EAST COAST RAILWAY
SAMBALPUR DIVISION

Sl. No. SWR/MSMD

STATION WORKING RULES OF MAHASAMUND STATION (CODE: MSMD)

BG/MG/NG: Broad Gauge
Date of issue: 25.09.2021
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 DIAGRAM: -**

1.1 **STATION WORKING RULE DIAGRAM NO.** S.I/WRD – 22116,ALT ”D”

1.2 **SIGNAL INTERLOCKING PLAN NO**.: - S.I – 22116,ALT ”D”

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

2. **DESCRIPTION OF STATION**:- MAHASAMUND is a four line station situated in TITLAGARH-RAIPUR section at KM. 53.418 from Raipur. It is a Standard – II (R) interlocked, Class ‘B’ station with Electronic Interlocking and Multi Aspect Colour Light Signalling. Digital Axle counters for either side of the Block section have been provided at the station for last vehicle check.

2.1 **GENERAL LOCATION:-**

- Name of the station : MAHASAMUND(Code:-MSMD)
- Class of station : ‘B’ class
- Section : TITLAGARH -- RAIPUR,
- Double line/Single line : BG, Double Line.
- Electrified/Non Electrified : Electrified
- Railway : East Coast Railway
- Route : ’D’ Special
- Situated at : Km 53.418 from Raipur.
- Reckoned from : Raipur
- Number of cabins : NIL
- PI/EI : EI, Centrally operated Domino type full-fledged panel along with VDU.

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

i) TITLAGARH end- ARAND (Code: ARN) inter distance 8.158 K.M.
ii) Raipur end – BELSONDA (Code-BLSN) inter distance 8.591 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

2.3 **BLOCK SECTION LIMITS: -**

Between stations	**The point from which 'Block section' commences.**		**The point at which 'Block section' ends.**
MSMD-BLSN	DN line	DN Advanced Starter No.28 of MSMD Station	Outermost facing point No.34A of BLSN station.
	UP line	UP Advanced starter No -27 of BLSN Station.	Outermost facing point No.33A of MSMD station.
MSMD-ARN	DN line	DN Advanced starter signal No.28 of ARN Station.	BSLB of MSMD Station on DN line.
	UP line	UP Advanced starter signal No. 27 of MSMD Station.	Outermost facing point No.33A on UP line.

2.3.1 **STATION SECTION:**
(a) UP LINE: -Between Outermost facing point No-33A to UP Advanced starter Signal No. 27.
(b) DN LINE:-Between BSLB on DN line to DN Advanced starter Signal No.28.

2.3.2 **STATION LIMIT:**
- UP line- The portion in between UP Distant signal to UP Advanced starter signal No.27
- DN line -The portion in between DN Distant signal to DN Advanced starter signal No.28

2.4: **GRADIENT: -**
(a) From the Centre of the station building towards BLSN.

UP LINE:-

Chainage		**Inter distance**	**Gradient (Falling/Raising/Level)**
From	To		
0.000 M	308.00 M.	308.00 M.	1 in 1000 R
308.00 M.	378.00 M.	70.00 M.	1 in 400 R
378.00 M.	439.800 M	61.800 M	LEVEL
439.800 M	930.00 M	490.200 M	1 in 400 F
930.00 M	3108.00 M	2178.00 M	1 in 153 F
3108.00 M	3667.10 M	559.10 M	1 in 652 F
3667.100 M	Block Section	---	LEVEL

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DN Line:-

Chainage		Inter distance	Gradient (Falling/Raising/Level)
From	To		
0.000 M	308.00 M.	308.00 M.	1 in 1000 R
308.00 M.	378.00 M.	70.00 M.	1 in 400 R
378.00 M.	439.800 M	61.800 M	LEVEL
439.800 M	930.00 M	490.200 M	1 in 400 F
930.00 M	1098.00 M	168.00 M	1 in 107 F
1098.00 M	1838.00 M	740.00 M	1 in 135.1 F
1838.00 M	2858.00 M	1020.00 M	1 in 150 F
2858.00 M	3078.00 M	220.00 M	1 in 200 F
3078.00 M	3198.00 M	120.00 M	1 in 500 F
3198.00 M	3498.00 M	300.00 M	LEVEL
3498.00 M	Block Section	---	1 in 600 F

2.4.1 From the CSB of station building towards ARN.

UP Line:-

Chainage		Inter distance	Gradient (Falling/Raising/Level)
From	To		
0.000 M	382.00 M.	382.00 M.	1 in 1000 F
382.00 M.	592.00 M.	210.00 M.	1 in 150 F
592.00 M.	992.50 M	400.50 M	1 in 274 F
992.500 M	1242.00 M	249.50 M	1 in 226 F
1242.00 M	1506.00 M	264.00 M	LEVEL
1506.00 M	3532.00 M	2026.00 M	1 in 150 R
3532.00 M	Block Section	---	LEVEL

DN LINE:-

Chainage		Inter distance	Gradient (Falling/Raising/Level)
From	To		
0.000 M	382.000 M.	382.00 M.	1 in 1000 F
382.00 M.	592.00 M.	210.00 M.	1 in 150 F
592.00 M.	922.00 M	330.00 M	1 in 200 F
922.00 M	1242.00 M	320.00 M	1 in 350 F
1242.00 M	1522.00 M	280.00 M	LEVEL
1522.00 M	1662.00 M	140.00 M	1 in 250 R
1662.00 M	2242.00 M	620.00 M	1 in 150 R
2242.00 M	2602.00 M	360.00 M	1 in 125 R
2602.00 M	3532.00 M	930.00 M	1 in 150 R
3532.00 M	Block Section	---	LEVEL

2.5 **LAY OUT: -**

(A)

(i)	No. of Running lines: -	4 (Four).
(ii)	No. of Passenger Platform:-	2 (Two) one High level Passenger platform (600m.x10m) beside LineNo.1(Common Loop) and one High level Passenger platform (600m. x 10.31m) beside Line No.4 (Up Loop).
iii)	No. of Sidings: -	3 (three) (i) The Shunting Neck (121.5m) takes off from Line No.1 at BLSN end of the yard (ii) The T.W. Siding (132.5m) takes off from Shunting Neck at BLSN end of the yard (iii) The Engg/T.M siding (CSL-282 m) takes off from Shunting Neck at BLSN end of the yard
iv	No. of FOB	1 (One) at CH 64.00 M F/CSB. Dimension of FOB 30.27mx2.44m.

:

(B) **DESCRIPTION OF SIDING :**

(i) **Shunting Neck**: - The Shunting Neck of CSL 121.5 M (SH to SB) takes off from Common loop line (line no.1) by Point No. 37A/B at BLSN end of the yard. The Siding is isolated by a derailing switch. Point No. 39 the derailing switch point is a fitted with point machine and operated from SM panel/VDU. For movement towards Shunting Neck either the shunt signal No-SH 14 below DN starter signal No-14 on Line No-1 or also SH-10 from T.W. Siding or SH-12 from Engg/T.M. Siding is to be taken off. For movement from Shunting Neck towards Common loop line (line no.1), Engg/T.M. Siding and T.W. Siding, shunt signal No. SH5A/B/C shall be taken off. When the shunt signal No-SH5A is taken off, Up and DN signals i.e.1C, C-1C, 2A, C-2A, SH3B, SH4A, SH5B/C, SH-10, SH-12, 14, SH14 & 21 are held locked in their normal position When the shunt signal No-SH5B is taken off, signals i.e. SH5A/C, SH10, SH12 & SH14 are held locked in their normal position. When the shunt signal No-SH5C is taken off, signals i.e. SH5A/B, SH10, SH12, SH14 are held locked in their normal position. For any non signalled movement, in the siding the points on the route are to be set, clamped and padlocked.

(ii) **T. W. Siding**: - The T.W. Siding of CSL 132.5 M (SH to SB) takes off from the Shunting Neck isolated by Point No. 37A/B at BLSN end of the yard. The Siding point No-43A/B is isolated by a derailing switch. The derailing switch point is a fitted with point machine and operated from SM panel/VDU. For movement towards T.W. Siding the Shunt signal No-SH-5C of Shunting Neck or movement from T.W. Siding towards Shunting Neck SH-10 shall be taken off. When the shunt signal No-SH10 is taken off, the signals i.e. SH5A/B/C, SH-14 & SH-12 are held locked in their normal position. For any non signalled movement, in the siding the points on the route are to be set, clamped and padlocked.

(ii) **Engg/T.M. Siding**: - The Engg/T.M. Siding of CSL 282 M (SH to SB) takes off from the Shunting Neck isolated by Point No.37A/B at BLSN end of the yard. The Siding point No-45 & 43A/B is isolated by a derailing switch. The derailing switch point is a fitted with point machine and operated from SM panel/VDU. For movement towards Engg/T.M. Siding the Shunt signal No-SH-5B of Shunting Neck or movement from Engg/T.M. iding towards Shunting Neck SH-12 shall be taken off. When the shunt signal No-SH12 is

taken off, the signals i.e. SH5A/B/C, SH-14 & SH-10 are held locked in their normal position. For any non signalled movement, in the siding the points on the route are to be set, clamped and padlocked.

2.5.1 **Running lines, direction of movements and HOLDING CAPACITY IN CSL:-**

Sl No	Line No.	Description	CSL	Isolation provided	
				BLSN END	ARN END
1.	Line No 1.	Common loop	737.00 M (STR-STR)	ORL	ORL
2.	Line No.2	DN Main Line	827 M (STR- Stop Signal)	---	--
3.	Line No.3	UP Main Line	753 M (STR-Stop Signal)	--	--
4.	Line No.4	UP loop	761 M (STR- Stop Signal)	DS	ORL

- **DIRECTION OF MOVEMENTS: -**
  Trains arriving from BLSN end are UP trains.
  Trains arriving from ARN end are DN Trains.

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

Sl. No	Description	CSL	Takes off line No.	Exit	Operation
1.	Shunting Neck	121.5 M (SH to SB)	Line No – 1	One Way	Operated from Panel/VDU.
2.	Engg/T. M. siding.	282 M (SH to SB)	Shunting neck	One Way	Operated from Panel/VDU.
3.	T. W. siding.	132.5M (SH to SB)	Shunting neck	One Way	Operated from Panel/VDU.

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

2.6. i) **Level Crossings** :- (*Station Section*): -

Sl.No	Location Between	Km.& No.	Normal position	Class	Type	Operation	Communication
1.	MSMD-BLSN	52/8-9 RV-34	Open to road traffic	'Spl'	Interlocked	Electrically Operated Lifting Barrier	Telephone connection with SM Office /MSMD
2.	MSMD-ARN	53/14 RV-35	Open to road traffic	'Spl'	Interlocked	Electrically Operated Lifting Barrier	Telephone connection with SM Office/MSMD.

Train Actuated Warning Device has not provided at above Level Crossing Gates.
(Working of the Level crossing gates given in detail in Appendix - 'A')

ii) **Level Crossings**: - *(In Block Section*)

Sl.No	Location Between	Km.& No.	Normal position	Class	Type	Operation	Communication
1.	MSMD – ARN	59/9-10 RV -38	Closed to road traffic	'B2'	Non - Interlocked	Winch Operated Lifting Barrier	Telephone connection with SM Office /ARN
2.	MSMD-BLSN	46/3-4 RV-31	Closed to road traffic	'C'	Non - Interlocked	Winch Operated Lifting Barrier	Telephone connection with SM Office/BLSN .

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3.0 **SYSTEM AND MEANS OF WORKING**:

(Rule No. Chapter XIV of GR & SR, Chapters III & VI of BWM)

Trains are worked under Absolute block system in accordance with GR 7.01(1) (a), 8.01(1) (a) &(c), 8.01(2) (b), 8.03(2) (a), (b), (c) (ii), 14.01 to 14.07, 14.08(b) (iv), 14.09 to 14.13 and BWM chapter-V

i) **System of working**: -Absolute block System of working on double line.

ii) **Type of block instruments**:-SGE type Double Line lock & Block Instrument with adjacent station and the 'OFF' aspect of the last stop signal is the authority for the Loco Pilots of all trains to enter into the block section vide GR 14.08(b) (iv).

iii) **Instruments**: - Non Co-operative type.

iv) **Block Telephone:-** Connected with adjacent stations, BLSN & ARN.

v) **Staff responsible for their operation**:- SM on duty.

vi) **Custodian of keys**: - 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.

4.0 **SYSTEM OF SIGNALLING AND INTERLOCKING:**

a) **STANDARD OF INTERLOCKING AND TYPE OF SIGNALLING:** This Station is provided with Standard-II (R) Electronic Interlocking with Multiple Aspect Colour Light Signals. The Home Signals and Advance Starter Signal are interlocked with the respective Block Instruments.

b) **Type of signals**:

Multiple Aspect Colour Light Signals. The aspects & indications of the MACLS is governed by GR.3.08(4)(b).

Minimum equipment of signal– Distant, Home, Starter and Advanced starter in either direction.

c) The Station is provided with **Central Electronic Interlocking (EI)** and having no end cabins. All signals and points are electrically operated from the central Panel / VDU provided at SM's Office.

d) **Method of operation**:

Central Panel and VDU is provided in the Station Master's office to electrically control all signals and points.

e) **Provision of axle counter and Track circuits**:

(I) **AXLE COUNTER: -**

Block sections MSMD-BLSN & MSMD-ARN are monitored by axle counter system, digital axle counters have been provided at both ends of the station. A pair of digital axle counter is provided between MSMD & BLSN i.e. beyond advanced starter of MSMD & 180m beyond Home signal of BLSN on DN Line, another pair of digital axle counter is provided for UP line of MSMD-BLSN (beyond Advanced starter signal of BLSN & beyond 180m from Home signal on UP Line), 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 digital axle counter is provided between MSMD & ARN i.e. beyond Advanced starter signal of MSMD & 180m beyond Home signal of ARN on UP Line, another pair of digital axle counter is provided for DN line of MSMD-ARN beyond Advanced starter of ARN &180m beyond Home signal of MSMD on DN Line 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.

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

A reset box consisting of a counter and one resetting key with a push switch and three indications i.e. 'RED', 'GREEN', 'YELLOW' and GREEN miniature with locking arrangement for each pair of axle counter is kept at the station masters office. 'RED' and 'GREEN' indicates occupation and clearance of Block section respectively, 'YELLOW' indication glows when power is ON and GREEN miniature glows when resetting operation is initiated and after passage of a train the Axle counter will clear. The resetting key of this panel is kept locked and sealed in a separate box. The key of the box is kept under the custody of SM on duty.

Whenever a train enters into the block section, block section clear indication 'GREEN' disappears and occupied indication 'RED' appears. If after the complete arrival of the train, 'RED' indication does not change to 'GREEN', it should be assumed as block instrument failure and necessary action as per GR 14.13 to be followed. The axle counter is interlocked with Block instruments of concerned block section.

(II) **TRACK CIRCUITS-**

The station yard is fully track circuited from Home signal to Home signal and also for 5 rail lengths in rear of the Home signals on either side. Track circuits 1AT and 2AT are calling- on track circuits. Track circuits viz. 33AT, 33BT, 34AT, 34BT, 35AT, 36AT, 36BT, 35/37BT, 37/39T, 41T, 42AT, 42BT are Point zone track circuits. L1T1, L2T1, L3T1, L4T1, L1T2, L2T2, L3T2, L4T2, L1T3, L2T3, L3T3.L4T3 are berthing track circuits. Other track circuits namely 1T1, 1T2, 2T1, 2T2, 2T3, 27AT & 28AT are for signal replacement and route holding. Track circuits 27T and 28T are Advanced Starter track circuits. Indications for all track circuits are indicated on the panel. Normally these track circuit portions 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.

(f) **Calling-on signals**:

Calling-on signals are provided below Home signals (i.e. in both Up & Down directions) as per GR.3.13 (1) (b), (2) (3) (4) & (6) (b).

g) **IBS Signal-** NIL

h) **Control Panel:-**

The control Panel is provided with SM's key which shall always remain in the custody of the Station Master on duty for control of points, signals and crank handles control etc in terms of SR 3.36.03(a).

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i) A two position switch is provided on the control panel through which SM on duty can select the mode of operation (i.e. from Panel or VDU). The position of all points, signals and running lines are available in the Panel/VDU. Reminder Block collars are provided for use on push button which shall be placed on the point button and /or route button to prevent operation of the button in case of concerned line is blocked. The VDU is provided with SM's key user name and password which shall always remain with the personal memory of the SM on duty.

j) **CRANK HANDLE**

When any point fails to operate normally by the Route Setting operation through Panel/VDU it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles are interlocked with signals and interlocking system. When points become defective, the signals controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle for motor operated points shall be followed as per operating manual para-2.19. CH1 controls 33A/B, CH2 controls 41A/B & 42A/B, CH3 controls 35A/B & 36A/B, CH4 controls 34A/B, CH5 controls 37A/B and CH6 controls 39, 43A/B & 45.

(The details of standby operation from VDU is given under Appendix-'B')

Crank handle operation is interlocked with the signaling and interlocked system at this station. Key of crank handles normally locked inside the RKT instrument at the respective Crank Handles Location. Crank handles key can be taken out only when all signals leading over the points are in the Normal position and the route is locked for whatever reason. Crank Handle can be released by operating common 'TRANS' push button and concerned Crank Handle Control push button simultaneously. When this key is taken out, no signal to the concerned point can be taken 'OFF' in the yard. This key can be electrically transmitted to both ends of the yard for manual operation of the defective points.

The failure of motor operated points must be ensured by physical checking that there is no obstruction. SM on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency Crank Handle register shall be maintained by the SM on duty at the station as per Para 2.19 of the Operating Manual. Correct setting, clamping and padlocking of the point develop on the SM on duty. (Refer use of Crank Handle as per Appendix – 'B"). The cases of failure of motor point it should be promptly reported to the concerned signal maintainer/signal inspector for rectification.

4.1.1 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 and Yellow light when taken "OFF".

A calling-on signal, will be taken 'OFF' for reception of a train when the Home signal above it cannot be taken 'OFF' due to failure of track circuit or for admission on blocked line or for shunting purpose. (Calling ON cannot be taken off when both 1st and 2nd track circuit in advance of Home signal are shown red simultaneously). Before taking 'OFF' Calling on signal during failure of track circuit the route and clearance of the track over which the train will be admitted must be checked physically by SM on duty.

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/VDU. The particular route on which train

is intended to be received shall be set by operating the point push button and group button individually or by signal and route buttons pressing or by crank handling in the event of failure of operation of points through panel/VDU. After the route is set, the Calling-on signal button 'C-1(A/B), C-2(A/B/C) (Red with White dot) shall be pressed (as the case may be) simultaneously along with the concerned route button for 2 to 3 seconds and then released. After a lapse of 60 seconds, the Calling-on signal clears i.e. a Yellow light glows at the concerned Calling-on signal on the panel. Each such operation shall be recorded by the SM on duty along with the reasons to do so. The calling-on signal route can be released after complete arrival of the train or by emergency cancellation.

NOTE: SM on duty is to ensure that no train can do run through movement while it is being received on Calling-on signal.

4.1.2 **SHUNT SIGNALS:**

Independent Back shunt signals SH-3 (A/B) SH-4 (A/B/C/D) have been provided for back shunting purpose. Shunt signal SH-5A/B/C has been provided in Shunting Neck for shunting to line No-1. Engg/T.M. Siding and T.W. Siding respectively. Shunt signal SH-10 has been provided in T.W. siding and SH-12 has been provided in Engg/T.M. Siding for shunting to Shunting Neck. Shunt signal below starter signal No. 14 has been provided for shunt movement to Shunting Neck and Shunt signal SH-19 below stop signal No 19 has been provided for shunt movement towards UP Advanced starter.

4.1.3 POINT AND TRAP INDICATOR:- : - NIL
4.1.4 REPEATING SIGNAL (BANNER TYPE):- NIL
4.1.5 EMERGENCY CROSS OVER :- NIL
4.1.6 L.C. GATE OPERATION :- (Given in Appendix A)
4.1.7 ANTI COLLISION DEVICE : - NIL
4.1.8 TRAIN PROTECTION & WARNING SYSTEM:- NIL

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

Emergency point operation facility is provided to operate the point from the panel/VDU in case of failure of point controlling track circuit. If such operation is necessary, the SM on duty, after ensuring that no vehicle is standing on the concerned point track circuit and SM's emergency point key is 'IN', shall press emergency point operation button by breaking the seal along with relevant point button simultaneously. Then retaining point button pressed, emergency point operation button to be released and the point group button normal / reverse button is to be pressed for operating the point to 'NORMAL' or 'REVERSE'. All such operations will be registered in the emergency point operation counter. Each operation of emergency point operation shall be recorded in the station diary and in the register meant for this purpose. S&T staff should be advised immediately to get the emergency point operation button resealed after rectification of fault, if any.

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

The panel interlocking is based on the principle of 'DEAD APPROACH LOCKING'. As such when a route is set and signal is taken 'OFF' on the route, the route gets locked. Normally the route is released by the passage of the train over the route. When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), the concerned signal must be put back to danger by simultaneously pressing the signal cancellation button and the concerned signal button. After this the emergency route release button (white with red dot) positioned in the top of panel to be pressed first

by breaking the seal and subsequently the concerned signal button is to be pressed releasing the emergency route release button. After 120 seconds, the white strip of light will disappear suggesting the route has been released.

In case the route illumination (white strip lights) does not disappear, it suggests that the route is not released/cancelled. In such case the concerned S&T staff should be advised immediately to get the emergency route release button resealed after rectification of fault, if any.

Each operation of emergency cancellation of route is recorded in the emergency route release counter by registering the next higher number. All such operations and the new number should be recorded in the station diary and in the train signal register.

4.1.11 **SEALING OF EMERGENCY OPERATION BUTTONS/KEYS**:-

All 'emergency operation buttons' on the Station Master's control panel shall be kept sealed in normal condition by S&T staff. Whenever any emergency operation is initiated, SM on duty shall break open the seal of the concerned button to make the button operative. Immediately after completion of emergency operation, SM on duty shall inform concerned S&T staff for resealing of the concerned button.

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

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

As per JPO/02/2012 of 29.08.2012, the following procedure shall be adopted for opening of Relay Room:-

The Relay room of station shall have double locking system of operating and S&T Locks. One Godrej Lock shall be provided on the door of Relay Room by the Station Master. This lock is named as operating lock. The key shall be kept in the safe custody in the key- box with the SM on duty. Likewise, one Godrej lock shall be provided on the door of Relay Room by the Signal Maintainer/ Signal Supervisor of the Station /Section.

Names of the S&T staff authorized for opening of Relay Room is to be entered in the first page of Relay Room Key Register and jointly certified by SSE /Signal In-Charge and TI In- Charge of the Section. In emergency, if any S&T staff other than authorized wants to open Relay room, he must inform DSTE through Signal Fault Control. Signal Fault Control shall convey the permission of DSTE to SS/SM by giving Signal Fault Control order number.

Whenever relay room is to be opened either for scheduled maintenance or during failures or for other maintenance activities/construction works. The concerned Maintainer/Signal Supervisor will inform SM on duty for opening of Relay Room with reason. SM on duty will verify his identity from the list of authorized S&T Staff recorded in the first page of Relay Room Key register or as advised by Signal Fault Control in emergency. SM shall give the key of operating lock to S&T staff, after the entry is made in the Relay Room and also with Red Ink in TSR. Relay Room key shall not be handed over by SM on duty to any Group D staff of S&T department. On completion of work, the concerned Signal Maintainer/ Signal Supervisor shall properly close Relay Room door and lock it with both the locks and then return the key of operating lock to the SM on duty making the entry in the relay room register.

When the key of Operating Lock is returned by S&T staff to SM on duty, he shall first verify the Relay Room for proper locking and then keep the key in safe custody and

acknowledge it on the Relay-Room key register. 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 out.

For attending Failures of S&T gears within relay Rooms**,** the following steps shall be taken:

Entry to be made in S&T failure register by SM on duty and failure Memo has to be issued to S& T staff. S&T staff shall not take the Relay Room Key for attending failures and open the Relay Room unless the failure is recorded in Signal failure register. If disconnection is required, Disconnection Memo has to be given by S&T staff to SM on duty. Failure Memo should be acknowledged and entry in relay room key register to be made by S&T staff before obtaining Station Master's key. Relay Room key for Schedule maintenance shall be taken once in a calendar Month during monthly inspection by Sectional Supervisor. Relay room can be opened by following above procedure for special maintenance activities like cable insulation testing, block/ disconnection memos, selection/ locking table testing, maintenance work inside relay room by Electrical and Engineering staff, during failures, data logger resetting and inspection by Divisional and Headquarter officials, Track Circuit adjustments & voltage monitoring during monsoon and whenever required during rains. Works required by S&T Construction & open line staff for preparatory works and during commissioning. In each such case, the Construction Staff Shall follow the detailed guidelines issued regarding working on signalling gears under the charge of open line.

In case of emergencies such as fire, flood, earthquake etc., Open Line Section Engineer (Signal) / Signal Maintainer & SS/SM shall jointly decide the need for opening the Relay Room. Section Engineer Signal HQ at Divisional Control Office and Section controller shall be advised respectively. In case of communication failure during such emergencies, Open Line Signal Maintainers/ Supervisors and SS/SM on duty shall jointly decide the need for opening the Relay Room and communicate later on to respective controls. In case key is lost /misplaced, it shall be reported to S&T control as well as section control for either lock. In normal course the spare key with respective custodians shall be used. In emergency situation, lock may be broken under advice to Section Control as well as S&T control. New lock shall be procured and provided.

In case SM on duty comes to know of relay Room opening by unauthorized means or by unauthorized person or by any Group-D' Staff, the signalling system shall be suspended by him and matter immediately reported to Section Controller for necessary action. Senior section Engineer/ Signal & TI of the respective section will check the station records of relay room opening during their inspections and cross check it with data logger/counter reading if provided. Discrepancy, if any, shall be immediately inquired into and advised to Sr. DSTE & Sr. DOM by numbered control message from the station immediately for further action.

4.3 **POWER SUPPLY**:-

(i) Normal: - UP AT/DN AT connected to OHE Traction distribution (230V, 50 Hz)

(ii) Stand by: - Stand by Supply from CSEB – Single Phase (230V, 50Hz).

(iii) Normal Power Supply (Single Phase 230V, 50Hz) to the Signaling & Interlocking installation at the station is drawn from the traction power sources. Whenever traction power supply fails SS/SM on duty shall operate the rotary change over switch provided in the CLS power panel at SM's office connecting the power supply from the State Electricity Power Supply.

The SS/SM on duty however maintain the record of power failures either of the traction supply or local supply and he must promptly report the failure of any one or both the power sources immediately through the section controller and to the concerned Electrical Staff and S&T maintenance Staff.

(a) A change over switch is provided in the SM's office with the three power supplies viz. UP AT, DN AT and local power supply for changing the switch to the required supply position. The availability of supply is indicated by luminous indicator above the circuit breaker for each supply.

(b) Normally the switch will be kept towards UP AT or DN AT position. Whenever the power block is to be given on the line, on duty SS/SM must ascertain the power is available on the other AT and change over the switch to desired position e.g. if power block is to be given on the UP line, DN AT must be available and vice versa.

(c) In case of failure of one of the AT supply without any power block, on duty SS/SM has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is UP and when tripped, it goes DN). In case of failure of both AT supplies without any power block, the local supplies shall be utilised by operating the change over switch. If the circuit breaker is tripping, even after resetting, no attempts shall be made to hold it by any other means and a message shall be given to the AEE/GEN and CTFO/PSI/TRD/GEN for prompt rectification.

(d) Whenever there is a failure of power supply in one AT, the on duty SS/SM shall take prompt action to inform to all concerned for the rectification. The SM himself, during his daily checks, shall test the availability of power supply on both AT's and make an entry in station diary daily duly initiating action for rectification of failure, if any

(e) For IPS system that provides to EI, auto–change–over has been provided

(f) There is a remote monitoring SM box provided at the station to monitor the health of IPS.

REMOTE MONITORING SM BOX:

Remote monitoring SM Box gives alarm to the SM forthe following fault conditions:-

(a) 50% depth of discharge (DOD) of battery. In this condition audio/visual alarm comes, which can be acknowledged with audio cut–off.

(b) 60% DOD, which warns for emergency. The alarm for this condition is same as for condition 1.

(c) 70% DOD, which signals system, shut–down. In this condition signal feed is cut–off and all DC–DC converters continue working. Audio alarm continues till power supply is restored.

(d) Any of the module fails, which calls for 'call S&T'.

(e) Whenever there is a failure of Local power supply the SM shall take prompt action to inform to all concerned for the rectification. The SM himself, during his daily checks, shall test the availability of Local power supply and make an entry in the Station Diary duly initiating action for rectification of failure, if any.

NOTE:- For further Detail Appendix–B should be referred.

5.0. TELECOMMUNICATION FACILITIES: -

a) Telephone attached with Double line Lock & Block Instruments for either side Block Section.
b) Station to Station fixed telephone (hot line) is provided
c) Station is provided with Auto telephone connected with Railway Exchange
d) BSNL telephone has been provided.
e) The station is connected to TIG-Raipur control circuit by a control telephone.
f) Station to station 25watt VHF communication is provided.
g) Telephone is provided between Station and both end crank handle locations.
h) Magneto telephone connection is provided between station & LC gates at Km. 52/8-9 in MSMD-BLSN section and KM.53/14 in MSMD-ARN section.
i) Telephone connection is provided between Station and TPC.

NOTE:
For obtaining line clear, VHF should be used as a last alternative and not as a sole means of communication.

a) VHF and Walkie Talkie sets should not be used for unnecessary discussions with Loco Pilots, Guards or any other staff.
The on duty SM shall use the above electrical communication instruments stated in Para-5.0 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.)

5.1 **FAILURE OF COMMUNICATION: -**
In the event of failure of communications between the adjacent block stations SR 6.02.06 shall be observed, for working the train.

In the event of total failure of communications between the adjacent block stations SR 6.02.03 shall be observed, for working the trains.

6.0 **SYSTEM OF TRAIN WORKING:**
The movement of trains is controlled by Section Controller on duty whose orders shall be complied with, provided they do not contravene any General Rules, Subsidiary Rules, Station Working Rules, Block Working Manual and other safe working instructions issued from time to time. In the event of suspension of control working, the Station Master on duty shall work independently in conjunction with the Station Master of adjoining block station and shall be responsible to ensure that there is no undue delay to train operation in general.

6.1 **DUTIES OF TRAIN WORKING STAFF**
Details of duties of operating staff are mentioned in Appendix 'D' of the SWR

6.1.1 **TRAIN WORKING STAFF: -**
The following are the complement of train working and operating staff provided at this station to work in each shift.

SL NO.	Designation	Roster	No. of staff in each shift	Hrs. of Duty
1.	SS (In-charge) SM	Continuous	----- 01	09 hrs. 08 hrs.
2	PM-A/PM-B	Continuous	01	08 hrs.
3.	GK/Sr. GK(RV-34)	Continuous	01	08 hrs.
4.	GK/Sr. GK(RV-35)	Continuous	01	08 hrs.

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's office.

b) **RESPONSIBILITY OF ASCERTAINING CLEARANCE OF THE LINES:**
The SM on duty is responsible to ascertain the clearance of the nominated line between outer most facing points of concerned line as per SR. 3.40.02(b) 3rd Para. & GR 14.10

(S.Mishra)
DSTE/SBP

(K.Saandeep)
Sr.DOM(M)/SBP

c) **ASSURANCE OF STAFF IN ASSURANCE REGISTER:-**

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

No Railway servant shall be entrusted with any duty involving safety of the public unless the station in-charge is satisfied that the concerned staff is competent for the post. No Railway servant unless duly examined and certified shall be allowed to work the points

and signals. The SS is responsible to see that all the staff are conversant with the Station Working Rules and their signature obtained in the Assurance register after he is satisfied that they have thoroughly understood the working rules of the station. In case of Group 'D' staff, their signature/thumb impression must be obtained after explaining them fully about their duties and responsibilities.

The Station Superintendant 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.

(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.

6.2 (A) **CONDITIONS FOR GRANTING LINE CLEAR: -**

The conditions laid down in GR 8.01 (1) (a),(b), 8.01 (2) (b), 8.03 (1) (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 SM. The line shall not be considered clear and 'Line Clear shall not be given unless:

(i) The whole of the last preceeding train has arrived completed inside the outermost facing point/BSLB.

(ii) All necessary signals are put back to 'ON' behind the said train.

(iii) The line is clear up to the BSLB on DN line for DN trains and Outermost point No – 33A on UP line for UP trains.

NOTE:

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

(B) **OUTLYING SIDING: -** NIL.

ANY SPECIAL CONDITIONS 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 otherwise authorized by special instructions. When a running line is blocked by a stable load, wagon, vehicle or by a train which is to cross or give precedence to another train or immediately after

arrival of a train at the station, the points in rear 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 SR 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:** -

Whenever trains are to be admitted on an obstructed line the Calling-on signal may be taken off. If calling-on signal failed then the SM on duty shall authorize the Loco Pilot 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 ad trailing end of the concerned point vide SR 3.69.03. A stop hand signal shall be exhibited by the SM on duty at a distance of not less 45mts. From the point of obstruction to indicate to the Loco pilot as to whose the train shall be brought to a stand (GR 5.09 & SR 5.09.01).

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

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

6.2.1.4 **DESPATCH OF TRAINS FROM NON-SIGNALED LINE**

In case of dispatch of a train from non-signaled line the SM's shall follow GR 5.11 and SR thereto.

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

Not Applicable.

6.2.1.6 **SPECIAL RESTRICTIONS** -

i) While shunting on gradient towards UP advance starter No.27 and DN advance starter No.28, and engine to be attached towards the falling side of gradient.

(ii) GR 5.20 is to be strictly to be followed.

6.2.1.7 **SPECIAL INSTRUCTIONS-**

(i) After any non-signal movement has taken place over point, SS/SM on duty shall operate the point to normal and reverse position for ensuring the correct setting and indication on the panel. Then after further signal movement may be permitted over the point.

(ii) In case of failure of Digital Axle counter provided for monitoring Block section at both ends, the resetting should only be initiated for normalizing the Block Instrument after ensuring complete arrival of the train by physical verification of Last Vehicle by SM on duty.

a) **CONDITIONS FOR TAKING 'OFF' APPROACH SIGNALS: -**

Reception of trains is governed by General Rules 3.36, 3.38, 3.40, and SRs 3.40(1),(a), (2)(a) and Subsidiary Rule 3.40.01and 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.

The SM on duty shall nominate a clear line not only up to the starter but also for an adequate distance beyond it for reception of trains. [Refer GR 3.36, 3.38, 3.40, 3.47, 4.17 and SR 3.36.01, 3.36.02, 3.36.04, 3.40.01, 3.40.02, 4.17.02 and Block Working Manual].

b) **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: -(GR 3.47)

LINE NO.	CLEARANCE OF ADEQUATE DISTANCE			
	UP TRAINS		DN TRAINS	
	FROM	TO	FROM	TO
Line No.1 (Common loop Line)	Foot of the UP starter signal No. 21	End of Over Run Line	Foot of the Starter Signal No. 14	End of Over Run Line or DN Advanced starter signal No. 28.
Line No. 2 (DN Main Line)	----	---	Foot of the DN starter signal No. 16	DN Advanced starter signal No. 28.
Line No. 3 (UP Main Line)	Foot of the UP starter signal No. 17.	UP Advanced starter signal No. 27.	---	---
Line No. 4 (UP Loop Line)	Foot of the UP starter signal No. 15	End of ORL or UP Advanced starter signal No. 27.	---	---

Before admitting a train on any line, it must be ensured that the track indication for the respective line indicates clear indication in the illuminated panel diagram. To receive a train, for which line clear is granted, the SM on duty shall nominate a clear line in consultation with the Section Controller on duty. He shall personally satisfy himself that the nominated line is clear and free from all obstructions by seeing the track circuit indication on 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/VDU 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 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 any one track circuit in advance of home signal (Home signal replacement track circuit) 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 of track circuits (Calling ON cannot be taken off when both 1st and 2nd track circuit in advance of Home signal are showing red simultaneously) 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 60 sec, the calling-on signal clears and a yellow light indication appears on the panel for the concerned calling-on signal. SM on duty is to ensure that no train can do run through movement while it is being receiving on Calling-on signal.

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, a time delay of 2 minutes shall be observed before the points can be altered.

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

(a)	While receiving a DN train on line No. 1 (Common loop) set to overrun line	(a)	Despatch of a DN train from Line No. 2 OR Reception and dispatch of an UP train on line No. 3 or 4.
b)	While receiving a DN train on line No. 2 (DN Main line).	(b)	Reception and dispatch of an UP train on line No. 3 or 4.
(c)	While receiving a UP train on line No. 1 (Common loop) set to overrun line.	(c)	Despatch of a UP train from the line No. 3 or 4.
(d)	While receiving an UP train on line No. 3 (UP Main).	(d)	Reception & Despatch of a DN train from line No. 1 or 2
(e)	While receiving an UP train on line No. 4 (UP Loop line) set to overrun line.	(e)	Reception and dispatch of a DN train on line No. 1 or 2. OR despatch a UP train from Line No.3

Rules laid down in GR3.47 and GR 3.47.01(b), (c), (d) shall be followed.

6.5 **COMPLETE ARRIVAL OF TRAIN: -**
(Rule no. GR 4.16 & SR 16.01, 4.160.2.4.16.03, 4.16.04, 4.16.05 GR4.17& SR 4.17.01, SR 4.17.02, 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.
c) The entire block section between MSMD-BLSN and MSMD-ARN on both Up and Down Lines are monitored by axle counter system and the position of the block section whether 'Occupied' or 'Clear' is indicated on Panel/VDU at SM's office. As soon as train enters in to that block section the RED indication appears on Panel/VDU. After whole train clears the block section GREEN indication appears on the Panel/VDU. This confirms the complete arrival of train and the SM on duty shall give 'Train out of Block Section' report on seeing the section clear indication GREEN on the Panel/VDU.
d) If a train passes through the station without confirming the last vehicle indicator, the Station Master on duty shall advise the station in advance to stop the train for last vehicle verification and he need not to withhold closing of block section in rear. He shall obtain confirmation under exchange of private number about the complete arrival of the

train with its last vehicle from the station in advance and subsequent trains may be dispatched.

e) In case of failure of Axle counter the SM on duty shall obtain Complete Arrival Certificate from the guard of the train in the Complete Arrival Register (T/1410) maintained at the station for stopping train. For through passing train the SM on duty shall satisfy himself the complete arrival of the train by verification of the Last Vehicle Indicator vide SR 4.16.05 that the train arrived complete.

f) In case a train passes incomplete, action shall be taken as per SR.4.17.02, the "Train out of Block Section" report shall be withheld to the station in rear until complete arrival Certificate is received from the station in advance supported by a private number. Train passing on adjacent line shall be stopped and Guard and Loco Pilot shall be issued with caution Order to proceed cautiously and stop short of any obstruction as per SR. 4.17.03.

6.5.1 **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 SR 15.25.03 (b) (vi).

6.6 **DESPATCH OF TRAINS: -**

Despatch of trains are governed by General Rules 3.36, 3.38, 3.39, 3.75 3.42,5.11& 8.01, Subsidiary Rules 3.36.04(b), 3.42.04, 3.42.05 and Block Working Manual 2.07(5)(a)(b) and other provisions of General Rules, Subsidiary Rules, Block Working Manual and Station Working Rules of the station.

To despatch a train, the SM on duty, having obtained line clear for that train, shall set the route for the outgoing train correctly and satisfy himself by observing the visual indication on the panel board/VDU. He shall suspend shunting on the non-isolated line, ensure closure of L.C. Gates in the section and then shall take off the concerned route starter and Advanced starter signal by operating concerned push button. After observing the 'OFF' aspect of the route starter and advanced starter signals the 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 signal complete, he shall send the train entering block section signal to the station in advance.

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

Note-

a) Station Master/MSMD shall not permit any train to enter the block section MSMD-BLSN, unless he is assured of the closure and locking of the gate by the gateman of L C gate at KM 46/3-4 RV 31.

b) Station Master/MSMD shall not permit any train to enter the block section MSMD-ARN, unless he is assured of the closure and locking of the gate by the gateman of L C gate at KM 59/9-10 RV 38.

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. If in an emergency a signal has to be put back to "ON" position before the movement of the train for which it was taken off, no points or lock shall be moved until the train has come to a stand except to prevent an accident. 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, the relevant starter & advanced starter signal may be replaced to on position. Then the Loco pilot of the train for which the signal has been taken off shall be advised by on duty SM through any of the following secured means of communication to the effect that his signal has been replaced to ON and should not start.

a) GSM-R based mobile Train radio communication system.
b) TETRA based mobile communication system.
c) Trunking radio (MPT-1327)and CTSS VHF system.

Whenever any of the above secured means of communication is not available and in case of diesel long hood leading loco, the loco pilot shall be advised through a written memo that his signal has been replaced to ON and should not start.

Till the Loco pilot has been advised through a secured means of communication or through a written memo and his acknowledgement received the route set should be altered except to avert an accident.

6.7 **TRAINS RUNNING THROUGH**: -

The procedure detailed in Para 6.3, 6.6 above and General Rules 4.17, 4.42 and Subsidiary Rules 3.36.04(b)(i) 3.42.02(a)(iv), shall be observed.

The SM on duty is responsible to observe/watch the condition of the vehicles on a train and shall wave green hand signal horizontally as per Subsidiary Rule 4.42.02 until anything wrong is noticed on train. For this purpose the SM on duty shall stand in such a position that he sees a clear view of the passing train and that the Loco Pilot and Guard of the train can clearly see his hand signals. 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 any unsafe condition/abnormalities of the train. He shall also report to the 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: -**

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.

a) **PROCEDURE TO BE FOLLOWED INCASE OF FAILURE OF A SIGNAL & INTERLOCKING:**

Whenever there is a failure of points, signals, track circuits or any other interlocking gear at the station that includes level crossing gate (s). if any etc. the SM on duty shall follow

the procedure detailed in GR 3.68, 3.72, 3.74 and SR thereto. In case of defective approach signals, the trains will be piloted in vide SR 3.69.02, 3.69.03 & 3.69.05. In case of defective departure signals, trains will be piloted out vide GR 3.70 & SR 3.70.01. & 3.70.02.

6.8.2 **TRACK CIRCUIT:**

In the event of failure of track circuit 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 of concerned block section SM on duty shall initiate resetting of axle counter after ensuring the complete arrival of the train by SM of other end Station. After resetting the first train will be piloted 'OUT' to the concerned Block section for normalising the system of working. In case failure of Axle counter Block instrument of concerned block section shall be suspended. Details of operations involved in resetting of axle counter are given in Appendix-'B'.

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 to 3.46, 3.52 to 3.56, 3.71, 3.80 and SR 3.68.01 (c)].

In case of disconnection of signal and interlocking for repairs and maintenance, procedure laid down in GR and relevant SRs shall be followed.

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

b) **BLOCK INSTRUMENT:**

In the event of partial interruption/ failure of block instrument the concerned block instrument shall be suspended till its rectification and trains shall work as per GR. [Refer GR 6.02.03, and SR 6.02.06]. UP and DN Advanced Starter signals are electrically interlocked with block instrument 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 the concerned advanced Starter must also be treated as suspended.

During the failure of Block Instrument the authority will be T/369(3b) with identification number & Private Number issued from the station in advance written both in figure and words.

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 instrument.

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

6.8.7 **DEFFECTIVE/DAMAGED POINTS:**
When any point fails to operate normally by the route setting operation through panel it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handle keys are interlocked with signals and interlocking system. When points become defective, the signals controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle for motor operated points shall be followed as per operating manual para- 2.19.

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.

6.8.9 **INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE**:
However, before declaring a signal is defective, the setting of the point on the route to which it applies shall be inspected by the Station Superintendent/Station Master irrespective of the position of the switches 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.

c) **WORKING OF MOTOR TROLLEY, MATERIAL LORRIESETC:**

a) Motor trolleys are to run in accordance with rules laid down in SRs15.25.03 to 15.25.07. Material Lorries will work in accordance with SR. [Rules laid down in BWM. Refer SR 15.25.03 to 15.25.07, 5.11(2), 5.12, 5.13 of BWM]

b) i)Trolleys, Motor Trolleys, Lorries which are not insulated shall not be allowed to run except on Line clear.

ii) Motor Trolleys/Tower Wagon/material Lorries are not likely to actuate the Axle Counter correctly.

iii) In all other respects the Working of a light motor trolley shall confirm 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.

Note: Trolleys which are to be run on track circuit area shall be insulated as per SR 15.20.02.

d) **BLOCKING OF LINES: -**

Whenever a running line is blocked either by loose vehicles or by a stabling train or by a train which is to cross or give precedence to another train, the points in rear 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. 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 **USE OF REMINDER COLLARS**:-

Whenever a running line is blocked either by loose vehicles or by stabled train or by a train which is to cross or give precedence to another train even for a short while or during shunting operation, 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 SM on duty.

7.2 **SECURING OF VEHICLES: -**

As far as practicable loose vehicles shall not be allowed to stand on the running lines. However, under unavoidable circumstances, if it is necessary to detach vehicles from a train or to stable a train and leave them standing on running line, 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.

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

7.3 **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 in rear 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 happen to be blocked when line clear has been granted to a train, the points in rear should be set for the line occupied by a stable load or a goods train in that order so that in case of a 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 where a passenger coach will, in case of collision, receive the impact.

7.4 **LOADING AND UNLOADING FROM 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 thereof, 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 5.19.001: (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: -**

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, 8.14, 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. In the event of any non – signalled movement, the SM on duty shall ensure physical verification of the clearance of the crossover points.

The SM on duty and the official supervising shunting shall co-operate with each other regarding shunting operations. Neither reception signals nor departure signals shall be taken 'OFF' unless the shunting is isolated and the path of incoming/outgoing train is free from obstructions. The staff supervising shunting shall ensure correct setting of points, clamping and padlocking of points if necessary.

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

Shunting in the face of an approach train is strictly prohibited.

8.2 **PROHIBITION OF SHUNTING ANY SPECIAL FEATURES IF ANY**:

(i) Hand shunting is prohibited at both ends of the yard vide GR 5.20.
(ii) Fly shunting is prohibited at both ends of the yard vide SR 5.21.01 (c).
(iii) Due to existence of gradient steeper than 1 in 400 beyond 50m of outer most points in the station yard, no shunting beyond outer most points on the steep gradient side should be allowed unless a locomotive is attached at the lower end of the load.

8.3 SHUNTING ON SINGLE LINE:

Not applicable.

8.4 **SHUNTING ON DOUBLE LINE :**

(i) When the line clear has been given no shunting shall be permitted in the block section in rear Vide GR 8.06 (1).
(ii) Shunting or obstruction for any other purpose shall not be permitted in the block section in rear unless it is clear and is blocked back Vide GR 8.06(2) and BWM 6.15.
(iii) Shunting or obstruction for any other purpose shall not be permitted in the block section in advance unless it is clear and is blocked forward Vide GR 8.06(3) and BWM 6.15.

8.4.1 **SHUNTING OUTSIDE STATION SECTION:-**

(i) Shunting shall not be permitted in block section (i.e., in the block section in rear) unless it is clear and blocked back.
(ii) Shunting shall not be permitted in block section in advance unless it is clear and is block forward.
(iii) When line clear is been given, no shunting shall be permitted in the block section in rear vide GR. 8.05[2] & GR 8.12.

8.4.2 **SHUNTING WITHIN STATION SECTION:**
If the necessary signals are kept at "ON", shunting may be carried on within the station section vide GR 8.05[2].

8.5 **DURING FAILURE OF BLOCK INSTRUMENT: -** the SM on duty shall ensure that there is no train in the block section and the last train has arrived complete clearing the fouling mark while conducting shunting at that end of the block section of which block instrument has been suspended and all precautions have been taken as per rules laid down in GR.

8.5.1 **SHUNTING IN THE SIDING TAKING OFF FROM STATION YARD:-**
The sidings are provided with shunt signals. During failure of shunt signals points are to be clamped and locked T/806 shall be issued as on authority for conducting shunting.

9.0 **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 Double line Block Instrument and during partial failure of other available means of communications, trains will be worked in terms of Subsidiary Rule 6.02.06 and Chapter-VI of Block Working Manual.

[II] **THE AUTHORITY TO PROCEED IN THE OCCUPIED BLOCK SECTION IN CASE OF OBSTRUCTION OF LINE OR ACCIDENT ETC**:-
Rules and Regulations for working of trains on an obstructed line in case of obstruction or accident on the authority of Block Ticket (T/A-602) when communications are available shall be followed in accordance with the provisions vide SR 6.02.05, which is summarized as follows.

After sending a train on block tickets, a following train shall not be dispatched in the same direction unless:

i. The previous Block Ticket is collected and cancelled or
ii. Necessary endorsement is given on the previous block ticket with the advise to wait at the site for a next train to follow or
iii. The previous train has met with an accident or has been disabled or
iv. The Block ticket has been cancelled from the Loco pilot of the previous train by the official –in-charge at the site and kept in the personal custody & shall be kept until the arrival of the next train and such assurance is given over the telephone installed at the site quoting the serial number of the Block Ticket so collected.
v. SM will suspend the Absolute Block System of Working and both SMs concerned should arrange for running of trains on the authority of Block Ticket
vi. SM at the dispatching end will hand over to the driver the block Ticket as the authority which shall include:
vii. (i) Caution Order: Existing Speed Restriction/s shall be indicated in the Caution Order portion. The Speed Restriction to 15 KMPH during clear visibility and 10 KMPH when visibility is obstructed shall be clearly indicated.
(ii) An authority to pass the Stop Signal at "ON" position.
viii. Before resumption of normal working a message between the SMs of the concerned stations shall be exchanged with private number.[Ref SR 6.02.05(d)(vi)]

The Block Ticket so issued must be collected by SM with a certificate about the complete arrival of the train with its time and the section is clear of all obstructions from Loco Pilot/Guard of the train and cancelled.

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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 immediately stop

all trains proceeding in to the block section on adjacent line in either direction and warn the Loco Pilots and Guards of such trains by issue of suitable Caution Orders. [Refer GR 6.04 & SRs thereto]

[IV] **FAILURE/PASSING OF INTERMEDIATE BLOCK STOP SIGNAL AT ON: -** Not applicable

[V] **FAILURE OF L V AXLE COUNTERBLOCK/BPAC:**

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

[VI] **FAILURE OF MTRC:** Not applicable to this station.

[VII] **PROCEDURE FOR EMERGENCY OPERATION OF POINTS BY CRANK HANDLE.-**
The detailed Procedure for emergency operation of points by Crank Handle of motor operated points shall be followed.

Crank handle operation is interlocked with the signalling and interlocking system at this station. Key of crank handles normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals leading over the points 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 control push button simultaneously. When this key is taken out, no signal to the concerned point can be taken 'OFF' in the yard. This key can be electrically transmitted to both ends of the yard.

On account of the doubtful operation of any track circuit by a light vehicle including self propelled vehicle such as Motor trolley or light Diesel/electrical engine or tower wagon, indicating the occupancy of the track. It is necessary that SM on duty satisfies himself that the said vehicle has cleared point zone track circuits by observing the track indications of the track on either side of the cross over by positively checking the entrance and exit track circuits are showing occupancy and clearance in accordance with the train movement.

When any point fails to operate normally by the route setting operation or through the concerned Point button from control panel, it is inevitable to operate the points with crank handle. Crank handle keys are interlocked with signals and interlocking system. The Crank Handle push button No. CH1, CH2, CH3, CH4, CH5 and CH6 (BLUE) and Group Trans/Release button (WHITE WITH BLACK DOT) are provided at the top of the panel board. The CH button has two indications, viz. WHITE, and RED. The WHITE indication suggests that the crank handle key is in its interlocked position of the panel. This is called Crank Handle Key 'IN' indication. The RED indication suggests that the crank handle key is locked and not free for extraction from RKT. This is called 'Crank handle key LOCKED' indication. When there is no light or blank, it suggests that the KEY

is out from RKT. The crank handle key in the end locations can be released from the RKT. The SM has to press concerned crank handle button and Trans button. This will enable SM/TP/TPM to extract crank handle key CH-1/CH-2/CH-3/CH-4/CH-5/CH-6 from RKT at end location. SS/SM/TPM on duty after extracting the crank handle key from RKT at end-location, insert it in the space provided for it in the point machine and turn it to open up the slot for crank handle. After inserting the crank handle in the point machine he shall operate it to set the point to desired position. After completion of point work the crank handle key is to be inserted in the RKT at end location and transmitted to station. Station Master on getting 'Key IN', flashing indication that will appear in the panel, shall press relevant CH button & Group Release button to get the steady key "IN" indication. SM on duty shall personally ensure clamping and padlocking of all facing and trailing points en-route. The cases of failure of Motor operated points should be promptly reported to the concerned ESM/Signal Inspector for immediate rectification. SM on duty as per OM 2.19 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 2.19.

[VIII] **PROCEDURE FOR EMERGENCY OPERATION OF POINTS WITH POINT ZONE TRACK CIRCUITS FAILURE AND EMERGENCY ROUTE RELEASE:**

Emergency point operation facility is provided to operate the point from the panel in case of failure of point controlling track circuit. A push button (Black with Red dot) for emergency point operation is provided on the top of the Panel. If such operation is necessary, the SM on duty, after ensuring that SM's point Key is 'IN' and no vehicle is standing on the concerned point zone shall press the emergency point operation button (by breaking the seal) along with relevant point button simultaneously. Then keeping point button pressed, emergency point button to be released and the point group normal button or point group reverse button is to be pressed for operating the point to 'NORMAL or REVERSE. Every emergency point operation shall be recorded in the station diary & in the register meant for this purpose. Concerned S&T staff should be advised immediately to get the emergency point operation button resealed after rectification of fault if any. Rules regarding locking of points & damaged points vide GR 3.39 & GR 3.77 to be followed.

[IX] **CERTIFICATION OF CLEARANCE OF TRACK BEFORE CALLING – ON SIGNAL OPERATION IN INITIATED:-**

Before taking off Calling–On signal during failure of track circuit/axle counter, the route and the clearance of the track over which train would pass to be verified by SM on duty.

(A) **REPORTING OF FAILURE OF POINTS, TRACK CIRCUITS/AXLE COUNTER & INTERLOCKING:-**

Whenever there is a failure of points, Track circuits/axle counter or any interlocking gear at station, the failure should be reported by SM on duty to the concerned Signalling Maintenance Staff on duty responsible for attending to the failure and only after receipt of the written memo from the Signalling Maintainer for rectification of the fault, SM should restore the normal working.

The entries in failure register to be done with message to the section controller.

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

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

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(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 SM on duty. After satisfying himself 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 SM on duty to the sectional Maintainer, the JE/SE/SSE (SIG) of the Section & others through a memo as per G & SR 3.68.04 & document all such transactions.

9.1 **TOTAL FAILURE OF COMMUNICATION: -**

In the event of total failure of communications between MSMD–BLSN or MSMD–ARN stations i.e. when line clear cannot be obtained by any 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 telephone (hot line)
(d) Fixed telephones such as Railway auto phones & BSNL phones,
(e) Control telephone, and
(f) VHF set.

The trains shall be worked in terms of GR.6.02.03, which is summarized in brief as follows:

(i) Each train before being allowed to enter into the Block Section should be stopped and the Guard and Loco Pilot of the train apprised of the situation.

(ii) The SM will hand over an authority T/C 602 for working of train during total interruption of communication to the Loco Pilot of each train which shall include-
   a) Authority to proceed without 'Line Clear'.
   b) Authority to pass the Last Stop Signal at its "ON" position.
   c) A caution order restricting the speed to 25 KMPH by day when view ahead is clear and 10KMPH by night or when view ahead is not clear.

(iii) No train shall be allowed to enter the Block Section until there is a clear interval of 30minutes between the train about to leave and the train, which has immediately proceeded.

(iv) Fixed signals except the last stop signal may be taken "OFF" for the dispatch of the train and for the reception of the train at the next block station, reception signals may be taken only after the train has been brought to a stand outside it. No train shall be backed. In exceptional circumstances when it may be unavoidable, to back a train, the train shall be backed only after providing protection by placing one detonator at 250 meters and two detonators in 10 meters apart at 500 meters at rear of the point up to which the train shall be backed.

(v) On arrival at the next block station the driver shall hand over the 'Authority to proceed without line clear' to the SM on duty who will preserve the same for further inspection.

(vi) Before resuming normal working when any means of communication is established. SM of either end must satisfy that there is no train in the block section and block section clearance has been obtained from Loco Pilot/guard/PWI. [Refer SR 6.02.03].

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

During temporary single line working when other line is obstructed either between MSMD–BLSN or MSMD–ARN stations, train shall be worked as per the detail procedure in SR 6.02.01, which is summarized as below:

(a) Before introducing single line working the SM on duty must satisfy that the line on which single line working will be introduced is clear and free from all obstructions.

(b) The Lock and Block instrument will be suspended. The Commutators of Lock & Block Instrument will be kept on "Train on line position".

(c) SM proposing single line working must issue a message with
- (i) The cause of introduction of single line working,
- (ii) Line on which the single line will be introduced,
- (iii) Source of information about the clearance of the line on which single line will be introduced,
- (iv) Place of obstruction,
- (v) Restriction of speed, If any,
- (vi) Assurance about keeping the last stop signal at 'ON' position if the train runs on right line and in case of wrong line all signals are to be kept at 'ON' position etc under the exchange of Private Number.

(d) SM on duty at the other end of the block section will acknowledge the message and confirm the same by a Private Number.

(e) After obtaining line clear for the train from the advance station the Loco Pilot must be given as-.

(i) Authority for Temporary Single Line (TSL) working on double line (T-D/602) indicating there in
- Caution order
- The line on which single line working is introduced.
- The chainage kilometer of obstruction.
- Any other speed restriction, if any existing.
- Endorsement to inform all Gang man and Gateman about the single line working (for the first train only).
- The speed of the first train to be restricted to 25 KMPH subject to other speed restriction.
- Authority to pass Signal in "ON" position

(ii) A pilot memo T/369(3b) to pass the last stop signal at its 'ON' position. The approach stop signals at the station in advance may be taken "OFF". In case a train proceeding on wrong line, the train shall be piloted out and at the receiving station, the train shall be piloted 'IN', on the authority of T/369(3b).

On being ensured that the obstructed line is clear and free from all obstructions, the SM will resume normal working after exchanging message with the SM of the other concerned end supported by private number in consultation with the Section Controller on duty when there is no train in the block section.

A goods train or an engine may be allowed on wrong line by blocking back the section without introducing single line working. [Refer SR. 6.02.05(g)(i)]

Whenever total interruption of all communication occurs during single line working on double line, the procedure detailed in GR should be followed. [Refer SR 6.02.02]

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

The Station Master will take action as per SR 6.02.03 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.

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

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

A caution order shall be issued restricting the speed to 15KMPH. in day light hours when the visibility is good and 10KMPH at night or whenever clear view for 800Mtr. is not available. On arrival at the station, the Block ticket shall be collected with necessary endorsement from Loco Pilot/ Guard and be cancelled and pasted to its record foil or shall be sent to the issuing station for cancellation. In case of an 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 an assurance in writing is obtained from SE (P.WAY) concerned or Guard/ Loco Pilot, the SM on duty may resume normal working after exchanging proper messages supported by Private Number.

10.0 **VISIBILITY TEST OBJECT**: -

i) V.T.O. post / Authorised substitutes earmarked to work as V.T.O. Post. – The lights of Line No.1 starter & stop signals on both ends are earmarked to serve as VISIBILITY TEST OBJECTS vide GR 3.61 (2) (b) (ii).

ii) Distance between CSB and V. T. O. post: - 180 Mts.

iii) Station Master on duty will test the visibility during thick and foggy weather and if visibility is impaired, he will work as per GR 3.61 and SRs thereto.

11.0 **ESSENTIAL EQUIPMENTS AT THE STATION**: -

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

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

In order to indicate to the Drivers of approaching trains the location of signal during thick, foggy and tempestuous weather or during dust storm, the SM on duty shall arrange for fog signalling in terms of General Rule 3.61 and Subsidiary Rules thereto. Assurance of the staff shall be taken in the Fog Signal Register in the month of October every year as token of their having knowledge of Fog Signalling Rules and their use.

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

STATION DETONATOR REGISTER (OPT/124)

A Register regarding detonator is maintained at the station.

i. **INSTRUCTIONS:**

This register contains the following parts.

Part. - I: Particulars of fog signalmen posted at the station from time to time.

Part – II: Particulars of receipt and stock of detonating (fog) signals at the station to be filled in whenever detonators are used or received.

Part – III: Periods of fogs, fog signalmen on duty and details of detonators used.

Part – IV: Particulars of issue and testing of fog signals at the station.

ii. In charge of the station shall ensure that the information maintained in the register is kept up to date and is accurate in all respects.

iii. Transportation inspectors shall check the registers and also the stock of detonators on hand each time they visit the station and initial with date as an indication having done so.

APPENDICES:

APPENDIX-A	:	WORKING OF LEVEL CROSSING GATES
APPENDIX-B	:	SYSTEM OF SIGNALLING AND INTERLOCKING AND COMMUNICATION ARRANGEMENTS AT THE STATION.
APPENDIX-B1	:	WORKING INSTRUCTIONS ON VDU.
APPENDIX-C	:	ANTI COLLISION DEVICE (RAKSHA KAVACH)
APPENDIX-D	:	DUTIES OF TRAIN PASSING STAFF & STAFF IN EACH SHIFT
APPENDIX-E	:	LIST OF ESSENTIAL EQUIPMENT PROVIDED AT THE STATION.
APPENDIX-F	:	RULES OF WORKING OF DK STATION, HALTS, IBH, IBS AND OUTLYING SIDINGS.
APPENDIX-G	:	RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS.

CERTIFICATE: -

NOTHING IN THESE 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 CANCELL ALL PREVIOUS STATION WORKING RULES OF MAHASAMUND STATION.

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1.0 GATE WORKING INSRTUCTIONS OF "SPL" CLASS TRAFFIC INTERLOCKED LEVEL CROSSING GATE AT KM.52/8-9 (LC NO. RV-34) IN MAHASAMUND YARD AT BLSN END.

1.1. **GENERAL DESCRIPTION:-**

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/Permanent Way Inspector:		SM/MAHASAMUND
4.	Location KM		52/8-9
5.	At. Station: -		MAHASUMUND
6.	In between stations: -		MSMD – BLSN
7.	BG/MG/NG: -		BG
8.	Single line/Double line/Multiple line: -		Double Line.
9.	Normal Position: -		Open to road traffic.
10.	Interlocked/Non Interlocked: -		Interlocked.
11.	Means of interlocking: -		Interlocked with station Signals(EKT)
12.	Provision of Gate signal at Kms.		I) UP line- NIL ii)DN line - NIL
13.	Signalling arrangement: -		MACLS / Station StopSignal.
14.	Means of Communication:	Telephone Connection between SM/MSMD & Gateman.	
15.	Width of level crossing Gate: -		7.5 M
16.	Type of road. (NH/SH/Others): -		Others
17.	Name of Road: -		--------
18.	Metalled/Non Metalled		Metalled
19.	Approach Road: -		Metalled
20.	Width of the road: -		7.5 M
21.	Angle of road crossing (In case of the skew Gates)		45 Degree
22.	Road gradient (If any)	East/North side.	Level
		West/ South side	Level
23.	Road alignment (Straight/Curve): -	East/ North side-	Straight
		West/South side-	Straight
24.	Provision of height gauges: -		Provided
25.	Type of Barriers: -		Electrically operated lifting barriers.
26.	Length of checkrails: -		10.0 M
27.	Road surface in between Level Xings Gates: -		Levelled with hexagonal concrete slabs
28.	Length of speed breakers: -		7.5M
29.	Road signs: -		Provided
30.	Speed breaker indication board: -		Provided
31.	TVU: -		**363258 on 12/2021**
32.	Census next due on: -		12/2024
33.	Demarcation for placement of Detonators: -		Provided
34.	No. of the Gateman working: -		03(08 Hours shift)
35.	Nearest Railway Medical Assistance: -		MSMD
36.	Nearest Private Medical Assistance available (if any)		MSMD
37.	List of equipment available Yes//No: -		Yes

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1.2 **EQUIPMENTS AT THE L.C.GATE-**

Sl. No.	Description	Requirement	To be used as
1.	LED Tri colour hand signal lamps	Two	One for use and another for spare.
2.	Green Hand Signal Flag	One flag mounted on sticks	To hold in furled condition while passing train.
3.	Red Hand Signal Flag	Two flags mounted on sticks.	One to hold in furled condition and another for spare.
4.	Red Banner Flag mounted with sticks.	Double line – 2	In case of obstruction, one flag each is to be displayed on either side of line.
5.	Spare chains with padlocks.	2 chains with 2 padlocks.	For securing gate against road traffic in case of gate boom cannot be closed.
6.	Stop Boards.	2 retro reflective stop boards with stands.	To display towards road traffic when gate is secured by gate chains due to failure of booms.
7.	Padlock	One	To lock the door of the gate lodge in case of necessity.
8.	Detonators.	Ten (10) in a tin case.	For use in case of obstruction of track.
9.	Tommy Bar	One	For levelling the soil surface or to clean the channels of rails.
10.	Bucket	One	To keep water.
11.	Whistle	One	For alerting road users on approach of train and LP/ Guard to call their attention.
12.	Wall Clock	One	To note down the timings in PN/Log book.
13.	Small size chain for use in case of failure of gate boom lock.	Two	For securing boom in closed condition in case of failure of boom lock.

1.3 **<u>RECORDS TO BE KEPT AT GATE LODGE:</u>**

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

1) Gate working Instructions in Hindi / English.
2) Gate working instructions in local vernacular language.
3) Gateman Rule Book in local vernacular language.
4) List for tools and books.
5) Duty Roster.
6) Certificate for working as Gateman
7) Bio-data particulars of Gateman, including date of passing vision test, Initial/refresher course.
8) Accident Register.
9) Record of last census of road traffic at level crossing gate.
10) Public Complaint Book.
11) Inspection Book.

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1.4 **DUTIES OF GATE MAN**:

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 night time, Gateman shall hold lighted hand signal lamp with white light facing the track.

iv) He shall keep the whistle slung around his neck from a cord.

3. **ROUTINE DUTIES OF GATEMAN**:

i) Gateman shall ensure that red banner flag by day and red light by night is placed across the track in case of emergency or obstruction on the track.

ii) Gateman shall ensure that all gate lamps are burning properly and tricolour torches are kept ready for use from sunset to sunrise.

iii) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless his reliever arrives and takes over charge from him. However, if it is necessary to leave the gate in an emergency, he must close and lock the gate against road traffic, before leaving the gate.

iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.

v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle/wagons /trains/battery/box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.

vi) Gateman shall also be prepared to repeat any signal which guard may give to Loco Pilot on walkie – talkie or in any other way.

vii) If lifting barriers get damaged or becomes out of order and also sliding boom operation fails, 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 Loco Pilot /guard of the passing train by showing red flag by day and red light by night.

ii) He shall simultaneously try to draw the attention of the LP /guard by whistling continuously, shouting, gesticulating, and throwing ballast on the brake van or by any other means.

iii) If Loco Pilot/guard fails to take notice, Gateman shall immediately inform the SM on duty 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 endeavour to attract the attention of the Loco Pilot/Guard by whistling continuously, shouting, gesticulating, and by raising both hands vertically above, quickly parting them and bringing them together in repeated Up and Down motion as high and as low as possible.

vi) In case the LP/ALP/Guard failed to respond, the Gateman shall immediately inform the SM to take appropriate action, under exchange of private number.

5. ACTION IN EMERGENCY AT THE LEVEL CROSSING:

i) In case of an obstruction at the level crossing gate, first he shall normalize the gate slot switch (GS) to raise back the signal to danger and place banner flag/red light lamps on the stave on track at 5 m. away from the edge of the road at Level Crossing.

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

iii) If there is no response from the Station Master/MAHASAMUND after two or three attempts he shall first protect the gate and then inform on phone.

B) **Electrified Section:**

(i) On noticing that, the whole or part of the OHE or a feeder or a cable falling down, the gate keeper shall ensure that, as far as possible, human beings, animals or vehicles etc are kept away in order to avoid any contact with the live equipment.

(ii) As soon as it is noticed that, Pantograph of an electric rolling stock getting damaged and/or entanglement of the same with the OHE, he shall make every possible effort to stop the train and immediately inform SM on duty.

(iii) Any damage to the track or structures of the OHE comes to the notice of on duty GK, he shall immediately inform SM on duty and take all necessary measure for protection of the line. The gateman shall protect the line as under: -

a) **ON DOUBLE LINE SECTION**:

1. If both lines are obstructed the 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 line on which a train is expected to arrive first.
2. Then he will similarly plant the other red banner flag by day and red light by night on the other line 5 meters away from the site of obstruction.
3. Gateman shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
4. Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters on BG and place one detonator on the line. Thereafter he shall proceed to a distance 1200 on BG from the

level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.

5. Thereafter, he shall proceed on the other line, showing red hand signal, similarly place detonators as described in para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
6. Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
7. 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.
8. 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 fouls the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.

(iii) He shall note down the particulars of the road vehicle, vehicle number, name of the driver, owner and relay these details to the Station Master/MSMD regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

1.5 **ENGINEERING ITEMS:**

Refer para 916, 918, 919 of IRPWM for visibility requirement at level crossings, provision of speed breakers on the approach roads of level crossing and census of traffic at level crossings. Speed Breakers of approved design have been provided on either side of this Level Crossing gate and Periodical Census of traffic has been taken.

1.6 **SPECIAL INSTRUCTIONS**

1. **MODE OF OPERATION**:

This is an interlocked L.C. Gate situated at the BLSN end of the yard in between DN Starter and DN Advance Starter of MAHASAMUND station. Telephone communication is provided between the L C. gate lodge and SM office of MAHASAMUND Station. The level crossing gate is of lifting barrier type and motor operated by means of MOTOR from panel provided at the gate lodge. The normal position of the gate is open to road traffic. The key ‘G’ of the LC normally remains locked in the EKT – 1 when the gate is in open condition.

When it is necessary to close the gate, for taking off signals, the SM on duty shall inform the gate man to close and lock the gate. The gate man on duty shall close the barriers of the LC gate by operating the RED push button provided on the panel. Gate man will keep the red push button till gate is closed & locked against road traffic and the red indication appears on the panel. Then key ‘G’ is to be extracted from EKT-1 and inserted in EKT-2. This Key ‘G’ will be transmitted electrically to SM VDU/Panel in conjunction with switch GS reversed to control concerned UP & DN signals, Switch ‘GS’ is provided to put back the concerned signal 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.49 and group button (trans) and the gate man extracts the control key ‘G’ from the EKT-2 and insert in EKT-1. Keeping the switch GS in normal position the gate man will get a gate free indication on panel and subsequently the gate can be opened by

pressing the GREEN push button till gate is fully opened. 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. During this period the L.C Gate shall be opened only when necessary and safe to do so.

In case of failure in extracting key-G from EKT, one emergency key 'H' mechanically free & electrically proved is provided in a red sealed glass box and the barriers are to be opened by manual operation of lifting barriers by crank handling. Concerned signals will be put back to "ON" position when emergency key 'H' is extracted from EKT-3. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gateman.

In case of failure of lifting barriers of level crossing gate due to failure/damage of gate boom etc., emergency sliding boom can be used as auxiliary gate without piloting IN and OUT of train. This emergency sliding boom cannot be used during normal working condition of main boom.

INSTRUCTIONS FOR OPERATION OF SLIDING BOOM:

(a). Sliding boom provided at the far end of gate lodge has been padlocked with chain in open position and sliding boom at near end in open position has been locked by E-type lock.

(b). In case of breakage of normal boom or LC gate cannot be closed due to failure, the gate man shall release electro-mechanically free Key 'S' from " EKT- 5 " provided in the gate lodge. Extraction of Key "S" from the EKT will put back the road signals to danger and the hooter will sound simultaneously.

(c). The gate man shall insert the Key "S" in E-type lock provided at near end sliding boom and unlock the emergency sliding boom. He will slide the boom against the road traffic and lock it in closed position by pushing the locking plunger. The locking plunger initially in locked condition can be released by unlocking the E-type lock with the key attached to the chain of the boom. This will also release key "SB-1" (Sliding Barrier-1) attached to the lock post. Key SB -1 when released locks the near end sliding boom.

(d). The far end sliding boom is normally in padlocked condition and the Key SB-1 is in the custody of gateman. The gateman shall unlock the sliding boom by this Key and slide it against the road traffic and lock it in closed position by pushing the locking plunger. The locking plunger is initially in locked condition. This can be freed by unlocking the E-type lock with the help of Key attached to the chain of the boom and "SB-1" concurrently. This will also release key "SB-2" (Sliding Barrier-2) attached to the far end lock post. Key SB-2 when extracted locks the far end sliding boom and Key SB-1. This key "SB-2" is to be transmitted to SM by inserting it in "EKT- 4" provided in the gate lodge in conjunction with the GS (Gate Slot) switch provided in the gate lodge to enable the SM on duty to take off concerned signals.

(e). In case of any damage to sliding boom when it is in closed condition to road traffic, leading to infringement or obstruction on track, the gateman shall normalize the switch GS to put back the concerned signals to danger.

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(f). After passage of train, SM on duty shall transmit the gate Key. The gateman shall extract SB-2 Key from EKT- 4, normalize the switch GS, unlock the sliding boom and operate the gears in reverse sequence of operation to normalize the sliding boom.

In the event of failure of reception and dispatch 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 and 3.70.01 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.

The LC gate shall be so worked as to cause least possible inconvenience to the vehicular traffic consistence with safety as per subsidiary rule 16.03.01 (a).

2. **INTIMATION TO GATEMAN-**

i) Before taking off reception/departure signals, Station Master/MAHASAMUND 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 SM/ MSMD.
iii) The reception/departure signals will then be taken 'OFF'
iv) In order to ensure that road traffic is not held up for a long time, the Station Master/ MAHASAMUND 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 SM/ MAHASAMUND does not get any response from the Gateman despite 2 or 3 attempts, the following procedure shall be adopted:

i) The SM on Duty/MSMD shall send written advice to the Gate keeper through on duty TP with full details of number, description and direction of the train.
ii) The Gate Keeper on receipt of such advice shall close the gate and transmit the key to SM/MSMD, which enable to take off reception/ departure signals.
iii) When sufficient time is not available because of greater frequency of train service, the SM/MDMD will Issue written authority to Loco Pilot to pass the signal at on position.
iv) The Station Master/ MAHASAMUND shall issue a caution order to the Loco Pilot before dispatching a train into the block section from his end.
v) He shall advise the LP to whistle continuously and approach the Gate cautiously.
vi) The Loco Pilot shall be instructed to pass the Gate cautiously, on being hand signalled by the Gateman. If hand signal is not seen, Loco Pilot should be prepared to stop short of the Gate and depute his Assistant Loco Pilot who will give the all right signal and if the Gate is not closed the Assistant driver must close the Gate and then give the all right signal. In the absence of the Assistant Loco Pilot, the Loco Pilot may take the assistance of the Assistant Guard/Guard. He shall stop his train clearing of the level crossing to pick up the Assistant Loco Pilot who will reopen the Gate for passage of the road traffic.
vii) In case of an UP train, the Station Master/ MAHASAMUND shall advise the Station Master/ BLSN exchanging messages with private number that the telephone at the Gate has failed.
viii) The Station Master/ BLSN shall then issue a caution order to the Loco Pilot before dispatching a train in to the block section from his end.
ix) Station Master/ MAHASAMUND shall also advice to the Gateman through Gangman/Patrolman or driver of the first train that the telephone has become defective.

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x) SM/ MAHASAMUND should also advise S&T staff responsible for maintenance of the telephone, to rectify the defect at the earliest.

xi) 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:

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

ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.Then he shall resort to sliding boom operation.

iii) If sliding boom fails, the Gateman shall secure the Gate against road traffic by means of safety chains and padlocks.

iv) After securing the Gate against road traffic, he shall show green hand signal flag by day and green light by night to the Loco Pilot of an approaching train.

v) SM on duty/ MSMD shall issue caution order to the Loco Pilot of departing train.

vi) SM/ MAHASAMUND shall also advise the Station Master/ BLSN at the despatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before despatching an UP train into the block section from his end.

vii) SM/ MAHASAMUND should also advise maintenance staff responsible for maintenance of the lifting barriers to rectify the defect at the earliest.

viii) Normal working will be resumed only after maintenance staff rectify the lifting barriers and issue reconnection/fit memo for the same.

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 or the key transmitter, then gateman must immediately inform the Station Master / MAHASAMUND on duty on telephone, under exchange of private number.

ii) For emergency opening of the gate, he will extract Key – H from EKT kept in the red sealed glass box which is mechanically free & electrically proved. Concerned signals will be put back to "ON" position when emergency key is extracted. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gateman.

iii) Thereafter, the gate must be treated as non – interlocked and procedure for reception/ despatch of trains as prescribed for non – interlocked gates should be adopted.

iv) Station Master on duty / MAHASAMUND shall issue a caution order to the Loco Pilot 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 Loco Pilot before despatching a train into the block section from his end.

vi) Station Master / MAHASAMUND 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.

Note:

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

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

i) If the gate key cannot be extracted from the key transmitter then gateman must immediately inform the Station Master on duty/ MAHASAMUND 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/ MAHASAMUND shall issue caution order to the Loco Pilot of a departing train.

v) He shall also advise the station Master /BLSN at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before despatching a train into the block section from his end.

vi) Station Master/ MAHASAMUND will advise S&T staff responsible for maintenance of gate/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.

Note:

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

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 put back the signal to danger by operating switch "GS" and thereafter 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/ MAHASAMUND on duty, regarding the defects/obstruction at the gate, under exchange of private number.

iii) Stationmaster/ MAHASAMUND on duty shall be advised to put the reception/departure signals back to 'ON' position, if taken 'OFF' for a train.

iv) If there is no response from the Station Master / MAHASAMUND 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 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/ MAHASAMUND shall also inform the station Master /BLSN at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.

ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.

x) Station Master/ MAHASAMUND shall then issue a caution order along with T/369(3B) to Loco Pilots 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) The SM/MSMD shall also advise SM/BLSN to similarly issue caution order to UP trains from his end under exchange of private number.

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xii) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and thereafter exhibit green hand signal, if the gate is not obstructed.

xiii) Station Master/ MAHASAMUND shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.

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

9. **DUTIES OF GATEMAN IN CASE OF ACCIDENTAL ROLLING DOWN OF TRAIN**:

When the Gateman seen that a train is rolling down or immediately after receipt of the information about accidental rolling down of the train the Gateman shall:

(i) First close the gate against the road traffic.

(ii) Then immediately inform the SM on Duty.

(iii) He shall not open the gate till he ensured that the train has completely stopped.

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2.0 GATE WORKING INSRTUCTIONS OF "SPL" CLASS TRAFFIC INTERLOCKED LEVEL CROSSING GATE AT KM.53/14 (LC NO. RV-35) IN MAHASAMUND YARD AT ARN END.

2.1. GENERAL DESCRIPTION:-

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/Permanent Way Inspector:	SM/MAHASAMUND
4.	Location KM	53/14
5.	At. Station: -	MAHASUMUND
6.	In between stations: -	MSMD – ARN
7.	BG/MG/NG: -	BG
8.	Single line/Double line/Multiple line: -	Double Line.
9.	Normal Position: -	Open to road traffic.
10.	Interlocked/Non Interlocked: -	Interlocked.
11.	Means of interlocking: -	Interlocked with station stop Signals(RKT)
12.	Provision of Gate signal at Kms.	I) UP line- NIL ii)DN line - NIL
13.	Signalling arrangement: -	MACLS / Station Stop Signal.
14.	Means of Communication:	Telephone Connection between SM/MSMD & Gateman.
15.	Width of level crossing Gate: -	5.50 M
16.	Type of road. (NH/SH/Others): -	Others
17.	Name of Road: -	Municipal
18.	Metalled/Non Metalled	Metalled
19.	Approach Road: -	Metalled
20.	Width of the road: -	5.50 M
21.	Angle of road crossing (In case of the skew Gates)	90 Degree
22.	Road gradient (If any)	East/North side-Level West/ South side-Level
23.	Road alignment (Straight/Curve): -	East/ North side-Straight West/South side-Straight
24.	Provision of height gauges: -	Provided
25.	Type of Barriers: -	Electrically operated lifting barriers.
26.	Length of checkrails: -	7.50 M
27.	Road surface in between Level Xings Gates: -	Levelled with hexagonal concrete slabs
28.	Length of speed breakers: -	7.5M
29.	Road signs: -	Provided
30.	Speed breaker indication board: -	Provided
31.	TVU: -	**108886 on 01/2022**
32.	Census next due on: -	01/2025
33.	Demarcation for placement of Detonators: -	Provided
34.	No. of the Gateman working: -	03(08 Hours shift)
35.	Nearest Railway Medical Assistance: -	MSMD
36.	Nearest Private Medical Assistance available (if any)	MSMD
37.	List of equipment available Yes//No: -	Yes

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2.2 **EQUIPMENTS AT THE L.C.GATE-**

Sl. No.	Description	Requirement	To be used as
1.	LED Tri colour hand signal lamps	Two	One for use and another for spare.
2.	Green Hand Signal Flag	One flag mounted on sticks	To hold in furled condition while passing train.
3.	Red Hand Signal Flag	Two flags mounted on sticks.	One to hold in furled condition and another for spare.
4.	Red Banner Flag mounted with sticks.	Double line – 2	In case of obstruction, one flag each is to be displayed on either side of line.
5.	Spare chains with padlocks.	2 chains with 2 padlocks.	For securing gate against road traffic in case of gate boom cannot be closed.
6.	Stop Boards.	2 retro reflective stop boards with stands.	To display towards road traffic when gate is secured by gate chains due to failure of booms.
7.	Padlock	One	To lock the door of the gate lodge in case of necessity.
8.	Detonators.	Ten (10) in a tin case.	For use in case of obstruction of track.
9.	Tommy Bar	One	For levelling the soil surface or to clean the channels of rails.
10.	Bucket	One	To keep water.
11.	Whistle	One	For alerting road users on approach of train and LP/ Guard to call their attention.
12.	Wall Clock	One	To note down the timings in PN/Log book.
13.	Small size chain for use in case of failure of gate boom lock.	Two	For securing boom in closed condition in case of failure of boom lock.

2.3 **<u>RECORDS TO BE KEPT AT GATE LODGE:</u>**

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

1) Gate working Instructions in Hindi / English.
2) Gate working instructions in local vernacular language.
3) Gateman Rule Book in local vernacular language.
4) List for tools and books.
5) Duty Roster.
6) Certificate for working as Gateman
7) Bio-data particulars of Gateman, including date of passing vision test, Initial/refresher course.
8) Accident Register.
9) Record of last census of road traffic at level crossing gate.
10) Public Complaint Book.
11) Inspection Book.

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2.4 **DUTIES OF GATE MAN**:

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 night time, Gateman shall hold lighted hand signal lamp with white light facing the track.

iv) He shall keep the whistle slung around his neck from a cord.

3. **ROUTINE DUTIES OF GATEMAN**:

i) Gateman shall ensure that red banner flag by day and red light by night is placed across the track in case of emergency or obstruction on the track.

ii) Gateman shall ensure that all gate lamps are burning properly and tricolour torches are kept ready for use from sunset to sunrise.

iii) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless his reliever arrives and takes over charge from him. However, if it is necessary to leave the gate in an emergency, he must close and lock the gate against road traffic, before leaving the gate.

iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.

v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle/wagons /trains/battery/box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.

vi) Gateman shall also be prepared to repeat any signal which guard may give to Loco Pilot on walkie – talkie or in any other way.

vii) If lifting barriers 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 Loco Pilot /guard of the passing train by showing red flag by day and red light by night.

ii) He shall simultaneously try to draw the attention of the Loco Pilot /guard by whistling continuously, shouting, gesticulating, and throwing ballast on the brake van or by any other means.

iii) If Loco Pilot/guard fails to take notice, Gateman shall immediately inform the SM on duty 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 endeavour to attract the attention of the Loco Pilot/Guard by whistling continuously, shouting, gesticulating, and by raising both hands vertically above, quickly parting them and bringing them together in repeated Up and Down motion as high and as low as possible.

vi) In case the LP/ALP/Guard failed to respond, the Gateman shall immediately inform the SM to take appropriate action, under exchange of private number.

5. ACTION IN EMERGENCY AT THE LEVEL CROSSING:

i) In case of an obstruction at the level crossing gate, first he shall normalize the Gate Slot switch (GS) to raise back the signal to danger and place banner flag/red light lamps on the stave on track at 5 m. away from the edge of the road at Level Crossing.

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

iii) If there is no response from the Station Master/MAHASAMUND after or three attempts he shall first protect the gate and then inform on phone.

B) **Electrified Section:**

(i) On noticing that, the whole or part of the OHE or a feeder or a cable falling down, the gate keeper shall ensure that,as far as possible, human beings, animals or vehicles etc are kept away in order to avoid any contact with the live equipment.

(ii) As soon as it is noticed that, Pantograph of an electric rolling stock getting damaged and/or entanglement of the same with the OHE, he shall make every possible effort to stop the train and immediately inform SM on duty.

(iii) Any damage to the track or structures of the OHE comes to the notice of on duty GK, he shall immediately inform SM on duty and take all necessary measure for protection of the line.

The gateman shall protect the line as under: -

a) **ON DOUBLE LINE SECTION**:

I. If both lines are obstructed the 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 line on 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 on the other line 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 on the line on which a train is expected to arrive first, to a point 600 meters on BG and place one detonator on the line. Thereafter he shall proceed to a distance 1200 on BG from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.

V. Thereafter, he shall proceed on the other line, showing red hand signal, similarly place detonators as described in para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.

VI. Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.

VII. In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.

VIII. Thereafter, he shall 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 fouls the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.

iii) He shall note down the particulars of the road vehicle, vehicle number, name of the driver, owner and relay these details to the Station Master/MAHASAMUND regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

2.5 ENGINEERING ITEMS:

Refer para 916, 918, 919 of IRPWM for visibility requirement at level crossings, provision of speed breakers on the approach roads of level crossing and census of traffic at level crossings. Speed Breakers of approved design have been provided on either side of this Level Crossing gate and Periodical Census of traffic has been taken.

2.6 **SPECIAL INSTRUCTIONS**

1. **MODE OF OPERATION**:

This is an interlocked L.C. Gate situated at the ARN UP Starter and UP Advance Starter of MAHASAMUND station. Telephone communication end of the yard in between is provided between the L C. gate lodge and SM office of MAHASAMUND Station. The level crossing gate is of lifting barrier type and motor operated by means of HAND

GENERATOR/MOTOR from panel provided at the gate lodge. The normal position of the gate is open to road traffic. The key 'K' of the LC normally remains locked in the Panel when the gate is in open condition.

When it is necessary to close the gate, for taking off signals, the SM on duty shall inform the gate man to close and lock the gate. The gate man on duty shall close the barriers of the LC gate by operating the RED push button provided on the panel. Gate man will keep the red push button till gate is closed & locked against road traffic and the red indication appears on the panel. Then key 'K' is to be extracted from EKT-1 and inserted in EKT-2. This Key 'K' will be transmitted electrically to SM VDU/Panel in conjunction with switch GS reversed to control concerned UP & DN signals, Switch 'GS' is provided to put back the concerned signal 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. 50 and group button (trans) and the gate man extracts the control key 'K' from the EKT-2 and insert in EKT-1. Keeping the switch GS in normal position the gate man will get a gate free indication on panel and subsequently the gate can be opened by pressing the GREEN push button till gate is fully opened. The LC gate shall be so worked as to cause least possible inconvenience to the vehicular traffic

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. During this period the L.C Gate shall be opened only when necessary and safe to do so.

In case of failure in extracting Key - K from EKT, one emergency key 'L' mechanically free & electrically proved is provided in a red sealed glass box and the barriers are to be opened by manual operation of lifting barriers by crank handling. Concerned signals will be put back to "ON" position when emergency key 'L' is extracted from EKT-3. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gateman.

In case of failure of lifting barriers of level crossing gate due to failure/damage of gate boom etc., emergency sliding boom can be used as auxiliary gate without piloting IN and OUT of train. This emergency sliding boom cannot be used during normal working condition of main boom.

INSTRUCTIONS FOR OPERATION OF SLIDING BOOM:

(a). Sliding boom provided at the far end of gate lodge has been padlocked with chain in open position and sliding boom at near end in open position has been locked by E-type lock.

(b). In case of breakage of normal boom or LC gate cannot be closed due to failure, the gate man shall release electro-mechanically free Key 'S' from " EKT- 5 " provided in the gate lodge. Extraction of Key "S" from the EKT will put back the road signals to danger and the hooter will sound simultaneously.

(c). The gate man shall insert the Key "S" in E-type lock provided at near end sliding boom and unlock the emergency sliding boom. He will slide the boom against the road traffic and lock it in closed position by pushing the locking plunger. The locking plunger initially in locked condition can be released by unlocking the E-type lock with the key attached to the chain of the boom. This will also release key "SB-1" (Sliding Barrier-1) attached to the lock post. Key SB -1 when released locks the near end sliding boom.

(d). The far end sliding boom is normally in padlocked condition and the Key SB-1 is in the custody of gateman. The gateman shall unlock the sliding boom by this Key and slide it

against the road traffic and lock it in closed position by pushing the locking plunger. The locking plunger is initially in locked condition. This can be freed by unlocking the E-type lock with the help of Key attached to the chain of the boom and "SB-1" concurrently. This will also release key "SB-2" (Sliding Barrier-2) attached to the far end lock post. Key SB-2 when extracted locks the far end sliding boom and Key SB-1. This key "SB-2" is to be transmitted to SM by inserting it in "EKT- 4" provided in the gate lodge in conjunction with the GS (Gate Slot) switch provided in the gate lodge to enable the SM on duty to take off concerned signals.

(e). In case of any damage to sliding boom when it is in closed condition to road traffic, leading to infringement or obstruction on track, the gateman shall normalize the switch GS to put back the concerned signals to danger.

(f). After passage of train, SM on duty shall transmit the gate Key. The gateman shall extract SB-2 Key from EKT- 4, normalize the switch GS, unlock the sliding boom and operate the gears in reverse sequence of operation to normalize the sliding boom.

In the event of failure of reception and dispatch 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 and 3.70.01 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.

The LC gate shall be so worked as to cause least possible inconvenience to the vehicular traffic consistence with safety as per subsidiary rule 16.03.01 (a).

2. **INTIMATION TO GATEMAN-**

i) Before taking off reception/departure signals, Station Master/MAHASAMUND 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/ MAHASAMUND

iii) The reception/departure signals will then be taken 'OFF'

iv) In order to ensure that road traffic is not held up for a long time, the Station Master/ MAHASAMUND 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 SM/ MAHASAMUND does not get any response from the Gateman despite 2 or 3 attempts, the following procedure shall be adopted:

i) The SM on Duty/MSMD shall send written advice to the Gate keeper through on duty TP with full details of number, description and direction of the train.

ii) The Gate Keeper on receipt of such advice shall close the gate and transmit the key to SM/MSMD, which enable to take off reception/ departure signals.

iii) When sufficient time is not available because of greater frequency of train service, the SM/MDMD will Issue written authority to Loco Pilot to pass the signal at on position.

iv) The Station Master/ MAHASAMUND shall issue a caution order to the Loco Pilot before dispatching a train into the block section from his end.

v) He shall advise the Loco Pilot to whistle continuously and approach the Gate cautiously.

vi) The Loco Pilot shall be instructed to pass the Gate cautiously, on being hand signalled by the Gateman. If hand signal is not seen, Loco Pilot should be prepared to stop short of the Gate and depute his Assistant Loco Pilot who will give the all right signal and if the

Gate is not closed the Assistant driver must close the Gate and then give the all right signal. In the absence of the Assistant Loco Pilot, the Loco Pilot may take the assistance of the Assistant Guard/Guard. He shall stop his train clearing of the level crossing to pick up the Assistant Loco Pilot who will reopen the Gate for passage of the road traffic.

vii) In case of an UP train, the Station Master/ MAHASAMUND shall advise the Station Master/ ARN exchanging messages with private number that the telephone at the Gate has failed.

viii) The Station Master/ ARN shall then issue a caution order to the Loco Pilot before dispatching a train in to the block section from his end.

ix) Station Master/MAHASAMUND shall also advice to the Gateman through Gangman/Patrolman or driver of the first train that the telephone has become defective.

x) SM/ MAHASAMUND should also advise S&T staff responsible for maintenance of the telephone, to rectify the defect at the earliest.

xi) 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:

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

ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end. Then, he shall resort to sliding boom operation.

iii) If sliding boom fails, the Gateman shall secure the Gate against road traffic by means of safety chains and padlocks.

iv) After securing the Gate against road traffic, he shall show green hand signal flag by day and green light by night to the Loco Pilot of an approaching train.

v) Station Master on duty/ MAHASAMUND shall issue caution order to the Loco Pilot of departing train.

vi) SM/ MAHASAMUND shall also advise the Station Master/ ARN at the despatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before despatching an UP train into the block section from his end.

vii) SM/ MAHASAMUND should also advise maintenance staff responsible for maintenance of the lifting barriers to rectify the defect at the earliest.

viii) Normal working will be resumed only after maintenance staff rectify the lifting barriers and issue reconnection/fit memo for the same.

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 or the key transmitter, then gateman must immediately inform the Station Master / MAHASAMUND on duty on telephone, under exchange of private number.

ii) For emergency opening of the gate, he will extract Key – L from EKT kept in the red sealed glass box which is mechanically free & electrically proved. Concerned signals will be put back to "ON" position when emergency key is extracted. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gateman.

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iii) Thereafter, the gate must be treated as non – interlocked and procedure for reception/ despatch of trains as prescribed for non – interlocked gates should be adopted.

iv) Station Master on duty / MAHASAMUND shall issue a caution order to the Loco Pilot 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 Loco Pilot before despatching a train into the block section from his end.

vi) Station Master / MAHASAMUND 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.

Note:

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

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

i) If the gate key cannot be extracted from the key transmitter then gateman must immediately inform the Station Master on duty/ MAHASAMUND 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/ MAHASAMUND shall issue caution order to the Loco Pilot of a departing train.

v) He shall also advise the station Master /ARN at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before despatching a train into the block section from his end.

vi) Station Master/ MAHASAMUND will advise S&T staff responsible for maintenance of gate/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.

Note:

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

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 put back the signal to danger by operating switch "GS" and thereafter 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/ MAHASAMUND on duty, regarding the defects/obstruction at the gate, under exchange of private number.

iii) Stationmaster/ MAHASAMUND on duty shall be advised to put the reception/departure signals back to 'ON' position, if taken 'OFF' for a train.

iv) If there is no response from the Station Master / MAHASAMUND 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 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/ MAHASAMUND shall also inform the station Master /ARN at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.

ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.

x) Station Master/ MAHASAMUND shall then issue a caution order to Loco Pilots 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) The SM/MSMD shall advise SM/ARN to similarly issue caution order to DN trains from his end under exchange of private number.

xii) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and thereafter exhibit green hand signal, if the gate is not obstructed.

xiii) Station Master/ MAHASAMUND shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.

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

9. **DUTIES OF GATEMAN IN CASE OF ACCIDENTAL ROLLING DOWN OF TRAIN**:

When the Gateman seen that a train is rolling down or immediately after receipt of the information about accidental rolling down of the train the Gateman shall:

(i) First close the gate against the road traffic.

(ii) Then immediately inform the SM on Duty.

(iii) He shall not open the gate till he ensured that the train has completely stopped.

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APPENDIX – 'B'

DETAILS OF SIGNALLING AND INTERLOCKING INSTALLATIONS, INSTRUCTIONS FOR WORKING THEM NORMALLY AND EMERGENCIES ETC., INCLUDING THE POWER SUPPLY ARRANGEMENTS.

1.0 **BRIEF DESCRIPTION OF THE SIGNALLING & INTERLOCKING INSTALLATIONS**:
This is a 'B' Class Station with Standard II (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 SM on duty faces the panel, the yard drawing of the panel corresponds to the actual layout. A VDU is provided at SM's office as stand by of domino panel. (The description and operation of VDU is given in Appendix – B1).

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

SL. NO.	POINT NO.	COLOUR OF BUTTON	DESCRIPTION
1	33	BLACK	Cross over Point connecting DN Main Line (Line No.2) and UP Main Line (Line No.3) at BLSN end.
2	34	BLACK	Cross-over point connecting UP Main Line (Line No.3) and DN Main Line (Line No.2) at ARN end.
3	35	BLACK	Cross-over point connecting Common loop Line (Line No.1) and DN Main Line (Line No.2) at BLSN end.
4	36	BLACK	Cross-over point connecting Common loop Line (Line No.1) and DN Main Line (Line No.2) at ARN end.
5	37	BLACK	Cross-over point connecting Common loop Line (Line No.1) and isolation portion of Shunting Neck at BLSN end.
6	39	BLACK	DS point of Shunting Neck from the isolating extension portion.
7	41	BLACK	Cross-over point connecting UP Main Line (Line No.3) and UP loop Line (Line No.4) at BLSN end.
8	42	BLACK	Cross-over point connecting UP Main Line (Line No.3) and UP loop Line (Line No.4) at ARN end.
9	43	BLACK	Cross-over point connecting isolating extension portion of Shunting Neck and T.W. siding at BLSN end.
10	45	BLACK	DS point isolating of shunting neck from extension portion of shunting neck & TM siding

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 YELLOW indication will start flashing till the point is correctly set to reverse at site and YELLOW steady indication glows. Similar operation shall be done when the points are required to set from reverse to normal. Only one point can be operated individually at a time.

1.2.0 **POINT INDICATIONS**: -

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

1.2.1. When a point is set and locked in Normal position, a horizontal 'YELLOW' 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 'YELLOW' 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 YELLOW 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 YELLOW indication will flash during operation of point also. After completion operation of point during crank handle operation, NORMAL or REVERSE indication appears on panel

1.2.5 All points over running lines are operated by electric point machines

1.2.6 **NON SETTING OF POINTS**: -

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

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

All motor operated points in the yard have been grouped into six 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	33 A/B,

2	CH2	BLUE	41 A / B, 42 A / B.
3	CH3	BLUE	35 A / B, 36 A / B.
4	CH4	BLUE	34 A / B
5	CH5	BLUE	37 A / B
6	CH6	BLUE	39, 43 A / B & 45.

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

2.0 SIGNAL PUSH BUTTON:

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

2.1 **DESCRIPTION OF SIGNAL BUTTONS**:

Sl. No.	**BUTTON NO.**	**COLOUR**	**DESCRIPTION**
1	S1	RED	UP Home Signal for Line No. 1, 3 & 4
2	C1	RED with WHITE DOT	UP calling on Signal for line No. 1, 3 & 4
3	S2	RED	DN Home Signal for Line No. 1 & 2
4	C2	RED with WHITE DOT	DN calling on Signal for line No. 1 & 2
5	SH3	YELLOW	Shunting towards line No. 1 & 2..
6	SH4	YELLOW	Shunting towards line no. 1, 2, 3 & 4
7	SH5	YELLOW	Shunting towards line no. 1, Engg/TM siding and T.W. siding.
8	SH10	YELLOW	Shunting towards Shunting Neck from T.W. siding.
9	SH12	YELLOW	Shunting towards Shunting Neck from Engg/T.M. Siding.
10	S14	RED	DN Starter signal on line No.1
11	SH14	YELLOW	Shunting towards Shunting Neck.
12	S15	RED	UP starter signal on line No.4
13	S16	RED	DN Starter signal on line No.2
14	S17	RED	UP starter signal on line No.3
15	SH19	RED	Shunting towards UP Main Line of ARN end.
16	S21	RED	UP starter signal on line No.1
17	S27	RED	UP Advanced starter signal.
18	S28	RED	DN Advanced starter signal.

2.2 **SIGNAL INDICATIONS**: -

All signals in the yard are depicted on the panel alongside 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. The green, yellow, double yellow and red aspects of signals at site is repeated at the panel.

3.0 **ROUTE BUTTONS**: -

Route buttons are provided separately on each running line on the panel for initiation of route (viz. L1 UN, L1 UN1, L2 UN, L3 UN, L4UN and L4UN1). Common route buttons are also provided for taking off starters (viz.: 28AT UN, 27 AT UN). An individual route button is provided for taking off Advanced starter (Viz.: 27 UN, 28 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.

3.1 **DESCRIPTION OF ROUTE BUTTONS**

SL. NO.	BUTTON NO.	COLOUR	DESCRIPTION
1	L1 UN	WHITE	Common route button of UP Home signal and DN Home signal for line No.1 setting overlap mainline
2	L1 UN1	WHITE with BLACK DOT	Common route button for UP and DN Home signal of line No-1 setting overlap to overrun line or UP/DN Calling-On or SH-3 ,SH-4 & SH-5 for Line No.1
3	L2 UN	WHITE	Common route button for DN Home/Calling-on or shunt SH-3 , SH-4 for line No.2 (DN Loop line).
4	L3 UN	WHITE	Common route button for UP Home signal for line No.3 or UP Calling –on signal for line No.3 or SH-4 for line 3.
5	L4 UN	WHITE	Common route button for UP Home (S–1) of line No.4 setting overlap (Ov2_15) to main line.
6	L4 UN1	WHITE with BLACK DOT	Common route button for S-1 set to ORL UP calling on signal (C-1A) for line No.4 or SH-4D for line 4.
7	27AT UN	WHITE	Common Route button for UP starter signal No.15 ,17 and 21 or for SH-19.
8	27 UN	WHITE	Route button for UP Advanced starter signal No.27.
9	28AT UN	WHITE	Common Route button for DN starter signal No.14 or 16.
10	28 UN	WHITE	Route button for DN Advanced starter signal No. 28.
11	SH UN	WHITE	Common Route button for Shunt signal No.SH14, SH12, SH10 to Shunting Neck.
12	Engg/TM UN	WHITE	Route button for Shunt signal No.SH5B to Engg/TM Siding.
13	TW UN	WHITE	Route button for Shunt signal No.SH5C to TW Siding.

4.0 **MISLANEOUS PUSH BUTTONS/KEYS:-**

SL. NO.	BUTTON NO.	COLOUR	DESCRIPTION
1	Panel/PC switch	__	To give control of operation from Panel to PC and vice versa.
2	SM's key	__	To lock the control panel to prevent unauthorized corporation. This key is required to be inserted and turned to right for any operation of points, signals etc. This key shall be in the personal custody of SM on duty.
3	SM's Emergency point key	__	This key is required to be inserted and turned to right whenever point is to be operated in track circuit in failure condition. This key shall be in the personal custody of SM on duty.
4	Acknowledgement for health failure	Green with red dot	To be pressed the silence health failure buzzer.
5	Acknowledgement for link failure	Green with red dot	To be pressed the silence link failure buzzer.
6	Group Trans/Release Button	White colour with Black dot	To be pressed to initiate to transmit/Release the crank handle control button along with crank handle button.
7	Point Group normal/ Reverse	Black with Red dot	This is to be pressed along with the point button to normal or reverse point.
8	Emergency Route Release Button	White with Red dot	To be pressed for emergency route release along with the concern signal button.
9	Signal cancellation button	Red	To cancel a signal which has been already taken off along with signal button.
10	Signal/Point failure Ack	Red with white dot	To be pressed for Acknowledging signal lamp failure/point failure.
11	Button held Ack	White with red dot	For muting the button health buzzer which starts buzzing when a button (signal, point, route) is held up.
12	UP & DN Block release	Chocolate with white dot	It is to be pressed to release the UP & DN block instrument after complete arrival of UP & DN train.
13	UP & DN TES Ack	Red with White dot	It is to be pressed when UP or DN train enters in to the block section to mute UP or DN TES buzzer.
14	Emergency gate release	Chocolate with red dot	This to be pressed for emergency transfer of LC gate control to gateman.

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15	Emergency point operation button	Black with red dot	It is to be pressed for emergency operation of points.
16	Gate Normal Control 49 & 50	White with Chocolate dot	This to be pressed for normal transfer of LC gate control to gateman.

4.1 COUNTER AND BUZZERS:-

1	Emergency point operation counters	This registers the emergency point operation.
2	Emergency route release counters	This registers the emergency route release operation.
3	Calling on counters	These counters record the operation of UP and DN calling on signals.
4	Emergency gate release counters	This registers emergency operation of LC gate.
5	Crank handle release counter	This registers crank handle operation of points.
6	Button held buzzer	This buzzer sounds when any button is held up.
7	Health/link failure buzzer	This buzzer sounds when EI system/link fails.
8	UP & DN TES buzzer	This buzzer sounds when UP or DN train enters into block section.
9	Point failure buzzer	This buzzer sounds when point is not set properly.
10	Signal failure buzzer	This buzzer sounds when signal at site is not lit.

5.0 **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 MSMD - ARN and MSMD - BLSN (double line) section to check the complete arrival of trains. The system is interlocked with respective Block Instruments. When the Axle counter section indication provided for each direction on the panel individually for sections indicates 'RED' i.e. occupied even after the complete arrival of trains, the Block instrument of the respective section can be normalized after ensuring complete arrival of trains by means of physical verification of last vehicle for stopping as well as run through trains (refer resetting procedure of Axle counter).

6.0 **EMERGENCY ROUTE RELEASE COUNTER**

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

7.0 **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 on the top of panel to be pressed after breaking the seal and subsequently the concerned signal button pertaining to the route is to be pressed.

A white light will flash (Up or Down) indicating that the timer is working. After 120 seconds, the white light along with the white strip of light will disappear suggesting the route has been released. In case the route illumination (a white strip of lights) does not disappear, it suggests that the route is not released/cancelled. In such case the emergency cancellation of route has to be resorted to. The concerned S&T staff should be advised immediately to get the emergency route release button resealed 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.

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

Emergency point operation facility is provided to operate point in the event of failure of track circuit controlling the point. A push button (BLACK WITH RED DOT) is provided on the top of panel. If such operation is necessary, the SM on duty, after ensuring that no vehicle is standing on the concerned point track circuit, shall press emergency point operation button by breaking the seal along with relevant point button simultaneously.
Then holding the point button in pressed condition, emergency point operation button to be released and the point group button normal / reverse button is to be pressed for operating the point to 'NORMAL' or 'REVERSE'. All such operations will be registered in the emergency point operation counter and the counter number will increase by next higher number. Each operation of emergency point operation shall be recorded in the station diary and in the register meant for this purpose. Before initiating emergency point operation when the concerned point zone track circuit is showing occupied SM on duty must carry out physical verification at site to ascertain that the said track circuit is clear of vehicles.

9.0 **EMERGENCY GATE RELEASE OPERATION**:

Emergency gate release operation facility is provided in the panel when the route gets locked out of some failure. For emergency release of gate, the SM on duty shall press emergency gate release button after breaking the seal and concerned gate button. Lock Indication will start flashing. After a lapse of 120secs., a White light will glow over the emergency gate release button indicating that the operation is matured. The SM on duty shall then operate concerned gate push button No. – 49 or 50 and group Trans button to release the key from RKT in gate goomty. All such operation will be registered in the emergency gate operation counter. All such emergency operation shall be recorded in the station diary & in the register meant for it. The concerned S&T staff should be advised immediately to get the emergency gate release button resealed after rectification of fault, if any.

10.0 **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.

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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.

11.0 **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.

12.0 **TRACK CIRCUITS**: -

The station yard is fully track circuited from Home signal to Home signal and also for 5 rail lengths in rear of the Home signals on either side. Track circuits 1AT and 2AT are calling- on track circuits. Track circuits viz. 33AT, 33BT, 34AT, 34BT, 35AT, 36AT, 36BT, 35/37BT, 37/39T, 41T, 42AT, 42BT are Point zone track circuits. L1T1, L2T1, L3T1, L4T1, L1T2, L2T2, L3T2, L4T2, L1T3, L2T3, L3T3.L4T3 are berthing track circuits. Other track

circuits namely 1T1, 1T2, 2T1, 2T2, 2T3, 27AT & 28AT are for signal replacement and route holding. Track circuits 27T and 28T are Advanced Starter track circuits. Indications for all track circuits are indicated on the panel. Normally these track circuit portions 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.

13.0 **STATION MASTERS 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'.

14.0 **CRANK HANDLE CONTROL KEY AND OPERATION:** -

When any point fails to operate normally by the route setting operation or through the concerned Point button from control panel, it is inevitable to operate the points with crank handle. Crank handle keys are interlocked with signals and interlocking system. The Crank Handle push button No. CH1, CH2, CH3, CH4, CH5 and CH6 (BLUE) and Group Trans/Release button (WHITE WITH BLACK DOT) are provided at the top of the panel board. The CH button has two indications, viz. WHITE, and RED. The WHITE indication suggests that the crank handle key is in its interlocked position of the panel. This is called Crank Handle Key 'IN' indication. The RED indication suggests that the crank handle key is locked and not free for extraction form RKT. This is called 'Crank handle key LOCKED' indication. When there is no light or blank, it suggests that the KEY is out of RKT. The crank handle key in the end locations can be released from the RKT. The SM has to press concerned crank handle button and Trans button. This will enable SM/TP/TPM to extract crank handle key CH-1/CH-2/CH-3/CH-4/CH5/CH6 from RKT at end location. SS/SM/TPM on duty after extracting the crank handle key from RKT at end-location, insert it in the space provided for it in the point machine and turn it to open

up the slot for crank handle. After inserting the crank handle in the point machine he shall operate it to set the point to desired position. After completion of point work the crank handle key is to be inserted in the RKT at end location and transmitted to station.

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

15.0 **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.

16.0 **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 signal, 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.

16.1 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.

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

Miniature colour light Calling on signal is provided below the Home signals in terms of GR 3.13(6)(b). A Calling on signal shows no light in the 'ON' position. A calling on signal is taken 'OFF' for reception of a train when the Home signal above it cannot be taken 'OFF' due to failure of track circuit or any other reason or for admission of train on blocked line (Calling ON cannot be taken off when both 1st and 2nd track circuit in advance of Home signal are showing red simultaneously).

16.3 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 60 seconds, the calling on signal clears i.e., a yellow light glows at the concerned calling on signal on the panel.

For loop lines, route button UN or UN1 shall be pressed for respective setting of the overlap points. Each operation of Calling On signal shall be registered in respective Calling On signal counter (UP or DN) by registering next higher number. A separate register is to be maintained for this purpose.

Note:- No run- through is permitted while the train is admitted on calling-on signal.

16.4 **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.

16.5 **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.

17.0 **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 starter signals.

17.1 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.

17.2 The block instrument cannot be made normal unless the respective Home signal is put back to 'ON'.

17.3 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.

18.0 **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 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 fails 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-signaling movement.

19.0 **SHUNTING:**

Independent shunt signals on top point at either end and shunt signals below starter signal Nos. 14 & 19 is provided for shunting purpose For shunting, "OFF" aspect of starter signals, independent shunt signals and shunt signals below starter signals shall be used. For back shunting, shunt signals provided on each side of the yard shall be used.

20.0 **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 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.

21.0 **CRANK HANDLING EMERGENCY OPERATION OF POINTS:**

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 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.

22.0 **INSTRUCTIONS REGARDING STABLING OF TRAINS ON RUNNING LINES:**

When a train is stabled on a running line for a duration exceeding ten hours, the use of the said running line for passing the trains 'IN', 'THROUGH' or 'OUT' at the station shall be done with a lot of care and diligence. SM on duty shall meticulously observe the proper functioning of the relevant track circuits (occupancy/clearance) while admitting a train. Such observance should continue for a minimum of four to five trains thereafter. If 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.

23.0 **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 SM on duty must press the emergency route cancellation button after breaking the seal and the signal button conforming to the section for which emergency route release is desired. A flashing indication will appear indicating that the cancellation operation has been initiated and after lapse of 120seconds, the desired route will release provided all other conditions are favourable for route release.

The Veeder counter registers the number of such emergency cancellation operations. SM on duty should specify the cause for its usage giving the particulars of causes and the time of operation as related to a particular train, etc. in the train signal register as well as in a separate register meant for this purpose.

24.0 **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 7.0 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 Para no. 14.0 of Appendix 'B' shall be followed.

25.0 **POWER SUPPLY TO SIGNALING SYSTEM**:

Power supply to the signalling and interlocking installations at this station is through integrated power supply system. The IPS normally draws power come state electricity board supply or from DG sets for non RE area. The available local/DG supply is fed to IPS through change over panel installed at SM's room. The IPS has battery backup around 5 to 6 hours in case of power failure.

In the event of failure of local power supply, the SM on duty, shall start the DG set. The power supply of DG set is fed to the change of switch which will fed IPS. There is a IPS status monitoring panel installed at a SM office to show the status of battery of IPS which gives following instructions. Accordingly on duty SM to initiate action for restoration of power supply.

	Instructions	**Condition**	**LED indication**	**Remarks**
A	Start DG set	50% DOD (105.9V)	Red	Audio/Visual alarm shall be acknowledge by SM on duty by pressing the switch. SM has to start the DG set.
B	Emergency Start	60% DOD (105.1V)	Red	Audio/Visual alarm shall be acknowledge by SM on duty by pressing the switch. This is an emergency call to start DG set by on duty SM.
C	System shut down	70% DOD (104.3V)	Red	Audio/Visual alarm shall be acknowledge by SM on duty by pressing the switch. The EI system will shut down after this buzzer. S&T staff should be informed immediately.
D	Call S&T staff	Equipment fault	Red	Failure of any module will give the alarm. Alarm shall be acknowledged by on duty SM to call signal maintainer.

The SM now has to start the diesel engine 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 ASM's power panel, SM on duty should acknowledge the buzzer by pressing 'buzzer' stop button.

25.1 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.

25.2 Based on the indication shown in the ASM'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.

25.3 If there is any indication on ASM's power panel regarding fluctuation of voltage in IPS system S&T staff may be called to attend.

25.4 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 staff.

26.0 **LOCKING OF RELAY ROOM**: -

Refer para No.4.2 of main SWR.

27.0 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 schedule 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, SM on duty shall co-operate with S&T staff for safe and satisfactory maintenance.

27.1 **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 SM on duty to the sectional Maintainer, the JE/SE/SSE (SIG) of the Section and others through a memo as per SR 3.51.04 and 3.68.04 and document all such transactions.

27.2 **INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:**-

However, before declaring a signal or any other S&T gear as defective 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 SM on duty irrespective of the position of buttons and indications on the panel and will work vide GR 3.68.

27.3 **RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:** -

After receipt of this information the sectional Maintainer shall attend to the failure after giving a Disconnection Memo. After rectification of the fault, the Sectional Maintainer shall give a Reconnection Memo detailing the rectification. Thereafter the SM on duty shall personally check 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).

27.4 **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 SM in writing about this work in terms of GR & SR 15.08.01.

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27.5 **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 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 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 SR 3.77.

28.0 **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 SM on duty personally for all trains at this station.

28.1 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.

28.2 Crank handle key is provided for all motor operated points. This is mechanically attached to the key on RKT and can be released by pressing Crank Handle control push button CH1/CH2/CH3/CH4/CH5/CH6 and Group Trans button simultaneously. All signals will be locked in normal position as soon as the key is released. SM on duty shall transmit the key to required end of the yard and operate the point manually.

28.3 When the crank handle key is removed from RKT for operation of the defective motor operated points, the responsibility for its safe custody rests with the Station Master on duty, till it is replaced back in RKT.

28.4 The case of failure of motor operated points should be promptly reported to the concerned Signal maintainer/JE/SE/SSE for rectification.

28.5 Whenever a Crank Handle is required to be used by a signal official for maintenance work or attending to failure, the signal official will give a disconnection memo to the SM on duty and after making necessary entries in the Crank Handle Register. The SM on duty will obtain the acknowledgement of the signal official in the Crank Handle Register and then hand over to him the Crank Handle. The points will be treated as defective till the Crank Handle is returned back to the SM on duty.

28.6 Before parting with the Crank Handle either for attending failures or for maintenance work by Signal maintenance officials, the SM on duty will ensure that the reception and departure signals are put back to 'ON' position. The points for the affected lines should be treated as non-interlocked. The 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 SM on duty will be personally responsible for setting and locking of points for reception or despatch of all trains.

28.7 The Crank Handle Register is to be maintained vide OM 20.06 note (d) by the SM on duty wherein the particulars of the usage of the Crank Handle must be recorded.

29.0 **SUSPENSION OF LAST STOP SIGNALS:** -

When the Block instrument is suspended, the concerned last stop signal controlled by the Block Instrument must be treated as suspended. At the time of failure of Block

Instrument between MSMD-ARN the authority will be T369-3(b) with Identification number & Private Number issued from the Station in advance.

During the failure of Block Instrument between MSMD-BLSN; the authority will be T/369(3b) with identification number and Private Number issued from the station in advance written both in figure and words.

29.1 The SM on duty shall not grant 'LINE CLEAR' unless he has ensured that the lamps of fixed signals, which apply, to the train are burning. If the signal lights cannot be kept burning, the SM on duty before giving 'LINE CLEAR' shall initiate action in accordance with the procedure prescribed in GR 3.61 to 3.71 & relevant SRs vide GR 3.49 (4).

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

30.0 **SIGNAL LIGHTS:** -
The SM on duty must also ensure from panel board that all the signal lights are burning properly and brightly. This fact must be recorded in the Diary under a separate entry and confirm to the Section Controller on duty.

30.1 **CORRECTING TIME IN STATION CLOCK:** -
The 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 SR 4.01.01 and 4.01.02.

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

(a) Axle Counter as LVCD has 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-BLSN fails. Similarly DN last stop signal of MSMD cannot be taken OFF if axle counter of block section MSMD-ARN 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

31.1 **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 non co-operative.

(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 that last train has passed and arrived complete. SM on duty shall exchange private number with the

SM at other end of the concerned block section or from whom the complete arrival has been confirmed.

(iii) If the failure has occurred after arrival of a train, 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 the reset of LVCD axle counter.

(C) **RESETTING PROCEDURE:-**

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

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

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

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

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

a. Insert SM's LV reset key, turn right and keep pressed.

b. Press LV reset button provided on the panel.

c. Release SM's LV reset key and reset button.

d. Turn left the SM's LV reset key and remove it.

e. The system obtains preparatory reset state and preparatory reset indication (Yellow) 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 into 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.

32.0 **TELECOMMUNICATION FACILITIES: -**

i) Telephone attached with Double line Lock & Block Instrument of MSMD-BLSN section and Tokenless Block Instrument of MSMD-ARN Section.
ii) Station to Station fixed telephone (Hot line) is provided.
iii) Station is provided with Auto telephone connected with Railway Exchange.
iv) BSNL telephone has been provided.
v) The station is connected to TIG-Raipur control circuit by a control telephone.
vi) Station to station 25w VHF communication is provided.
vii) Telephone is provided between Station and both end crank handle locations.
viii) Magneto telephone connection is provided between station & LC gates at KM.52/8-9 KM.53/14.

NOTE: -

1. For obtaining Line Clear, VHF should be used as a last alternative and not as a sole means of communication vide SR 14.01.02.
2. VHF and Walkie-Talkie sets should not be used for unnecessary discussions with Loco Pilots, Guards or any other staff.
3. The on duty SM shall use the above electrical communication instruments stated in Para-29 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.

33.0 **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 sets exchanging ID number supported by PN provided that the instructions contained in SR 14.01.02 are followed vide SR 6.02.06 (1) (d) Chapter-III Part-I of Block Working Manual.

5) In the event of total failure of all communications trains shall be worked vide SR 6.02.03 and SR 6.02.04.

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Appendix- 'B-1'

VISUAL DISPLAY UNIT (VDU)

Note:
The standby system (VDU) is also provided with the Conventional panel for the operation of Signals, Points, Crank Handles, Siding Controls and Resetting of Axle counters.

1.0 **DESCRIPTION OF OPERATOR CONSOLE CUM VISUAL DISPLAY UNIT:** The Operator Console cum Visual Display Unit (VDU) is provided for operation of Signals, Points, L.C Gates, Crank Handles, Siding & other controls etc. A Mimic yard diagram based on approved SI plan will be displayed on the VDU. The VDU is used for controlling and monitoring the station. Indications on the Station yard mimic diagram of VDU will be dynamically updated.

1.1 **SYSTEM OVERVIEW**:
An Operator Console consisting of a VDU (Colour monitor), with keyboard and pointing device (mouse) connected with a computer (CPU) is provided. The CPU is connected to the Electronic Interlocking (E.I) equipment to exchange control and indication messages. The system is programmed to display the Station Yard Mimic diagram on the VDU and that it allows access to all functions through pop-up menus. When a particular function is selected, an appropriate Menu will appear on the screen. A function (clearance of Signal or cancellation, Route release, Point operation, Gate release etc.) can be executed through selecting the required operation by clicking the Left button of the pointing device (mouse) on the desired function.

1.2 The Computer (VDU) or panel any one may be used for controlling and monitoring the station, however, indications on the Station yard Mimic diagram of VDU and panel will be dynamically updated.

1.3. **ICONS AND INDICATIONS PROVIDED ON THE VDU**
In addition to mimic yard diagram including signal, points, track circuit, Axle counters, L.C. gates, sidings as indicated in the WRD, various other ICONS and indications have been provided on the VDU. A brief description of the same are described below.

SL. No.	ICONS	INDICATIONS	FUNCTIONS	REMARKS
1	SM's Key	Yellow light when key is 'IN'	Ensures operation of VDU by authorized person	Protected by pass word
2.	---	Emergency Route release - UP & DN	Flashing indication appears when Emergency route release operation is initiated.	
3.	---	Emergency Gate release	Flashing indication appears when Emergency gate release operation is initiated.	
4.	Emergency Point operation key	Yellow light when key is 'IN'	Ensures emergency point operation by authorized person	For each operation concerned counter shall register one count higher.

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5.	---	System indication On/Off	Indicates System 'A' or 'B' is in working mode	
6.	Point failure Ack. button	Red	Flashing indication appears when any point fails. SM has to right click on the icon and Ack pop up menu will appear and shall select the ACK .	Buzzer will sound. On acknowledgement buzzer stops. After verification at site inform S&T staff Immediately.
7.	Signal failure Ack. button	Red	Flashing indication appears when any signal fails. SM has to right click on the icon and ACK pop up menu will appear and left click to acknowledge it	Buzzer will sound. On acknowledgement buzzer stops. Inform S&T staff Immediately.
8.	CH-1 to CH-6	Yellow lamp indicates 'KEY IN'. Red lamp indicates ' CH LOCKED'	In normal condition yellow lamp will be lit. Whenever the crank handle is locked in route or otherwise red indication will glow.	--
9.	'UP/DN Train Entering Section' muting	Yellow - acknowledged	On getting alarm/buzzer SM has to right click on the icon and ACK pop up menu will appear and left click to acknowledge it	
10	Counter	-	As and when required SM shall point the curser on the counter icon and right click on it. A drop down menu will appear indicating all the counters available in the system. SM shall select the required counter on the menu and can read the latest counter reading.	-
11	Line Block	Red when blocked	SM shall point the curser on the icons provided on the berthing track and right click. One drop menu will appear indicating line blocked and un-blocked, SM has to select the required menu.	When line block is selected the concerned berthing portion of track will appear as thick Red line.

2.0. OPERATIONAL PROCEDURE THROUGH VDU AND INDICATIONS:

In addition to the mimic yard diagram various other indications will be available on the VDU. The implications of different indications provided and the operational procedure for different functions shall be strictly followed as per the following description.

2.1 SELECTION OF CONTROL:

This VDU (Computer) is provided as a standby of conventional panel for the operation of signals, points, L.C. Gates, crank handles, siding controls from the Mimic panel diagram. A Mimic panel diagram will be displayed on the VDU, which is an exact replica of operation cum indication panel and suits the yard plan as per SI plan.

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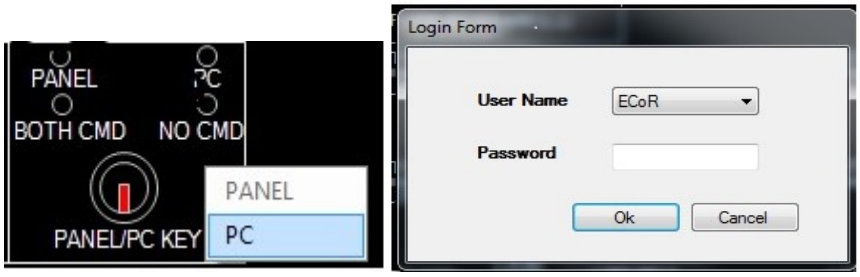
One two-position switch (Red coloured) is provided on the conventional panel along with the SM's Key used for selection of Panel or VDU called PANEL/PC Change over switch. SM of the station can select any of the controls, for the selection of one control to another there are certain procedures to be followed for the control transfer. The procedure to be followed as mentioned below.

2.2 OPERATION PROCEDURE OF PC ENABLE

To prevent the unauthorised operation by other than on duty SM in VDU this facility is provided on VDU. When SM key is inserted in Conventional panel , Key IN indication will appear on VDU. After changing the Panel/PC switch on panel, On duty SM need to track the pointer to the "Panel/PC KEY" icon and right click the Panel/PC icon on VDU. The option Panel/PC will appear on menu and SM has to select menu accordingly. After that a Password window will appear. SM need to enter the password and press OK button provided on the password window. This will lock all the controls in VDU except the Signal Cancellation of All Cleared Signal routes.



Select the User Name and Enter Password and click the OK button.

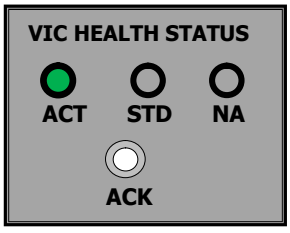
Now the Operating VDU is ready for use & the entire yard can be controlled from the VDU.

3.0 ELECTRONIC INTERLOCKING (E.I) SYSTEM INDICATIONS:

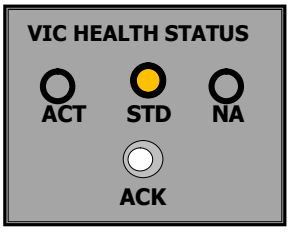
Electronic Interlocking Equipment (E.I) at the centre can work in either of the two modes i.e, Channel-'A' or Channel-'B'. On the VDU (Computer), there are two system indications in which Green indication mentioning the On-line system i.e Active Yellow in standby and the Red indication not Available as mentioned below.

3.1 VIC (Vital Interlocking Computer) Status Indications:

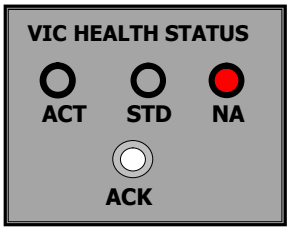
VIC-A Active, Stand By and Not Available indications will be displayed in VDU as shown below:



VIC-A is Active



VIC-A is Stand-by



VIC–A is Not Available

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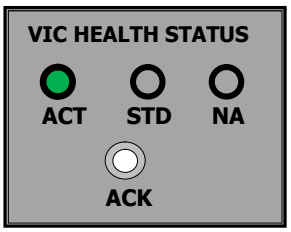
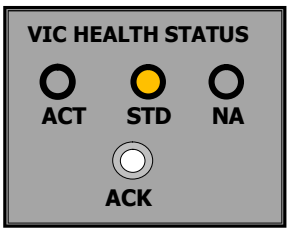
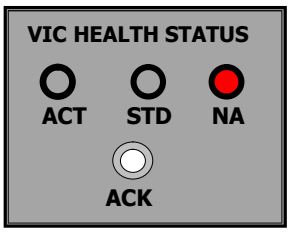
VIC-B Active, Stand By and Not Available indications will be displayed in VDU as shown below:



VIC-B is Active

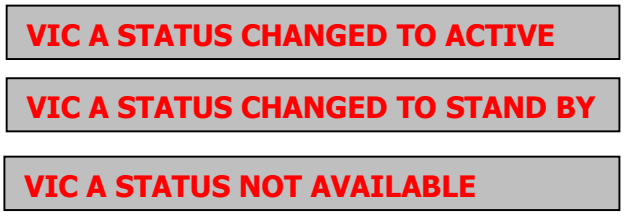


VIC-B is Stand-by



VIC-B is Not Available

If there is any change in VIC's status, its changed status will be displayed in VDU as shown below to alert the Station Master. When the Station Master acknowledges the fault message, the corresponding fault message will be cleared in VDU. For acknowledging the fault message the operator needs to Right click on the corresponding fault message and shall select the "ACK" option from the pop-up menu.

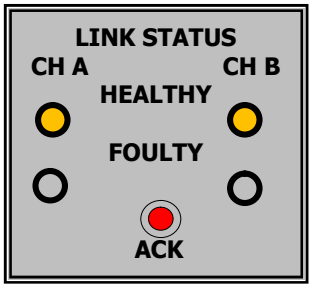


If at least one VIC is available in Active State EI will continue to function normally. On observing the fault message, SM shall acknowledge the fault message and immediately inform to the SM/JE/SSE (Signal).

3.2 Link Status Indications:

These indications are provided to display the status of communication between VDU and CIU (Central Interlocking Unit).

When both Channels A & B communication links with CIU are Healthy, then the corresponding indications will be displayed as shown below:



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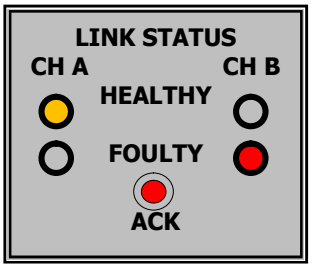
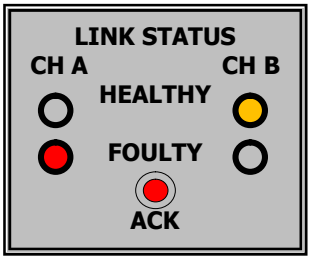
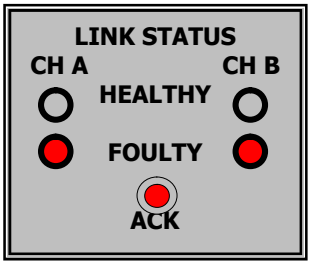
When Channel–A Link Status is Healthy and Channel–B is Faulty then the corresponding indications will be displayed as shown below:



When Channel–A Link Status is Faulty and Channel–B is Healthy then the corresponding indication will be displayed as shown below:



When both Channels A & B are Faulty, then the corresponding indications will be displayed as shown below:



When Channel-A link or Channel-B Link fails, corresponding fault Buzzer is turned on to alert the operator. To acknowledge the failure, Station Master shall Right click on the above control and shall select the “ACK” option in the pop up menu. Then the Buzzer stops.

When both Channel-A and Channel-B Links fail, all the VDU indications become blank since no indication data is received by the VDUs from the CIU. And CIU will restart for every 60 minutes until link is recovered. The Station Master shall report the failure to SM/JE/SSE (Signal) for troubleshooting.

3.3 OC SHUTDOWN STATUS(VCOR RELAY DROP)

When VCOR Relay Drops in any OC, corresponding fault message will be shown in VDU and also a buzzer starts automatically to alert the Station Master. SM shall acknowledge the fault message and inform the SM/JE/SSE (Signal) regarding the failure.

VCOR RELAY DROPPED AT OC NO- 4

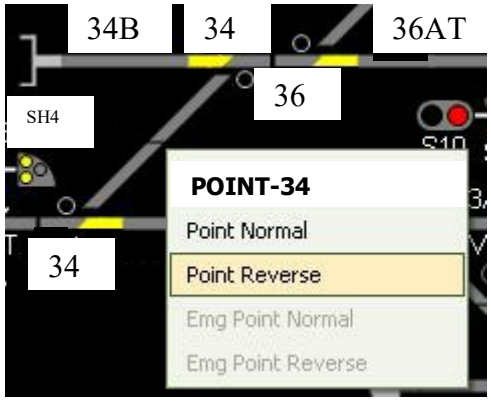
3.4 CIU SHUT-DOWN

If CIU is shutdown due to any critical fault, corresponding fault message will be shown in VDU and a buzzer starts automatically to alert the Station Master. SM shall acknowledge the fault message and inform the SM/JE/SSE (Signal) regarding the failure.

During the both system's failure, all indications on the VDU become blank. Then the station master should immediately inform to the SM/JE/SSE (Signal).

3.5 OPERATION AND INDICATION OF POINT:

To operate any Point the SM needs to track the mouse pointer to concerned point's Normal /Reverse indications on the VDU, Right click on it, then it will show a Menu as shown below.



3.5.1 REVERSE TO NORMAL OPERATION:

Track the pointer to POINT NORMAL option and click. A Normal flashing indication will appear and the indication will be steady after the point is set to Normal.

3.5.2 NORMAL TO REVERSE OPERATION:

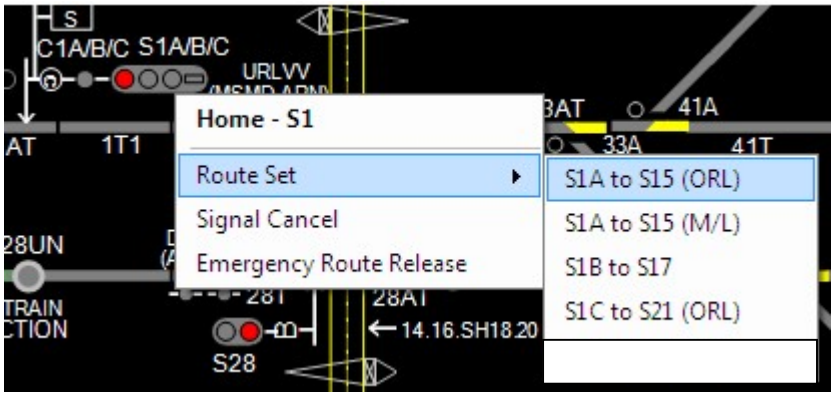
Track the pointer to POINT REVERSE option and click. A Reverse flashing indication will appear and the indication will be steady after the point is set to reverse.

3.5.3 POINT INDICATIONS

For every point, a steady strip of yellow light will appear in the point zone to indicate the point Normal / Reverse condition. It will flash if the point is operating from Normal to Reverse or vice versa. And it will flash continuously if the point's detection not available.
For every point, an indication is provided, it will show Red indication if the Point is in Locked condition otherwise it will be blank.

3.6 PROCEDURE FOR SETTING OF ROUTES AND TAKING OFF SIGNALS:

To Take-Off a Signal on the desired route the SM on duty needs to track the mouse pointer over the concerned Signal on the VDU, after clicking by the right button of the mouse a menu will appear as shown below:



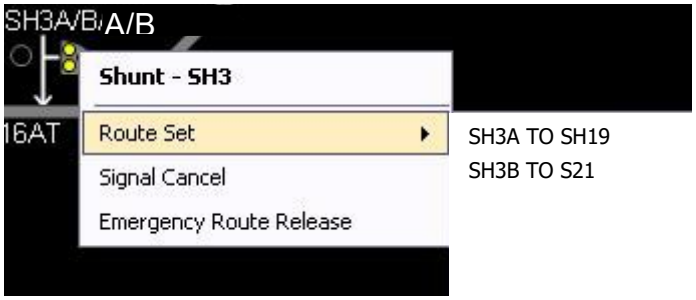
SM on duty will select the route as per the requirement by moving the mouse pointer on the appropriate option & left clicking on the option. It will set the route and clear the signal provided all the conditions required to clear the signal is satisfied. Similarly by following the similar procedure operation of other signals can be done.

3.7 SETTING A ROUTE AND ITS INDICATIONS:

To set a route of a signal, click on a possible route of the signal, after doing so the route gets initiated & Red-flashing indication will appear on the replacement track of the signal. Point operation is initiated as per the requirement of the desired route and Normal/ Reverse set indications will start flashing if favourable point detection is not available. After setting of points in the route, overlap & isolation flashing indication will be replaced by steady indication and a complete yellow 'Route set' indication will appear from the replacement track of the signal to the last track of overlap section of the route. In addition, the points lock indication will appear. A Point locked can be ensured from the Red Steady indication will appear near the point. Finally a Route locked Yellow Steady indication will appear on the immediate rear of the signal. Now the signal will be Taken-off. The yellow route set indication will turn to red when different track circuit portion within the route is occupied during passage of a train.

3.8 SHUNT SIGNAL OPERATION:

The same procedure as main signal has to be followed as explained above. To set the signal route for shunt signals SM on duty shall put the pointing device on the Shunt signal icon and right click on the same. A drop down menu will appear indicating different actions that can be selected. After selecting, the desired route SM on duty shall left click on it. Desired route will be initiated and the Shunt signal can be taken off.



3.9 CALING ON SIGNAL OPERATION:

The same procedure as main signal has to be followed as explained above. To set the signal route for CALLING ON signals SM on duty shall select the desired route and left click on the same after a train occupies the approach track circuit in immediate rear of the stop signal. The signal is cleared after a lapse of 60 seconds provided other conditions are fulfilled.

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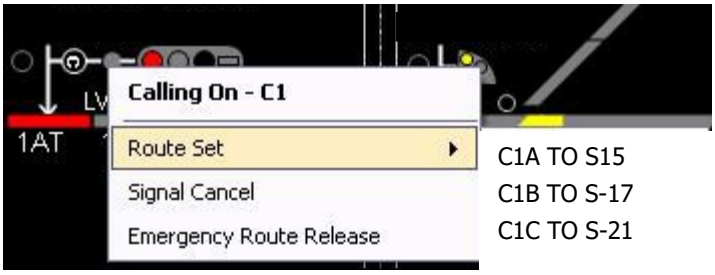

C1A TO S15
C1B TO S-17
C1C TO S-21

4.0 CRANK HANDLE CONTROL OPERATION:

Normally a 'KEY IN' (Yellow) indication will appear on the VDU indicating that the crank handle's Key is in RKT. To Transmit or Receive control of the Crank Handle, right click on the crank handle control button icon provided on VDU.

The appearing pop-up menu gives details of the possible commands on the Crank Handle.

To Transmit the Crank Handle KEY to the field personnel, SM on duty has to click transmit control menu. After transmission the 'KEY IN', indication will start flashing, now the KEY can be extracted from the RKT at site. After extracting the key from the RKT, the 'KEY IN' indication will disappear. When the Manual point operation is over, after putting CH key in the RKT, 'KEY IN' flashing indication will appear on the VDU, Now the SM on duty has to Release the control for the steady indication by clicking release control menu.
A Crank handle locked indication (Red) will appear when the particular point is on the signal route set over it or engaged in route setting in any other way.

4.1 LEVEL CROSSING GATE OPERATION:

To Transmit or Release control of the Level crossing gate, click on the Level crossing control button icon provided on the VDU.

The appearing pop-up menu gives details of the possible commands on the Level crossing gate.

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Normally no indication will be available on the VDU indicating that the gate control key is out and gate is open. When it is required to close the gate SM on duty shall intimate the

gate man to close the gate. On instructed by the SM on duty the gate man shall close and lock the gate and after reversing the concerned slot lever, he shall transmit the gate control key to station by inserting and transmitting the key in the RKT. A flashing yellow indication will appear on the VDU seeing which SM on duty shall receive the control by clicking on the L.C. Gate control button icon and select 'Restore'. The flashing indication shall become steady.

When the key is required to be transmitted to the Gate man, SM on duty has to transmit the control by clicking, after transmission the CLOSED indication will start flashing, now the KEY can be extracted from the RKT and Gate can be opened by Gateman.

The locked indication will appear when the LC Gate has locked by initiation of any of the possible signal routes.

5.0 OVERLAP TIME RELEASE (YELLOW LIGHT):

Separate indication (Yellow Light) for each overlap is provided near the starter signal to indicate the free or locked condition of overlap. This indication light will glow when any Home Signal route locks overlap and there will be no light when overlap is free. The locked indication starts flashing when the approaching train clears the rear end point zone track and occupies the berthing track. After a time release of 120 seconds the white flashing light will disappear indicating concerned overlap is free.

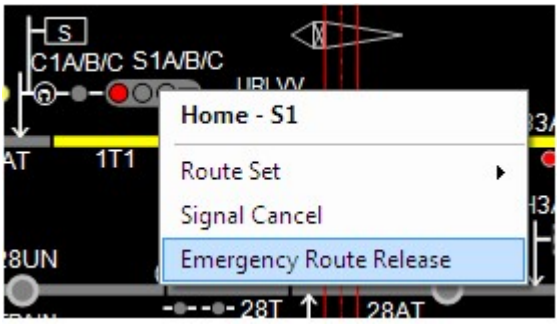
6.0 EMERGENCY OPERATIONS:

To carry out different emergency operations the following procedures are to be followed.

6.1 CANCELING A ROUTE/ EMERGENCY ROUTE RELEASE:

To cancel a signal route when the route is set and the signal is taken-off, click on the signal. After clicking by the right button on the mouse, a pop-up menu will appear as shown in Para 3.4 above. Click on the "Signal Cancel" option of the concerned signal, the signal will immediately go to 'ON' aspect. After doing so, click on the "Emergency Route release" option the route locked indication will starts flashing for 120 sec & the Emergency Route Release Indication (UP / DN as the case may be) will flash for the entire time interval. After the completion of 120 sec, the locked route will be released.

This action will be recorded in a counter. The counter will increase to next higher number for each and every such operation and also, this number should be recorded by the SM on duty who shall record the details of the Route cancellation along with the latest counter no. in a register and SM's diary.



6.2 EMERGENCY OPERATION OF POINTS:

When the Point zone Track circuits failed without any Point lock condition by any signal routes, a point can be operated by the Emergency Point operation.

Note: Before resorting to this operation SM on duty shall verify that the point zone is clear of any vehicle occupying the track section and the same is clear of any obstructions.

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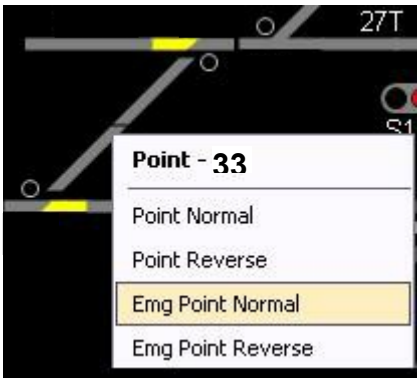
6.3 **EMERGENCY POINT OPERATION (NORMAL/REVERSE)**

Before doing the emergency operation the Emergency Point Operation Key is to be made "KEY IN" by clicking the 'KEY IN' option. The User Name and Password is to be logged in. Track the pointer to 'EMG NORMAL or REVERSE' option and click. A flashing indication will appear and the indication will be steady after the point is set to Normal/Reverse. This action will be recorded in a counter. The counter will increase by next number for each and every such operation and also, this number should be recorded by the SM on duty who shall record the details of the Emergency Point Operation along with the latest counter no. in a register.



After the completion of the Emergency point operation, the Key to be 'KEY OUT' by clicking 'KEY OUT' option.

6.4 EMERGENCY CRANK HANDLE RELEASE OPERATION:

When a crank handle is locked due to route set earlier is not released or otherwise to Transmit or Release control of the Crank Handle, SM on duty shall cancel the relevant signal first and then click on the crank handle control button icon provided like the following on the VDU.

On clicking, the appearing pop-up menu gives details of the possible commands on the Crank Handle.

For Transmitting the Crank Handle KEY to the field personnel SM on duty has to click transmit control menu. After transmission the 'LOCKED' (Red) and KEY IN (Yellow) indications will start to flash for 120 seconds. After a lapse of 120 seconds the 'KEY LOCKED' indication will disappear & 'KEY IN' indication will continue to FLASH. After extracting the key from the RKT, the 'KEY IN' indication will disappear. When the Manual point operation is over, after putting the emergency crank handle key in the RKT, flashing 'KEY IN' indication will appear on the VDU. Now the SM on duty shall Release the control for the Steady indication by clicking 'RESTORE CONTROL' option.

The counter will increase by next number for each and every such action and also, this number should be recorded by the SM on duty who shall record the details of the Emergency Crank Handle Operation along with the latest counter no. in a register.

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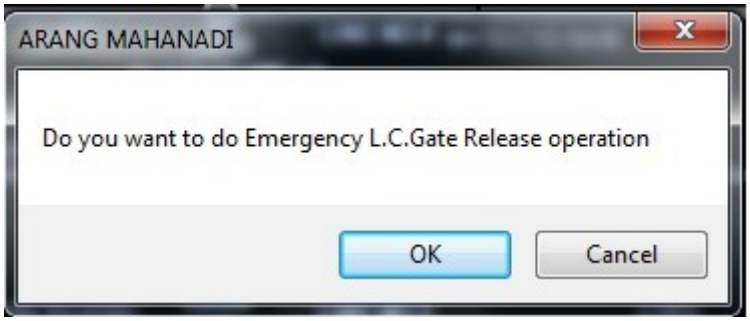
6.5 EMERGENCY GATE RELEASE OPERATION

When a gate is locked due to route set earlier is not released or otherwise to Transmit or Release control of the Crank Handle, SM on duty shall cancel the relevant signal first and then click on emergency gate release control button icon provided on the VDU. Then POP UP menu "Do you want to do Emergency LC gate release operation" will appear, then SM will click OK button. After 120 sec time delay the lock indication will disappear and SM can transmit the control to gateman.

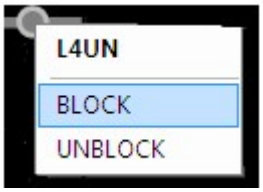


7.0 LINE BLOCK AND UNBLOCK:

When SM on duty requires demarcating a berthing/stabling line as BLOCKED / FREE line he shall adopt the following procedure:

7.1 LINE BLOCK:

To set the 'LINE BLOCK', the SM on duty shall select the concerned line "L. No.- - BLOCK" command using the left mouse button, after selecting the Line Block that particular line will be blocked . The 'TRACK BLOCK' red colour indication will be displayed after the successful application of such a blocking process on the VDU. No signalling movement is possible on that line.



7.2 LINE UNBLOCK:

To release the set block of any particular line, the SM should select "L. No._ UNBLOCK" command using the left mouse button. After selecting the "L. No.___ UNBLOCK" that particular line will be available for the train movement leading to all the possible signalling movement.

APPENDIX - 'C'

ANTI COLLISION DEVICE (RAKSHA KAVACH)

Not provided.

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APPENDIX - 'D'

1.0 **STATION MANAGER (IN-CHARGE)**:

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, Station, LC gate 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 – 02 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 endeavour 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 travelling/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) 2020 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.

2.0 **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.

2.1 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 SMR 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 them fully about their duties and responsibilities.

2.2 The Station Manager is responsible personally for maintaining the Assurance Register and for obtaining declaration of the staff working under him. The Assurance of staff 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 Manager.

2.3 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.

3.0 **USE OF PRIVATE NUMBER BOOKS& IDENTIFICATION NUMBER SHEET**: -

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

4.0 **ACCIDENTS**:

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

5.0 **TESTING OF POINTS AND SIGNALS**:

The Station Manager 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, Crank Handle, etc. and record the result in the Station Master's diary.

6.0 **STATION MASTER**:

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

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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.

He is responsible for working beyond this period when called upon to do so in the exigencies of services. He will follow SR 14.07.01.Their special attention is drawn to Chapter II of General(Amendment)& SR 2020 and GR 5.01 to 5.08 with relevant SRs. As an assistant to the SMR, he shall follow the instructions given to him by the Station Manager.

7.0 **HANDING OVER AND TAKING OVER CHARGE**:

The SS/Station Master/Assistant Station Master on duty shall record in the SM's diary the condition of all the running lines, the caution orders in force at the time of handing over and taking over of charge. These entries must be counter signed by the SMR/Dy.SS/Station Master/Assistant Station Master coming on duty while taking over charge. This will not, however, relieve any one of theDy.SS/SM/ASM of his responsibility to ensure by physical check that the nominated line is clear of all obstructions before admission of any train on it.

8.0 **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/Guard.

(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, Guard boxes 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.

(xiv) They must be thoroughly conversant with the GR 3.38, 3.46, 3.77(I), 5.09, 3.52 to 3.60, 3.62, 5.13, 5.15, 5.16, 5.21, 5.23 & SRs there to and their special attention is drawn to chapter No.II of G & SR (Amendment) 2000 also.

(xv) When necessary, they will work in the Goomties for observing and reporting the complete/incomplete arrival/departure of trains as per the order of the SM on duty in case of failure of Axle Counter/Track Circuit.

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GENERAL

i. All staff should be in uniform while on duty and follow the rosters issued by DPO/SBP from time to time.

ii. A set of Red and Green flags and Tricolour 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).

APPENDIX - 'E'

ESSENTIAL EQUIPMENTS OF THE STATION

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

SL No.	DESCRIPTION	QUANTITY
1	Detonators	10 in tin case
2	2.Hand signal lamps/tri colour torch	04 Nos.
3	Hand signal flags	04 sets.
4	Safety chains with pad locks	10 Sets.
5	Wooden Wedges	12 Nos.
6	Fire buckets (with sand and water)	06 Nos.
7	Clamps with padlocks	10 Nos.
8	Reminder collars	06 Nos.
9	"Motor trolley on line" boards	02 Nos.
10	First aid box	01 No.
11	Stretcher with blanket	01 + 01 No.
12	Fire extinguisher	02 Nos.
13.	Block suspension boards	02 Nos.

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-

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