

No.-SWR/MSMD/17

**EAST COAST RAILWAY**  
**SAMBALPUR DIVISION**

**STATION WORKING RULES OF MAHASAMUND STATION (CODE:MSMD)**

BG/MG/NG: Broad Gauge

Date of issue: 11.03.2011

Date brought into force:--

**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.** SI-22034, Alt-B

1.2 **SIGNAL INTERLOCKING PLAN NO.:** - S.I – 22034, 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 Signaling and Interlocking arrangements, Gradients and Level Crossings within the station limits. This must be referred to for giving details of the points number and signals when reporting accidents.

**2. DESCRIPTION OF STATION: -**

MAHASAMUND is a three-line station situated in Titlagarh-Raipur section at KM 53.44 from Raipur. It is Standard – III (R) interlocked, Class 'B' station with central panel and Bloc proving LVCD axle counters have been provided at either end of the station.

**2.1 GENERAL LOCATION:-**

2.1.1	<b>NAME OF STATION</b>	:	MAHASAMUND (Code-MSMD)
2.1.2	<b>CLASSIFICATION OF STATION</b>	:	'B' class
2.1.3	<b>NAME OF THE SECTION</b>	:	Titlagarh -Raipur, Single Line, Non-RE, BG section
2.1.4	<b>ROUTE</b>	:	D Spl.
2.1.5	<b>LOCATION</b>	:	53.444 km from Raipur

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

- i) Raipur end - BELSONDA (Code: BLSN) inter distance 8.594 K.M.
- ii) Titlagarh end - ARAND (Code: ARN) inter distance 8.156 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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**2.3 BLOCK SECTION LIMITS: -**

Sl. No	Between Stations	The point from which “Block Section” commences	The point at which “Block Section” ends
1.	MSMD-ARN	UP Advanced starter signal No.13 of MSMD	DN advanced starter signal of ARN Station
2.	MSMD-BLSN	DN Advanced Starter of Signal No.12 of MSMD Station	UP Advanced starter signal of BLSN

**2.3.1 STATION SECTION:**

The portion between UP & DN Advanced starter signals of MAHASAMUND station.

**2.3.2 STATION LIMIT:**

The portion between UP and DN Distant signals of MAHASAMUND Station.

**2.4: GRADIENT: -**

**(a) FROM THE CENTER OF STATION BUILDING TOWARDS ARAND**

CHAINAGE IN METER		INTER DISTANCE	GRADIENT	
FROM	TO			
0 m	404.80	404.80	1 in 1000 F	--
404.80	961.033	556.223	1 in 150 F	
961.033	1583.739	622.706	LEVEL	
1583.739	3595.419	2011.680	1 in 150 R	
3595.419	BLOCK SECTION	---	LEVEL	--

**(b) FROM THE CENTER OF STATION BUILDING TOWARDS BELSONDA**

CHAINAGE IN METER		INTER DISTANCE	GRADIENT	
FROM	TO			
0 M	389.53	389.53	1 IN 1000 R	--
389.53	648.614	259.084	1 in 460 F	--
648.614	3171.139	2522.525	1 in 150F	---
3171.139	Block section	---	LEVEL	---

**2.5 LAY OUT: -**

- i) No. of running lines :- 3 ( Three )
- ii) No. of sidings :- 01 ( One ) One goods siding (CAL-655.55M)
- iii) No. of Passenger platform :- 02 (Two)
  - a) High level Platform beside Line no.- 1,(363.7M x 6.3 M).
  - b) High level platform beside Line No.- 3,( 550M x 6.5M).
- iv) No. of goods shed platform :- 01( One),109.70 M Long.
- v) FOB:- 01 One FOB at CH 64.0M)

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

DESCRIPTION	CSL	ISOLATION PROVIDED	
		TOWARDS BLSN	TOWARDS ARN
Line No.1 (1 <sup>st</sup> Loop)	717 mtrs. (Str. To BJ)	Over Run Line	Sand Hump
Line No.2 (Main line)	686 mtrs. (Str. To BJ)	...	...
Line No.3 (2 <sup>nd</sup> Loop)	722 mtrs. (Str to BJ)	Sand Hump	Sand Hump

(II) **DIRECTION OF MOVEMENTS:** -

- Trains arriving from Belsonda end are UP trains.
- Trains arriving from Arand end are DN trains.

(III) **NON-RUNNING LINES AND CAL.** -

Srl No	Description	CAL	Takes off from line No.	Exit	Operation
1.	Goods Siding	655.55 M (PT to DE)	1st Loop	One way	Key S1 and S2 from EKT controlled by button No-25 from Panel.

2.5.2 **ANY SPECIAL FEATURES IN THE LAYOUT:** - NIL

2.6 **LEVEL CROSSINGS: (STATION SECTION)**

SL No.	Location	K.M.& No.	Normal Position	Class	Type	Operation	Communication
1.	Between DN Advanced Starter signal and UP Home signal	52/9 (RV-34)	Open	'Spl'	Inter locked	Winch Operated Lifting barrier	Magneto Telephone connection with SM office /MSMD
2.	Between UP Advance Starter and Up Starter Signals	53/13 (RV-35)	Open	'C'	Inter locked	Electrical Operated Lifting barrier	Magneto Telephone connection with SM office /MSMD

2.7 **LEVEL CROSSINGS: (IN BLOCK SECTION)-**

SL No.	Location	K.M.& No.	Normal Position	Class	Type	Operation	Communication
1.	Between MSMD-ARN	59/9 (RV-38)	Closed	'C'	Non-Inter locked	Winch Operated Lifting barrier	Magneto Telephone connection with SM office /ARN

Train Actuated Warning Device has not been provided at above Level Crossing Gate.

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

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

- System of working:** - Absolute Block system on single line.
- Type of block instrument:** - Token Less Block Instrument with adjacent stations.

- iii) **Instrument:** - Non-Co-operative type.
- iv) **Block Telephone:** - Attached with concerned block instruments of MSMD-BLSN & MSMD-ARN section.
- v) **Staff responsible for their operations:** - S.M. on duty.
- vi) **Custodian of keys:** - S.M. on duty.

Block instrument is provided with double locking. One key will be with SM & other key will be with S&T maintainer. SM on duty is responsible for operation of Block instruments and the keys of the instruments must be under personal custody of the SM on duty vide GR 5.01(4), 14.12(1) 9A) (1) and GR 5.08.

#### **4. 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 as LVCD. 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 token less block instruments. GR 3.08(4) (b) governs the aspect and indications of the signals respectively. The station has no end cabins.

Maximum equipment of signal – Distant, Inner distant, Home, Starter and Advanced starter in either direction.

##### **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 DOWN 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/SM/ASM on duty in terms of 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, SS/SM on duty shall break open the seal of the concerned button to make the button operative. Immediately after completion of emergency operation SM on duty shall inform concerned S&T staff for resealing 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.

##### **4.1.3.1 AXLE COUNTER:**

Both side block section is monitored by axle counter system, electronic axle counters along with associated entrance and exit trolley suppression tracks are provided at both

end of the station just ahead of advanced starters. A pair of electronic axle counter is provided between Mahasamund and Arand, one beyond Up advanced starter of Mahasamund and another just ahead of Down advanced starter of Arand 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 Mahasamund and Belsonda, one just ahead of Up advanced starter signal of Belsonda and the other just before the Down advanced starter signal of Mahasamund 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 in the illuminated panel diagram 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 'YELLOW' 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 'YELLOW' indications glows during resetting operation.

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 token less Block instrument.

#### 4.1.4 **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

#### 4.1.5 **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. EKTs are provided for operation of siding points and also at the LC gate Goomty at KM 52/9 & 53/13 for opening and closing of the gate.

4.1.5.1 **IBS** : NIL

4.1.5.2. **POINTS AND TRAP INDICATOR:** NIL

4.1.5.3 **REPEATER(BANNER TYPE):** NIL

#### 4.1.6 **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.

#### 4.1.7 **SHUNT SIGNALS:-**

Independent shunt signals are provided on top point at either end for back shunting movement. However, Starter signals can be used for shunting purposes also.

4.1.8 **ANTI COLLOSION DEVICE**: - NIL

4.1.9 **EMERGENCY CROSSOVER**:- NIL

4.1.10 **LC GATE OPERATION**:- Given in Appendix 'A'

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

The relay room should be kept locked with 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 in the 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 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.

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

4.3 **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 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 on duty after isolating Diesel generator by change over switch. Each time the power supply goes OFF or ON SM 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.

If there is any indication on SM's power panel regarding deviation in IPS system call S&T

**5.0 TELECOMMUNICATION FACILITIES: -**

1. Telephone attached with Token less Block Instruments for either side Block Section.
2. Station to Station fixed telephone (hot line) is provided
3. Station is provided with Auto telephone connected with Railway Exchange
4. BSNL telephone is provided.
5. The station is connected to TIG-Raipur control circuit by a control telephone.
6. Station to station 25 Watt VHF communication is provided.
7. Telephone connection has been provided between Station & both end crank handle locations
8. Telephone connection has been provided between Station and LC Gates at km 52/9 and at KM 53/12-13.

**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. (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  
(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 is 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-II (SS)	Continuous	1	09 hrs.
2.	SM/ASM	Continuous	1	8 hrs.
3.	TP/Sr.TP/TPM-B/TPM-A	Continuous	1	8 hrs.
4.	GK/Sr.GK at KM 52/9	Continuous	1	8 hrs.
5.	GK/Sr.GK at KM 53/13	E.I	1	12 hrs
5.	LCS	E.I	1	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.

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6.1.2 **RESPONSIBILITY OF ASCERTAINING CLEARANCE OF THE LINE:** -

The 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.

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 in 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 signatures 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.
- (i) 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 **CONDITION 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) 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 station for which such line clear is being given.
- (iv). The line is clear up to the advanced starter at the end of the station nearest to expected train. (Up advanced starter signal No. 13 for a DN train and DN advanced starter signal No. 12 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 SS/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:-**

In case reception of a train on a obstructed line to the SMs shall follow GR 5.09 & SR 5.09.01.

**6.2.2 OUTLYING SIDING: - NIL.**

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

Not Applicable

**6.2.4 DESPATCH OF TRAINS ON NON-SIGNALLED LINE**

Not Applicable.

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

Not Applicable

**6.2.6 SPECIAL RESTRICTIONS:**

- (I) The sand hump/ORL shall not be obstructed for stabling vehicles or harboring a 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 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.

**6.2.6. SPECIAL INSTRUCTIONS:-**

1. 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.
2. COM/BBS's dispensation has been obtained vide Letter No. COM/PIg./BBS/MSMD/217 dated. 06-07-2006 for placement of DNn Advanced starter signal No.12 at the right hand side of the track for better visibility in curvature.

**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.

**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: -

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 signal No13 or Up to the Sand Hump	Foot of the DN Signal No. 6	DN advanced starter signal No.12 Or Up to the end of ORL
2	Line No. 2	Foot of the Up main line starter No.11	UP Advanced starter signal No.13	Foot of the DN main line starter signal No.10	Dn advanced starter signal No.12
3	Line No. 3	Foot of the up starter signal No.9	Up advanced starter signal No.13 or Up to the Sand Hump.	Foot of the DN starter signal No. 8	Dn advanced starter signal No.12 OR up to the Sand Hump

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.

**B. 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.

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

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)	While receiving of an UP train on Line No.1	Reception of a DN train on Line No.3 or dispatching an Up train from the Line No.2 or 3.
(ii)	While receiving of a DN train on Line No.1	Reception of an UP train on Line No. 3 or dispatching a DN train from the Line No.2 or 3.
(iii)	While receiving of an UP train on Line No.3	Reception of a DN train on Line No.1 or dispatching an UP train from the Line No.1 or 2.
iv.	While receiving of a DN train on Line No.3	Reception an UP train on Line No.1 or dispatching of a DN train from Line No.1 or 2.

Rules laid down in GR3.47 and GR 3.47.01 shall be followed.

**6.5 COMPLETE ARRIVAL OF TRAIN: -**

(Rule no. GR 4.16 & SR 4.17.01(a),(b),(e) (i),(ii) & (iii),GR4.17.02, GR 14.10)

**a) STAFF RESPONSIBLE TO VERIFY COMPLETE ARRIVAL: -**

SM on duty.

**b) MODE OF VERIFICATION:**

Through AXLE COUNTER or through physical verification when Axle counter fails.

**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 4.16.01 & 4.16.04 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).

**6.5.4 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.

**6.6 DESPATCHING OF TRAINS: -**

Dispatch 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 interlocked L.C.gate and Engineering L.C.Gate No.RV-38 at KM 59/9, in case of dispatching a train to MSMD-ARN section. Then he 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 Loco Pilot 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 Loco Pilot with a memo, taking his acknowledgement thereof.

**6.7 TRAINS RUNNING THROUGH: -**

The procedure detailed in Para 6.6, 6.6.1 above and General Rules 4.17, 4.42 and Subsidiary Rules 3.36.04(b)(i) 3.42.02(a)(iv), shall be observed. When trains are to run through over the loop line the advanced starter and starter signal shall be taken off when the train actually enters the loop lines.

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(b) (i) 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 Loco Pilot 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/Loco Pilot of the train in case of observing

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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 IN CASE OF FAILURE OF A SIGNAL AND 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 3.69.03. 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 in the yard concerned signal shall be suspended and trains shall be admitted on calling-on signal. If calling-on signal fails then train shall be piloted 'IN'. Before piloting a train in to the yard the clearance of the track must be ensured by physical verification.

**6.8.3 AXLE COUNTER:**

In the event of failure of axle counter, concerned Block instrument of monitored block section shall be suspended and trains will be worked on PLCT.

**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. 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 3.68,3.70, 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 3.49 (4), 3.68 to 3.72 & 3.74].

**6.8.5 BLOCK INSTRUMENT:**

In the event of partial/total failure of Block Instrument the concerned block instrument shall be suspended till its rectification, trains shall be worked as per SR 6.02.06 & Chapter –III Part-I of BWM.

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Both UP and DN advanced Starters are electrically interlocked with respective block instruments so that the same cannot be taken off unless the concerned block instrument is in line clear position (TGT). When the block instrument is suspended in 'Line clear' position, the concerned advanced Starter must also be treated as suspended. When the block instrument is under suspension, the authority to proceed will be paper line clear ticket.

UP and DN Home signals are electrically interlocked with respective block instrument can be normalised from 'TRAIN ON LINE' to 'LINE CLOSED' position, when the corresponding Home signals are in the 'ON position. However, the Home signals can be taken off in case of failure of the block instruments.

**6.8.6 DEFECTIVE 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 DEFECTIVE/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 & vice-versa and the procedure for use of crank handle for motor operated points shall be followed as per operating manual para-20.06.

The responsibility of correct setting of points, clamping and padlocking the points for reception and despatch of trains at the station, rests with SM on duty himself.

**6.8.8 RECEPTION OF A TRAIN ON BLOCKED LINE:**

Whenever trains are to be admitted on an obstructed line the SM on duty shall authorize the on duty TPM with form T/509 indicating the reason for such admission the line number and the nature of obstruction on that line.

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

A stop hand signal shall be exhibited by the SM on duty at a distance of not less 45mts. from the point of obstruction to indicate to the 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 SS/SM irrespective of the position of the switches point laid down in GR with relevant SRs shall be followed. [Refer GR 3.68, 3.70 & SR 3.77.01(b)]. Initiate action in accordance with the procedure prescribed in GR and relevant Subsidiary Rules 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 driver in terms of GR 4.09 and SRs thereto.

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**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.
- (c) Rail Dolleys will work in accordance with Subsidiary Rules 15.27.10.

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.

**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 fouling of line.

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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 is to be maintained shift wise as per Safety circular No.5/87, Dtd 22.06.87 issued by CSO/GRC.

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 from vehicles on running line is prohibited unless permitted by Sr. DOM / SBP vide SR 5.19.01.

At stations where loading and unloading of goods is permitted whether full rake or part there of, the station master shall ensure that no goods are left fouling any line before and after clearance of the rake from the line. The railway servant supervising loading and unloading shall also ensure that consignment does not foul any line vide SR 5.19.01: (a).

If the stations are on gradients, the rake should be properly secured as detailed in SR 5.23.01.

During the time of loading / unloading, the station master shall ensure isolation of the lines(s) as detailed in SR 3.51.06.

8.0 **SHUNTING: -**

8.1 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 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.

8.2 Shunting in the face of approaching train is prohibited.

8.3 **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.

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8.4

<b>SHUNTING ZONE</b>	<b>BLOCK SECTION IS CLEAR</b>	<b>BLOCK SECTION IS OCCUPIED</b>
Shunting within Station section	Permitted.	Not permitted
Between Last Stop Signal and opposite First Stop Signal	Permitted vide GR 8.12.	Not permitted
Beyond opposite First Stop Signal	The concerned section shall be blocked back vide GR 8.13	Not permitted

8.5 **SHUNTING IN THE SIDING TAKING OFF FROM STATION YARD : -**

When shunting in the station yard/Goods siding proper shunting authority on T/806 to be issued to train staff as the clear instruction and limit up to which shunting is to be performed while performing shunting relevant GR 5.14 and SR's there to be followed.

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 single line token less Block Instrument BWM Chapter III of part-I 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 Part-I of Block Working Manual.

[II] **DESPATCHING OF TRAINS ON AN 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 SM's diary.

On the block ticket (T/A 602) it shall be mentioned in detail the place of obstruction i.e. Engine at 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 and to obey the site officer instructions.

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

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 shall be sent to the issuing station for cancellation.

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

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SE/P WAY concerned or Guard/Driver the SS/SM on duty may resume normal working  
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[III] **TRAINS DELAYED IN BLOCK SECTION :-**

If a train carrying passenger does not arrive within 10 minutes or if a goods train does not arrive within 20 minutes after allowing for its normal running time from the station in rear, the SM at the station in advance shall immediately advise the station in rear and the control this fact. There after SMs at either end of the Block section shall send one Railway servant into block section to collect the whereabouts of train, condition of train and nature of assistance, if any, required. SM on duty shall collect the full particulars from railway servant so deputed and intimate the same to SM at other of block section and to the section control simultaneously for taking action according to circumstances of the case. [Refer GR 6.04 & 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 MSMD-BLSN & MSMD-ARN stations, i.e when line clear cannot be obtained by one of the following means stated in order of preference viz,

- a. Block Instruments, Track Circuits or Axle Counters
- b. Telephone attached to the Block Instruments
- c. Station to Station fixed telephones whenever available
- d. Fixed telephone such as Railway auto telephone & BSNL phone
- e. Control telephone
- f. VHF sets

and action shall be taken as per SR 6.02.04. The train which is to be despatched to the affected section will be stopped and the Driver and Guard of the train shall be informed about the fact. Before dispatching the light engine /main engine/motor trolley /Tower wagon/Trolley /Cycle trolley/Moped trolley/Diesel car/rail motor car/EMU rake, the SM on duty shall hand over a Authority for opening of communication during total failure interruption of communication on Single Line Section to the driver /motorman/Guard/SM who is being sent to open communication, which includes.

- (i) An authority to proceed without "Line Clear" in the prescribed form (T/B 602).

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- (ii) A Caution Order restricting to speed of the train to 15Kmph by day when the view ahead is clear and 10 Kmph during night or when view ahead is obstructed in addition to other speed Correction Slip No. 1 3409).
- (iii) Date of Issue: 18.06.2012 t to pass the Last Stop Signal at 'ON' position.
- (iv) A "Line Clear" enquiry message (T/E602) asking "Line Clear" for the awaiting train.
- (v) A conditional "Line Clear" message for the light engine to return with or without a train attached, supported by a Private Number (T/F602).

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 (T/G 602 or T/H602 as case may be) 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 the Section Controller informed.

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

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

The Station Master will take action as per SR 6.02.04 for despatch of trains under 'Authority to Proceed without Line Clear'. Actions shall be taken to assist the crippled train as per SR 6.02.05.

10. **VISIBILITY TEST OBJECT: - Not Applicable.**

11. **ESSENTIAL EQUIPMENTS AT THE STATION: -**

This is mentioned in the Appendix 'E' of the SWR. Essential equipments 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 gives adequate prewarning to the loco Pilot. Hence, placing of detonators in case of fog shall be dispensed with vide SR 3.61.01.

**CERTIFICATE:-**

NOTHING IN THIS RULES SHALL BE READ AS CANCELLING, AMENDING AND MODIFYING ANY OF THE GENERAL RULES, SUBSIDIARY RULES, BLOCK WORKING MANUAL AND OPERATING MANUAL. THESE RULES HENCEFORTH CANCEL ALL PREVIOUS STATION WORKING RULES OF MAHASAMUND 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 (RAKSHA KAVACH).
APPENDIX 'D'	--	DUTIES OF TRAIN PASSING STAFF AND STAFF IN EACH SHIFT.
APPENDIX 'E'	--	ESSENTIAL EQUIPMENTS OF STATION.
APPENDIX 'F'	--	RULES FOR WORKING OF DK STATIONS, PASSENGER HALTS,IBH, IBS AND OUTLYING SIDINGS.
APPENDIX 'G'	--	WORKING OF TRAINS IN ELECTRIFIED SECTIONS.

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### APPENDIX – ‘A’

**DETAILS OF LEVEL CROSSING GATES TOGETHER WITH INSTRUCTIONS TO OPERATING STAFF INCLUDING LEVEL CROSSING GATEMAN ABOUT THEIR NORMAL WORKING, THEIR MAINTENANCE AND THEIR WORKING IN CASE OF FAILURE / EMERGENCIES WITH SPECIAL PROVISIONS IF ANY.**

#### **1 WORKING INSTRUCTIONS FOR ‘SPL’ CLASSINTERLOCKED LEVEL CROSSING GATE AT KM 52/9 LOCATED AT MAHASAMUND:-**

NOTE: These instructions should be read together with provisions in General and Subsidiary Rules.

#### **1.1 GENERAL:**

##### **1.1.1. DESCRIPTION OF THE LEVEL CROSSING GATE:-**

1.	Number of level crossing gate	:	RV-34
2.	Engineering or Traffic Gate	:	Traffic
3.	Under control of Station Master or Permanent Way Inspector	:	Station Master/ MSMD
4.	Location at KM	:	52/9
5.	At station	:	MAHASAMUND
6.	In between station	:	MSMD-BLSN
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	:	Station stop signals
14.	Means of communications Telephone/Bell etc.	:	Telephone connection with SM Office/MSMD
15.	Width of Level Crossing Gate	:	7.5M
16.	Type of Road (NH/SH/Others)	:	Others
17.	Name of Road	:	---
18.	Metaled/Non Metaled	:	Metaled
19.	Approach Road	:	Metaled
20.	Width of the Road	:	7.5 M.
21.	Angle of Road Crossing (incase of the SKEW gates)	:	45 degree
22.	Road Gradient (if any)	:	(a) North/East side (b) South/West side
23.	Road alignment (straight/curve)	:	(a) Noth/East side- (b) South/Westside-
24.	Provision of height gauge	:	Not Provided
25.	Type of Barrier	:	Winch operated Lifting Barrier
26.	Length of check Rail	:	10.0M
27.	Road surface in between level crossing gates.	:	Levelled with hexagonal concrete slabs
28.	Length of Rumble strip/speed breakers.	:	7.5M

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29.	Road Signs	:	Provided.
30.	Speed breakers indication board	:	Provided
31.	TVU	:	84081 on 03/2013
32.	Census next due on	:	03/2016
33.	Demarcation for placement of detonators.	:	Provided
34.	No.of gateman working	:	3(three)
35.	Nearest Railway Medical Assistance	:	MSMD
36.	Nearest Private Medical Assistance available (if any)	:	MSMD
37.	List of equipment available Yes / No.	:	Yes

## 1.2 **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 & 7 in case Hexable 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 Hexable 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
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 chains with padlocks to be used in case failure of boom lock.	2

## 1.3 **The gateman shall be provided with following registers: -**

- Gate working instructions in Hindi / English.
- Gate working instructions in local vernacular language.
- Gateman Rule Book in Local vernacular language.

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- 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 during emergency and obstruction on the 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 anything 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/MSMD, 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/MSMD, 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, if connected by telephone, regarding the defects/obstructions at the gate, under exchange of private number.
- iii) If there is no response from the Station Master after two or three attempts he shall first protect the gate and then inform on phone.

**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 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 10 meters in 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 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/MSMD 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:**

This is an interlocked traffic L.C.Gate situated at BLSN end of the yard in between UP Home signal and DN Advanced starter signal at Km 52/9. This gate is interlocked with Station stop signals. Telephone communication is provided between the L C. gate lodge with SM office of MSMD 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 two-lever ground frame is provided at the gate lodge. The key of the LC remains in the winch when the gate is opened condition. When it is necessary to close the gate, for taking off signals or for shunting operations the SM 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 'A' is to be extracted from the winch, which will be inserted in the lever of GF-2. When GF-2 is reversed it locks the Level crossing booms and releases GF-1 and Key 'B'. When Key 'B' is transmitted to SM electrically through RKT in conjunction with GF-1 reversed, L.C Gate closed indication will appear on the Panel. Thereafter UP reception and DN Advanced starter signals automatically get released.

After passage of the Train or completion of shunting, the SM on duty shall inform the gateman and press LC gate controlling button No.27. The gate man shall extract the control key 'B' from the RKT instrument and after getting the Key 'B' the gate man will open the L.C gate by normalising the levers. Lever GF-1 has been provided at the gate lodge to put back the concern signal to on in case of emergency.

In the event of failure of any UP reception signal or DN despatch signals or during Non Interlocking working the Traffic Gateman shall be informed and the Train shall be passed in terms of SR 3.69.02, 3.69.03, 3.70.01 and 3.70.02 after ensuring correct closing and locking of L.C Gate. During this period the L.C Gate shall be opened only when necessary and safe to do so.

**2. INTIMATION TO GATEMAN:**

- i) Before taking off reception/departure signals Station Master/MSMD 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) Then the gate closed indication in the Panel will be available and reception/departure signals will then be taken 'OFF'
- iv) In order to ensure that road traffic is not held up for a long time, the Station Master/ MSMD 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/ MSMD 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/MSMD, 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/ MSMD will issue written authority to the train driver to pass the signal at 'ON' position.
- iv) In addition Station Master/ MSMD 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/ MSMD shall advise the Station Master/BLSN, under exchange of private number, that the telephone at the gate has failed.
- vii) The station Master/ BLSN 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 to rectify the defect at the earliest.
- ix) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection /fit memo for the same.

**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/ MSMD, under exchange of 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/ MSMD shall issue a caution order to the driver of a departing train.
- vi) He shall also advise the station Master/BLSN 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/ MSMD 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.

**. Note:**

- (a) Authority to pass signals at 'ON' position as per rules shall also be issued to the drivers of both departing and arriving trains.

**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 / MSMD on duty on telephone, under exchange of private number.
- ii) The Gateman will take out emergency handle available at the gate lodge from the sealed box by breaking the seal and open the gate for road traffic.
- iii) The record of the date and time of breaking the sealed cover of emergency handle box shall be recorded and signed with reasons.
- iv) 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.
- v) Station Master on duty/ MSMD shall issue a caution order to the driver of a departing train.
- vi) He shall also advise the station Master/BLSN 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/ MSMD will advise S&T staff responsible for maintenance of gate to rectify the defect at the earliest.
- viii) Normal working will resume only after S&T staff repairs the key transmitter and issue reconnection/fit memo for the same.
- ix) After rectification, the emergency handle shall be replaced in the emergency handle box and resealed by S&T maintainer.

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

- i) If the gate key cannot be extracted from the Panel or key transmitter then gateman must immediately inform the Station Master on duty/ MSMD 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/ MSMD shall issue caution order to the driver of a departing train.
- v) He shall also advise the station Master/BLSN 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/ MSMD will advise S&T staff responsible for maintenance of key transmitter to rectify the defect at the earliest.
- vii) Normal working will resumed only after S&T staff repairs the 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/ MSMD on duty, regarding the defects/obstruction at the gate, under exchange of private number.
- iii) The Gateman will advise to Stationmaster/ MSMD on duty to put the reception/departure signals back to 'ON' position. He may also normalize the lever "GF-1" to put back the concerned signal to "ON" if taken 'OFF' for a train.
- iv) If there is no response from the Station Master / MSMD after two or three attempts, he shall first protect the gate and then inform on phone.
- v) Gateman shall then rush with detonators 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/ MSMD 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/ MSMD shall also inform the station Master/BLSN 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/ MSMD accordingly, under exchange of private number.
- x) Station Master/ MSMD and BLSN 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/MSMD 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/ MSMD will adopt the procedure given under item No.7.above. If the obstruction fouls the level Crossing Gate, gateman must keep the gate closed against road traffic till the track is cleared of the obstruction.

2.0 **GATE WORKING INSTRUCTIONS OF “C” CLASS INTERLOCKED TRAFFIC LEVELCROSSING GATE (No.RV-35) AT KM 53/13 BETWEEN MSMD-ARN STATIONS.**

NOTE:

These instructions should be read together with provisions in General and Subsidiary Rules.

2.1. **GENERAL:**

2.1.1. **DESCRIPTION OF THE LEVEL CROSSING GATE:-**

1.	Number of level crossing gate	:	RV-35
2.	Engineering or Traffic Gate	:	Traffic
3.	Under control of Station Master or Permanent Way Inspector	:	SM/ MSMD
4.	Location at KM	:	53/13
5.	At station	:	MAHASAMUND
6.	In between station	:	MSMD-ARN
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	:	Station stop signals
14.	Means of communications Telephone/Bell etc.	:	Telephone connection with SM office /MSMD
15.	Width of Level Crossing Gate	:	5.50 MTRS
16.	Type of Road	:	Others
17.	Name of Road	:	Municipal
18.	Metaled/Non Metaled	:	metalled
19.	Approach Road	:	metalled
20.	Width of the Road	:	5.5 M.
21.	Angle of Road Crossing (incase of the SKEW gates)	:	90 degree
22.	Road Gradient (if any)	:	(a) North-East side (b) South/West side
23.	Road alignment (straight/curve)	:	(a) Noth-East side- (b) South/Westside-
24.	Provision of height gauge	:	Not Provided
25.	Type of Barrier	:	Electrical operated 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.	:	Provided
29.	Road Signs	:	Provided
30.	Speed breakers indication board	:	Provided
31.	TVU	:	18464 on 03/2013
32.	Census next due on	:	03/2016
33.	Demarcation for placement of detonators.	:	Provided
34.	No.of gateman working	:	2 (two)

Correction Slip No. 1

Date of Issue: 18.06.2012

Medical Assistance : MSMD

36.	Nearest Private Medical Assistance available (if any)	:	MSMD
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 & 7 in case Hexable 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 Hexable 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 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.

R.Das  
DSTE / SBP

P.Nagar  
Sr.DEN (West)/SBP

D.Nayak  
DOM (G) /SBP

- 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.

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 during emergency and obstruction on the 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 anything 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/MSMD, 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/MSMD, 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, if connected by telephone, regarding the defects/obstructions at the gate, under exchange of private number.
- iii) If there is no response from the Station Master after two or three attempts he shall first protect the gate and then inform on phone.

**The gateman shall protect the line as under: -**

##### b) **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 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 10 meters in 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 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/MSMD 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 manned, interlocked LC Gate situated in between UP Starter signals and UP Advanced starter signal towards ARN end of the yard. The normal position of the gate is open to the road traffic. This gate is situated within the "Station Section" and interlocked with station stop signals. Telephone communication is provided between the LC Gate lodge with SM on duty of MSMD station. The level crossing gate is of lifting barrier type and motor operated by means of HAND GENERATOR/MOTOR from gate panel provided at the gate lodge.

When it is necessary to close the gate, for taking of signals, SM on duty MSMD 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 pressing the RED push button provided on the panel. Gate man will keep the red push button pressed till gate is closed against road traffic. Then key 'Y' is to be extracted from the EKT-1 and gate closed and locked indication (Red) appears on the panel. The key 'Y' thus extracted is inserted in EKT-2 and transmitted electrically to SM's panel in conjunction with switch "S" reversed releases concerned UP or DN signals. Switch 'S' is provided in gate lodge to put back the concerned UP or DN signals to "ON" in case of emergency.

After passage of the Train, the SM on duty shall inform the gateman and press LC gate controlling button No.28 and Trans button. The gate man extracts the control key 'Y' from the EKT-2. After getting Key 'Y', the gate man shall insert the key in EKT-1 and turn keeping the switch S in normal position. Then the gate man will get a gate free indication on the panel and subsequently the gate can be opened by pressing the GREEN push button till gate is fully opened and (Green) indication appears.

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). During Non Interlocking working the Traffic Gateman shall be informed and the Train shall be passed in terms of SR 3.69.02, 3.69.03 and 3.70.01 after ensuring correct closing and locking of L.C Gate.

**2. INTIMATION TO GATEMAN:**

- i) Before taking off reception/departure signals Station Master/MSMD 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) Then the gate closed indication in the Panel will be available and reception/departure signals will then be taken 'OFF'
- iv) In order to ensure that road traffic is not held up for a long time, the Station Master/ MSMD 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/ MSMD 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/MSMD, 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/ MSMD will issue written authority to the train driver to pass the signal at 'ON' position.
- iv) In addition Station Master/ MSMD 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 DN train, the Station Master/ MSMD shall advise the Station Master/ARN, under exchange of private number, that the telephone at the gate has failed.
- vii) The station Master/ ARN shall then issue a caution order to the driver before dispatching a 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/ MSMD, under exchange of 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/ MSMD shall issue a caution order to the driver of a departing train.

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Sr.DEN (West)/SBP

D.Nayak  
DOM (G) /SBP

- vi) He shall also advise the station Master/ ARN at the despatching end, under exchange of private number, to similarly issue a caution order to the driver before despatching a train into the block section from his end.
- vii) Station Master/ MSMD 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.

**Note:**

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

**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 / MSMD on duty on telephone, under exchange of private number.
- ii) The Gateman will take out emergency handle available at the gate lodge from the sealed box by breaking the seal and open the gate for road traffic.
- iii) The record of the date and time of breaking the sealed cover of emergency handle box shall be recorded and signed with reasons.
- iv) 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.
- v) Station Master on duty/ MSMD shall issue a caution order to the driver of a departing train.
- vi) He shall also advise the station Master/ ARN at the despatching end, under exchange of private number, to similarly issue a caution order to the driver before despatching a train into the block section from his end.
- vii) Station Master/ MSMD will advise S&T staff responsible for maintenance of gate to rectify the defect at the earliest.
- viii) Normal working will resume only after S&T staff repairs the key transmitter and issue reconnection/fit memo for the same.
- ix) After rectification, the emergency handle shall be replaced in the emergency handle box and resealed by S&T maintainer.

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

- i) If the gate key cannot be extracted from the Panel or key transmitter then gateman must immediately inform the Station Master on duty/ MSMD 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/ MSMD shall issue caution order to the driver of a departing train.
- v) He shall also advise the station Master/ ARN at the despatching end, under exchange of private number, to similarly issue a caution order to the driver before despatching a train into the block section from his end.
- vi) Station Master/ MSMD will advise S&T staff responsible for maintenance of key transmitter to rectify the defect at the earliest.
- vii) Normal working will resumed only after S&T staff repairs the 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/ MSMD on duty, regarding the defects/obstruction at the gate, under exchange of private number.
- iii) The Gateman will advise to Stationmaster/ MSMD on duty to put the reception/departure signals back to 'ON' position. He may also normalize the switch "S" to put back the concerned signal to "ON" if taken 'OFF' for a train.
- iv) If there is no response from the Station Master / MSMD after two or three attempts, he shall first protect the gate and then inform on phone.
- v) Gateman shall then rush with detonators 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 reply these details to the station Master/ MSMD 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/ MSMD shall also inform the station Master/ ARN 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/ MSMD accordingly, under exchange of private number.
- x) Station Master/ MSMD and ARN 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/MSMD 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/ MSMD will adopt the procedure given under item No.7 above. If the obstruction fouls the level Crossing Gate, gateman must keep the gate 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 IN EMERGENCIES ETC. INCLUDING 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 Main line and 2 <sup>nd</sup> loop line at BLSN end.
2	22	BLACK	Cross-over point between Main line and 1 <sup>st</sup> loop lines at ARN end.
3	23	BLACK	Cross-over point between Main line and 1 <sup>st</sup> loop line at BLSN end.
4	24	BLACK	Cross-over point between Main line and 2 <sup>nd</sup> loop line at ARN 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 WHITE indication remains steady. 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 point 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 two 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 A and B, 23 A and B.
2	CH2	BLUE	22 A and B, 24 A and B.

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
02	C1	RED with WHITE DOT	UP calling on Signal for line No. 1, 2 & 3
03	S2	RED	DN Home Signal for Line No.1, 2 & 3
04	C2	RED with WHITE DOT	DN calling on Signal for line No.1, 2 & 3

05	SH3	YELLOW	Shunt signal towards line no. 1, 2, 3
06	SH4	YELLOW	Shunt signal towards line no. 1, 2, 3
07	S6	RED	DN starter signal for line No.1
08	S7	RED	UP Starter signal for line No. 1
09	S8	RED	DN Starter signal for line No.3
10	S9	RED	UP starter signal for line No.3
11	S10	RED	DN starter signal for line No.2.
12	S12	RED	Down Advanced starter signal towards BLSN.
13	S13	RED	UP Advanced starter signal towards ARN.

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.

1.4.1 **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, and L3 UN1). Common route buttons are also provided for taking off starters (viz.: 13AT UN, 12 AT UN). An individual route button is provided for taking off Advance starter (Viz.: 13 UN, 12 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.

1.4.2 **DESCRIPTION OF ROUTE BUTTONS**

SL. NO.	BUTTON NO.	COLOUR	DESCRIPTION
1	L1 UN	WHITE	Common route button for UP or DN Home, for line No.1 (1 <sup>st</sup> loop) setting overlap Up to advanced starters.
2	L1 UN1	WHITE with BLACK DOT	Common route button for UP Home overlap setting to sand hump or Down Home overlap setting over dead end of overrun line or UP/DN Calling-On or back shunts (SH-3 OR SH-4) for Line No.1 (1 <sup>st</sup> loop),
3	L2 UN	WHITE	Common route button for UP or 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 or DN Home, for line No.3 (2 <sup>nd</sup> Loop) setting overlap Up to advanced starters.



5	L3 UN1	WHITE with BLACK dot	Common route button for UP or DN Home, setting overlap Up to end of sand hump or UP or DN Calling on or back shunts (SH-3 or SH-4) for line No.3 (2 <sup>nd</sup> Loop).
6	12AT UN	WHITE	Common route button for DN starter signal No. 6 or 8 or 10.
7	12 UN	WHITE	Route button for DN advanced starter signal No. 12.
8	13AT UN	WHITE	Common Route button for UP starter signal No.7 or 9 or 11.
9	13 UN	WHITE	Route button for UP advanced starter signal No.13.

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 Arand – MAHASAMUND and MAHASAMUND – Belsonda section to check the complete arrival of trains. The system is interlocked with respective Block Instrument. 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 CSPDCL power supply source (AC 230 Volt / 50 Hz). Whenever the normal supply connected to CSPDCL power supply fails, WHITE indication on the panel will be off and a RED indication will appear on the panel along with an audible buzzer. The SM/SS on duty shall press the power acknowledgment button (RED) positioned on the top of panel. The SM now has to start the diesel engine for standby (Auxiliary) power supply.

After stable run of the Diesel engine, 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, SM/SS on duty has to acknowledge by pressing power acknowledgement button. This will make the panel operative again. Now 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 by pressing power supply acknowledgement button to make the panel operative.

4.1 Inverters are provided to prevent possibility of blank signals in case of SEB power supply failure. Whenever SEB power supply fails inverter will immediately extend power supply to signals thereby preventing blank signals.

4.2 Notwithstanding inverters have been provided to avoid blanking of signals, SM/SS on duty shall immediately start Diesel Generator and operate the change over switch for connecting the Auxiliary power supply to the signalling installation in case of SEB power failure.

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

#### 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 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 from the panel 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, turned and shall push the emergency Point operation button by breaking the seal and then operate the required point button. Retaining the point button pressed, SM shall release the emergency point operation button and press the point group button (N or R). After the emergency point operation button and point button are pressed, indication will appear near emergency point operation button and the number will increase in the emergency point operation counter.

SM shall record emergency point operation 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. The concerned S&T staff should be advised immediately to get the emergency point operation button resealed after rectification of fault, if any.

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

All push button are self-restoring type. A button held acknowledgement push button (white with red dot) along with a white strip is positioned at the top of the panel. When any button gets stuck in pressed condition, a buzzer will sound along with flashing white light Indication. The Station Master shall stop the buzzer by pressing the button held acknowledgement button (white with Red dot). The buzzer will stop but the flashing white light will continue to glow till the pressed button is normalised. SM on duty shall try to find out the pressed button for normalisation or otherwise inform the maintenance staff to rectify.

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. 21BT, 21/23T, 22/24T, 22BT, 23BT, 24BT are Point zone track circuits. L1T1, L1T2, L1T3, L2T1, L2T2, L2T3, L3T1, L3T2, L3T3 are berthing track circuits. Other track circuits namely 1T, 2T, 12AT & 13AT are for signal replacement, route holding and trolley suppression. 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. SS/SM on duty shall personally ensure clamping and padlocking all facing and trailing points enroute. Crank handle keys 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, and CH2 (BLUE) and Group Trans/Release button (WHITE WITH BLACK DOT) is 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 suggest 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 CH-1 or CH2 and Trans button. This will enable SM to extract key CH-1 or CH2 from the RKTs at the end locations. After completion of point work the crank handle key to be inserted in the RKT and transmitted to station. Station Master on getting 'Key IN' flashing indication, which will appear on the panel, shall press relevant CH button & Group Release button to get steady white indication.

SS/SM/TPM on duty after extracting the crank handle key from RKT 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 the work is over the SS/SM/TPM shall transmit the key back to station through RKT.

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.

**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 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 white light glows at the concerned calling on signal on the panel. For loop lines, route button UN1 shall be pressed. 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'.

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 move.

**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 NON RUNNING LINES:**

A goods siding (CAL 655.55 meters) taking off from Line No. 1 and terminates into a dead end has been provided at BLSN end. Whenever it is required to place or draw out train in/from the goods siding its control button 25 (BLACK) is to be pressed along with Group Trans button (WHITE WITH BLACK DOT), which will enable the SM to extract the key S1 or S2 from the EKT. Key S1 or S2 will unlock the Hand Plunger Locks at the entrance points and the required siding point can be set to reverse position by Arc lever at site. The siding points shall be clamped, padlocked and train can be placed or drawn out from the siding. After the completion of work the siding point shall be normalised, locked by means of Hand Plunger Lock. Key S1 or S2 shall be extracted and inserted into the EKT and transmitted to the panel. SM on seeing the key-in flashing indication on the panel shall press the buttons 25 and group release button (WHITE WITH BLACK DOT). The key thus transmitted to the panel will show steady white indication. Reception signals (i.e. 1C, C1C. in UP direction and 2A,C2A, in DN direction) Starter signal Nos.6 & 7 and shunt signal SH4 A, SH 3C are electrically interlocked in such a way that these signals cannot be taken 'OFF' if the Goods siding key is taken 'OUT' from the RKT.

- 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 to 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.
- On account 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. SS/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

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SS/SM on duty must press the emergency route cancellation button 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" position shall press Emergency Gate release button (Chocolate with RED dot) and Group Trans Button (White with Black dot) that will release the key after 120 seconds at the LC gate goomty thus enabling the gate man to open the gate . All such operations shall be registered in the Emergency Gate Operation Counter and SM on duty will 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 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 vides 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 & 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.



**23.0 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 cannot 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 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 an Emergency 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 Emergency Crank Handle Register. The SS/SM on duty will obtain the acknowledgement of the signal official in the Emergency Crank Handle Register and then hand over to him the Emergency Crank Handle. The points will be treated as defective till the Emergency Crank Handle is returned back to the SS/SM on duty.

23.6 Before parting with the Emergency 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 ON LINE' 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 worked on PLCT.

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The SM on duty shall not grant 'LINE CLEAR' unless he has ensured that the lamps of fixed signals, which apply, to the train are burning. If the signal lights cannot be kept burning, the SS/SM on duty before giving 'LINE CLEAR' shall initiate action in accordance with the procedure prescribed in vide GR 3.49 (4).

The SM on duty shall not grant or ask 'LINE CLEAR', if the Axle Counter Section indicates section occupied and will treat the Block Instrument as suspended.

25. **SIGNAL LIGHTS: -**

The SS/SM on duty shall 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 **POWER FAILURE AND REPORTING SUCH FAILURES: -**

Normal power supply to the Signalling and Interlocking installations at this station is drawn from the CSPDCL Power supply source (at 230 V, 50 Hz). Whenever OSEB (Main) power supply fails, a buzzer on the panel will buzz on. SM on duty has to press the power acknowledgement button (RED coloured) positioned on the top of panel. 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. This will make the panel operative again.

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.

28.0 **AXLE COUNTER AS LAST VEHICLE CHECKING DEVICE (LVCD):-**

- (a) Digital Axle Counters as LVCD have been provided for the section MSMD-BLSN and MSMD-ARN 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 MSMD 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 MSMD cannot be taken OFF if axle counter of block section MSMD-ARN fails. Similarly DN last stop signal of MSMD cannot be taken OFF if axle counter of block section MSMD-BLSN 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. Resetting operation of the axle counter is co-operative and 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.

R.Das  
DSTE / SBP

P.Nagar  
Sr.DEN (West)/SBP

D.Nayak  
DOM (G) /SBP

**(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 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 (GREEN) 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 SM of receiving station shall inform the sending station as to whether the last train that entered into the section has arrived or not , if arrived fully he shall so intimate authenticated by exchanging Private number with the SM of 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 (maximum 5 seconds).
- 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. One 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 shall remain suspended and failure intimation to be given to sectional signal Maintainer/JE/SE (Signal) for early rectification.

29. **TELECOMMUNICATIONS:**

1. Telephone attached with Tokenless Block Instruments for either side Block Section.
2. Station to Station fixed telephone (hot line) is provided
3. Station is provided with Auto telephone connected with Railway Exchange
4. BSNL telephone is provided.
5. The station is connected to TIG-Raipur control circuit by a control telephone.
6. Station to station 25 Watt VHF communication is provided.
7. Telephone connection has been provided between Station & both end crank handle locations
8. Telephone connection has been provided between Station and LC Gates at km 52/9 & 53/13.

**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-29 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 SR 6.02.06 (a) and Chapter-III 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 SR 6.02.06 (1)(b) and Chapter-III 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 SR 6.02.06(1) (c) and Chapter-III 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 set exchanging ID number supported by Private Number provided that the instructions contained in SR 14.01.02 are followed vide SR 6.02.06(i)(d), Chapter-III part-I of Block Working Manual
- 5) In the event of total interruption of all communications, trains shall be worked vide SR 6.02.04.

**APPENDIX - 'C'**

**ANTI COLLISION DEVICE (RAKSHA KAVACH)**

**NIL**

**APPENDIX - 'D'****1.0 STATION MANAGER-I (INCHARGE) :**

He is the over all In-charge of the station; He is responsible for the efficient discharge of duties devolving upon all the Staff employed at the station whether permanent or temporary according to Station Working Rules, Manuals & safe working Instructions. He shall get himself well conversant with the detailed working of Station and panel, points and signals etc.,

He is responsible for maintaining the Assurance Register up-to-date. He shall conduct surprise night inspection and safety meetings/fire drills etc. as per instructions issued from time to time. He shall see that all the staff under his control working safely according to the rules in force.

He shall see that all signals, points, level crossing gates and the whole machinery at the station are in proper working order. He shall report all the defects to the concerned officials.

He shall satisfy himself that the staff employed under him are well conversant with Station Working Rules and perform their duties correctly. He is responsible for maintaining SWR, other Rule books and Assurance Register up to date.

He shall see that all safety records are maintained properly and all rules prescribed in G & SR, Block Working Manual, Operating Manual and other relevant directions issued from time to time by competent authorities are followed rigidly by all concerned and any irregularities if noticed are reported promptly to the authorities concerned.

He shall see that all accidents are promptly reported, attended to and GA-3 along with accident message is submitted to the concerned officers in time. He shall see that the staff is civil and helpful to all users of railway.

He shall frequently visit the platform, Panel Room, etc. in order to maintain an effective supervision over the said staff and their working. He shall see that station premises are kept neat and clean.

He is responsible for booking all staffs working under him for PME and Refresher Course / Safety camp in their due time. His Special attention is drawn out to chapter II of General and Subsidiary Rules and GR 5.01 to 5.08 with relevant Subsidiary Rules, Chapter – XXII of Operating Manual.

He shall see that all equipment, apparatus and instruments including signal and interlocking gears are in proper working order and all failures are promptly reported to officials concerned for repairs/rectifications.

He shall pay special attention towards passenger amenities & coaching trains punctuality and yard feasibility. He shall endeavor for minimizing detention to freight trains by judicious planning of trains staff. He shall pay attention to smooth functioning of goods train to eliminate detentions. He shall attend to all compliance by traveling/trading public.

He shall see that the law and order in the station area is taken care of with the help of G.R.P. and R.P.F and civil authorities as per need.

He shall ensure compliances of all Operating, Safety and Commercial records maintained at the station. He is responsible for overall supervision of the station.

His special attention is drawn to chapter No.II of G & SR (Amendment) 2000 and GR 5.01 to 5.08 with relevant SRs. He shall follow the instruction laid down in SR 3.68.01© & (d) and SR 14.07.01 and BWM 2.09 (e). He shall conduct surprise night inspection, safety meetings and fire drills. He shall maintain good public relation as well as look after passenger's amenities and be helpful to travelling public.

#### 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.

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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 **DySS/STATION MASTER/ASSISTANT STATION MASTER:**

He shall work in 8 hrs. shift for train passing and booking of traffic, coaching returns and other statements shall be prepared and submitted by him in time under the direction of the Dy. Station Superintendent 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 SS, he shall follow the instructions given to him by the Station Superintendent.

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:**

He shall work under the instructions of SM on duty and follow the GR 02.05 to 2.11 and other relevant rules laid down in GR and SR. He shall remain responsible for:

- (i) Delivery of authority to proceed and caution order etc. to the driver of train.
- (ii) Correct setting and locking and crank handling of points for reception/dispatch and shunting operation 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, filling up the fire buckets with sand/water and getting train interact arrival register (T/1410) signed by the Guard as and when required.
- (xi) Serving messages and any other duties entrusted to them by the SMR/SM from time to time.
- (xii) Uses of emergency crank handle for setting of points.
- (xiii) To supervise shunting as per SR 5.13.03.

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.



8. **DUTIES OF TRAFFIC GATEMAN:**

Mentioned in Gate working instructions of concerned L.C.gates in Appendix-A. In addition to that he shall follow the GR 2.05 to 2.11 and other relevant rules laid down in GR & SR.

9. **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, lighting of lamps and clearing of drainage. He shall remove night soil in staff quarters and dump in and also for clearing of the drains attached to staff quarters. He shall do any other duties entrusted to him by the SM in case of emergencies.

10. **GENERAL**

- i. A set of Red and Green flags and Tricolor hand signal lamps will be part of the essential equipments of staff while on duty. They shall not leave the station except when required by the SM on duty or with his permission. They shall comply with SR 4.42.02 (b) & (c).
- ii. Staff working at the Station must be able to distinguish between Up and Down Line Clear Tickets and also to recognize other Operational forms and documents delivered to Guard and Drivers. They must also know how and when to ring the Station Bell and to call out the Station's name on arrival of Passenger carrying train.

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**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.

<b>Sl No.</b>	<b>Description</b>	<b>Quantity</b>
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 Nos.
5.	Wedges	10 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.	Block suspension Board	02 Nos
11.	First aid Box	01 No.
12.	Stretcher	01 No.
13.	Blanket	01No.
14.	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 SECTIONS**

NIL.

R.Das  
DSTE / SBP

P.Nagar  
Sr.DEN (West)/SBP

D.Nayak  
DOM (G) /SBP