVU | : | 9684 on 07/2010 |
| 32. | Census next due on | : | 07/2013 |
| 33. | Demarcation for placement of detonators. | : | Provided |

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DEN/Central/SBP

D.Nayak
DOM/ SBP

34. No. of gateman working : 2 (Two)
35. Nearest Railway Medical Assistance : Sambalpur
36. Nearest Private Medical Assistance available : Burla.
(if any)
37. List of equipment available Yes / No. : Yes

1.2. **EQUIPMENTS TO BE AVAILABLE AT THE GATE:**

EQUIPMENT:

ITEMS	QUANTITY/NUMBERS
1. Hand signal Lamp Tri Colour Torch	3(5 on Quadruple/Line or twin single line)
2. Hand signal Flag Green	1 mounted on sticks
3. Hand Signal Flag Red.	3 (6 on Quadruple/line or Twin single line and 7 in case Hexaple section mounted on sticks)
4. Banner Flag Red	3 (5 on Quadruple/Line or twin single line)
5. Posts for exhibiting red banner flag	2 (4 on Q/Twin single line and 5 on Hexaple section)
6. Spares chains with padlocks	2 with stop mark
7. Detonators	10 in tin case
8. Gate Lamps	2
9. TommyBar	1
10. Motor Pan	1
11. Spade/Fowrah	1
12. Rammer	1 (in case of asphalted road this may not be provided)
13. Pick Axe	1 (in case of asphalted road this may not be provided)
14. Tin case for flags	1
15. Can for oil	1
16. Water pot/Bucket	1
17. Canister for Muster Roll	1
18. Set of spare spectacles of Gateman Wearing glasses.	1
19. Board demarcating protection of level crossing Gate diagram in case of obstruction on Gate .	1
20. Basket	1
21. Whistle	1
22. Wall clock	1
23. Small size chain with padlocks to be used in case failure of gate boom lock.	2

1.3 **THE GATEMAN SHALL BE PROVIDED WITH FOLLOWING REGISTERS: -**

- i) Gate working instructions in Hindi / English.
- ii) Gate working instructions in local vernacular language.
- iii) General Rules 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 Gateman, including date of passing vision test, initial/refresher course, safety camp etc.

- viii) Accident Register.
- ix) Records of last census of road traffic at level crossing gate.
- x) Public complaint Book.
- xi) Inspection Book.

1.4 **DUTIES OF GATEMAN:**

1. **ALERTNESS:** The Gateman on duty shall be alert. He should be prepared to take immediate action, when danger is apprehended. Keys of the gate shall be in his personal custody.

2. **POSITION OF GATE KEEPER 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 daytime, Gateman shall hold red and green flags furled up on separate sticks in right and left hands respectively.
- iii) In nighttime, Gateman shall hold lighted hand signal lamp with white light facing the track.
- iv) He shall keep the whistle slung around his neck from a cord and blow the whistle to draw the attention of Driver & Guard of the passing train.

3. **ROUTINE DUTIES OF GATEMAN:**

- i) Gateman shall ensure that red banner flag by day and red lamp by night is placed across the track whenever the gate is kept in open condition during emergencies or obstruction on track
- ii) Gateman shall ensure that all gate lamps and hand signal lamps 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 his reliever arrives and takes over charge from him. 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 /trains/battery/box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- vi) Gateman shall also be prepared to repeat any signal which guard may give to driver.
- vii) If lifting barriers get damaged or becomes out of order, the Gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- viii) Gateman shall report to the nearest Station Master, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- ix) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- x) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- xi) Gateman shall work the gate as per gate working instructions and remain well conversant with these instructions.
- xii) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- xiii) Gateman shall see that the channel for the flange of the wheel is kept clear.
- xiv) Gateman must keep the road surface well-watered and rammed in case of unmetalled roads.
- xv) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- xvi) Gateman shall prevent tress passing by persons or cattle to the maximum extent.

4. **ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN.**

In case Gateman observes any thing unusual with a passing train, he shall take following action:

- i) He shall take prompt action to warn the driver/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 driver/guard by whistling continuously, shouting, gesticulating, and throwing ballast on the brake van or by any other means.
- iii) If driver/guard fails to take notice, Gateman shall immediately inform the Station Master 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 Driver/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 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 an, in the 'ON' position.
- ii) Therefore, if he is unable to remove the obstruction, gateman shall immediately advise the Station Master on duty, 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.

The gateman shall protect the line as under: -

a) **ON SINGLE LINE SECTION:**

- i) Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the direction from which a train is expected to arrive first.
- ii) Then he will similarly 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 protect the gate along with detonators, fusee 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, which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 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 (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 driver 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 and fix the fusee to warn the driver and stop the approaching train by waving his red flag by day, red hand signal lamp by night repeatedly.

(B) OTHER ACTIONS 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 paras (a) and (b) above.
- ii) If the gate is broken by a road vehicle, which is fouling the track or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the Gateman shall take immediate action.
- iii) He shall note down the particulars of the road vehicle, vehicle number, name of the driver, owner and relay these details to the SM and Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

1.5 SPECIAL INSTRUCTIONS -**1. MODE OF OPERATION:**

The gate shall normally be kept open to road traffic. Whenever the Gate is required to be closed against Road Traffic, the SM on duty shall inform the Gateman to close the gate. The gateman shall clear the road traffic and close the gate by pressing the RED button till the gate is closed and lock indication appears on the panel. Key 'B' is then extracted from EKT-II and inserted in EKT-I after gate closed & locked indication appears & then transmitted electrically to panel in conjunction with switch 'S' reversed to control the concerned signal. The SS/SM on duty shall press the level crossing control button No.31 and common Group Release button. L.C Gate close indication will appear in the panel and concern signals get released automatically. Switch S is provided in LC Gate panel to put back the signal to danger in case of emergency.

After passage of trains or completion of shunting, the SS/SM on duty shall inform the Gateman. He shall push L.C Gate control button No.31 and common Group Trans button and keep it pressed till such time the Gateman extracts the gate control key 'B' from the EKT-1 and insert in EKT-II. Gateman on duty will open the L.C Gate by pressing the GREEN push button till the gate is fully opened. The level crossing gate shall be so worked as to cause the least possible inconvenience to vehicular traffic consistence with safety vide SR 16.03.01 (a)(b).

2. INTIMATION TO GATEMAN:

- i) Before taking off reception/departure signals Station Master/HKG shall inform the gateman, the number, description, and direction of the train.
- ii) The gateman shall close the gate and transfer the key to the Station Master.
- iii) The reception/departure signals will then taken 'OFF'
- iv) In order to ensure that road traffic is not held up for a long time, the Station Master/HKG must ensure that the train is ready for departure in all respects before he advises the gateman for closing the gate.
- v) When a train has to be piloted to and from the station yard or any shunting movement is to be done, the staff deputed to pilot the train 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.

3. FAILURE OF TELEPHONIC COMMUNICATION:

When Telephonic Communication fails or it does not get any response from the Gateman despite 2 or 3 attempts, the following procedure should be adopted:

- i) Station Master on duty/ HKG 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/ HKG, which will enable him to take 'OFF' reception/Departure signals.
- iii) When sufficient time is not available because of greater frequency of train service, station Master/ HKG will issue written authority to the train driver to pass the signal at 'ON' position.
- iv) In addition Station Master/ HKG shall also issue a caution order advising the driver to whistle continuously and approach the gate cautiously.
- v) The train driver shall be instructed to pass the gate cautiously, on before signaled by the gateman. If hand signal is not seen, driver should be prepared stop short of the gate and ensure that gate is closed following GR.3.73.
- vi) In case of an approaching UP train, the Station Master/ HKG shall advise the Station Master/SBP, under exchange of private number, that the telephone at the gate has failed.
- vii) The station Master/ SBP shall then issue a caution order to the driver before dispatching an UP train into the block section from his end.
- viii) He should also advise S&T staff responsible for maintenance of the telephone 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.

4. FAILURE OF LIFTING BARRIERS OF GATES:

- i) When the gate cannot be closed due to failure of lifting barriers, the gateman will immediately inform, the Station Master on duty/ HKG, under exchange private number, and ensure the lifting barriers of gate 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 by night to the driver of the approaching train.
- v) Station Master on duty/ HKG shall issue a caution order to the driver of a departing train.
- vi) He shall also advise the station Master/SBP at the despatching end, under exchange of private number, to similarly issue a caution order to the driver before despatching an UP train into the block section from his end.
- vii) Station Master/ HKG will advise maintenance staff responsible for maintenance of lifting barriers to repair the defect at the earliest.
- viii) Normal working will resumed only after maintenance staff repair the barrier and issue reconnection/fit memo for the same.

5. FAILURE OF THE 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 gate Panel or the key transmitter, then gateman must immediately inform the Station Master / HKG on duty on telephone, under exchange of private number.
- ii) The gateman shall open the gate with the help of emergency handle kept at the LC gate in a sealed Box and shall note the details of such operations in the register meant for it.

- iii) Thereafter, the gate must be treated as non – interlocked and procedure for reception/ despatch of trains as prescribed for non – interlocked gates, should be adopted.
- iv) Station Master on duty/ HKG shall issue a caution order to the driver of a departing train.
- v) He shall also advise the station Master/SBP at the despatching end, under exchange of private number, to similarly issue a caution order to the driver before despatching an UP train into the block section from his end.
- vi) Station Master/ HKG will advise S&T staff responsible for maintenance of winch /key transmitter to rectify the defect at the earliest.
- vii) Normal working will resumed only after S&T staff repairs the Panel /key transmitter and issue reconnection/fit memo for the same.

6. FAILURE OF THE GATE KEY WITH THE GATE IN OPEN CONDITION:

- i) If the gate key cannot be extracted from the Panel, gate lever or key transmitter then gateman must immediately inform the Station Master on duty/ HKG on telephone, under exchange of private number.
- ii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/despatch 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 the trains on hand signals.
- iv) Station Master on duty/ HKG shall issue caution order to the driver of a departing train.
- v) He shall also advise the station Master/SBP at the despatching end, under exchange of private number, to similarly issue a caution order to the driver before despatching an UP train into the block section from his end.
- vi) Station Master/ HKG will advise S&T staff responsible for maintenance of winch/key transmitter to rectify the defect at the earliest.
- vii) Normal working will resumed only after S&T staff repairs the Panel/key transmitter and issue reconnection/fit memo for the same.

7. OBSTRUCTION AT THE GATE:

- i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the 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/ HKG on duty, regarding the defects/obstruction at the gate, under exchange of private number.
- iii) Stationmaster/ HKG 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 / HKG after two or three attempts, he shall first protect the gate and then inform on phone.
- v) Gateman shall then rush with detonators, fusee and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item No.1.4. (5).
- vi) Thereafter he shall protect the gate from the other direction also.
- vii) He shall note down the particulars of the road vehicle, name of the driver, owner and reply these details to the station Master/ HKG who shall not start the trains unless he has been assured by the gateman that the road vehicle or the lifting barriers are not fouling the track.

- viii) The Station Master/ HKG shall also inform the station Master/SBP at the despatching end, under exchange of private number, asking him not to despatch any train into the block section from his end, until the track has been cleared of all obstructions.
- ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master/ HKG accordingly, under exchange of private number.
- x) Station Master/ HKG and SBP shall then issue a caution order to drivers of all trains to proceed cautiously, and pass the gate 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 they're after exhibit green hand signal, if the gate is not obstructed.
- xii) Station Master/ HKG shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- xiii) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers and issue reconnection/fit memo for the same.

8. **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/ HKG will adopt the procedure given under item No.7 above. If the obstruction fouls the level Crossing Gate, gateman must keep the gates closed against road traffic till the track is cleared of the obstruction.

2.0 GATE WORKING INSTRUCTIONS OF “C” CLASS ENGINEERING NON-INTERLOCKED LEVEL CROSSING GATE (NO. JT-27) AT KM 568/2 IN BETWEEN HKG&SBP STATIONS.

2.1 GENERAL INSTRUCTIONS: -

2.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

1.	Number of Level Crossing Gate: -	JT-27.
2.	Engineering or Traffic Gate: -	Engg.
3.	Under control of Station Master/PWI:	SE(P.Way)/SBP
4.	Location KM	568/2
5.	At. Station: -	----
6.	In between Stations: -	HKG-SBP.
7.	BG/MG/NG: -	BG.
8.	Single line/Double line/Multiple line: -	Single Line.
9.	Normal Position: -	Open to road traffic.
10.	Interlocked/Non Interlocked: -	Non-interlocked.
11.	Means of interlocking: -	Not applicable.
12.	Provision of Gate signal at Kms.	
		i) Up line NIL
		ii) Dn line NIL
13.	Signalling arrangement: -	NIL.
14.	Means of Communication:	Telephone communication from Gate Goomty with SM Office/HKG.
15.	Width of level crossing Gate: -	5.5 Meters.
16.	Type of road. (NH/SH/Others): -	Village Road
17.	Name of Road: -	Canal Road
18.	Metaled/Non Metaled	Metaled
19.	Approach Road: -	Metaled.
20.	Width of the road: -	5.5 m.
21.	Angle of road crossing (In case of the skew Gates)	---
22.	Road gradient (If any)	
		i) North/East side.Level.
		ii) South/West side-Level.
23.	Road alignment (Straight/Curve): -	
		i) North/East side-Straight
		ii) South/West side-Straight
24.	Provision of height gauges: -	Not Provided.
25.	Type of Barriers: -	Lifting barriers.
26.	Length of checkrails: -	7.5 Meter.
27.	Road surface in between Level Xings Gates: -	Hexagonal concrete blocks.
28.	Length of speed breakers: -	5.5 Meters.
29.	Road signs: -	Available.
30.	Speed breaker indication board: -	Provided.
31.	TVU: -	3780 on 07/2010.
32.	Census next due on: -	07/2013.
33.	Demarcation for placement of Detonators:-	Available
34.	No. of the Gateman working: -	02.
35.	Nearest Railway Medical Assistance: -	Sambalpur.
36.	Nearest Private Medical Assistance available (if any Burla.	
37.	List of equipment available Yes//No: -	yes.

2.2. **EQUIPMENT:**
ITEMS

QUANTITY/NUMBERS

1. Hand signal Lamp/ Tri Colour Torch	3(5 on Quadruple/Line or twin single line)
2. Hand signal Flag Green	1 mounted on sticks
3. Hand Signal Flag Red.	3 (6 on Quadruple/line or Twin single line and 7 in case Hexaple section mounted on sticks)
4. Banner Flag Red	3 (5 on Quadruple/Line or twin single line)
5. Posts for exhibiting red banner flag	2 (4 on Q/Twin single line and 5 on Hexaple section)
6. Spare chains with padlocks	2 with stop mark
7. Detonators	10 in tin case
8. Gate Lamps	2
9. Tommy Bar	1
10. Motor Pan	1
11. Spade/Fowrah	1
12. Rammer	1 (in case of asphalted road this may not be provided)
13. Pick Axe	1 (in case of asphalted road this may not be provided)
14. Tin case for flags	1
15. Can for oil	1
16. Water pot/Bucket	1
17. Canister for Muster Roll	1
18. Set of spare spectacles of Gateman wearing glasses.	1
20. 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 size chains with padlocks to be used in case of failure of boom lock.	2

2.3 **The Gateman shall be provided with following registers: -**

- 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 Gateman, including date of passing vision test, initial/refresher course, safety camp etc.
- viii) Accident Register.
- ix) Records of last census of road traffic at level crossing Gate.
- x) Public complaint Book.
- xi) Inspection Book.

2.4 **DUTIES OF GATEMAN:**

1. **ALERTNESS:**

The gateman on duty shall be alert. He should be prepared to take immediate action, when danger is apprehended. Keys of the gate shall be in his personal custody.

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2. **POSITION OF GATE KEEPER 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 daytime, gateman shall hold red and green flags furled up on separate sticks in right and left hands respectively.
- iii) In nighttime, gateman shall hold lighted hand signal lamp with white light facing the track.
- iv) He shall keep the whistle slung around his neck from a cord.

3. **ROUTINE DUTIES OF GATEMAN:**

- i) Gateman shall ensure that red banner flag by day and red light by night is placed across the track whenever the gate is kept in open condition for passage of road vehicles.
- ii) Gateman shall ensure that all gate lamps and hand signal lamps 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 his reliever arrives and takes over charge from him. However, if it is necessary to leave the gate in an emergency, he must close and lock the gate against road traffic, before leaving the gate.
- iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle/wagons /trains/battery/box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- vi) If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- vii) Gateman shall report to the nearest Station Master, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- viii) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- ix) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- x) Gateman shall work the gate as per gate working instructions and remain well conversant with these instructions.
- xi) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- xii) Gateman shall see that the channel for the flange of the wheel is kept clear.
- xiii) Gateman must keep the road surface well watered and rammed in case of unmetalled roads.
- xiv) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- xv) Gateman shall prevent trespassing by persons or cattle to the maximum extent.

4. **ACTION IN CASE OF UNUSUAL OCCURRENCE OF 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, and 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/HKG, 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/HKG, to take appropriate action, under exchange of private number.

5. **ACTION IN EMERGENCY AT THE LEVEL CROSSING:**

- i) In case of an obstruction at the level crossing gate, he shall place banner flag/red light lamps on the stave on track at 5 m. away from the edge of the road at Level Crossing.
- ii) Thereafter, if he is unable to remove the obstruction, gateman shall immediately advise the Station Master/HKG on duty, regarding the defects/obstructions at the gate, under exchange of private number.
- iii) If there is no response from the Station Master/HKG after 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 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) Gateman shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction, which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 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, which was placed at boom.
- v) Thereafter, he shall proceed towards the other direction, showing red hand signal, similarly place detonators as described in (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 stop the approaching train by waving his red flag by day, red hand signal lamp by night repeatedly.

(B) OTHER ACTIONS 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 paras (a) and (b) above.

- ii) If the gate is broken by a road vehicle, which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.
- iii) He shall note down the particulars of the road vehicle, vehicle number, name of the Driver, owner and relay these details to the Station Master/HKG and Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

2.5 **SPECIAL INSTRUCTIONS:**

1. **MODE OF OPERATION:**

This is a Non-interlocked 'C' Class Engineering L.C.Gate situated at Km 568/2 between HKG-SBP stations. This gate is provided with winch operated coupled lifting barriers. The gateman closes and opens the lifting barriers of gate manually by operating the winch. Telephone connection is provided between the L C. gate lodge and SM's office of HKG station. The level crossing gate is normally kept open to road traffic and closed against road traffic for passage of trains. The gateman shall be authorized to open the L.C.Gate after complete passage of train from the gate by observing tail board/ tail lamp. The gateman before opening the gate shall ensure that SM has not advised him to keep the gate closed for any other train from the same direction or from other direction. He shall display a banner flag across the track while the gate is in open condition.

2 **EXCHANGE OF PRIVATE NUMBERS.**

(a) When Gate is connected with the station at the dispatching end:

- i) Station Master / HKG at the dispatching end shall advise the gateman the number, description, direction and expected time of the passage of the train at the gate, under exchange of private number.
- ii) Such advice shall be given before taking 'OFF' departure signal or giving an authority to proceed to the Loco pilot.
- iii) The gateman on receipt of the advice shall close the gate well in time and confirm the same, under exchange of private number.
- iv) Station Master / HKG will take off the departure signals after getting the private number of the gateman.
- v) The gateman shall be authorized to open the L.C.Gate after complete passage of train from the gate by observing tail board/ tail lamp. The gateman before opening the gate shall ensure that SM has not advised him to keep the gate closed for any other train from the same direction or from other direction. He shall display a banner flag across the track while the gate is in open condition.

(b) When Gate is connected with the station at the receiving end:

- i) Station Master /SBP at the despatching end shall advise the Station Master / HKG at the other end the number, description, direction and expected time of passage of the train at the gate, under exchange of private number.
- ii) Such advice shall be given before obtaining line clear.
- iii) Station Master / HKG at the receiving end shall in turn convey the same advice to the gateman, under exchange of private number.
- iv) Gateman shall close the gate and thereafter give his private number to the Station Master / HKG.
- v) Only then shall the Station Master / HKG at the receiving end grant line clear to the Station Master /SBP at the despatching end.
- vi) The gateman shall be authorized to open the L.C.Gate after complete passage of train from the gate by observing tail board/ tail lamp. The gateman before opening the gate shall ensure that Station Master has not advised him to keep the gate closed

for any other train from the same direction or from other direction. He shall display a banner flag across the track while the gate is in open condition.

3 FAILURE OF TELEPHONIC COMMUNICATION:

When Telephonic Communication fails or SM/HKG does not get any response from the Gateman despite 2 or 3 attempts, the following procedure shall be adopted:

- a) SM/HKG shall serve a caution order to the Loco pilot and the Guard of every train proceeding into the affected section giving the number and kilometreage of the level crossing and directing the loco pilot:-
 - (i) To whistle frequently to attract the attention of the gateman,
 - (ii) To proceed cautiously, and stop 30M. short of the level crossing and be guided by hand signal.
- b)
 - (i) The Loco Pilot after stopping, if the gateman is available and apparently in a fit condition to continue his duty and the gates are closed, shall arrange to advise the station master / HKG as the case may be of the fact using the telephone provided at the gate. The Station Master/HKG on receipt of such an advice from the Loco Pilot shall discontinue issue of caution order to the following trains provided the acknowledgement of the gateman is available over the telephone.
 - (ii) In the above circumstance, the Loco Pilot should not stop his train at the next station to advise the Station Master.
- c)
 - (i) If the loco Pilot does not find the gateman at the level crossing or if the gateman is apparently unfit for duty and the gates are not closed, he shall depute his Assistant, the Loco Pilot shall seek assistance of the Assistant Guard or Guard of the train. The same should be informed to the Station Master/HKG on gate telephone.
 - (ii) The Loco Pilot, after being hand signaled, shall pass the level crossing and stop clear of it by at least 2 bogie lengths to pick up the Assistant or Assistant Guard / Guard, as the case may be. The Railway servant deputed for closing the gate shall reopen it for road traffic after the passage of the last vehicle of the train.
 - (iii) If, however, the telephone is out of order or the gateman is not available or is apparently unfit to continue his duty and intimation of the fact could not be given to the station/ HKG from the gate, the Loco Pilot shall stop his train at the next station (even if it is through passing station) and give a memo to the Station Master/SBP indicating the condition of the gateman, gate and telephone.
 - (iv) The Station Master/HKG on receipt of the Loco Pilot's report regarding absence or unfitness of the gateman, shall advise the station Master/SBP, the Notice Station, the Section Controller, JE/SE/SSE (P.Way) and AEN concerned and the Gangmate of the nearest gang for immediate posting of a gateman. He shall also inform the maintenance staff to attend and repair the telephone, if required. Issue of caution order should continue till normal working condition is restored.
- d) Before giving line clear to a train, the Station Master/HKG shall advise the Station Master/SBP of the facts by message supported by a Private Number, and obtain his acknowledgement with a Private Number. The latter shall issue a caution order to the Loco Pilot as detailed in Para (a).
- e) Necessary entries shall be made in the Caution Order Register, Station Diary or Signal Failure Register as the case may be by Station Masters at either end of the affected station. The Section Controller shall also keep a note in his chart indicating the action taken by him.

4 **FAILURE OF LIFTING BARRIERS:**

- i) When the Gate cannot be closed due to failure of lifting barriers, The Gateman will immediately inform the Station Master on duty/ HKG, under exchange of Private number, and ensure that lifting barriers 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, he shall show green hand signal flag by day and green light by night to the Loco pilot of an approaching train.
- v) Station Master on duty/ HKG shall issue caution order to the Loco pilot of departing DN train.
- vi) SM/ HKG shall also advise the Station Master/ SBP at the despatching end, under exchange of private number, to similarly issue a caution order to the Loco pilot before despatching a train into the block section from his end.
- vii) SM/ HKG should also advise maintenance staff responsible for maintenance of the lifting barriers to rectify the defect at the earliest.
- viii) Normal working will be resumed only after maintenance staff rectify the lifting barriers and issue reconnection/fit memo for the same.

5 **OBSTRUCTION AT THE GATE:**

- i) If the Gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the Gate foul the track, or if there is any other obstruction at the Gate, the Gateman shall immediately fix red banner flag by day and red 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 / HKG on duty regarding the defects/obstruction at the Gate under exchange of private number.
- iii) Stationmaster at HKG on duty shall be advised to put the departure signals back to 'ON' position, if taken 'OFF' for a train.
- iv) If there is no response from the Station Master / HKG after two or three attempts, he shall first protect the Gate and then inform him on phone.
- v) Gateman shall then rush with detonator and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the Gate as stipulated in General Instruction for duties of Gateman under item No.2.4. (5).
- vi) Thereafter he shall protect the Gate from the other direction also.
- vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and relay these details to the Station Master/ HKG who shall not allow the trains unless he has been assured by the Gateman that the road vehicle or the lifting barriers are not fouling the track.
- viii) The Station Master/ HKG shall also inform the station Master/ SBP, under exchange of private number, asking him not to despatch any train into 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/ HKG accordingly under exchange of private number.
- x) Gateman shall secure the Gate against road traffic by means of safety chains and padlocks and thereafter exhibit green hand signal, if the Gate is not obstructed.
- xi) Station Master/ HKG shall advise maintenance staff responsible for maintaining the lifting barriers Gates to repair the same at the earliest.
- xii) Normal working will be resumed only after maintenance staff rectify the defective lifting barriers and issue reconnection/fit memo for the same.

6 **OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING 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/ HKG will adopt the procedure given under item No.5 above. If the obstruction fouls the level Crossing Gate, Gateman must keep the Gates closed against road traffic till the track is cleared of obstructions.

3.0 GATE WORKING INSTRUCTIONS OF “C” CLASS ENGINEERING NON-INTERLOCKED LEVEL CROSSING GATE (No-JT-29) AT KM 572/1 IN BETWEEN HKG - GBQ STATIONS.

3.1 GENERAL INSTRUCTIONS: -

3.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

1.	Number of Level Crossing Gate: -	JT-29.
2.	Engineering or Traffic Gate: -	Engg.
3.	Under control of Station Master/PWI:	PWI
4.	Location KM	572/1
5.	At. Station: -	---
6.	In between Stations: -	HKG-GBQ.
7.	BG/MG/NG: -	BG.
8.	Single line/Double line/Multiple line: -	Single Line.
9.	Normal Position: -	Open to road traffic.
10.	Interlocked/Non Interlocked: -	Non-interlocked.
11.	Means of interlocking: -	Not applicable.
12.	Provision of Gate signal at Kms.	
		iii) Up line NIL
		iv) Dn line NIL
13.	Signalling arrangement: -	NIL.
14.	Means of Communication:	Telephone Communication from Gate Goomty with SM office/HKG.
15.	Width of level crossing Gate: -	5.5 Meters.
16.	Type of road. (NH/SH/Others): -	Others (Village)
17.	Name of Road: -	Kantapali Road.
18.	Metaled/Non Metaled	Metaled
19.	Approach Road: -	Metaled.
20.	Width of the road: -	5.5 m.
21.	Angle of road crossing (In case of the skew Gates)	---
22.	Road gradient (If any)	
		iii) North/East side. -1 in 50
		iv) South/West side-
23.	Road alignment (Straight/Curve): -	
		iii) North/East side- Straight
		iv) South/West side- Straight
24.	Provision of height gauges: -	Not Provided.
25.	Type of Barriers: -	Winch operated Lifting barriers.
26.	Length of checkrails: -	7.5 Meter.
27.	Road surface in between Level Xings Gates: -	Level.
28.	Length of speed breakers: -	5.5 Meters.
29.	Road signs: -	Available.
30.	Speed breaker indication board: -	Provided.
31.	TVU: -	9409 on 7/2010.
32.	Census next due on: -	7/2013.
33.	Demarcation for placement of Detonators: -	Available.
34.	No. of the Gateman working: -	02.
35.	Nearest Railway Medical Assistance: -	Sambalpur.
36.	Nearest Private Medical Assistance available (if any)	Goshala.
37.	List of equipment available Yes//No: -	yes.

3.2 **EQUIPMENT:**
ITEMS

QUANTITY/NUMBERS

1. Hand signal Lamp/ Tri Colour Torch	3(5 on Quadruple/Line or twin single line)
2. Hand signal Flag Green	1 mounted on sticks
3. Hand Signal Flag Red.	3 (6 on Quadruple/line or Twin single line and 7 in case Hexaple section mounted on sticks)
4. Banner Flag Red	3 (5 on Quadruple/Line or twin single line)
5. Posts for exhibiting red banner flag	2 (4 on Q/Twin single line and 5 on Hexaple section)
6. Spare chains with padlocks	2 with stop mark
7. Detonators	10 in tin case
8. Gate Lamps	2
9. Tommy Bar	1
10. Motor Pan	1
11. Spade/Fowrah	1
12. Rammer	1 (in case of asphalted road this may not be provided)
13. Pick Axe	1 (in case of asphalted road this may not be provided)
14. Tin case for flags	1
15. Can for oil	1
16. Water pot/Bucket	1
17. Canister for Muster Roll	1
18. Set of spare spectacles of Gateman wearing glasses.	1
21. 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 size chains with padlocks to be used in case of failure of boom lock.	2

3.3 **The Gateman shall be provided with following registers: -**

- 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 Gateman, including date of passing vision test, initial/refresher course, safety camp etc.
- viii) Accident Register.
- ix) Records of last census of road traffic at level crossing Gate.
- x) Public complaint Book.
- xi) Inspection Book.

3.4 **DUTIES OF GATEMAN:**

1. **ALERTNESS:**

The gateman on duty shall be alert. He should be prepared to take immediate action, when danger is apprehended. Keys of the gate shall be in his personal custody.

2. **POSITION OF GATE KEEPER 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 daytime, gateman shall hold red and green flags furled up on separate sticks in right and left hands respectively.
- iii) In nighttime, gateman shall hold lighted hand signal lamp with white light facing the track.
- iv) He shall keep the whistle slung around his neck from a cord.

3. **ROUTINE DUTIES OF GATEMAN:**

- i) Gateman shall ensure that red banner flag by day and red light by night is placed across the track whenever the gate is kept in open condition for passage of road vehicles.
- ii) Gateman shall ensure that all gate lamps and hand signal lamps 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 his reliever arrives and takes over charge from him. However, if it is necessary to leave the gate in an emergency, he must close and lock the gate against road traffic, before leaving the gate.
- iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle/wagons /trains/battery/box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- vi) If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- vii) Gateman shall report to the nearest Station Master, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- viii) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- ix) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- x) Gateman shall work the gate as per gate working instructions and remain well conversant with these instructions.
- xi) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- xii) Gateman shall see that the channel for the flange of the wheel is kept clear.
- xiii) Gateman must keep the road surface well watered and rammed in case of unmetalled roads.
- xiv) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- xv) Gateman shall prevent trespassing by persons or cattle to the maximum extent.

4. **ACTION IN CASE OF UNUSUAL OCCURRENCE OF 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, and 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/HKG, 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/HKG, to take appropriate action, under exchange of private number.

5. **ACTION IN EMERGENCY AT THE LEVEL CROSSING:**

- i) In case of an obstruction at the level crossing gate, he shall place banner flag/red light lamps on the stave on track at 5 m. away from the edge of the road at Level Crossing.
- ii) Thereafter, if he is unable to remove the obstruction, gateman shall immediately advise the Station Master/HKG on duty, regarding the defects/obstructions at the gate, under exchange of private number.
- iii) If there is no response from the Station Master/HKG after 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 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) Gateman shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction, which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 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, which was placed at boom.
- v) Thereafter, he shall proceed towards the other direction, showing red hand signal, similarly place detonators as described in (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 stop the approaching train by waving his red flag by day, red hand signal lamp by night repeatedly.

(B) OTHER ACTIONS 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 paras (a) and (b) above.
- ii) If the gate is broken by a road vehicle, which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.
- iii) He shall note down the particulars of the road vehicle, vehicle number, name of the Driver, owner and relay these details to the Station Master/HKG and Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

3.5 **SPECIAL INSTRUCTIONS:**

1. **MODE OF OPERATION:**

This is a Non-interlocked 'C' Class Engineering L.C.Gate situated at Km 572/1 between HKG-GBQ stations. This gate is provided with winch operated coupled lifting barriers. The gateman closes and opens the lifting barriers of gate manually by operating the winch. Telephone connection is provided between the L C. gate lodge and SM's office of HKG station. The level crossing gate is normally kept open to road traffic and closed against road traffic for passage of trains. The gateman shall be authorized to open the L.C.Gate after complete passage of train from the gate by observing tail board/ tail lamp. The gateman before opening the gate shall ensure that SM has not advised him to keep the gate closed for any other train from the same direction or from other direction. He shall display a banner flag across the track while the gate is in open condition.

2. **EXCHANGE OF PRIVATE NUMBERS.**

(a) When Gate is connected with the station at the dispatching end:

- i) Station Master / HKG at the dispatching end shall advise the gateman the number, description, direction and expected time of the passage of the train at the gate, under exchange of private number.
- ii) Such advice shall be given before taking 'OFF' departure signal or giving an authority to proceed to the Loco pilot.
- iii) The gateman on receipt of the advice shall close the gate well in time and confirm the same, under exchange of private number.
- iv) Station Master / HKG will take off the departure signals after getting the private number of the gateman.
- v) The gateman shall be authorized to open the L.C.Gate after complete passage of train from the gate by observing tail board/ tail lamp. The gateman before opening the gate shall ensure that SM has not advised him to keep the gate closed for any other train from the same direction or from other direction. He shall display a banner flag across the track while the gate is in open condition.

(b) When Gate is connected with the station at the receiving end:

- i) Station Master /GBQ at the despatching end shall advise the Station Master / HKG at the other end the number, description, direction and expected time of passage of the train at the gate, under exchange of private number.
- ii) Such advice shall be given before obtaining line clear.
- iii) Station Master / HKG at the receiving end shall in turn convey the same advice to the gateman, under exchange of private number.
- iv) Gateman shall close the gate and thereafter give his private number to the Station Master / HKG.
- v) Only then shall the Station Master / HKG at the receiving end grant line clear to the Station Master /GBQ at the despatching end.
- vi) The gateman shall be authorised to open the L.C.Gate after complete passage of train from the gate by observing tail board/ tail lamp. The gateman before opening the gate shall ensure that SM has not advised him to keep the gate closed for any other train from the same direction or from other direction. He shall display a banner flag across the track while the gate is in open condition.

Correction Slip No.04
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3. **FAILURE OF TELEPHONIC COMMUNICATION:**

When Telephonic Communication fails or SM/HKG does not get any response from the Gateman despite 2 or 3 attempts, the following procedure shall be adopted:

- a) SM/HKG shall serve a caution order to the Loco pilot and the Guard of every train proceeding into the affected section giving the number and kilometreage of the level crossing and directing the loco pilot:-
 - (iii) To whistle frequently to attract the attention of the gateman,
 - (iv) To proceed cautiously, and stop 30M. short of the level crossing and be guided by hand signal.
- b) (i) The Loco Pilot after stopping, if the gateman is available and apparently in a fit condition to continue his duty and the gates are closed, shall arrange to advise the station master / HKG as the case may be of the fact using the telephone provided at the gate. The Station Master/HKG on receipt of such an advice from the Loco Pilot shall discontinue issue of caution order to the following trains provided the acknowledgement of the gateman is available over the telephone.
 - (ii) In the above circumstance, the Loco Pilot should not stop his train at the next station to advise the Station Master.
- c) (i) If the loco Pilot does not find the gateman at the level crossing or if the gateman is apparently unfit for duty and the gates are not closed, he shall depute his Assistant, the Loco Pilot shall seek assistance of the Assistant Guard or Guard of the train. The same should be informed to the Station Master/HKG on gate telephone.
 - (ii) The Loco Pilot, after being hand signaled, shall pass the level crossing and stop clear of it by at least 2 bogie lengths to pick up the Assistant or Assistant Guard / Guard, as the case may be. The Railway servant deputed for closing the gate shall reopen it for road traffic after the passage of the last vehicle of the train.
 - (iii) If, however, the telephone is out of order or the gateman is not available or is apparently unfit to continue his duty and intimation of the fact could not be given to the station/ HKG from the gate, the Loco Pilot shall stop his train at the next station (even if it is through passing station) and give a memo to the Station Master/GBQ indicating the condition of the gateman, gate and telephone.
 - (iv) The Station Master/HKG on receipt of the Loco Pilot's report regarding absence or unfitness of the gateman, shall advise the station Master/GBQ, the Notice Station, the Section Controller, JE/SE/SSE (P.Way) and AEN concerned and the Gangmate of the nearest gang for immediate posting of a gateman. He shall also inform the maintenance staff to attend and repair the telephone, if required. Issue of caution order should continue till normal working condition is restored.
- d) Before giving line clear to a train, the Station Master/HKG shall advise the Station Master/GBQ of the facts by message supported by a Private Number, and obtain his acknowledgement with a Private Number. The latter shall issue a caution order to the Loco Pilot as detailed in Para (a).
- e) Necessary entries shall be made in the Caution Order Register, Station Diary or Signal Failure Register as the case may be by Station Masters at either end of the affected station. The Section Controller shall also keep a note in his chart indicating the action taken by him.

4 **FAILURE OF LIFTING BARRIERS:**

- i) When the Gate cannot be closed due to failure of lifting barriers, The Gateman will immediately inform the Station Master on duty/ HKG, under exchange of Private number, and ensure that lifting barriers do not foul the track.

R.Das.
DSTE / SBP

B. Bhoi
DEN/Central/SBP

D.Nayak
DOM/ SBP

- 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, he shall show green hand signal flag by day and green light by night to the Loco pilot of an approaching train.
- v) Station Master on duty/ HKG shall issue caution order to the Loco pilot of departing UP train.
- vi) SM/ HKG shall also advise the Station Master/ GBQ at the despatching end, under exchange of private number, to similarly issue a caution order to the Loco pilot before despatching a DN train into the block section from his end.
- vii) SM/ HKG should also advise maintenance staff responsible for maintenance of the lifting barriers to rectify the defect at the earliest.
- viii) Normal working will be resumed only after maintenance staff rectify the lifting barriers and issue reconnection/fit memo for the same.

5 OBSTRUCTION AT THE GATE:

- i) If the Gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the Gate foul the track, or if there is any other obstruction at the Gate, the Gateman shall Immediately fix red banner flag by day and red 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 / HKG on duty regarding the defects/obstruction at the Gate under exchange of private number.
- iii) Stationmaster at HKG on duty shall be advised to put the departure signals back to 'ON' position, if taken 'OFF' for a train.
- iv) If there is no response from the Station Master / HKG after two or three attempts, he shall first protect the Gate and then inform him on phone.
- v) Gateman shall then rush with detonator and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the Gate as stipulated in General Instruction for duties of Gateman under item No.3.4. (5).
- vi) Thereafter he shall protect the Gate from the other direction also.
- vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and relay these details to the Station Master/ HKG who shall not allow the trains unless he has been assured by the Gateman that the road vehicle or the lifting barriers are not fouling the track.
- viii) The Station Master/ HKG shall also inform the station Master/ GBQ, under exchange of private number, asking him not to despatch any train into 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/ HKG accordingly under exchange of private number.
- x) Gateman shall secure the Gate against road traffic by means of safety chains and padlocks and thereafter exhibit green hand signal, if the Gate is not obstructed.
- xi) Station Master/ HKG shall advise maintenance staff responsible for maintaining the lifting barriers Gates to repair the same at the earliest.
- xii) Normal working will be resumed only after maintenance staff rectify the defective lifting barriers and issue reconnection/fit memo for the same.

6 OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING 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/ HKG will adopt the procedure given under item No.5 above. If the obstruction fouls the level Crossing Gate, Gateman must keep the Gates closed against road traffic till the track is cleared of obstructions.

4.0 GATE WORKING RULES OF “SPL” CLASS, ENGG, INTERLOCKED LEVEL CROSSING GATE AT KM 566/1-2 (No.JT-26) BETWEEN SBP-HKG STATIONS.

4.1 DESCRIPTION OF THE LEVEL CROSSING GATE:-

1.	Number of level crossing gate	:	JT-26
2.	Engineering or Traffic Gate	:	Engineering
3.	Under control of Station Master or PWI	:	SE (P-way)
4.	Location at KM	:	566/1-2
5.	At station	:	Mid Section
6.	In between station	:	SBP-HKG
7.	BG/MG/NG	:	BG
8.	Single line/Doubling Line/Multiple Line	:	SINGLE LINE
9.	Normal position	:	Open to road traffic
10.	Interlocked/Non-interlocked	:	Interlocked
11.	Means of interlocking	:	Gate Signal
12.	Provision of gate Signals at Km	:	566/3-4 & 565/13-14
13.	Signalling arrangement	:	MACLS
14.	Means of communications Telephone/Bell etc.	:	Telephone connection with SS/SBP
15.	Width of Level Crossing Gate	:	10 MTRS
16.	Type of Road(NH/SH/Others)	:	Others, (ODR)
17.	Name of Road	:	Durgapalli Road
18.	Metaled/Non Metaled	:	Metaled
19.	Approach Road	:	Metaled
20.	Width of the Road	:	7.5 MTRS.
21.	Angle of Road Crossing (incase of the SKEW gates)	:	90 degree
22.	Road Gradient (if any)	:	(a) North/East side – Level (b) South/West side – Level
23.	Road alignment (straight/curve)	:	(a) Noth/East side - Straight (b) South/Westside – Straight
24.	Provision of height gauge	:	NOT REQUIRED
25.	Type of Barrier	:	Winch Operated Lifting Barrier
26.	Length of check Rail	:	12.00 M
27.	Road surface in between level crossing gates.	:	Leveled with hexagonal concrete blocks
28.	Length of Rumble strip/speed breakers.	:	7.5 M
29.	Road Signs	:	Provided
30.	Speed breakers indication board	:	Provided
31.	TVU	:	96246 on 07/2010.
32.	Census next due on	:	07/2013.
33.	Demarcation for placement of detonators.	:	Provided
34.	No. of gateman working	:	3 (Three)
35.	Nearest Railway Medical Assistance	:	Sambalpur
36.	Nearest Private Medical Assistance available (if any)	:	Sambalpur
37.	List of equipment available Yes / No.	:	Yes

4.2 **EQUIPMENTS TO BE AVAILABLE AT THE GATE:**

EQUIPMENT:

ITEMS	QUANTITY/NUMBERS
1. Hand signal Lamp Tri Colour Torch	3(5 on Quadruple/Line or twin single line)
2. Hand signal Flag Green	1 mounted on sticks
3. Hand Signal Flag Red.	3 (6 on Quadruple/line or Twin single line and 7 in case Hexaple section mounted on sticks)
4. Banner Flag Red	3 (5 on Quadruple/Line or twin single line)
5. Posts for exhibiting red banner flag	2 (4 on Q/Twin single line and 5 on Hexaple section)
6. Spares chains with padlocks	2 with stop mark
7. Detonators	10 in tin case
8. Gate Lamps	2
9. TommyBar	1
10. Motor Pan	1
11. Spade/Fowrah	1
12. Rammer	1 (in case of asphalted road this may not be provided)
13. Pick Axe	1 (in case of asphalted road this may not be provided)
14. Tin case for flags	1
15. Can for oil	1
16. Water pot/Bucket	1
17. Canister for Muster Roll	1
18. Set of spare spectacles of Gateman Wearing glasses.	1
19. Board demarcating protection of level crossing Gate diagram in case of obstruction on Gate .	1
20. Basket	1
21. Whistle	1
22. Wall clock	1
23. Small size chain with padlocks to be used in case of failure of gate boom lock.	2

4.3 **THE GATEMAN SHALL BE PROVIDED WITH FOLLOWING REGISTERS: -**

- i) Gate working instructions in Hindi / English.
- ii) Gate working instructions in local vernacular language.
- iii) General Rules 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 Gateman, including date of passing vision test, initial/refresher course, safety camp etc.
- viii) Accident Register.
- ix) Records of last census of road traffic at level crossing gate.
- x) Public complaint Book.
- xi) Inspection Book.
- xii) S & T Register.

4.4 **DUTIES OF GATEMAN:**

1. **ALERTNESS:** The Gateman on duty shall be alert. He should be prepared to take immediate action, when danger is apprehended. Keys of the gate shall be in his personal custody.

2. **POSITION OF GATE KEEPER 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 daytime, Gateman shall hold red and green flags furled up on separate sticks in right and left hands respectively.
- iii) In nighttime, Gateman shall hold lighted hand signal lamp with white light facing the track.
- iv) He shall keep the whistle slung around his neck from a cord and blow the whistle to draw the attention of Driver & Guard of the passing train.

3. **ROUTINE DUTIES OF GATEMAN:**

- i) Gateman shall ensure that red banner flag by day and red lamp by night is placed across the track whenever the Gate is kept in open condition during emergencies or obstruction on 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, 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 like out for any unusual like hot axle, hanging chains, hanging battery, any vehicle/wagons /trains/battery/box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- vi) Gateman shall also be prepared to repeat any signal which guard may give to driver on walkie – talkie or in any other way.
- vii) If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- viii) Gateman shall report to the nearest station Master, Gangmate or 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 the lifting barriers/leaf gates on sighting a train and hand signal or pilot the past the defective signal. In such case he should inform the driver to report the defect at the next station.
- xi) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- xii) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- xiii) Gateman shall work the gate as per gate working instructions and remain well conversant with these instructions.
- xiv) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- xv) Gateman shall see that the channel for the flange of the wheel is kept clear.
- xvi) Gateman must keep the road surface well-watered & 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 tress passing by persons or cattle to the maximum extent

4. **ACTION IN CASE OF UNUSUAL OCCURENCE OF TRAIN.**

In case Gateman observes any thing unusual with a passing train, he shall take following action:

- i) He shall take prompt action to warn the driver/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 driver/guard by whistling continuously, shouting, gesticulating, and throwing ballast on the brake van or by any other means.
- iii) If driver/guard fails to take notice, Gateman shall immediately inform the Station Master 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 Driver/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/SBP 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 an, in the 'ON' position.
- ii) Therefore, if he is unable to remove the obstruction, gateman shall immediately advise the Station Master on duty, 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.

The gateman shall protect the line as under: -

a) ON SINGLE LINE SECTION:

- i) Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the direction from which a train is expected to arrive first.
- ii) Then he will similarly 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 protect the gate along with detonators, fusee 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, which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 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 (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 driver 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 and fix the fusee to warn the driver and stop the approaching train by waving his red flag by day, red hand signal lamp by night repeatedly.

(B) OTHER ACTIONS 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 paras (a) and (b) above.
- ii) If the gate is broken by a road vehicle, which is fouling the track or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the Gateman shall take immediate action.
- iii) He shall note down the particulars of the road vehicle, vehicle number, name of the driver, owner and relay these details to the SM/TIG and Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

4.5 SPECIAL INSTRUCTION -

1. MODE OF OPERATION:

This is a “SPL” Class, Engineering, interlocked L.C. Gate situated in between Sambalpur and Hirakud at Km 566/1-2. This gate is interlocked with Gate stop signals. Telephone communication is provided between the L C. gate lodge with SM on duty of SBP Station. The level crossing gate is of lifting barrier type operated by means of winch provided at the gate lodge. The normal position of the gate is opened to road traffic. A four-lever ground frame is provided at the gate lodge. The key of the LC remains in the winch when the gate is in open condition. When it is necessary to close the gate, for taking OFF the signals, the SM/SBP on duty shall inform the gate man to close and lock the gate. The gate man on duty shall then close the barriers of the LC gate by operating winch. Then key ‘G’ is to be extracted from the winch, which will be inserted in the lever of GF-1. When GF-1 is reversed it locks the booms of the gate and releases GF-2 & GF- 3. and Key ‘G1’. Key ‘G1’ shall be inserted into the RKT provided at the gate lodge. Then after the gateman can reverse the GF-2 or GF-3 for taking OFF concerned DN and UP Gate Home signals respectively. GF-2 or GF-3 can be used to put back the concerned Gate home signal in case of emergency.

After passage of the Train the gateman shall extract the control key ‘G1’ from the RKT instrument after normalizing GF-2 or GF-3. The gate man will insert the Key ‘G1’ into GF-1 and normalize the same to unlock the gate boom and release Key ‘G’. Thereafter he will open the gate by inserting the Key ‘G’ into the winch for normal passage of road traffic.

Once the LC Gate is closed, the same should not be opened till the train for which L.C gate was closed has the passed the LC Gate completely. In case of emergency the L C Gate may be opened with the specific permission of SM/SBP supported by private number, if there is no train in the section. The LC gate shall be so worked as to cause least possible inconvenience to the vehicular traffic consistence with safety as per subsidiary rule 16.03.01 (a).

2. INTIMATION TO GATEMAN.:

- (i) Immediately after departure of the train, Station Master/SBP shall advise the gateman through telephone connected at his end, the number, description, direction and expected time of passage of the train at the gate.
- (ii) This advice shall be given by the Station Master/ SBP to the gateman as soon as he receives train entering section advice from SM/HKG.

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DSTE / SBP

B. Bhoi
DEN/Central/SBP

D.Nayak
DOM/ SBP

- (iii) If the actual running time of the train from either end of the section is less than 10 minutes, Station Master/ SBP will convey this advice to the gateman before obtaining/granting line clear.
- (iv) It should be the duty of the gateman to ensure that the gate is closed in time, so that there is no detention to the train of excessive detention to road traffic.

3. FAILURE OF TELEPHONIC COMMUNICATION:

When Telephonic Communication fails or it does not get any response from the Gateman despite 2 or 3 attempts, the following procedure should be adopted:

- (i) If the telephone fails at the gate connected with the station at the dispatching end, Station Master/SBP shall issue a caution order to the driver of the departing train.
- (ii) Station Master shall advise the driver to whistle continuously and proceed cautiously while approaching the gate.
- (iii) In case the gate signal is 'ON' he should stop of the gate signal and follow the procedure laid down under GR 3.73.
- (iv) In case of an approaching train, the Station Master/SBP shall advise the Station Master/HKG at the dispatching end, under exchange of private number, that the telephone at the gate has failed.
- (v) The Station Master/HKG at the dispatching end shall then issue a caution order to the driver before dispatching a train into the block section from his end.
- (vi) Station Master/SBP will also advise the gateman through Gangman/Patrolman/Driver of the first train that the telephone has become defective.
- (vii) Station Master/SBP 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 rectifies the telephone and issue reconnection/fit memo for the same.

4. FAILURE OF LIFTING BARRIERS OF GATES:

- (i) When the gate cannot be closed due to failure of lifting barriers, the gateman shall immediately inform the Station Master/SBP on duty under exchange of private number, and ensure that lifting barriers of gates do not foul the track.
- (ii) He shall immediately fix red banner flag by day and red light by night on the post 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 driver of the approaching train.
- (v) Station Master/SBP on duty shall issue caution order to the driver of a departing train.
- (vi) He shall also advise the Station Master/HKG at the dispatching end, under exchange of private number; to similarly issue a caution order to the driver before dispatching a train in the block section.
- (vii) Station Master/SBP shall advise maintenance staff responsible for maintaining the lifting barrier to rectify the same at the earliest.
- (viii) Normal working will be resumed only after maintenance staff repairs the lifting barrier/leaf gates and issue reconnection/fit memo for the same.

5. **FAILURE OF THE 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, gate signal lever or key transmitter then gateman must immediately inform the Station Master/SBP 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) Station Master/SBP on duty shall issue caution order to the driver of a departing train.
- (iv) He shall also advise the Station Master/HKG at the dispatching end, under exchange of private number, to similarly issue a caution order to the driver before dispatching a train in the block section his end.
- (v) Station Master/SBP shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
- (vi) Normal working will be resumed only after S&T staff repairs the key transmitter and issue reconnection/fit memo for the same.

6. **FAILURE OF THE GATE KEY, WITH THE GATE IN OPEN CONDITION:**

- (i) If the gate key cannot be extracted from the winch, gate signal lever or key transmitter then gateman must immediately inform the Station Master/SBP on duty on telephone, under exchange of private number.
- (ii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/dispatch of trains as prescribed for non-interlocked gates, should be adopted.
- (iii) The gateman shall secure the gate against road traffic by means of chains and padlocks and pass trains on hand signals.
- (iv) Station Master/SBP on duty shall issue a caution order to the driver of a departing train.
- (v) He shall also advise the Station Master/HKG at the dispatching end, under exchange of private number, to similarly issue a caution order to the driver before dispatching a train in the block section from his end.
- (vi) Station Master/SBP shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
- (vii) Normal working will be resumed only after S&T staff repairs the key transmitter and issue reconnection/fit memo for the same.

7. **DEFECTIVE GATE SIGNAL:**

- (i) The gateman shall treat the gate signal as defective and must not take off them under following circumstances:
 - (a) If gate signals can be taken 'OFF' without closing the gate, or
 - (b) The key can be extracted from the operating winch when the gate is in open condition.
- (ii) If the Gate or the Gate Signal or Distant Signal becomes defective in 'OFF' position, the gateman will make all efforts to put it at 'ON' position.
- (iii) The gateman will immediately advise the Station Master/SBP on duty, under exchange of private number, regarding defective gate signals.
- (iv) Thereafter, the gate must be treated as non – interlocked and procedure for reception/dispatch as prescribed for non-interlocked gates should be adopted.
- (v) He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.
- (vi) Station Master/SBP on duty will issue a caution order to the driver of departing train.
- (vii) He shall also advise the Station Master/HKG at the dispatching end, under exchange of private number, to similarly issue a caution order to the driver before despatching train into the block section from his end.

- (viii) Station Master/SBP shall advise S&T staff responsible for maintaining the gate signal to repair the same at the earliest.
- (ix) Normal working will be resumed only after S&T staff rectifies the defective gate signal and issue reconnection/fit memo for the same.

8. OBSTRUCTION AT THE GATE:

- i) If the gate is broken by a road vehicle, which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately put back gate signals to 'ON' position.
- ii) He shall fix red banner flag by day and red lamp by night on posts provided at both ends of the gate.
- iii) Immediately after this, the gateman shall advise the station Master/SBP on duty regarding the defects /obstructions at the gate, under exchange of private number.
- iv) If there is no response from the Station Master /SBP after two or three attempts, he shall first protect the gate and then inform on phone.
- v) Gateman shall then rush with detonators, fusee and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item No.4.4. (5).
- vi) Thereafter he shall protect the gate from the other direction also.
- vii) He shall note down the particulars of the road vehicle, name of the driver, owner and reply these details to the Station Master/SBP who shall not start the trains unless he has been assured by the gateman that the road vehicle or the lifting barriers gate are not fouling the track.
- viii) The Station Master/SBP shall also inform the Station Master/HKG at the despatching end, under exchange of private number, asking him not to despatch 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/SBP accordingly, under exchange of private number.
- x) Station Master/SBP shall then issue a caution order to drivers of all trains to proceed cautiously, and pass the gate 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 thereafter exhibit green hand signal, if the gate is not obstructed.
- xii) Station Master/SBP shall advise maintenance staff responsible for maintaining the lifting barrier of gate to repair the same at the earliest.
- xiii) Normally working will be resumed only after maintenance staff rectifies the defective lifting barriers and issue reconnection/fit memo for the same.

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/ SBP will adopt the procedure given under item No.8 above. If the obstruction fouls the level Crossing Gate, gateman must keep the gates closed against road traffic till the track is cleared of the obstruction.

APPENDIX – ‘B’**DETAILS OF SIGNALLING AND INTERLOCKING INSTALLATIONS, INSTRUCTIONS FOR WORKING THEM NORMALLY AND EMERGENCIES ETC., INCLUDING THE POWER SUPPLY ARRANGEMENTS.****1.0 BRIEF DESCRIPTION OF THE SIGNALLING& INTERLOCKING INSTALLATIONS:**

This is a ‘B’ Class Station with Standard III(R) Interlocking (with isolations). The points and Signals are power operated from composite miniature central panel installed in the Station Master’s Office. The Station is equipped with manually operated Multi Aspect Colour Light Signalling.

1.1 DESCRIPTION OF PANEL:

The yard layout is depicted on the panel and the panel is fixed parallel to the track so that when SS/SM on duty faces the panel, the yard drawing of the panel corresponds to the actual layout.

1.1.1 DESCRIPTION OF POINT PUSH BUTTON (RUNNING LINE POINT) :-

SL.NO	POINT NO.	COLOUR OF BUTTON	DESCRIPTION
1	21	BLACK	Cross -over point between Mainline and line No.3 at SBP end.
2	22	BLACK	Cross-over point between Main line and line No.1 at GBQ end.
3	23	BLACK	Cross-over point between Main line and line No.1 at SBP end.
4	24	BLACK	Cross-over point between Mainline and line No.3 at GBQ end.
5	27	BLACK	Cross-over point between line No. 3 and Line No.4 at SBP end.
6	28	BLACK	Cross-over point between line No. 3 and Line No.4 at GBQ end.

1.1.2 DESCRIPTION OF POINT GROUP BUTTON: -

These are two buttons at the top of panel one for Normal and one for Reverse operation of points. These are coloured Black with red dot. The button is operated in conjunction with point button to operate the concerned point to the required setting.

1.1.3 OPERATION OF POINTS BY POINT PUSH BUTTONS: -

Points are operated for NORMAL to REVERSE or vice versa by operating concerned point push button along with common point group button for normal or reverse operation. When the points are required to set from normal to reverse, the concerned point push button along with common point group button for reverse operation are to be pressed simultaneously. As soon as the operation is initiated the WHITE indication will start flashing till the point is correctly set to reverse at site and steady WHITE indication glows. Similar operation shall be done when the points are required to set from reverse to normal. Only one point can be operated individually at a time.

1.2.0 **POINT INDICATIONS:** -

Points are normally operated automatically along with route setting operation. However, required points can also be operated individually. For this, POINT BUTTONS, which are BLACK in colour, are fitted over the point layout on the panel board. The individual operation of the electric point machine is controlled by these point push buttons in conjunction with the POINT GROUP BUTTON (which are BLACK with red dot on it) 'N' or 'R' as per requirement fitted on the top of panel board. The indication for points are as follows;

- 1.2.1. When a point is set and locked in Normal position, a horizontal 'WHITE' indication appears suggesting that the point is set in NORMAL position.
- 1.2.2 When a point is set and locked in REVERSE position, a diagonal 'WHITE' indication appears suggesting that the point is set in REVERSE position.
- 1.2.3 When the points of any route have been correctly set and relevant signal taken 'OFF', RED indication near the point on the panel appears indicating that the concerned points are locked either in NORMAL or REVERSE position as the case may be.
- 1.2.4 When the points are not set or locked either in NORMAL or in REVERSE correctly, the normal and reverse steady indication will not be there but the WHITE indication will start flashing till such time the point is housed & locked properly in one of the positions. In such case points are to be set both ways by crank handle and clamped and padlocked. This WHITE indication will flash during operation of point also. After completion operation of point during crank handle operation, NORMAL or REVERSE indication appears on panel
- 1.2.5 All points over running lines are operated by electric point machines

1.2.6 **NON SETTING OF POINTS:** -

The cause for non-setting of the point in the desired position shall be checked up by the SS/SM on duty according to GR & SR 3.68.01 (C). If there is a defect other than any obstruction, then the point shall be considered defective and action shall be taken for clamping and padlocking of these points in the desired position by Station Master on duty himself for all trains according to SR 3.69.03(C). In such case both ends of the points shall be clamped and padlocked.

1.2.7 **DESCRIPTION OF CRANK HANDLE BUTTONS:** -

All motor operated points in the yard have been grouped into four crank handle zones for emergency / manual operation of points by crank handles as follows:

SL NO.	CRANK HANDLE	COLOUR OF BUTTON	CONTROL POINTS
1	CH1	BLUE	21, 27.
2	CH2	BLUE	23
3	CH3	BLUE	22, 24.
4	CH4	BLUE	28

Crank Handle buttons must be operated in conjunction with GROUP TRANS or GROUP RELEASE button to transmit or receive the crank handle.

1.3.0 SIGNAL PUSH BUTTON:

Push buttons for operation of signals are provided near the signals on the panel. These are operated in conjunction with Route button (white coloured) to operate the signals.

1.3.1 DESCRIPTION OF SIGNAL BUTTONS:

SL.NO.	BUTTON NO.	COLOUR	DESCRIPTION
01	S1	RED	UP Home Signal for Line No. 1, 2, 3 & 4
02	C1	RED with WHITE DOT	UP calling on Signal for line No. 1, 2, 3 & 4
03	S2	RED	DN Home Signal for Line No.1, 2, 3 & 4
04	C2	RED with WHITE DOT	DN calling on Signal for line No.1, 2, 3 & 4
05	SH3	YELLOW	Shunting towards line no. 1, 2, 3 & 4
06	SH4	YELLOW	Shunting towards line no. 1, 2, 3 & 4.
07	S7	RED	UP starter on line No.1
08	S8	RED	DN Starter on line No. 1
09	S9	RED	UP starter on line No.3
10	S10	RED	DN Starter on line No.3
11	S11	RED	UP Starter on line No.2
12	S12	RED	DN starter on line No-4.
13	S13	RED	UP starter on line No-4.
14	S14	RED	DN Starter on line No.2
15	S 15	RED	UP Advanced Starter.
16	S16	RED	DN Advanced Starter.

1.3.2. SIGNAL INDICATIONS: -

All signals in the yard are depicted on the panel along side the track as per their respective position in the yard. The aspects of all signals in the yard, at any time, are shown on the signal indications depicted on panel.

2.0 ROUTE BUTTONS: -

Route buttons are provided separately on each running line on the panel for initiation of route (viz. L1 UN, L1 UN1, L2 UN, L3 UN, L3 UN1, L4 UN, L4 UN1). Common route buttons are also provided for taking off starters (viz.: 15AT UN, 16 ATUN). An individual route button is provided for taking off Advance starter (Viz.: 15 UN, 16 UN). For clearing the signals it is necessary to operate the signal buttons and the concerned route button concurrently. In the panel, the routes are set automatically by operation of entry and exit button.

2.1 DESCRIPTION OF ROUTE BUTTONS

SL.NO.	BUTTON NO.	COLOUR	DESCRIPTION
1	L1 UN	WHITE	Common route button for UP/ DN Home, for Line No.1 (1 st Loop) setting overlap up to Advance starter.
2	L1 UN1	WHITE with Black Dot	Common route button for UP Home setting overlap up to sand hump or DN Home overlap setting over lap up to end of overrun line or UP/DN Calling –on or back shunt (SH-3 OR SH-4) for Line No.1 (1 st Loop),
3	L2 UN	WHITE	Common route button for UP/DN Home/Calling-on or back shunt (SH3 or SH4) for line No.2 (Main line) .
4	L3 UN	WHITE	Common route button for UP/DN Home, for line No.3 setting overlap Up to advanced starters.
5	L3 UN1	WHITE with BLACK dot	Common route button for UP/DN Home, setting overlap Up to end of overrun line or UP /DN calling on or back shunts (SH-3 or SH-4) for Line No.3.
6	L4UN	WHITE	Common route button for UP or DN Home, for line No.3 setting overlap Up to advanced starters.
7	L4UN1	WHITE with BLACK dot	Common route button for UP/DN Home, setting overlap Up to end of overrun line or UP / DN calling on or back shunts (SH-3 or SH-4) for Line No.4.
8	15AT UN	WHITE	Common Route button for DN starter signal No.7 or 9 or 11 or 13.
8	15UN	WHITE	Route button for DN Advanced starter signal No. 15.
9	16 AT UN	WHITE	Common Route button for UP starter signal No.8 or 10 or 12 or 14.
10	16 UN	WHITE	Route button for UP Advanced starter signal No. 16.

3.0 TRAIN ARRIVAL INDICATION THROUGH AXLE COUNTER:

The system provides for automatic check for last vehicle arrival through provision of axle counter. Axle counters are provided in Sambalpur – Hirkud and Hirkud – Godabhaga section to check the complete arrival of trains. The system is interlocked with respective Block Instruments. When the Axle counter section indication provided for each direction on the panel individually for sections indicates 'RED' i.e. occupied even after the complete arrival of trains, the Block instrument of the respective section can be normalized after ensuring complete arrival of trains by means of physical verification of last vehicle for stopping as well as run through trains (refer resetting procedure of Axle counter).

4.0 POWER FAILURE:

Normal power supply to the signalling and interlocking installations at this station is drawn from SEB power supply source (AC 230 Volt / 50 Hz). In SM's Office there is SM power panel, which represents the voltage of the integrated power supply system.

1. In case voltage drops 105.9V an audible buzzer appears for starting Generator.
2. In case voltage drops 105.1V an audible buzzer appears for emergency start of Generator.

R.Das.
DSTE / SBP

B. Bhoi
DEN/Central/SBP

D.Nayak
DOM/ SBP

3. In case voltage drops 104.3V an audible buzzer appears for system shut down. The SM now has to start the diesel generator for standby (Auxiliary) power supply. After stable run of the Diesel generator, the SM on duty has to operate the change over switch for connecting the auxiliary supply to the signalling installation. On resumption of power supply, the Diesel generator shall be stopped by SM/SS on duty after isolating Diesel generator by change over switch. Each time the power supply goes OFF or ON SM/SS on duty shall acknowledge. In case of any audible buzzer in SM's power panel, SM on duty should acknowledge the buzzer by pressing 'buzzer' stop button.

Secondary cell back up through integrated power supply system are provided to prevent possibility of blank signals in case of SEB power supply failure. Whenever SEB power supply fails Secondary cell back up through integrated power supply system will immediately extend power supply to signals thereby preventing blank signals.

Based on the indication shown in the SM's Power Panel SM on duty should start DG for avoiding any case of shut down of power sub system of integrated Power Supply system. Solar Power supply is provided in the station as standby, power supply. If there is any indication on SM's power panel regarding deviation in IPS system call S&T staff.

5.0 **EMERGENCY ROUTE RELEASE COUNTER**

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

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

This panel interlocking is based on the principle of 'DEAD APPROCH 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 after breaking the seal and subsequently the concerned signal button pertaining to the route is to be pressed. A white light will flash (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 the route has been released. 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.

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

Emergency point operation facility is provided to operate point in the event of failure of track circuit controlling the point. A push button (BLACK WITH RED DOT) is provided on the top of panel. If such operation is necessary, the SM/SS on duty, after ensuring that no vehicle is standing on the concerned point track circuit, shall press emergency point operation button by breaking the seal along with relevant point button simultaneously. Then retaining point button in pressed condition, emergency point operation button to be released and the point group button normal / reverse button is to be pressed for operating the point to '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. Before initiating emergency point operation when the concerned point zone track circuit is showing occupied SM on duty must carry out physical verification at site to ascertain that the said track circuit is clear of vehicles.

8.0 BUTTON HELD ACKNOWLEDGEMENT BUTTON (WHITE WITH RED DOT) :

Emergency point operation facility is provided to operate point in the event of failure of track circuit controlling the point. 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 no vehicle is standing on the concerned point track circuit, shall insert SM's emergency point operation key in & turn and shall push the emergency Point operation button after breaking the seal. SM shall 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. Before initiating emergency point operation when the concerned point zone track circuit is showing occupied SM on duty must carry out physical verification at site to ascertain that the said track circuit is clear of vehicles.

9.0 OVERLAP TIME RELEASE INDICATION (WHITE LIGHT) : -

These are two indications (white lights) for UP overlap time release and DN overlap time release to indicate the release of overlap. These indications will flash during releasing of overlap

10.0 TRACK CIRCUITS: -

The station yard is fully track circuited from Home signal to Home signal and also for 7 rail lengths in rear of the Home signals on either side. Track circuits 1AT and 2AT are calling-on track circuits. 21AT, 21BT, 23AT, 23BT, 22/24T, 22BT, 24BT, 27T AND 28T are Point zone track circuits. L1T1, L1T2, L1T3, L2T1, L2T2, L2T3, L3T1, L3T2, L3T3, L4T1, L4T2, L4T3 are berthing track circuits. Other track circuits namely 1T, 2T, 15 AT & 16AT are for signal replacement, route holding. Indications for all track circuits are indicated on the panel. Normally these are not lit when the track circuits are clear. And RED light appears when the track circuit is occupied/failed. White lights for the track indications appear when the relevant route is set. In case of failure of any track circuit, the controlled signals or points are to be treated as non-interlocked and trains shall be worked as per relevant rules.

11.0 STATION MASTER'S PANEL CONTROL KEY: -

The panel is fitted with Station Master's lock up key to prevent any unauthorized operation of the Panel. The SM/SS on duty is the only authorised person to operate the panel and the panel Key must always remain in his personal custody vide SR 3.36.03 & GR 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 releasing the panel lock also. However, the provisions of SR 3.36.02 shall be followed while replacing the signals to 'ON'.

12.0 CRANK HANDLE CONTROL KEY AND OPERATION: -

When any point fails to operate normally by the route setting operation or through the concerned Point button from control panel, it is inevitable to operate the points with crank handle. Crank handles are interlocked with signals and interlocking system. Crank handles are for all motor operated points at the station. The Crank Handle push button no. CH1, CH2, CH3 and CH4 (BLUE) and Group Trans/Release button (WHITE WITH BLACK DOT) are provided at the top of the panel board. The CH 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 handle key is locked and not free for extraction from RKT. This is called 'Crank handle key LOCKED' indication. When there is no light or blank, it suggests that the KEY is OUT of RKT. The crank handle key in RKT in the end locations can be released from the RKT. The SM has to press concerned crank handle button and Trans button. This will enable SM/TP to extract crank handle key CH-1/CH-2/CH-3/CH-4 from RKT at end location. SS/SM/TPM on duty after extracting the crank handle key from RKT at end-location, insert it in the space provided for it on the point machine and turn it to open up the slot for crank handle in the point machine. After inserting the crank handle in the point machine he shall operate it to set the point in desired position. After completion of point work the crank handle key is to be inserted in the RKT at end location and transmitted to station. Station Master on

getting 'Key IN' flashing indication that will appear on panel, shall press relevant CH button & Group Release button to get the steady key "IN" indication. SS/SM on duty shall personally ensure clamping and padlocking all facing and trailing points en-route. The cases of failure of Motor operated points should be promptly reported to the concerned ESM/Signal Inspector for immediate rectification. SS/SM on duty as per OM 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.

12.1 **EMERGENCY OPERATION OF CRANK HANDLE CONTROL KEY**

In case of any reason after passage of any train the route could not be put back i.e. route white indication remains in the panel then concerns point I the route remains locked by indicating red locked indication. During that condition if it requires to alter the route point could not be altered from the panel then it requires to transmit Crank handle for emergency operation by pressing concern crank handle group button along with trans button. The 'Lock' indication on the panel start flashing till 120 sec and after laps of 120 sec 'Lock' indication disappear and crank handle 'KEY' can be extracted from the RKT for alteration of existing route considering all the signals are in 'Normal condition.'

13.0 **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. As soon as the points on route, overlap and isolation are set to the required position, the concerned signal for the route will clear and a white strip of light will appear on the entire route confirming that the Route is set & locked. The signal 'off' indication will appear on the panel provided other conditions for taking 'OFF' reception signals are satisfied.

14.1 **SETTING OF ROUTE AND TAKING OFF DEPARTURE SIGNALS:**

For setting a particular route for departure of a train, all the concerned points must be set by operation of point button and point 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 advanced starter signal.

14.1.1 To take off the 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 signal.

14.2.0 **TAKING OFF CALLING-ON SIGNAL: -**

Miniature colour light Calling on signal is provided below the Home signals in terms of GR 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 of track circuit or any other reason or for admission of train on blocked line.

14.2.1 To take off Calling-on signal the train must come to a stop at the foot of the home signal, occupying 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 by point push button and group button individually 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 switches 'C1'/'C2' (RED WITH WHITE DOT as the case may be), shall be pressed simultaneously along with the concerned route button for few seconds and released. After a lapse of 120 seconds, the calling on signal clears i.e., a yellow light glows at the concerned calling on signal on the panel. For loop lines, route button UN1 (WHITE WITH BLACK DOT) shall be pressed for respective setting of the overlap points. Each operation of Calling On signal shall be registered in respective Calling On signal counter (UP or DN) by registering next higher number. A separate register is to be maintained for this purpose.

14.3.0 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.

14.4 REPLACEMENT OF SIGNALS TO 'ON':

Signals are replaced to 'ON' automatically by the passage of a train past the signal. It will not be possible to re-clear the signal 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.

14.5.0 INTERLOCKING OF SIGNALS/POINTS:

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

14.5.1 Advanced starter is interlocked with respective block instrument in sending position i.e., train going to position and by axle counter for last vehicle check.

14.5.2 The block instrument cannot be made normal unless the respective Home signal is put back to 'ON'. and the Last vehicle checking axle counter shows clear.

14.5.3 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.

14.6 PILOTING OF TRAINS: -

In the event of failure of both Home signal 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/SS on duty personally and the points en-route must be clamped & padlocked at both facing & trailing end by Operating staff. Same procedure shall be adopted when route illumination fail to disappear. Facing and trailing ends of the all-motor operated points must be clamped and padlocked while piloting 'IN' or 'OUT' and during non-signalled movement.

14.7 SHUNTING

For shunting, OFF aspect of starter signals shall be used. For back shunting, shunt signals provided on each side of the yard shall be used.

15.0 NON RUNNING LINES:

A Hot Axle /Track machine siding of CAL 75 meters. (BJ to DE), with one side entry takes off from Line No.1 at GBQ end of the yard. The entrance point and corresponding derailing switch are coupled and operated by an arc lever at site. The point is fitted with hand plunger locks. The hand plunger lock unlocked by HOT AXLE /TRACK MACHINE siding key D1, extracted from RKT at SM's office by pressing the button No.30 (BLACK) along with group trans button (WHITE WITH BLACK DOT) provided on the panel. Similar to that of crank handle button indication, control button 30 has key 'IN' and key 'LOCKED' indication, which glows white when key is in, red when route is set and no light when key is out of the RKT. Whenever shunting is to be done in the siding SS/SM on duty shall press the control button 30 and group trans button to extract the siding keys. The siding key will unlock the hand plunger lock fitted on the siding points to facilitate the setting of siding points to required position. After completion of work siding points shall be set and locked to normal setting at site and keys shall be inserted in the RKT and turned, a flashing white indication will appear on the panel. SS/SM on duty shall press the control button 30 and group release button to get the steady white indication. Signals 1C, C1C, SH3D, 2A, C2A & SH4A are electrically interlocked in such a way that these signals cannot be taken 'OFF' if the Track machine siding key is taken 'OUT' from the RKT

15.1 **TOKEN LESS BLOCK INSTRUMENT:**

KEYS & BUTTONS

SM's KEY-Intended to lock the instrument and to prevent unauthorised manipulation of the same during the absence of SM.

Shunting Key- This key remains normally inserted in the instrument and can be removed only if block handle is in either line closed position or TGT position.

Push button PB1- This is a push button used to transmit DC pulses for exchanging bell code signals.

Push button PB2- This is a push button used in conjunction with PB1 for releasing block handle of other instrument.

Switch S1 with counter- It is used for cancellation of line clear. The counter registers number of such operation.

Switch S2 with counter- For cancellation of line clear by the sending station after the train has entered the block section & return to the sending station and received on proper signals. The counter registers the number of such operation.

TOL Indicator- This indicator normally displays a white indication and displays red indication with caption "Train on line" when a train enters the block section.

Time-release indicator- This indicator is operated during canceling line clear operation when the required time delay has taken place. Normally the indicator displays white with caption 'Locked' and changes over to green with caption 'Free' when occupied.

Galvanometer- It deflects the flow of current from one instrument to another when either push button PB1 or PB2 is pressed

Block handle- Block handle can be set at 'N' (Line closed), 'L' (Train going to) and 'R' (Train coming from position). It is locked by the block lever lock in all position.

Buzzer BZ1- Audible indication at both stations when the train enters the block section.

Buzzer BZ2- Audible indication at the receiving station when the whole of the train has arrived

15.2 **OPERATIONS OF TLBI (DIADO) INSTRUMENT:**

SM shall follow the detail procedure vide para No. 4.33 for line clear transaction, 4.34 for cancellation of line clear obtained, 4.35 for normalising block instrument when train returns to the despatching block section, 4.36 for shunting between last stop signal & the first stop signal from the opposite direction, 4.37 for shunting between the last stop signal & opposite first stop signal behind departing train, 4.38 for shunting outside first stop signal, 4.39 for working of Motor trolley, 4.40 for working of material trolley, 4.43 for failure of electrical instrument & 4.45 for resumption of normal working of BWM Chapter-IV, Part-II.

15.3 **INTERLOCKING BETWEEN SIGNALS AND BLOCK INSTRUMENTS:**

1) HIRAKUD Station is equipped with the following types of Block Instruments to control movements of trains from and to adjacent Block Sections.

	Section	Type of Block Instrument
1.	HKG-SBP	Daido Type Single line Token-less Block Instrument.
2.	HKG-GBQ	Daido Type Single line Token-less Block Instrument.

2) **LAST STOP SIGNAL CONTROL:-**

a) The block working of the section HKG-SBP&HKG-GBQ are controlled with the provision of Token-less Block Instrument (Diado type)

- b) The Advanced starter signals are interlocked with the respective Block Instrument in such a way that the any Advanced starter signal can not be taken off unless the Line Clear is obtained from the block station in advance and the handle of the Block Instrument is turned to “TGT” position.
- c) The concerned Advanced starter signal aspect will be changed its “OFF” aspect to “ON” aspect as soon as the leading pair of the train wheels occupies the concerned Advanced starter signal replacement track circuit provided ahead of the respective signal.

3) **BLOCK RELEASE:-**

- [a] The Block Instruments are restored to normal (Line Closed condition) only after the complete arrival of the train past the block over lap ahead of the respective Advanced starter signal on either side of the Station yard.
- [b] All the power signaling installations in the Station yard are centrally controlled from the panel and it is explicit in this arrangement that the complete arrival of a train into the yard from the block section can not be ensured by the operating personnel in the centrally located panel hence, to ensure complete arrival of the incoming train, Axle Counters are provided between HKG-SBP&HKG-GBQ sections.
- [c] In the event of failure of Axle Counter, block working of the section concerned is to be suspended, Line clear Station Master shall not normalize the commutator of the concerned Block Instrument to “Line Closed” position and shall not despatch “Train out of block section” report to the station in rear until he is satisfied by seeing the Last Vehicle Indicator on the last vehicle of the incoming train (after arrival) of which Axle Counters failed or obtaining the complete arrival certificate from the Guard of the train. Then station master shall resort to resetting procedure of the axle counter of concerned block section.

16.0 **VERIFICATION OF LINE CLEARANCE BY STATION MASTER ON DUTY FOR RECEPTION OF TRAIN INTO 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 passages of any train or for any other movements. The clearance of the route including overlap must be ensured by the SS/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 of the point's etc.

17.0 **CRANK HANDLING 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 handle can be released by operating common ‘TRANS’ push button and concerned crank handle button simultaneously. When this key is taken out, no signal of the concerned route can be taken off in the yard. This key can be electrically transmitted at both ends of the yard.

On account of failure of point zone track circuits or crank handle key “LOCK” indication or when route is not released, crank handle key cannot be transmitted by normal operation. Hence SM/SS on duty has to resort to emergency crank handling of points. He shall press the concerned CH button and trans button simultaneously after ensuring that no vehicle is on the point. The RED and WHITE indication of the CH button will start flashing and after 120 sec the RED indication will disappear indicating that crank handle is free to be extracted by normal crank handle operation. He shall then follow the procedure detailed in para 12.0.

In case of the doubtful operation of any track circuit by a light vehicle including self-propelled vehicle such as motor trolley or light steam/Diesel shunting engine or tower wagon, indicating the occupation of track, the SS/SM on duty shall satisfy himself positively that the said vehicle has cleared the point zone track circuits by observing the track indications of the track on either side of the crossovers.

18.0 INSTRUCTIONS REGARDING STABLING OF TRAINS ON RUNNING LINES:

When a train is stabled on a running line for a 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 SS/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.

19.0 EMERGENCY OPERATIONS:

The following are the instructions for emergency operations.

20.1 EMERGENCY ROUTE CANCELLATION BUTTON AND VEEDER COUNTER: -

For the purpose of emergency operations there is an emergency 'Route cancellation'. There is a 'VEEDER COUNTER' for counting emergency operations involving operation of the emergency route cancellation button (provided at the top of the panel). The SS/SM on duty must press the emergency route cancellation button by breaking the seal and the signal button conforming to the section for which emergency route release is desired. A flashing indication will appear indicating that the cancellation operation has been initiated and after lapse of 120 seconds, the desired route will release provided all other conditions are favorable for route release.

20.2 The Veeder counter registers the number of such emergency cancellation operations. SS/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:

20.3 EMERGENCY OPERATIONS – CANCELLATION OF THE LOCKING OF POINTS NOT RELEASED AFTER THE PASSAGE OF THE TRAIN FOR WHATEVER 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 recourse to the following emergency operations.

- a) Firstly it must be ensured that the Signal is in the normal position.
- b) Operation as detailed in Para 6.0 of Appendix-B to be followed. 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. For further operation 17.0 of Appendix 'B' shall be followed.

20.4 EMERGENCY GATE RELEASE OPERATION: -

In case of emergency operation of gate SM on duty shall after ensuring that all the signals towards the gate is at ON shall press the Emergency Gate Release Button after breaking the seal (CHOCOLATE WITH RED DOT) and Group trans Button (WHITE WITH BLACK DOT) that will release the key at the L.C. Gate Goomty thus enabling the gateman to open the gate. All such operations will be registered in the emergency gate operation counter and SM on duty shall record such operation in the station diary and in the register meant for it.

21.0 LOCKING OF RELAY ROOM: -

The relay room should be kept locked with two separate locks, the arrangement should such that one key is kept with the on duty SM in his custody and the other key with the signal maintainer. Whenever required, the Station Master shall hand over the key to the maintainer with proper arrangement in the basement/Relay room key register. The maintainer on receipt of the key from the stationmaster may use the same and the key in his custody to open the relay room by inserting the keys one after another separately into the earmarked locks.

After completion of work, the relay room is to be locked using both the keys separately and designated key should be handed over to the SS/SM on duty. The details of the transaction should be properly recorded in the relevant register at the Station duly signed by SS/SM on duty and the signal staff concerned. If the relay room key is handed over to the Signal staff regarding the interference in safety gears the train shall be piloted in and piloted out.

22.0 MAINTENANCE OF S&T INSTALLATION & ADHERENCE TO MAINTENANCE SCHEDULES: -

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 safe and satisfactory working of these installations at this station.

The tests, checks and replacements etc., including overhauling shall conform 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. During checking/ testing or during day-to-day as well as regular maintenance of S&T gears, SS/SM on duty shall co-operate with S&T staff for safe and satisfactory maintenance.

22.1 PROCEDURE TO BE FOLLOWED INCASE OF FAILURE OF A SIGNAL INTERLOCKING INSTALLATION: -

In case of failure of any interlocking gear at the station, the failure report should be communicated by the SS/SM on duty to the sectional Maintainer, the JE/SE/SSE (SIG) of the Section and others through a memo as per G & SR 3.51.04 and 3.68.04 and document all such transactions.

22.2 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:-

However, before declaring a signal or any other S&T gear as defective SS/SM on duty shall verify them and setting of points on the route and overlap for a signal to which it applies shall be inspected by the SS/SM on duty irrespective of the position of buttons and indications on the panel and will work vide GR 3.68.

22.3 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 SS/SM on duty shall personally check the 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 SR 3.68.04 (c), (d) , (e) & (f).

22.4 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 JE/SE/SSE(SIG) should give 'Advance Intimation' to the SS/SM in writing about this work in terms of GR & SR 15.08.01.

22.5 EMERGENCIES: -

Notwithstanding anything contained in the aforesaid paras when equipment is found to be defective and unsafe for passage of trains, the Signal & telecom. Staff must at once suspend the working of the equipment and associated installations and issue 'Suspension Memo' explaining the seriousness of defect or damage to the interlocking installation to the SS/SM on duty and take the Station Master's acknowledgement. After this, the usual practice of exchange of disconnection memo and reconnection memo can follow. The SS/SM on duty must act promptly on such messages and take adequate precaution treating the S&T installation as defective and pass trains over the affected interlocking equipment according to extant instructions as contained in G & SR 3.77.

23 PROCEDURE TO BE FOLLOWED IN THE CASE OF FAILURE OF SIGNALS AND POINTS AND USE OF EMERGENCY CRANK HANDLE: -

Whenever a signal or a point becomes defective, any movement over the points on the running lines shall be made after clamping and padlocking of both facing and trailing points supervised by SS/SM on duty personally for all trains at this station.

- 23.1 In case of failure of a signal or a point and in case the point can not be operated from the panel, emergency crank handle, which is interlocked with system is to be extracted and the following procedure is to be adopted.
- 23.2 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 Crank Handle control push button CH1/CH2/CH3/CH4 and Group Trans button simultaneously. All signals will be locked in normal position as soon as the key is released. SS/SM on duty shall transmit the key to required end of the yard and operate the point manually.
- 23.3 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 Station Master on duty, till it is replaced back in RKT.
- 23.4 The case of failure of motor operated points should be promptly reported to the concerned Signal maintainer/JE/SE/SSE for rectification.
- 23.5 Whenever a Crank Handle is required to be used by a signal official for maintenance work or attending to failure, the signal official will give a disconnection memo to the SS/SM on duty and after making necessary entries in the Crank Handle Register. The SS/SM on duty will obtain the acknowledgement of the signal official in the Crank Handle Register and then hand over to him the Crank Handle. The points will be treated as defective till the Crank Handle is returned back to the SS/SM on duty.
- 23.6 Before parting with the Crank Handle either for attending failures or for maintenance work by Signal maintenance officials, the SS/SM on duty will ensure that the reception and departure signals are put back to 'ON' position. The points for the affected lines should be treated as non-interlocked. The SS / SM on duty is responsible for introduction of non-interlocked working and the trains will be piloted 'IN' and 'OUT' duly clamping and padlocking both facing and trailing points over which the train is to pass, as per GR 3.69 and 3.70 with relevant SRs. The SS/SM on duty will be personally responsible for setting and locking of points for reception or despatch of all trains.
- 23.7 The Emergency Crank Handle Register is to be maintained vide OM 20.06 note (d) by the SS/SM on duty wherein the particulars of the usage of the Emergency Crank Handle must be recorded.

24.0 SUSPENSION OF LAST STOP SIGNALS: -

When the Block instrument is suspended with its handle in 'TRAIN COMING FROM' position or "TRAIN GOING TO" position as the case may be for whatever reason, the concerned last stop signal controlled by the Block Instruments must be treated as suspended and trains shall be piloted 'OUT'.

- 24.1 The SS/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 SS/SM on duty before giving 'LINE CLEAR' shall initiate action in accordance with the procedure prescribed in GR 3.61 to 3.71 & relevant SRs vide GR 3.49 (4).
- 24.2 The SS/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.

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DOM/ SBP

25. **SIGNAL LIGHTS:** -
In case of failure of colour light signals SM shall take action vide SR 3.68.05. The SS/SM on duty at 00.00 hours (2nd night shift) must also ensure from panel board that all the signal lights are burning properly and brightly. This fact must be recorded in the Diary under a separate entry and confirm to the Section Controller on duty.
26. **CORRECTING TIME IN STATION CLOCK:** -
The SS/SM shall set the time in his clock according to the time signal given by the Section Controller on duty at 16.00 hours every day according to G & SR 4.01.01 and 4.01.02.
- 27.0. **NORMAL POWER SUPPLY:** -
The Station works on 230 volts AC single-phase power supply. The normal power supply is from the SEB. Stand-by power is supplied by the diesel generator. Solar power supply is also provided in this station
- 27.1 **POWER FAILURE AND REPORTING SUCH FAILURES:** -Normal power supply to the Signalling and Interlocking installations at this station is drawn from the SEB Power supply source (at 230 V, 50 Hz). In SM's Office there is ASM power panel, which represents the voltage of the integrated power supply system.
1. In case voltage drops 105.9V an audible buzzer appears for starting Generator.
 2. In case voltage drops 105.1V an audible buzzer appears for emergency start of Generator.
 3. In case voltage drops 104.3V an audible buzzer appears for system shut down.
- Whenever SEB (Main) power supply fails, a buzzer on the panel will buzz on. SM on duty has to press the power acknowledgement button. The SM on duty shall start the Diesel engine for stand by (Auxiliary) power supply. After run of the Diesel generator and on resumption of power supply, SM shall acknowledge the same by pressing the power acknowledgement button.
- 28.0 The SS/SM on duty must maintain record of power failure and he must promptly report the failure to the section controller and the concerned electrical and S&T maintenance staff.
- 29.0 **AXLE COUNTER AS LAST VEHICLE CHECKING DEVICE (LVCD):-**
- (a) Axle Counter as LVCD has been provided for the section HKG – SBP and HKG – GBQ as last vehicle checking device. The axle counter will also have control over the UP/DN last stop signals and block instrument of respective direction of HKG station.
 - (b) The occupation and clearance of the axle counter section is indicated by RED and GREEN indication respectively provided on the panel.
 - (c) UP last stop signal of HKG cannot be taken OFF if axle counter of block section HKG – GBQ fails. Similarly DN last stop signal of HKG cannot be taken OFF if axle counter of block section HKG – SBP fails. On the other hand on arrival of a train at station if the axle counter continues to show occupied the block instruments of concerned block section cannot be turned to line closed position
- 28.1 **NORMALISATION OF AXLE COUNTER AND BLOCK WORKING BY RESETTING OF AXLE COUNTER**
- (A) After the train has been received by the receiving station or after a block back operation or when no train has entered into the block section and the axle counter displays RED, then the following procedure shall be adopted to reset the axle counter SS/SM at the other end of the concerned block section shall extend co-operation to the SS/SM on duty at the resetting end.

(B) VERIFY THE BLOCK SECTION IS CLEAR OF ANY VEHICLES

- (i) Procedure laid down in GR 4.17 & relevant SRs thereto shall be followed for the purpose.
- (ii) By checking the train register, the detail of the train passed through the block section and finding out from the station at other end of the concerned block section or from Controller that last train has passed and arrived complete. SS/SM on duty shall exchange private number with the SS/SM at other end of the concerned block section or with the Controller or from whom the complete arrival has been confirmed.
- (iii) If the failure has occurred after arrival of a train, SS/SM on duty shall also obtain intact position from the guard of stopping train or by exchanging all right signal with the guard of through train, so that he can ensure that the train has arrived completely before resorting to the reset of LVCD axle counter.

(C) RESETTING PROCEDURE:-

After complete arrival of train, if the axle counter of the section does not clear or Axle counter section free indication (G) does not appear in the panel, The receiving station SM shall call the attention of the station in rear through telephone for resetting and shall establish communication with the said station if resetting of equipment is considered necessary giving details of last train that has arrived complete at his station and the block section is clear.

The receiving station shall inform the sending station as to whether the last train that entered into the section has arrived or not. And, if arrived fully shall so intimate authenticated by exchanging Private number with the sending station.

As digital Axle counters are provided as LVCD in Block section, resetting is to be done by both of sending end and receiving end individually.

The status of the section LVCD i.e. Clear (GREEN), occupied (RED), preparatory reset (miniature GREEN) and power on indications (YELLOW) are provided in the reset box.

The procedure to be followed for re-setting by both of sending end and receiving end individually is as follows: -

- a. Insert SM's LV reset key, turn right and keep pressed.
- b. Press LV reset button provided on the panel.
- c. Release SM's LV reset key and reset button.
- d. Turn left the SM's LV reset key and remove it.
- e. The system obtains preparatory reset state and preparatory reset indication (miniature GREEN) glows on the panel.
- f. The counter reading increases by one count after a gap of 5 seconds approximately.
- g. The counter reading should be recorded.
- h. First train is to be piloted to the section to make the system normal.

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

If the axle counters functioning properly now, then Block Section cleared indication 'GREEN' will appear on the panel and the concerned Block working will be normalised.

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

- 29 **TELECOMMUNICATION FACILITIES: -**
- (i) Telephone attached with Token Less Block Instruments for either side Block Section.
 - (ii) Station to Station fixed telephone (hot line) is provided
 - (iii) Station is provided with Auto telephone connected with Railway Exchange
 - (iv) BSNL telephone is provided.
 - (v) The station is connected to Bolangir-Sambalpur control circuit by a control telephone.
 - (vi) Station to station 25 Watt VHF communication is provided.
 - (vii) Telephone is provided between Station and both end crank handle locations.
 - (viii) Telephone communication provided with L.C. gates at Km 569/7-8, 568/2 and 572/2.

NOTE:

1. For obtaining Line Clear, VHF should be used as a last alternative and not as a sole means of communication.
2. VHF and Walkie-Talkie sets should not be used for unnecessary discussions with Loco Pilots, Guards or any other staff.
3. The on duty SM shall use the above electrical communication instruments stated in Para-29.0 from item No. (1) to (6) strictly in order of preference for obtaining/granting line clear vide SR 14.01.01. In case of failure of any of the above means of communication the SM on duty shall work vide SR 6.02.06

30. **FAILURE OF COMMUNICATION / FAILURE OF BLOCK INSTRUMENTS:**

- 1) In the event of failure/suspension of block instrument, Track circuit & Axle Counter 'Line Clear' shall be obtained over telephone attached to the block instrument or station to station telephone by exchanging identification number and supported by private number as per GR 6.02.06 (1) (d) Chapter-III and Chapter-IV, Part-I of Block Working Manual.
- 2) In the event of failure/suspension of block instrument and block telephone attached to the block instrument, or the Station to station fix telephone 'Line Clear' shall be obtained on Railway auto phone or BSNL phone, by exchanging identification number supported by private number vide GR 6.02.06 (1)(b) and Chapter-IV, Part-I of Block Working Manual.
- 3) In the event of failure/suspension of block instrument, block telephone and station to station fixed telephone or Railway auto phone or BSNL phone, Line Clear shall be obtained over the control phone exchanging identification number and supported by 'Private Number' vide GR 6.02.06(1) (c) and Chapter-IV, Part-I of Block Working Manual.
- 4) In the event of failure / suspension of block instrument or block telephone attached to the block instrument, or station to station fixed telephone or Railway auto telephone or BSNL phone or control telephone line clear shall be obtained on the VHF sets exchanging ID number supported by PN provided that the instructions contained in SR 14.01.02 are followed vide GR 6.02.06 (1) (d) Chapter-III and Chapter-IV, Part-I of Block Working Manual.
- 5) In the event of total failure of all communications trains shall be worked vide SR 6.02.04.

APPENDIX - 'C'

ANTI COLLISION DEVICE (RAKSHAKAVACH)

NIL

R.Das.
DSTE / SBP

B. Bhoi
DEN/Central/SBP

D.Nayak
DOM/ SBP

APPENDIX - 'D'

1.0 **STATION MANAGER-I (INCHARGE)** :The Station Manager is the chief Supervisor of the station and is responsible for the general satisfactory working of the station and the efficient discharge of duties by all the staff under him. He is responsible for the efficient discharge of duties devolved upon all the staff employed at the station whether permanently or temporarily according to rules, safe working instructions and Station Working Rules. He shall see that all signals, points, level crossings, sidings and the whole machinery at the station are in perfect working order. He shall report all defects to the concerned officials. It is his personal responsibility to maintain the Station Working Rule, all rulebooks and Assurance Registers. He shall see that all operating and commercial records separately be maintained and due statements and returns are up to date. He shall ensure that the coaching return/statements are submitted in time. He shall conduct surprise night inspection, safety meetings and fire drills. He shall also ensure that the safety equipments at the station as mentioned in the station working rules are supplied in full and they are in good working order with necessary relief stock. He shall maintain good public relation as well as look after passenger's amenities and be helpful to travelling public. He shall also ensure that the safety equipments at the station/cabin as mentioned in Station Working Rules are supplied in full and they are in good working order.

His special attention is drawn to chapter No.II of GR (Amendments) & SR 2000 and GR 5.01 to 5.08 with relevant SRs. He shall follow the instructions laid down in SR 3.68.01(c) & (d) and SR 14.07.01 and BWM 2.09 (e). He will promptly attend to accidents and report them. He will supervise the work of staff and report lapses of staff under him.

1.1.0 **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.

1.1.1 No Railway servant shall be entrusted with any duty involving safety of the public unless the station in-charge 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 SS is responsible to see that all the staff are conversant with the Station Working Rules 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 Group 'D' staff, their signature/thumb impression must be obtained after explaining fully about their duties and responsibilities.

1.1.2 The station superintendent is responsible personally for maintaining the Assurance Register and for obtaining declaration of the staff working under him. The Assurance Register must be maintained in two parts, one for Group 'C' and the other for Group 'D' staff. A duplicate copy of the Assurance Register must be maintained and kept in personal custody of the Station Superintendent.

1.1.3 The declaration shall be renewed in the following cases: -

- (i) Whenever there is a 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 or more.

2.0 **USE OF PRIVATE NUMBER BLOCKS IDENTIFICATION NUMBER SHEET :-**

Sufficient Private Number books and I.D number sheets in sealed covers shall be kept always in the stock by Station Superintendent under lock and key. He shall maintain a register for this purpose.

3. **ACCIDENTS:**

Accidents shall be reported and immediate action shall be taken by the Station Superintendent in charge in accordance with the instruction laid down in the Accident Manual. Whenever the Station Superintendent received 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/reports and follow up all safety principles without delay.

4. **TESTING OF POINTS AND SIGNALS :**

The Station Superintendent shall test the working of the reception signals daily during the day when there is no train due to arrive/leave the station. He shall also test the working of points, crossings etc. and record the result in the Station Master's diary.

5.0 **Dy. SS/STATION MASTER/ASSISTANT STATION MASTER:**

He shall work in 8 hrs. shift for train passing and booking of traffic, coaching and Goods returns and other statements shall be prepared and submitted by him in time under the direction of the Dy. Station Manager in charge. He shall assist the Station Superintendent in charge for the up keep of the station in all aspects.

5.1 Station Master on duty who makes an entry in the train signal register must continue on duty till all the entries pertaining to the trains are completed vide Subsidiary Rule 14.07.01.

5.2 He is responsible for working beyond this period when called upon to do so in the exigencies of services. He will follow SR 3.68.01© & (d), SR 14.07.01. Their special attention is drawn to Chapter II of G & SR 1976 and GR 5.01 to 5.08 with relevant SRs. As an Assistant to the SMR, he shall follow the instructions given to him by the Station Manager. He shall report all defects to the concerned officials. He shall maintain good public relation as well as look after passenger's amenities and be helpful to travelling public

6. **HANDING OVER AND TAKING OVER CHARGE:**

The Station Superintendent in charge/Station Master/Assistant Station Master 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 must be counter signed by Station Master/Assistant Station Master coming on duty while taking over charge. This will not, however, relieve any one of the SS/SM of his responsibility to ensure by physical check that the nominated line is clear of all obstructions before admission of any train on it.

7. **TRAFFIC POINTSMAN:**

- (i) Delivery of authority to proceed, other authorities and caution order etc. to the driver of train.
- (ii) Setting and locking of points under the supervision of Station Master.
- (iii) To couple and uncouple vehicles under the supervision of Station Master/Guard when shunting operation is in progress.
- (iv) Piloting and hand signalling of trains when necessary.
- (v) Knowledge of hand signals, detonators and their use.
- (vi) Protection of line in emergency and fog signalling.
- (vii) Exchange of signals with the Driver and Guard of passing trains as directed by the Station Master.
- (viii) Cleaning, Oiling and lighting of lamps.
- (ix) Loading/unloading of parcels, luggage and packages to and from the train and watching the packages and other materials by properly stacking in the station premises.
- (x) Dusting of station office.
- (xi) Any other duties entrusted to them by the SS/SM from time to time.
- (xii) Use of emergency crank handle for setting of points.

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DEN/Central/SBP

D.Nayak
DOM/ SBP

- (xiii) To Supervise shunting as per SR 5.13.03.
- (xiv) They must be thoroughly conversant with the GR 3.38, 3.46, 3.77(I), 5.09, 3.52 to 3.60, 3.62, 5.13, 5.15, 5.16, 5.21, 5.23 & SRs there to and their special attention is drawn to chapter No.II of G & SR (Amendment) 2000 also.
- (xv) When necessary, they will work in the Goomties for observing and reporting the complete/incomplete arrival/departure of trains as per the order of the SM on duty in case of failure of Axle Counter/Track Circuit.8.0

8.0

SAFAIWALA /LCS-

He is responsible to attend the sanitation of Railway premises including SM's office Passengers awaiting room platform and platform latrines, cleaning of night soils and clearing of drainage. He shall remove night soil in staff quarters and dump in and also for clearing the drains attached to staff quarters. He shall do any other duties entrusted to him by the SM in case of emergencies.

APPENDIX - 'E'

ESSENTIAL EQUIPMENT OF THE STATION

Below is the list of essential safety equipment, which shall be readily available in good working order with necessary relief stock.

SL. NO	DESCRIPTION OF EQUIPMENT	QUANTITY
1.	Detonators	10 in tin case
2.	Hand signal lamps/Tri colour torch	06 Nos.
3.	Hand signal flags	05 sets.
4.	Safety chains with pad locks	08 Sets.
5.	Wedges/Sprags	08 Nos.
6.	Fire buckets (with sand and water)	05 Nos.
7.	Clamps with padlocks	08 Nos.
8.	Reminder collars	06 Nos.
9.	"Motor Trolley on Line" boards	02 Nos.
10.	First aid Box	01 No.
11.	Stretcher	01 No.
12.	Blanket	01 No.
13.	Fire extinguisher	01 No.

APPENDIX - 'F'

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

NIL.

APPENDIX - 'G'

RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTION

NIL.