

**STATION WORKING RULES OF BHADRAK STATION**

Date of Issue: 28.05.11  
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**NOTE: -**

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

1. **STATION WORKING RULE DIAGRAM:**

The Station Working Rule diagram No. SI/WRD/21126 ALT-B based on CSTE/East Coast Railway's Signal Interlocking Plan No. SI/21126 ALT-B shows the complete layout 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 for giving details of the point numbers and signals when reporting accidents.

2. **DESCRIPTION OF STATION**

2.1. **LOCATION**

BHADRAK (Code: BHC) is a 'B' class nine lined station on the Howrah-Visakhapatnam Double line electrified (BG) section of East Coast Railway. It is situated at Km.293.216 from Howrah. The station is provided with Standard III Interlocking and equipped with Central Panel of Route Relay Interlocking and Multiple Aspect Colour Light signals. The station is worked under Absolute Block System of GR & SRs.

[Refer GR. 8.01(1)a, b, 2(b), 8.03(1),a,b,c(ii), 8.05(2)(3) & 8.06, 8.14, 8.15, 14.08 (a)]

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

2.2.i. **BLOCK STATIONS ON EITHER SIDE AND THEIR DISTANCES:-**

BHADRAK (Code: BHC) station is situated between RANITAL LINK JUNCTION CABIN in the North side at a distance of 5.045 KM and BAUDPUR (code-BUDR) in the South side at a distance of 6.5 KM and BHATATIRA in the east side at a distance of 10.609 KM via Fly over (DN Line) and at a distance of 8.671 KM via UP Line.

2.2.ii. **IBH/IBS/OUT LYING SIDING/DK STATION:-**

NIL.

2.2.iii **PASSENGER HALT:-**

NIL

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

Between Stations	The Point from which the 'Block Section' Commences	The Point at which the 'Block Section' end
RANITAL LINK JUNCTION CABIN-BHC UP Direction	UP Advanced starter signal of RANITAL LINK JUNCTION CABIN station	Block section limit board on UP line of BHC.
RANITAL LINK JUNCTION CABIN-BHC DN. Direction	Down Advanced starter signal No.60 of BHC station	Outermost facing Point No. 22A on Down line of RANITAL LINK JUNCTION CABIN.
BHC-BUDR UP Direction	Up Advanced starter signal of BHC station.	Outermost facing Point No. 21A on Up line of BUDR
BHC-BUDR DN Direction	Down Advanced starter signal of BUDR station	Outermost facing Point No.104A of BHC.
BHC – BHATATIRA JN UP Direction.	Up Advanced starter signal of BHATATIRA Jn.	Upto the Outermost facing Point No.123.
BHADRAK-BHATATIRA Jn. DN Line.	Down Advanced starter signal No.62 of BHC station.	BSLB on Down Line at BHATATIRA Jn. Station.

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b. **STATION SECTION:-**

Station Section		The Point from which the 'Station section' Commences	The Point at which the 'Station Section' ends.
(UP Line).		BSLB on UP line at HWH end.	Up advanced starter No.75.
(DN. Line).		Outer most facing point No.104A on Down line at VSKP end.	Down advanced starter No.60.
BHC-BHATATIRA (UP Line) .	Jn.	Outermost facing Point No.123 on UP line.	Up advanced starter No.75.
BHC-BHATATIRA (DN. Line).	Jn.	Outer most facing point No.104A on Down line at VSKP end.	Dn Advanced Starter Signal No. 62 on BHATATIRA Jn. Line.

c. **STATION LIMIT**i. **UP LINE**

UP Distant signal (Main Line) to UP Advanced starter signal No.75.

UP Distant Signal on BHATATIRA Jn. Line to UP advanced Starter Signal No. 75.

ii. **DOWN LINE**

DN distant signal of BHC to Down Advanced starter signal No.60. towards RANITAL Link Jn. Cabin.

DN distant signal of BHC to Down Advanced starter signal No. 62 on BHATATIRA Jn. Down Line.

2.4 **GRADIENTS :**a) **TOWARDS HWH END (FOR UP & DN LINE)**

From	To	Gradient
CSB	CH: 3529M	Level.
CH: 3529M	To wards block section	Level.

b) **TOWARDS VSKP END: (FOR DN LINE)**

From	To	Gradient
CSB	CH: 1250.0M	Level
CH: 1250.0M	CH: 1704M	1 in 250 'R'
CH: 1704M	CH: 1948M	Level.
CH: 1948M	CH: 2489M	1 in 250 'F'
CH: 2489M	CH: 2687M	Level.

c) **TOWARDS VSKP END: (FOR UP LINE)**

From	To	Gradient
CSB	CH: 2789.0M	Level

d) **TOWARDS BHATATIRA Jn. (FOR UP LINE)**

From	To	Gradient
CSB	CH: 1185M	Level
CH: 1185M	CH: 2250M	1 in 180.84 'F'
CH: 2250M	CH: 2500M	Level
CH: 2500M	CH: 3300M	1 in 250 'R'

e) **TOWARDS BHATATIRA Jn.: (FOR DN LINE)**

From	To	Gradient
CSB	CH: 1300M	Level
CH: 1300M	CH: 2550M	1 in 202 'R'
CH: 2550M	CH:3300M	1 in 342 'R'

## 2.5. **LAYOUT:**

The station is provided with nine running lines in the Main yard (namely Up Loop Line(L/2), Up Main Line(L/3), DN. Main Line(L/4), Common Loop Line((L/1, L/5) and Common Goods Loop(L/6, L/7, L/8, L/9), and **nine** non running lines i.e. M.V. siding, 02 Goods sidings, ART siding/Holding line, ARME siding/Saloon siding, Tower wagon siding, Spur line/Classification line(L/2), Classification line L/1 and 02 Shunting necks. Down line of Bhatatira Jn. is connected to the Derailing Switch no.137 at CH.693.4 M towards HWH end of the yard. UP line of Bhatatira Jn. is connected at Derailing Switch no.123 (CH.676.6 M) towards HWH end of the yard.

### (1) **SHUNTING NECKS:**

- (i) The shunting neck is the extended portion of Line No.1 (common loop) towards VSKP end of the yard with one side entry. It is isolated by a derailing switch point no.146, which is motor operated. The point is operated from SM at RRI Cabin. It is terminated with a Dead End chainage 1481.7 mtrs towards VSKP end. Entrance & Exit of trains from the shunting neck are controlled by shunt signal no.SH(31, 33, 37, 39, 41, 43, 45, 73)A provided below the concerned Up Starter signals, SH35, SH53, SH55, SH57, SH59 & SH(A-M) respectively. The Points and shunt signals are operated from SM/RRI.
- (ii) The shunting neck is the extended portion of Line No.7 (Goods Common loop) towards VSKP end of the yard with one side entry. It is isolated by a derailing switch point no.124, which is motor operated. The point is operated from SM/RRI. It is terminated with a Dead End chainage 1178.0 mtrs towards VSKP end. Entrance & Exit of trains from the shunting neck are controlled by shunt signal no.SH(37, 39, 41, 43, 45)C provided below the concerned Up Starter signals, SH35, SH61, SH61, SH63, SH65 & SH10(A-I) respectively. The Points and shunt signals are operated from SM/RRI.

### (2) **TOWER WAGON SIDING:**

The Tower Wagon siding at VSKP end of the yard with one side entry is taking off from the shunting neck i.e. extended from line no.7(Goods Common loop). The siding is isolated by a derailing switch point no.106B, which is motor operated. The dead end chainage of the siding is 561.0 mtrs. The take off point chainage for the siding is 701.0 mtrs. Entrance & exit of Tower Wagon from the siding is controlled by SH10A & SH65 respectively. The points & shunt signals meant for the siding are operated from SM/RRI.

### (3) **ARME SIDING/SALOON SIDING :**

The ARME siding at VSKP end of the yard with one side entry is taking off from line no.1 (common loop). It is isolated by a derailing switch & terminated with a dead end CH.127.0 mtrs. The take off point chainage for the siding is 268.5 mtrs. The entrance point 160A & corresponding derailing switch 160B are motor operated points. Entrance & exit of ARME/Saloon from the siding is controlled by SH (6, 8)J & SH55AB respectively. The points & shunt signals meant for the siding are operated from SM/RRI.

### (4) **ART SIDING/HOLDING LINE :**

The ART siding/Holding Line at VSKP end of the yard with one side entry is taking off from line no.1 (common loop). It is isolated by a derailing switch & terminated with a dead end CH.36.5 mtrs. The take off point chainage for the siding is 349.0 mtrs. The entrance point 158A & corresponding derailing switch 158B are motor operated points. Entrance & exit of ART/Trains from the siding is controlled by SH (6, 8)K & SH53AB respectively. The points & shunt signals meant for the siding are operated from SM/RRI.

### (5) **GOODS SIDING :**

- i) The Goods siding at VSKP end of the yard with one side entry is taking off from line no.1(common loop). It is isolated by a derailing switch & terminated with a dead end CH.27.0 mtrs. The take off point chainage for the siding is 600.0 mtrs. The entrance point 150A with corresponding derailing switch 150B & 152 are motor operated points. Entrance & exit of trains from the siding is controlled by SH6L & SH59 respectively. The points & shunt signals meant for the siding are operated from SM/RRI.

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- ii) The Goods siding at VSKP end of the yard with one side entry is taking off from the goods siding i.e. taking off from line no.1 (common loop). The take off point chainage for the siding is 535.0 mtrs. It is terminated with D.E chainage 174.0 mtrs. The entrance point no.152 is a motor operated point. Entrance & exit of trains from the siding is controlled by SH6M & SH57 respectively. The points & shunt signals meant for the siding are operated from SM/RR1.

(6) **SPUR LINE/CLASSIFICATION LINE:**

- i) The Classification Line No. 1 with one side entry is taking off from line no.7(Goods Common loop) at VSKP end of the yard. The take off point chainage for the classification line is 473.0 mtrs. The dead end chainage of the classification line is 90.0 mtrs. Entrance & exit of trains from classification line is controlled by SH10C & SH61 respectively. The points & shunt signals meant for the classification line are operated from SM/RR1.
- ii) The Spur Line/Classification Line No.2 at VSKP end of the yard with one side entry is taking off from classification line no.1. . The dead end chainage of the spur line/classification line is 90.0 mtrs. The take off point chainage for the spur line/classification line is at point CH.401.0 mtrs. Entrance & exit of trains from spur line/classification line is controlled by SH10B & SH63 respectively. The points & shunt signals meant for the spur line/classification line are operated from SM/RR1.

(7) **MEDICAL VAN (MV) SIDING**

The MV siding is provided at HWH end of the common loop line no.1 with entry from both directions. The siding is isolated from the running line by derailing switch. VSKP end of the siding is operated by arc lever at site. The entrance point is fitted with hand plunger lock. The hand plunger lock is unlocked by MV siding key 'A1' & released by pressing the button No.131 & common group trans button provided at SM/RR1. Reception signals ( i.e. 1A, C1A in UP direction & 2G,C2G in DN direction) & shunt signal No.SH-5,SH-7,SH-6-I,SH-8-I,SH-38A/B,SH-36A/B,SH-31A/B & Dispatch signals( No. 31,C-31,36,C-36) are electrically interlocked in such a way that these signals can not be taken 'off' if the MV siding key is taken 'OUT' from the RKT provided at siding location box at site. The entrance point no.129 A & corresponding derailing switch point no.129 B towards HWH end of MV siding are motor operated from SM/RR1. Entrance & Exit of trains at HWH end from the MV siding are controlled by shunt signal no.SH-5A, SH-7A & SH-38AB respectively operated from SM/RR1.

b. **PLAT FORMS**

- |      |                          |           |             |
|------|--------------------------|-----------|-------------|
| i)   | Line No. 1(Common Loop)  | : H.L.P.F | Length 443m |
| ii)  | Line No. 2 (Up loop)     | : H.L.P.F | Length 443m |
| iii) | Line No.4 (DN Main)      | : H.L.P.F | Length 435m |
| iv)  | Line No. 5 (Common Loop) | : H.L.P.F | Length 435m |

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

**DIRECTION OF TRAFFIC:**

- a) The trains coming from RANITAL LINK JN. CABIN are UP trains and the trains coming from Baudpur (BUDR) end are DN trains.
- b) Trains coming from BHATATIRA Jn. are UP Trains and trains going to BHATATIRA Jn. are Down trains.

2.5.2. **HOLDING CAPACITIES:**

(i)	Line No.1	Common loop	696 M	(Electrified).	From Starter to starter
(ii)	Line No.2	UP Loop	1000 M	(Electrified).	From starter to SH
(iii)	Line No.3	UP Main	1147 M	(Electrified).	From starter to SH
(iv)	Line No.4	DN. Main	781 M	(Electrified).	From starter to SH
(v)	Line No.5	Common loop	759 M	(Electrified).	From Starter to starter
(vi)	Line No.6	Common loop (Goods)	718 M	(Electrified).	From Starter to starter
(vii)	Line No.7	Common loop (Goods)	718 M	(Electrified).	From starter to starter
(viii)	Line No.8	Common loop (Goods)	693 M	(Electrified).	From starter to starter
(ix)	Line No.9	Common loop (Goods)	693 M	(Electrified).	From starter to starter

**2.5.3. NON RUNNING LINES:**

1.	Tower Wagon Siding	61 M	-	From SH to DE
2.	ARME /Saloon siding	58 M	(Electrified).	From SH to DE
3.	ART Siding/Holding line	210 M	(Electrified).	From SH to DE
4.	Goods siding	441 M	(Electrified).	From SH to DE
5.	Goods siding	284 M	(Electrified).	From SH to DE
6.	MV Siding	80 M	(Electrified).	From SH to BJ
7.	Spur Line/Classification line-2	224 M	(Non-Electrified).	From SH to DE
8.	Classification line	224 M	(Non-Electrified).	From SH to DE
9.	Shunting neck	668M	(Electrified).	From SH to DE
10.	Shunting neck	459M	(Electrified).	From SH to DE

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

Up starter signal no.41, 43, 45 are placed on the RHS of the track.

**(b) SPECIAL RESTRICTIONS:**

- i) Shunting in the face of an approaching train is prohibited.
- ii) Hand shunting/fly shunting is prohibited at both ends of the yard.
- iii) Speed of trains from Ranital Link Jn Cabin and BUDR end over turn outs on directional loop lines i.e. on line no. 1, 2 & 5 are 30 Km/h as per CRS Sanction No. 695 dtd. 24.09.09.

**(c) SPECIAL INSTRUCTIONS:**

1. SM on duty must ensure that before taking 'OFF' Calling-On signals, UP trains must be brought to a stop at the foot of the respective Starter signal no. 31, 33, 37, 39, 41, 43, 45 & 73 and will also ensure the clearance of the track between Starter and Advanced Starter in case of failure of track circuit between them.
2. SM on duty must ensure that before taking 'OFF' Calling-On signals, DN trains must be brought to a stop at the foot of the respective Starter signal no. 22, 24, 26, 28, 30, 36 & 58 and will also ensure the clearance of the track between Starter and Advanced Starter in case of failure of track circuit between them.
3. Through running to and from Bhatatira is not permitted due to insertion of trap points No.123 and 137.

**(d) GENERAL INSTRUCTIONS:**

1. Whenever a non-signal movement is to be taken place over motor operated point whether facing or trailing direction, the Dy.SS on duty shall operate the point to normal or reverse setting for the purpose of testing the points. After clamping and padlocking the facing and trailing points and ensuring the indications are correctly available, further movement may be permitted over the point.
2. Up & Down main line, Up loop line and common loop lines, common loop (Goods) lines are track circuited. In case of failure of track circuit, the clearance of the nominated line has to be ensured physically before piloting 'IN' the train.
3. For receiving train on common loop, the SM on duty at RRI shall ensure that the overrun line is clear of all obstructions even though the overrun line is in trailing direction.

**2.6 LEVEL CROSSINGS:**

- i) There is a 'C' class interlocked level crossing gate situated at Km. 292/17-19 (UP) and Km. 292/20-18 (DN), at HWH end of the Station yard & directly operated by means of a winch from Gate Lodge. Telephone communication is provided between the Gate lodge and RRI Cabin/BHC.
- ii) There is a 'B1' class interlocked level crossing gate situated at Km. 293/35-37 (UP) and Km. 293/38-36 (DN), at VSKP end of the Station yard & directly operated by means of a winch from Gate Lodge. Telephone communication is provided between the Gate lodge and RRI Cabin/BHC.
- iii) There is an 'A' class Interlocked level crossing gate situated in the mid section at Km. 296/23-25 (UP) and Km. 296/26-24 (DN) between BHC-BUDR stations. Telephone communication is provided between the Gate lodge and the SM's office of BHC.

(Correction slip No. 1 dated \_\_\_\_\_)

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

Trains are worked under Absolute Block System by means of SGE type Double Line Lock and Block Instrument for RANITAL LINK Jn. CABIN-BHC, BHC-BUDR and BHC – BHATATIRA Jn. sections. The Block Instruments shall be operated by the Station Master on duty at RRI and keys of the Block Instruments shall remain under personal custody of Dy.SS on duty at RRI Cabin. The authority for the Loco Pilot to proceed is taking 'OFF' of the last stop signal. The Block Instruments are of non co-operative. [Refer Chapter XIV of GR & SRs, Chapter –V of Block Working Manual and GR 14.08(a)]. Line clear is granted/obtained through the telephone attached with the Block Instrument.

Lock up key is provided for locking the instrument to prevent unauthorized manipulation of the instruments. The key of the Block Instrument must be in the personal custody of the Dy.SS on duty at RRI Cabin.

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

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

The Station is provided with provision of Route Relay Interlocking and having no end cabins. All signals and points are electrically operated from the Panel board provided at RRI Cabin Calling-on signals are provided below Home signals and Starter Signals as per GR.3.13 (1)(b), (2)(3)(4) & (6) (b) in both Up & DN directions. Miniature push buttons are provided in the control panel at RRI cabin to electrically control all signals, points, siding key, Gate key, etc.,

[a] **CRANK HANDLE**

When any point fails to operate normally by the route setting operation through panel it is inevitable to operate the points with crank handle. Crank Handles are provided in location boxes located at either end of the yard nearer to the point zones for manually setting of the electric motor operated points in the event of failure/defects of the points. The crank Handle at the location box is released by the operation of control push button by the Dy.SS on duty of the RRI Cabin.

The SM on duty at RRI shall personally ensure correct setting, clamping and padlocking of all facing and trailing points on the route at HWH and BHATATIRA Jn. end of the yard. Similarly, the SS on duty at PF shall personally ensure correct setting, clamping and padlocking of all facing and trailing points on the route at VSKP end of the yard. Crank handles are interlocked with signals and interlocking system. When points become defective, the signals controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle for motor operated points shall be followed as per operating manual para-20.06.

**CRANK HANDLE**

**CONTROL POINTS**

CH-1	-----	102,120.
CH-2	-----	104,122.
CH-3	-----	106,118
CH-4	-----	128,130,132
CH-5	-----	124,126,134,136,138.
CH-6	-----	146,150,152
CH-7	-----	148,154
CH-8	-----	158,160
CH-9	-----	--- ---
CH-10	-----	105,117
CH-11	-----	123,129
CH-12	-----	121,125,127
CH-13	-----	137
CH-14	-----	139,145

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CH-15	-----	143
CH-16	-----	147,149,151

These crank handles are interlocked with the signaling and interlocking system at this station and normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals are not taken 'OFF' and the route is not locked for whatever reasons. Crank Handle can be released by pressing common 'TRANS' push button and concerned Crank Handle control push button simultaneously. When the keys are taken out no signal can be taken "OFF" over the particular route on the points nominated by that Crank Handle. This key can be electrically transmitted at both ends locations of the yard for manual operation of the defective points.

Emergency release to be mentioned. If the Crank Handle is in locked condition and it is necessary to operate the concerned point by Crank Handle due to whatever reason then the concerned signal should be put back to "ON" position then Crank Handle Key can be taken out after two minutes by pressing common 'TRANS' push button and concerned Crank Handle control push button simultaneously. An emergency Crank handle register shall be maintained by the Dy.SS on duty at the RRI Cabin as per Para 20.06(d) of the Operating Manual. Correct setting, clamping and padlocking of the points devolve on the SM on duty at RRI Cabin for the points pertaining to HWH and BHATATIRA Jn. end of the yard and SS on duty at Platform for the points pertaining to VSKP end of the yard.

The cases of failure of motor points, it should be promptly reported to the concerned signal maintainer/signal inspector for immediate rectification.

[b] **TAKING OFF CALLING-ON SIGNAL:**

Miniature colour light Calling-on-signals are provided below the Home and Starter 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/dispatch of a train when the Home/Starter signal above it cannot be taken 'OFF' due to failure of that signal or failure of track circuit in the route or any other reason or for a train to be admitted on blocked line.

- (i) To take 'OFF' Calling-on-signal, the train must come to a stop at the foot of the Home Signal occupying the Calling-on-Signal track circuit in the 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 the train is intended to be received shall be set by operating individually by the panel push button and group button or by signal and route button pressing or by crank handling in the event of failure of operation of point through panel. After the route is set, the Calling-on signal button C1 A/B/C/D/E/F/G/H – C2 A/B/C/D/E/F/G/H - C3 on BHATATIRA Jn. Line shall be pressed simultaneously along with the concerned route button for 2-3 seconds and released. After a lapse of 120 seconds, the calling on signal clears i.e. Yellow light glows at the concerned Calling-on signal on the panel.
- (ii) Calling-on signals (C-22/24/26/28/30/36/58 or C-31/33/37/39/41/43/45/73 or are also provided below all Down and Up starter signals. When starter signal cannot be taken off due to failure of track circuit, failure of Block Instrument or failure of Up Advanced Starter Signal, the Calling-on signal can be taken off for dispatch of trains.

To take off Calling-on signal provided below Up and DN starter signals, the route must be correctly set and Dy.SS on duty of RRI cabin must satisfy about the clearance of the route including fouling.

**NOTE:**

Dy.SS on duty to ensure that no through signals are given while receiving a train on Calling-on signal.

- (iii) **FAILURE OF CALLING - ON TRACK AND SPECIAL MEASURES FOR TAKING OFF A "CALLING ON" SIGNAL :-**

In case of failure of the Calling ON track, the trains shall be piloted treating the Calling –on signal as failure and S&T official shall be informed for rectification.

During the failure of the track circuit, before taking off “Calling on” signal, the clearance of the track must be certified by the SS on duty at platform by exchanging private number with the Dy.SS on duty.

In all cases of Reception/Despatch of a train by taking off the “Calling on” signal, necessary particulars including the train No. “Calling on” signal No. and the No. Registered on the corresponding veeder counter should be recorded in a Register maintained for this purpose.

[c] **SHUNT SIGNALS**

Back shunt signals 5, 6,8,9,10,32,34,35,38,53,55,57,59,61,63,65 are provided for shunting purpose. Similarly, Shunt Signals 22,24,26,28,30,31,33, 36,37,39,41,43,45,58,73, are provided below the concerned starter signals for shunting purposes.

[d] **EMERGENCY CROSS OVER**

One Emergency cross over is provided at either end of the yard.

[e] **L.C. GATE OPERATION**

Details described in Appendix-‘A’.

[f] **EMERGENCY POINT OPERATION (BLACK WITH RED DOT):**

Emergency point operation facility is provided to operate the point from the panel in case of failure of point controlling track circuit. A push button (Black with Red dot) is provided on the top of the panel. If such operation is necessary, the Dy.SS on duty, after ensuring that SM's emergency point key is 'IN' and no vehicle is standing on the concerned point, shall press the emergency point operation button along with relevant point button simultaneously. Then retaining 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'. All such operations will be registered in the emergency point operation counter Register. Each operation of emergency point operation shall be recorded in the Station Master's diary and in the register meant for this purpose.

[g] **EMERGENCY ROUTE RELEASE COUNTER:**

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

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

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

When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), the concerned signal must be put back to Danger by simultaneously pressing the signal cancellation button and the concerned signal button. After this first the emergency route release button (white with red dot) positioned in the top of panel to be pressed and subsequently the concerned signal button is to be pressed releasing the emergency route release button. A White light will flash 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 (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 release the route and seal the emergency route release button.

Each operation of emergency cancellation of route is recorded in the emergency route release counter register by registering the next higher number. All such operations and the new number should be recorded in the Station Master's diary and in the Train Signal Register.

[i] **TRACK CIRCUITS:**

Up and Down main Lines, Up loop line, common loop, common loop (Goods) and point zones are track circuited.



In addition there are short length track circuits in advance of Advanced Starter Signals and Home signal in both the directions are also provided. For Calling-on signals (7 Rail length) track circuits are also provided in rear of the Home signals in both directions. From last trailing point/fouling mark in either side of Yard to Advanced Starter Signals are also track circuited. Indications for the above track circuits are available on panel at RRI Cabin. Yellow light on panel indicates track clear and Red light indicates track occupied condition.

**AXLE COUNTER:**

- (1) The Block Sections on both Up and Down Lines between Stations BHC-BUDR, BHC-RANITAL LINK JN. CABIN and BHC – BHATATIRA are monitored by Digital Axle counter system. These Digital Axle Counters are provided for Last Vehicle check on either Block Sections as well as for dispatching a train in block section from either end of the section. These Digital Axle counter system counts the Axles 'IN' and counting axles 'OUT' in the respective block sections which indicate whether the concerned sections monitored by digital axle counters is "clear" or "occupied".
- (2) Fiber glass trolley wheels are to be provided for push trolleys in lieu of trolley suppression track circuits.

A pair of electronic axle counter is provided between BHC-BUDR on Up line one just beyond Up advanced starter of BHC and another on track circuit no.1T1 i.e. 180m beyond Up Home signal of BUDR. Similarly, a pair of electronic axle counter is provided between BUDR-BHC on down line one just beyond Down Advanced Starter signal of BUDR and another on track circuit no.2T2 i.e. 180 m beyond DN Home Signal of BHC.

Another pair of electronic axle counter is provided between BHC-RANITAL LINK JN. CABIN on Up line one just beyond Up advanced starter RANITAL LINK JN. CABIN and another on track circuit no.1T1 i.e. 180 m beyond Up Home Signal of BHC. Similarly, a pair of electronic axle counter is provided between BHC-RANITAL LINK JN. CABIN on down line one just beyond Down Advanced starter of BHC and another on track circuit no.2T2 i.e. 180m beyond DN Home signal of RANITAL LINK JN. CABIN.

Another pair of electronic axle counter is provided between BHC-BHATATIRA Jn. on Up line one just beyond Up advanced starter of BHATATIRA Jn. and another on track circuit no. 3T2 i.e. 180 m beyond Up Home Signal of BHC Similarly, a pair of electronic axle counter is provided between BHC- BHATATIRA Jn. on down line one just beyond Down Advanced starter of BHC on BHATATIRA Jn. Line and another on track circuit no.4T2 i.e. 180m beyond DN Home signal of BHATATIRA Jn.

The position of the Block section whether "clear" or "occupied" are reflected in the panel diagram provided in the RRI Cabin which shows 'GREEN' when the Block Section is clear and 'RED' when occupied. Whenever a train enters in to the Block Section, "Block Section Clear" indication 'GREEN' for the particular block section disappears and 'RED' indication appears.

After complete arrival of the train i.e clearance of block section the 'RED' indication will disappear and 'GREEN' indication will appear. If after the complete arrival of the train the 'RED' indication does not change to 'GREEN' it should be assumed as Block Instrument failure for the particular section and necessary action as per GR.14.13 is to be followed. The axle counters are interlocked with the respective block instruments for that section. If axle counter fails, Advanced Starter signal shall not come to OFF and the concerned instrument shall remain locked in last operated position.

A resetting arrangement for resumption of the system in case of failure of axle counter has been provided in the RRI Cabin of the adjacent block stations after being assured by both the on duty Dy.SS/SM that the train has arrived complete with its Last Vehicle at the receiving station, by exchanging Private Number then resetting to be complied with.

(Details of resetting procedure given in APPENDIX-'B')

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**NOTE:**

Before taking off reception and dispatch signals for Up and Down directions, the Dy.SS (RRI Cabin) on duty should ensure that the entire route including overlap and berthing portion is clear of all obstructions by observing the Track indication. The indication of the track will exhibit "RED" Light when track is occupied and "YELLOW" light when track is clear with route is set and signal cleared.

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

The Relay room should be kept locked with two separate locks. The arrangement should be such that one key is kept with the on duty Dy.SS at RRI Cabin & the other key with the Signal Maintainer. Whenever required the Dy.SS shall handover the key to the maintainer with proper acknowledgement in the basement/ relay room key register. The maintainer on receipt of the key from the Dy.SS may use the same and the key in his custody to open the basement/ relay room by inserting the keys one after another separately into the earmark locks. After completion of the work, the relay room is to be locked using both the keys separately and designated key should be handed over to the Dy.SS.

The details of transaction is to be properly recorded in the Basement/Relay Room Key Register maintained at the station and duly signed by the Dy.SS and maintainer respectively.

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

- [a] A changeover switch is provided in the RRI Cabin with the three power supplies viz., Up AT, Down. AT and Local, for changing the switch to the required supply position. A luminous indicator above the circuit breaker for each supply indicates the availability of the supply.
- [b] Normally the switch will be kept towards Up AT or Dn AT position. Whenever power block is to be given on the line, the on duty SM must ascertain that power is available on the other AT. Eg: If power block is to be given on the Up line, Down. AT must be available and vice-versa.
- [c] In case of failure of one of the AT supply without any power block, the on duty SM. has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is down and when tripped it goes up.) In case of failure of both AT supplies, the Local supply shall be utilized by operating the switch.

If the circuit breaker is tripping even after resetting, no attempt shall be made to hold it by any other mean and a message shall be given to the AEE and CTFO/PSI for prompt rectification.

- [d] IPS (Integrated Power Supply) arrangement has been provided at the station to take care of the signaling system as well as to avoid blanking of signals in case of power failure. An SM panel indicating the status of IPS is provided in the RRI Cabin having the following indicators.

- Start generator
- Emm. Start generator
- System shut down
- Call S&T staff.

In case of GRIDCO Power failure the IPS takes care of the signaling system approximate for 6 to 8hrs.

One Indication panel for monitoring of IPS voltage has been provided in RRI Cabin. The indication panel shall display the voltage of IPS as well as health of the IPS provided to operate signaling gears. Audio Visual alarm has been provided in the panel to guide on duty Dy.SS to take action in case of low voltage or no voltage or any defect in IPS is shown in the SM panel. Details indications and alarm have been **described in Appendix-'B'**.

**SM INDICATION PANEL FOR IPS.**

An indication panel for IPS is provided at the Station Master room which gives Audio Visual indications depending on the condition of the IPS and IPS battery voltage. The different indications available in the panel are as mentioned below.

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

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

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

**5 TELECOMMUNICATIONS:**

- a) Telephone attached to SGE type Lock and Block Instruments for sections BHC-BUDR , BHC-RANITAL LINK JN. CABIN and Bhadrak-Bhatatira Jn.
- b) Railway Auto Telephone is provided at the station.
- c) BSNL phone is provided at this station.
- d) The Station is connected to BHC-KIS Control Circuit.
- e) VHF set is provided at the station.
- f) Telephone communication is provided between SS on duty at Platform & SM at RRI Cabin.
- g) The station is connected to BHC-BRAG traction power control circuit.
- h) Telephone attached to L.C. Gate at Km. 292/17-19 (UP) and Km 292/20-18 (DN), Km. 293/35-37(UP) and Km 293/38-36 (DN) & Km. 296/23-25 (UP) and Km 296/26-24 (DN)
- i) Telephone communication is provided between SM at RRI and Up CH locations & Down CH Locations.
- j) Telephone communication is provided between SM at RRI & M.V. siding location.

**NOTE**

1. For obtaining line clear VHF should be used as a last alternative and not as a sole means of communication.
2. VHF & Walkie-Talkie sets should not be used for unnecessary discussion with Loco Pilot/ Guards and any other staff.

**6 SYSTEM OF TRAIN WORKING:**

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

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

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

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

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		<u>In each shift</u>
SMR (Supervisory)	1 (One)	-
SS	1 (One)	in each shift at PF
Dy.SS	1 (one)	in each shift at RRI
SM	1 (one)	In each shift at RRI
Traffic Pointsman	3 (Three)	In each shift at PF
Traffic Pointsman	2 (Two)	In each shift at RRI
STM	1 (One)	In each shift
Traffic Gateman	1 (One)	In each shift

The above staff shall work as per roster issued from time to time by Divisional Railway Manager (P) and these rosters shall be conspicuously displayed in the RRI Cabin and in Gate lodge for traffic gate man

(Details duties are given in APPENDIX-'D')

#### 6.1.2 **RESPONSIBILITY FOR ASCERTAINING CLEARANCE OF LINES AND ZONES OF RESPONSIBILITY.**

The SM on duty is responsible to ascertain the clearance of the nominated line between BSLB/first facing point and advanced starter signal in each direction.

#### 6.1.3 **ASSURANCE OF THE STAFF IN THE ASSURANCE REGISTER**

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

No Railway servant shall be entrusted with any duty involving the safety of the public unless the SMR 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 well conversant with the Station Working Rules of the Station and their signature obtained in the Assurance Register after he is satisfied that they have thoroughly understood the Working Rules of the Station. In case of class-IV staff, their signature/thumb impression must be obtained after explaining full about their duties and responsibility. The SMR is personally responsible for maintaining the Assurance Register and for obtaining declaration from the staff working under him. The Assurance Register must be maintained in two parts one for Group-'C' staff and other for Group-'D' staff & duplicate copy of the Assurance Register must be maintained and kept in the personal custody by the Station Manager.

The declarations are to be renewed in the following cases:

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

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

Sufficient private number books and identification number sheets in sealed covers shall always be kept in stock by Dy.SS on duty at RRI Cabin under lock key by maintaining register for this purpose.

#### 6.2. **CONDITIONS FOR GRANTING LINE CLEAR:**

Before granting a line clear for a train the SM on duty shall ensure that:

- (i) The whole of the last preceding train has arrived complete in side the outermost facing point No.104A in DN direction and the Block Section Limit Board in Up direction on Ranital Link Jn. Cabin end and inside DS point No.123 (On Line No.1) for UP Line from BHATATIRA Jn.
- (ii) All necessary signals have been put back to 'ON' behind the said train.
- (iii) The line is clear up to the Block Section Limit Board on Up Line for Up Trains for Main Line Trains and up to the edge of Level Crossing Gate No. 118 at km 292/17-19 for UP Trains from BHATATIRA Jn. and up to the outermost facing point No. 104A on Down Line for Down trains.

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- (iv) All signal lights pertaining to the train are burning properly.

**NOTE:**

- (1) If the light of the reception signal is found not burning, line clear shall not be granted for train till such time it is ensured that the concerned Loco Pilot is notified of the fact in writing by the Station Master of the station to which such line clear is to be granted or alternatively the Signal is lit up.
- (2) Before granting line clear to a Down train the Station Master on duty shall intimate to the Gateman of Level Crossing gate at Km.296/26-24 well in advance to close the gate against road traffic.

**RECEPTION OF TRAINS:**

Before admitting a train on any line, it must be ensured that the correct route set indication for the respective line shows Yellow indication in the illuminated panel diagram. To receive a train for which line clear is given, the Dy.SS 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 panel indication. During failure of track circuit of a concerned route he shall apprise the SS on duty at platform to ensure the clearance of the same by physical verification under exchange of private number.

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

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

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

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

NIL

**6.2.1.1 SETTING OF POINTS AGAINST BLOCKED LINE**

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

If all the lines at a station happen to be blocked, when line clear has been granted to a train, the point should be set for the line occupied by a stabled load or a Goods train. [Refer SR. 3.51.06 (b)].

The above precautions shall be taken in addition to the observance of other precautions. [Refer SR 5.04.01 & SR 5.23.01].

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

When ever trains are to be admitted on an obstructed line the calling-on signal may be taken off. If the calling-on signal failed then the SS on duty at platform/SM on duty at RRI Cabin

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shall authorize the on duty TPM with form T/509, indicating the reason for such admission the line number and the nature of obstruction on that line.

Before handing over the authority, the SS(PF)/SM(RRI) on duty shall ensure the correct setting, clamping and padlocking of both facing and trailing end of the concerned route vide SR 3.69.03.

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

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

Before receiving a train on non-signalled line, the SM shall ensure that

- a. The train is brought to a stand at the first stop signal.
- b. The line on which it is intended to receive the train is clear up to the trailing points or up to the place at which the train is required to come to a stand.
- c. All points over which the train has to pass are correctly set, the facing points and trailing points clamped and padlocked and
- d. T/369(3b) shall be given to the Loco Pilot to pass he approach stop signal at 'ON' position. [Refer GR 5.10].

#### **6.2.1.4 DESPATCH OF TRAIN FROM NON-SIGNALLED LINE.**

When ever a train is to be dispatched from a non-signalled line, a starting order on form T-511 shall be given to the Loco Pilot to start from the non-signalled line. Before handing over the T/511 the SM shall depute his pointsman at the foot of the concerned points. The TPM on duty shall clamp and padlock the same after setting the point in the desired direction under the supervision of SM on duty then after handing over the authority he shall show the proceed hand signal to the Loco Pilot. [Refer SR.5.11.1].

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

====NIL====

- 6.2.1.6 Up Main, Up loop, Down main, common loop, Common loop (Goods) lines and point zones are track circuited. In case of failure of track circuits, the clearance of the nominated line has to be ensured physically before piloting 'IN' a train.

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

The Dy.SS 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, 4.17 and SR 3.36. 01, 3.36.02, 3.36.04, 3.40.01, 3.40.02, 3.47.01, 4.17.02, and Block Working Manual].

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

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

6.4 **SIMULTANEOUS RECEPTION/DESPATCH AND PRECEDENCE OF TRAINS:**

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

1.	While Receiving an UP train on line No.1 (Common Loop) from Ranital Link Junction Cabin end.	Dispatching of an UP train on line No.2 or 3 or 5 or 6 or 7 or 8 or 9 OR Receiving/dispatching a DN train from Line No.4 or 5 or 6 or 7 or 8 or 9 OR Dispatching of a down train towards Bhatatira from Line no.5 or 6 or 7 or 8 or 9.
2.	While Receiving of an UP train on line No.2 (UP loop) from Ranital Link Junction Cabin end.	Dispatching an UP train on line No. 3 or 5 or 6 or 7 or 8 or 9 OR Receiving/dispatching a DN train from Line No.4 or 5 or 6 or 7 or 8 or 9 OR Dispatching of a down train towards Bhatatira from Line no.5 or 6 or 7 or 8 or 9.
3.	While Receiving of an UP train on line No.3 (UP Main) from Ranital Link Junction Cabin end.	Receiving/dispatching a DN train from Line No.4 or 5 or 6 or 7 or 8 or 9 OR Dispatching of a down train towards Bhatatira from Line no.5 or 6 or 7 or 8 or 9.
4.	While Receiving of an UP train on line No.5 (Common loop) from Ranital Link Junction Cabin end setting towards shunting neck.	Receiving of a DN train from line No.1 OR dispatching of an UP train from line No.1 or 2 or 3 OR Dispatching of a Down train towards Bhatatira Jn from line no.6 or 7 or 8 or 9 Reception of an UP train on Line No.1 from Bhatatira Jn.
5.	While Receiving of an UP train on line No.6 (Goods Common loop) from Ranital Link Junction Cabin end setting towards shunting neck.	Receiving of a DN train from line No.1 OR dispatching an UP train from line No.1 or 2 or 3 OR Reception of an UP train from Bhatatira Jn on line no.1.
6.	While Receiving of an UP train on line No.7 (Common loop-Goods) from Ranital Link Junction Cabin end setting towards shunting neck.	Dispatching an UP train on line No1 or 2 or 3 or 5 or 6 or Receiving of a DN train on line No 1 OR Reception of an UP train from Bhatatira Jn on line no.1.
7.	While Receiving of an UP train on line No.8 (Common loop-Goods) from Ranital Link Junction Cabin end setting towards shunting neck.	Dispatching an UP train on line No1 or 2 or 3 or 5 or 6 or receiving of a DN train on line No 1 OR Reception of an UP train from Bhatatira Jn on line no.1.
8.	While Receiving of an UP train on line No.9 (Common loop-Goods) from Ranital Link Junction Cabin end setting towards shunting neck.	Dispatching an UP train on line No1 or 2 or 3 or 5 or 6 OR Receiving of a DN train on line No 1 OR Reception of an UP train from Bhatatira Jn on line no.1.
9.	While Receiving of an UP train on line No.1 (Common loop) from Bhatatira Jn end setting towards DS No.146.	Reception/Dispatch of an UP train on Line no.2 or 3 or 5 or 6 or 7 or 8 or 9 from Ranital Link Jn Cabin end OR Reception/Dispatch of a Down train from Line no.4 or 5 or 6 or 7 or 8 or 9.
10.	While Receiving of a DN train on line No.4 (DN Main)	Dispatching of an UP train from line No.1 or 2 or 3 OR Reception of an UP train from Bhatatira Jn/Ranital Link Jn Cabin on line no.1 OR dispatching of a DN train from line no.5 or 6 or 7 or 8 or 9 towards Bhatatira Jn.
11	While Receiving a DN train on line No. 5 (Common loop), setting towards D.S No.137	Reception/Dispatch of an UP train from line No.1 or 2 or 3 OR dispatching of a DN train from line No.4 towards Ranital Link Jn. Cabin OR Reception of an UP train from Bhatatira Jn/Ranital Link Jn Cabin on

		line no.1.
12.	While Receiving a DN train on line No.6 (Common loop-Goods), setting towards Sand Hump	Dispatching of an UP train from line No.1 or 2 or 3 OR dispatching of a DN train from line No.1 or 4 towards Ranital Link Jn Cabin OR Reception of an UP train from Bhatatira Jn/Ranital Link Jn Cabin on line no.1
13	While Receiving a DN train on line No.7 (Common loop-Goods), setting towards Sand Hump.	Dispatching of an UP train from line No.1 or 2 or 3 OR dispatching of a DN train from line No.1 or 4 towards Ranital Link Jn Cabin OR dispatching of a DN train from line No.5 towards Bhatatira Jn OR Reception of an UP train from Bhatatira Jn/Ranital Link Jn Cabin on line no.1
14	While Receiving a DN train on line No.8 (Common loop-Goods), setting towards Sand Hump.	Dispatching of an UP train from line No.1 or 2 or 3 OR dispatching of a DN train from line No.1 or 4 towards Ranital Link Jn Cabin OR dispatching of a DN train from line No.5 towards Bhatatira Jn OR Reception of an UP train from Bhatatira Jn/Ranital Link Jn Cabin on line no.1
15	While Receiving a DN train on line No.9 (Common loop-Goods), setting towards Sand Hump.	Dispatching of an UP train from line No.1 or 2 or 3 OR dispatching of a DN train from line No.1 or 4 towards Ranital Link Jn Cabin OR dispatching of a DN train from line No.5 towards Bhatatira Jn OR Reception of an UP train from Bhatatira Jn/Ranital Link Jn Cabin on line no.1
16	While Receiving a DN train on line No.1 (Common Loop), setting towards D.S.No.123.	Receiving of an UP train on line No. 5 or 6 or 7 or 8 or 9 from Ranital Link Jn. Cabin end OR dispatching of a DN train from line no.4 towards Ranital Link Jn. Cabin OR dispatching of a DN train from line no.5 or 6 or 7 or 8 or 9 towards Bhatatira Jn./Ranital Link Jn. Cabin.

**ADEQUATE DISTANCE(SIGNAL OVERLAP):**

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

**FOR UP TRAINS:-**

Line Number	From	To
1. Common Loop	Common Loop Starter signal No. 31	Up to the edge of the LC Gate at Km.293/35-37(UP) & 293/38-36(DN), Keeping the gate in open condition OR up to Up Advanced Starter Signal No.75.
2. Up Loop	Up Loop Starter signal No. 33	Up to the edge of the LC Gate at Km.293/35-37(UP) & 293/38-36(DN), Keeping the gate in open condition OR upto Up Advanced Starter Signal No.75.
3. Up Main	Up main line starter Signal No.73.	Up to the edge of the LC Gate at Km.293/35-37(UP) & 293/38-36(DN), Keeping the gate in open condition or up to the Advanced Starter Signal No. 75..
5. Common Loop	Common Loop starter Signal No.37.	Up to the far end of shunting neck, keeping point no.118 in reversed condition & L.C.Gate at Km.293/35-37(UP) & 293/38-36(DN) in open condition.

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6. Common Loop (Goods)	Common Loop(Goods) starter Signal No.39.	Up to the far end of shunting neck, keeping point no.118 in reversed condition & L.C.Gate at Km.293/35-37(UP) & 293/38-36(DN) in open condition.
7. Common Loop (Goods)	Common Loop(Goods) starter Signal No.41.	Up to Derailing Switch No.124, keeping in open condition.
8. Common Loop (Goods)	Common Loop(Goods) starter Signal No.43.	Up to Derailing Switch No.124, keeping in open condition.
9. Common Loop (Goods)	Common Loop(Goods) starter Signal No.45.	Up to Derailing Switch No.124, keeping in open condition.

<b>FOR DN. TRAINS</b>		
1. Common Loop	Common Loop Starter signal No. 36.	Up to the Derailing Switch No-123, keeping in open condition
4. Dn. Main	Dn. main line starter Signal No.58.	Up to the edge of the LC Gate at Km.292/17-19(UP) & 292/20-18(DN).(Keeping the gate in open condition)
5 Common Loop	Common loop line starter signal No.30.	Up to the Derailing Switch No-137, keeping in open condition OR upto track circuit no.117 BT, keeping the gate in open condition.
6. Common Loop	Common Loop(Goods) starter Signal No.28.	Up to the far end of Sand Hump or upto D.S.No.137, keeping the derailing switch in open condition.
7. Common Loop	Common Loop(Goods) starter Signal No.26.	Up to the far end of Sand Hump or upto D.S.No.137, keeping the derailing switch in open condition OR Upto DN Advanced Starter No.60, keeping the gate at Km. 292/20-18, in open condition.
8. Common Loop	Common Loop(Goods) starter Signal No.24.	Up to far end of Sand hump or upto D.S.No.137, keeping the derailing switch in open condition OR Upto DN Advanced Starter No.60, keeping the gate at Km. 292/20-18, in open condition.
9. Common Loop	Common Loop(Goods) starter Signal No.22.	Up to far end of Sand hump or upto D.S.No.137, keeping the derailing switch in open condition OR Upto DN Advanced Starter No.60, keeping the gate at Km. 292/20-18, in open condition.

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

The entire block section between BHC-BUDR, BHC-RANITAL LINK JN. CABIN and BHADRAK – BHATATIRA Jn. 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 in **the resetting box provided** at RRI Cabin. As soon as train enters in to that block section, the RED indication appears on the **resetting box provided**. After whole train clears the block section GREEN indication appears on **the resetting box provided**. This confirms the complete arrival of train and the SM on duty at RRI Cabin shall give 'Train Out of Block Section' report on seeing the section clear indication (GREEN) on the **resetting box**.

If a train passes through the station without confirming the last vehicle indicator, the station master on duty at RRI Cabin shall advise the station in advance to stop the train for last

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vehicle verification & he need not to withhold closing the block section in rear. He shall obtain confirmation under exchange of private number about the complete arrival of the train with its last vehicle from the station in advance and subsequent trains may be dispatched.

In case of failure of Axle counter in either block section, the traffic gateman shall ensure that the train has arrived complete and shall give one Private Number to the SM on duty at RRI Cabin vide SR 4.17.01(e)(iv). For through passing train the SM on duty at RRI Cabin 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.

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.

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

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

To despatch a train, the SM on duty at RRI Cabin shall obtain line clear for the train & Dy.SS on duty shall set the route for the outgoing train correctly and satisfy himself by observing the visual indication on the panel. He shall suspend all non-isolated shunting. The Station Master on duty at RRI Cabin shall ensure that the Level crossing Gates are closed against road traffic and then Dy.SS on duty shall take "OFF" the concerned route starter and Advanced starter signal. The 'OFF' aspect of the route starter and Advanced starter is the authority to proceed into the block section. As soon as the train passes the Advanced Starter signal, train entering section indication will appear on the panel board. The SM on duty at RRI Cabin shall then send the train entering block section signal to the station in advance. [Refer GR 3.38, 3.42, SR 3.36.04(b), 3.42.04 and BWM 2.07.5(a).

#### **NOTE :**

Before dispatching of an Up train, the Station Master on duty at RRI cabin shall intimate to the Gateman on duty to close the gate.

#### 6.7 **TRAINS RUNNING THROUGH:**

The procedure detailed in Para 6.5, 6.6 shall be observed. The Station Master on duty at RRI Cabin is responsible to observe/watch the condition of the vehicles on a passing train and shall wave green hand signal horizontally until any thing wrong is noticed on train. For this purpose, the Station Master on duty at RRI Cabin shall stand in such a position that he sees a clear view of the passing train and that his hand signals can clearly be seen by the Loco Pilot and Guard of the train. [Refer GR 3.42, 4.17, 4.42 & 4.42.2].The SM on duty at RRI Cabin shall also depute his pointsman with hand signals to the other side of the passing train to observe the passing train. He shall show green hand signal horizontally on the other side until anything wrong is noticed on the train. He shall show danger hand signal if he notices anything unsafe for the safe passage of the train. He shall report the same to the SM on duty at RRI Cabin for taking further suitable action in terms of SR 4.42.02(d).

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

#### 6.8 **WORKING IN CASE OF FAILURE:**

#### **PROCEDURE TO BE FOLLOWED FOR WORKING OF TRAINS DURING FAILURE /SUSPENSION OF INTERLOCKING /SIGNALS/ POINTS:**

##### A. **TRACK CIRCUITS:**

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In case of failure of track circuits, the clearance of the concerned line should be ensured physically before a train is piloted.

**B. AXLE COUNTER:**

If the axle counter fails between the block sections, resetting procedure will be adopted as per Para 13.8 of SWR (APP-B). If the axle counter indication does not appear 'Green' & continues to show 'RED' condition after resetting, the concerned block section shall be suspended & failure intimation to be given to sectional signal Maintainer /JE/SE (signal ) for rectification.

**C. BLOCK INSTRUMENTS:**

In the event of partial/total failure of block instrument the concerned block instrument shall be suspended till its rectification and trains shall work as per GR. [Refer SR 6.02.03 & 6.02.06]. During this period of time 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.

**D. RECEPTION OF TRAIN ON OBSTRUCTED LINE:**

When ever trains are to be admitted on an obstructed line the calling-on signal may be taken off. If the calling-on signal failed then the SS on duty at platform/SM on duty at RRI Cabin shall authorize the on duty TPM with from 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 SS(PF)/SM(RRI) on duty shall ensure the correct setting, clamping and padlocking of both facing and trailing end of the concerned route vide SR 3.69.03.

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

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

====NIL====

**F. DEFECTIVE SIGNALS:**

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

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

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

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

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

**H. DEFECTIVE INTERLOCKING:**

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When interlocking becomes defective the SM on duty at RRI Cabin/SS on duty at platform at his end shall be responsible for correct setting, clamping and padlocking of points for admission of train. [Refer SR 3.69.03(b) (i)].

**I DEFECTIVE/DAMAGED POINTS:**

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

<u>CRANK HANDLE</u>		<u>CONTROL POINTS</u>
CH-1	-----	102,120
CH-2	-----	104,122.
CH-3	-----	106,118.
CH-4	-----	128,130,132.
CH-5	-----	124,126,134,136,138
CH-6	-----	146,150,152.
CH-7	-----	148,154.
CH-8	-----	158,160.
CH-9	-----	-----
CH-10	-----	105,117
CH-11	-----	123,129
CH-12	-----	121,125,127
CH-13	-----	137
CH-14	-----	139,145
CH-15	-----	143
CH-16	-----	147,149,151

These crank handles are interlocked with the signaling and interlocking system at this station and normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals are in Normal Position and the route is not locked for whatever reasons. Crank Handle can be released by pressing common 'TRANS' push button and concerned Crank Handle control push button simultaneously. When the keys are taken out no signal can be taken "OFF" over the particular route on the points nominated by that Crank Handle. This key can be electrically transmitted at both locations of the yard for manual operation of the defective points.

SM on duty at RRI Cabin/SS on duty at platform shall personally ensure the clamping and padlocking of all facing and trailing points. If the Crank Handle is in locked condition and it is necessary to operate the concerned point by Crank Handle due to whatever reason then the concerned signal should be put back to "ON" position then Crank Handle Key can be taken out after two minutes by pressing common 'TRANS' push button and concerned Crank Handle control push button simultaneously. An emergency Crank handle register shall be maintained by the Dy.SS on duty at the station as per Para 20.06(d) of the Operating Manual. Correct setting clamping and padlocking of the points devolve on the SM on duty at RRI Cabin/SS on duty at platform.

The cases of the failure of motor point should be promptly reported to the concerned signal maintainer/signal inspector for immediate rectification.

**J PILOTING OF TRAINS INTO STATION YARD:**

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Whenever Home signal becomes defective, trains can be admitted by taking off Calling-on signal. When both Home and Calling-on signal failed, then the trains will be piloted 'IN' in terms of SR 3.69.3(a) & (c). The Dy.SS on duty at RRI Cabin shall nominate a clear line and shall set the nominated route correctly from the panel. If the concerned points cannot be set from the panel, then the TPM on duty shall set the points correctly with the help of crank handle. The TPM on duty shall clamp and padlock the same under the supervision of SS on duty at Platform/SM on duty at RRI Cabin in both cases.

Then the SS on duty at platform/SM on duty at RRI Cabin shall then hand over the written authority (T/369(3b)) to the TPM for "Piloting IN" the train. While going towards Home signal, the TPM shall check that the points have been correctly set, clamped and padlocked.

After the train has brought to a dead stop at the Home signal the TPM shall hand over the pilot memo to the Loco Pilot, board the engine and display proceed hand signal to pass the defective Home signal.

**NOTE:**

- (1) The Station Master on duty at RRI Cabin/SS on duty at platform shall personally supervise the correct setting, clamping and padlocking of both end points for admission of a train.
- (2) The keys of padlock used for clamps on the points shall be kept in the personal custody of SM on duty at RRI Cabin/SS on duty at platform till such movement is either completed or alternatively cancelled.
- (3) The SM on duty at RRI Cabin shall ensure the closure of the interlocked gate supported by a Private Number from the Gateman on duty, before Piloting in the Train.

**G. PILOTING OF TRAINS - OUT OF STATION YARD:**

When the starter signal has become defective, the Dy.SS at RRI Cabin shall take 'OFF' the Calling-on signal provided below concerned starter signal for dispatch of train. When both starter signal and Calling-on signal can not be taken 'OFF', the Dy.SS on duty at RRI Cabin shall set the points correctly from the panel. If the points cannot be set from the panel, the concerned points will be set correctly by the TPM on duty for the outgoing train with the help of crank handle. The TPM on duty shall clamp and padlock both the facing and trailing end points under supervision of SM on duty at RRI/SS on duty at platform in both the cases. The SM on duty at RRI Cabin shall also advise the gateman to close the level crossing gate on the route for dispatch of a train. The SM on duty at RRI Cabin/SS on duty at platform shall then authorize the TPM on duty to hand over the Pilot Memo T/369(3b) along with other authorities if any to the Loco Pilot of the train. Thereafter, he shall display proceed hand signal at the foot of the starter signal vide Subsidiary Rule 3.70.01.

In case Advanced Starter Signal becomes defective, such signal shall be passed on the written authority on the form T/369(3b). Proceed hand signal shall not be displayed vide Subsidiary Rule 3.70.02. The TPM shall hand over the pilot memo in form T/369(3 b) to the Loco Pilot after the train stopped.

**NOTE:**

1. The Station Master on duty at RRI Cabin/SS on duty at platform shall personally supervise the correct setting, clamping and padlocking of both end points for dispatching of a train.
2. The keys of padlock used for clamps on the points shall be kept in the personal custody of SM on duty at RRI Cabin/SS on duty at platform till such movement is either completed or alternatively cancelled.
3. The SM on duty at RRI Cabin shall ensure the closure of the interlocked gate supported by a Private Number from the Gateman on duty, before Piloting out the Train.

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

Motor trolleys are to run in accordance with rules laid down in SRs. 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, and 5.13 of BWM].

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- 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 conform to the rules laid down for ordinary trolleys while running without block protection and to those laid down for motor trolleys while running under block protection or following another light motor trolley.

#### 7. **BLOCKING OF THE LINES:**

Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement. 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 to prevent rolling down of vehicles. [Refer SR 3.36.3(b), GR 5.23 and SR 5.23.01]

#### A. **SECURING OF VEHICLES: -**

As far as practicable Loose vehicle shall not be allowed to stand on the running line. However under unavoidable circumstances, if it is necessary to detach vehicle from a train or to stable a train and leave them standing on the running line, the SS on duty at Platform shall be responsible to secure the vehicle/stable loads to prevent rolling down of vehicles and arrest obstruction and fouling.

#### **NOTE**

Special care should be taken to secure special type vehicles fitted with roller bearing while standing in siding or in running lines. [Refer GR 5.23 & SR 5.23.01]

#### B. **USE OF REMINDER BLOCK COLLARS :-**

Whenever any running line is blocked or when a train is stopped to cross another train or detained for any other reason, even for a short while or during shunting operations, the reminder collars shall be used by the Dy.SS on duty at RRI cabin on the push button concerned. [Refer SR 3.36.03 (b)].

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

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

#### **NOTE**

Special care should be taken to secure special type vehicles fitted with roller bearing while standing in siding or in running lines, Vide SR 5.23.01 (b) as they are liable to roll down easily.

#### 8. **SHUNTING :**

#### 8.1 **GENERAL PRECAUTIONS**

Shunting will be carried out at the station in accordance with General Rule and relevant Subsidiary Rules and Block working Manual. [Refer GR 3.46, 3.52 to 3.56, 5.13, 5.14, 5.16, 5.17, 5.19, 5.20 to 5.23, and 8.09, to 8.15].

The Guard/STM on duty is authorised to supervise shunting operation. Normally Independent Shunt signals, **calling-on-signals**, back shunt signals and shunt signals provided below starter signals shall be used for shunting operations. The official supervising shunting shall ensure the correct setting, clamping and padlocking of points incase of non-signaling movements.

The SS on duty at PF 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.

Before commencing any Shunting on UP or Down Lines infringing the Level Crossing gates, SM on duty / in charge of the Shunting Operation shall ensure closure of the L.C Gate.

**NOTE**

For any non-signalled movement physical verification of the clearance of the cross over points shall be ensured by the Guard/STM on duty for supervising shunting operation.

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

- i) Shunting in the face of an approaching train is prohibited.

**8.3 PROHIBITION OF SHUNTING (SPECIAL FEATURE IF ANY):**

Hand/Fly shunting is prohibited at both ends of the yard. Shunting in the face of an approaching train is prohibited.

**8.4.A SHUNTING OUTSIDE THE STATION SECTION:**

- a) When line clear has been given, no shunting shall be permitted in the Block section in rear.
- b) 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.
- c) 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)

**8.4.B SHUNTING WITHIN STATION SECTION:**

If necessary signals are kept at 'ON' shunting may be carried on within the station section but this shall be done only when there is no approaching train since shunting in face of an approaching train is prohibited at this station.

**8.5 SHUNTING IN THE SIDING:**

While shunting in the Shunting neck/sidings/classification lines, it should be authorised by issuing T/806 clearly mentioning the limits up to which shunting is permitted as also the lines occupied in shunting. The relevant provision of GR 5.14 and SRs thereto shall be meticulously followed for shunting operation in Shunting neck/sidings/classification lines.

**(a) SHUNTING NECKS:**

- i) The shunting neck is the extended portion of Line No.1(common loop) towards VSKP end of the yard with one side entry. It is isolated by a derailing switch point no.146, which is motor operated. The point is operated from SM at RRI Cabin. It is terminated with a Dead End chainage 1481.7 mtrs towards VSKP end. Entrance & Exit of trains from the shunting neck are controlled by shunt signal no.SH(31, 33, 37, 39, 41, 43, 45, 73)A provided below the concerned Up Starter signals, SH35, SH53, SH55, SH57, SH59 & SH(A-M) respectively. The Points and shunt signals are operated from SM/RRI.
- ii) The shunting neck is the extended portion of Line No.7(Goods Common loop) towards VSKP end of the yard with one side entry. It is isolated by a derailing switch point no.124, which is motor operated. The point is operated from SM/RRI. It is terminated with a Dead End

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chainage 1178.0 mtrs towards VSKP end. Entrance & Exit of trains from the shunting neck are controlled by shunt signal no.SH(37, 39, 41, 43, 45)C provided below the concerned Up Starter signals, SH35, SH61, SH61, SH63, SH65 & SH10(A-I) respectively. The Points and shunt signals are operated from SM/RRI.

(b) **TOWER WAGON SIDING :**

The Tower Wagon siding at VSKP end of the yard with one side entry is taking off from the shunting neck i.e. extended from line no.7(Goods Common loop). The siding is isolated by a derailing switch point no.106B, which is motor operated. The dead end chainage of the siding is 561.0 mtrs. The take off point chainage for the siding is 701.0 mtrs. Entrance & exit of Tower Wagon from the siding is controlled by SH10A & SH65 respectively. The points & shunt signals meant for the siding are operated from SM/RRI.

(c) **ARME SIDING/SALOON SIDING :**

The ARME siding at VSKP end of the yard with one side entry is taking off from line no.1(common loop). It is isolated by a derailing switch & terminated with a dead end CH.127.0 mtrs. The take off point chainage for the siding is 268.5 mtrs. The entrance point 160A & corresponding derailing switch 160B are motor operated points. Entrance & exit of ARME/Saloon from the siding is controlled by SH(6, 8)J & SH55AB respectively. The points & shunt signals meant for the siding are operated from SM/RRI.

(d) **ART SIDING/HOLDING LINE :**

The ART siding/Holding Line at VSKP end of the yard with one side entry is taking off from line no.1(common loop). It is isolated by a derailing switch & terminated with a dead end CH.36.5 mtrs. The take off point chainage for the siding is 349.0 mtrs. The entrance point 158A & corresponding derailing switch 158B are motor operated points. Entrance & exit of ART/Trains from the siding is controlled by SH(6, 8)K & SH53AB respectively. The points & shunt signals meant for the siding are operated from SM/RRI.

(e) **GOODS SIDING :**

i) The Goods siding at VSKP end of the yard with one side entry is taking off from line no.1(common loop). It is isolated by a derailing switch & terminated with a dead end CH.27.0 mtrs. The take off point chainage for the siding is 600.0 mtrs. The entrance point 150A with corresponding derailing switch 150B & 152 are motor operated points. Entrance & exit of trains from the siding is controlled by SH6L & SH59 respectively. The points & shunt signals meant for the siding are operated from SM/RRI.

ii) The Goods siding at VSKP end of the yard with one side entry is taking off from the goods siding i.e. taking off from line no.1(common loop). The take off point chainage for the siding is 535.0 mtrs. It is terminated with D.E chainage 174.0 mtrs. The entrance point no.152 is a motor operated point. Entrance & exit of trains from the siding is controlled by SH6M & SH57 respectively. The points & shunt signals meant for the siding are operated from SM/RRI.

(f) **SPUR LINE/CLASSIFICATION LINE :**

i) The Classification Line No. 1 with one side entry is taking off from line no.7(Goods Common loop) at VSKP end of the yard. The take off point chainage for the classification line is 473.0 mtrs. The dead end chainage of the classification line is 90.0 mtrs. Entrance & exit of trains from classification line is controlled by SH10C & SH61 respectively. The points & shunt signals meant for the classification line are operated from SM/RRI.

ii) The Spur Line/Classification Line No.2 at VSKP end of the yard with one side entry is taking off from classification line no.1. . The dead end chainage of the spur line/classification line is 90.0 mtrs. The take off point chainage for the spur line/classification line is at point CH.401.0 mtrs. Entrance & exit of trains from spur line/classification line is controlled by SH10B & SH63 respectively. The points & shunt signals meant for the spur line/classification line are operated from SM/RRI.



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**(g) MEDICAL VAN(MV) SIDING**

The MV siding is provided at HWH end of the common loop line no.1 with entry from both directions. The siding is isolated from the running line by derailing switch. VSKP end of the siding is operated by arc lever at site. The entrance point is fitted with hand plunger lock. The hand plunger lock is unlocked by MV siding key 'A1' & released by pressing the button No.131 & common group trans button provided at SM/RR1. Reception signals ( i.e. 1A, C1A in UP direction & 2G,C2G in DN direction) & shunt signal No.SH-5,SH-7,SH-6-I,SH-8-I,SH-38A/B,SH-36A/B,SH-31A/B & Dispatch signals( No. 31,C-31,36,C-36) are electrically interlocked in such a way that these signals can not be taken 'off' if the MV siding key is taken 'OUT' from the RKT provided at siding location box at site. The entrance point no.129 A & corresponding derailing switch point no.129 B towards HWH end of MV siding are motor operated from SM/RR1. Entrance & Exit of trains at HWH end from the MV siding are controlled by shunt signal no.SH-5A, SH-7A & SH-38AB respectively operated from SM/RR1.

- (h) Line No.5(Common loop) is extended towards HWH end and is connected to Bhatatira Jn. Siding Line. It is isolated by a derailing switch point no.137, which is motor operated. The point is operated from SM/RR1. The movement of trains from this line is controlled by shunt signal no.SH(22, 24, 26, 28, 30)A provided below the concerned DN Starter signals & SH9(A-E) respectively. The Points and shunt signals are operated from SM/RR1.
- (i) Line No.1 is extended towards HWH end and is connected to Bhatatira Jn. Siding Line. It is isolated by a derailing switch point no.123, which is motor operated. The points & shunt signals are operated from **SM/RR1** Cabin.

**9. ABNORMAL CONDITION: -****[i] PARTIAL FAILURE: -**

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

- (a) Failure/Suspension of Block Instrument or Track Circuit or Axle counters-  
Line Clear shall be obtained on the Telephone attached to the Block Instrument exchanging ID number and supported by Private Number.
- (b) Failure/Suspension of Block Instrument or Track Circuit or Axle Counters or telephone attached to the Block Instruments.  
'Line clear' shall be obtained on Railway auto phone or BSNL phone by exchanging Identification Number supported by a Private Number.
- (c) Failure/Suspension of Block Instrument or Track Circuit or Axle counters or telephone attached to the Block Instruments or Railway auto phone or BSNL phone.  
'Line Clear' shall be obtained on control phone by exchanging Identification Number supported by a Private Number.
- (d) Failure/Suspension of Block Instrument or Track Circuit or Axle counters or Telephone attached to the Block Instruments or Railway auto phone or BSNL phone or control phone.  
'Line Clear' shall be obtained on the VHF sets by exchanging identification Number supported by a Private Number.

The authority to proceed for the Loco Pilot is T/369(3b) bearing identification Number and Private Number received from the station in advance written both in figure and words. [Refer SR 6.02.06 & Chapter -V of BWM]

**[ii] THE AUTHORITY TO PROCEED IN OCCUPIED BLOCK SECTION IN CASE OF OBSTRUCTION OF LINE OR ACCIDENT.**

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

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

- (a) The previous block ticket is collected & cancelled, or
  - (b) Necessary endorsement is given on the previous block ticket with the advise to wait at the site for a next train to follow, or
  - (c) The previous train has met with an accident or has been disabled, or
  - (d) The block ticket has been collected from the Loco Pilot of the previous train by the official in-charge at the site & kept in the personal custody & shall be kept until the arrival of the next train & such assurance is given over the telephone installed at the site quoting the serial number of the Block Ticket so collected.
- (1) SM on duty at RRI Cabin will suspend the Absolute Block System of working and both SM's concerned should arrange for running of trains on the authority of Block Ticket.
  - (2) SM/SS on duty (PF) at the dispatching end will hand over to the Loco Pilot, the BLOCK TICKET as the authority which shall include.
  - (3) Caution order: Existing speed restriction shall be indicated in the Caution Order portion. The speed restriction to 15Kmph during clear visibility and 10Kmph when visibility is obstructed shall be clearly indicated.
  - (4) An authority to pass the stop signals at 'ON' position.
  - (5) Before resumption of normal working a message between the SM's of the concerned station shall be exchanged with private number. [Refer SR 6.02.05(d) (VI)].
  - (6) The block ticket so issued must be collected by SM/SS of either end with a certificate about the complete arrival of the train with its time and the section is clear of all obstructions from the Loco Pilot/Guard of the train and cancels it.

[iii] **TRAINS DELAYED IN BLOCK SECTIONS:**

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 on duty at RRI Cabin 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 of Axle Counter Block/BPAC – Procedure to be followed as detailed at Para 6.8.B.
- [v] Procedure for emergency operation of points by Crank Handle.-  
The detailed Procedure for emergency operation of points by Crank Handle of motor operated points is given in Para No.6.8 (I) (Main body).
- [vi] Procedure for emergency operation of points with point zone axle counter/Track circuits failure and emergency route release.[GR 3.39 and GR 3.77]
- [vii] 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 SS on duty at platform.
- [viii] Reporting of failure of points, Track circuits/axle counter and interlocking-  
Whenever there is a failure of points, Track circuits/axle counter or any interlocking gear at RRI Cabin, the failure should be reported by Dy.SS on duty to the concerned Signaling 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, Dy.SS should restore the normal working.  
The entries in failure register to be done with message to the section controller.

9.1 **TOTAL FAILURE OF COMMUNICATION: -**

In the event of total failure of communications between BHC-BUDR and BHC-RANITAL LINK JN. CABIN i.e. when line clear can not be obtained by any one of the following means stated in order of preference viz.

- [A]. Block Instruments, Track Circuits or Axle counters.

(A.K.JENA)  
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(D.NAYAK)  
DOM/KUR

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- [B]. Telephone attached to the Block Instruments.
  - [C]. Fixed telephones such as Railway auto phones & BSNL phones.
  - [D]. Control telephone.
  - [E]. VHF sets.
- i]. Each train before being allowed into the Block Section should be stopped and the Guard and Loco Pilot of the train apprised of the situation.
  - ii]. The SM on duty at RRI Cabin/SS on duty at Platform shall give an authority(T/C 602) for working of trains during total interruption of communication on Double line section to the Loco Pilot of each train which shall include.-
    - a) An authority to proceed without 'Line Clear'.
    - b) An authority to pass the Last Stop Signal at "ON" position,
    - c) A caution order restricting the speed to 25KMPH by day when view ahead is clear and 10KMPH 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 off only after the train has been brought to a stand out side it.
  - v]. On arrival at the next block station the Loco Pilot shall hand over the authority to proceed with out line clear to the SM on duty who will preserve the same for further inspection. 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. [Refer SR 6.02.03].

#### 9.2 **TEMPORARY SINGLE LINE WORKING BETWEEN BHC-BUDR, BHC-RANITAL OR BHC-BHATATIRA JN.:**

During temporary single line working on one clear line when one line is obstructed either between BHC-BUDR, BHC-RANITAL and BHC-BHATATIRA Jn., trains shall be worked as per the procedure as detailed below. [Refer SR 6.02.01]. **Ranital Link Junction cabin shall remain closed during temporary single line working between BHC – RANITAL due to no suitable crossover facility between BHC-RANITAL Link junction cabin.**

- i]. Before introducing single line working, the SM on duty must satisfy that the line on which single line will be introduced is clear and free from all obstructions.
- ii]. The Lock and Block instrument will be suspended.
- iii]. The SM proposing single line working must issue a message with the cause of introduction of single line working, Line on which the single line will be introduced, Source of information about the clearance of the line on which single line will be introduced, Place of obstruction, restriction of speed, If any, assurance about keeping the last stop signal at 'ON' position if the train runs on right lines and in case of wrong line all signals are to be kept at 'ON' position, the number and the timings of last train which arrived or left the Block station issuing the message.
- iv]. The SM of the other end block section will acknowledge the message and confirm the same by a Private Number.
- v]. After obtaining line clear for the train from the Advance station, the SM on duty at RRI Cabin/SS on duty at platform shall give following documents.
  - An authority for Temporary Single Line working on double line (T/D 602) indicating there in.
    - a. The line on which single line is introduced.
    - b. The kilo-meterages of obstruction.
    - c. Any other speed restriction existing, in the section.
    - d. Endorsement to inform all Gang man and Gateman about the single line working (for the first train only).
  - vi]. The speed of the first train to be restricted to 25 KMPH subject to other speed restriction.
  - vii]. An authority 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

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shall be piloted out and at the receiving station, the train shall be piloted 'IN', on the authority of T/369(3b).

Ensuring that the obstructed line is clear of all obstructions. SM will resume normal working after exchanging message with the SM of the other concerned end supported by private number in consultation with the SCR on duty.

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 6.02.01]

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

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

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

- i] The previous block ticket is collected & cancelled, or
  - ii] Necessary endorsement is given on the previous block ticket with the advice 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 collected from the Loco Pilot of the previous train by the official in-charge at the site & kept in the personal custody & shall be kept until the arrival of the next train & such assurance is given over the telephone installed at the site quoting the serial number of the Block Ticket so collected.
- (a) SM will suspend the absolute block system of working and both SM's concerned should arrange for running of trains on the authority of Block Ticket.
  - (b) SM/SS on duty at Platform at the dispatching end will hand over to the Loco Pilot the BLOCK TICKET as the authority which shall include.
  - (c) Caution order: Existing speed restriction shall be indicated in the Caution Order portion. The speed restriction to 15Kmph during clear visibility and 10Kmph when visibility is obstructed shall be clearly indicated.
  - (d) An authority to pass the stop signals at 'ON' position.
  - (e) Before resumption of normal working a message between the SM's of the concerned station shall be exchanged with private number. [Refer SR 6.02.05(d) (VI)].  
The block ticket so issued must be collected by SM of either end with a certificate about the complete arrival of the train with its time and the section is clear of all obstructions from the Loco Pilot/Guard of the train and cancels it.
10. **VISIBILITY TEST OBJECT:**  
The signal lights of DN Main Starter Signal No.58 & Up Main Starter Signal No.73 during day and night are the visibility test object vide GR 3.61.2(b) (iii)
11. **ESSENTIAL EQUIPMENT AT THE STATION:**  
(Details are given in Appendix-'E')
12. **FOG SIGNAL MEN NOMINATED TO BE CALLED IN CASE OF FOG.**

**FOG SIGNALLING:-**

In case of thick, foggy or tempestuous weather impairing visibility, whenever it is necessary to indicate to the Loco Pilot of an approaching train the locality of a signal, the SMR/SS/Dy.SS/SM on duty at station shall arrange for signaling in terms of General Rules 3.61 and Subsidiary Rules thereto. The assurance of the staff shall be obtained in the month of OCTOBER every year in the Fog Signal Register vide SR.3.61 as a token of their acknowledgement in fog signaling Rules.

Fog signalmen shall be detailed for duty at stations being recruited partly from the station traffic staff and partly from Engineering 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.

**INSTRUCTIONS:**

- a. This register contains the following parts.  
Part. - I: Particulars of fog signal men posted at the station from time to time.  
Part – II: Particulars of receipt and stock of detonating (fog) signals at the station to be filled in whenever detonators are used or received.  
Part – III: Periods of fogs, fog signalmen on duty and details of detonators used.  
Part – IV: Particulars of issue and testing of fog signals at the station.
- b. In charge of the station shall ensure that the information maintained in the register is kept upto date and is accurate in all respects.
- c. 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-C : ANTI COLLISION DEVICE (RAKSHA KAVACH)
- APPENDIX-D : DUTIES OF TRAIN PASSING STAFF AND STAFF IN EACH SHIFT
- APPENDIX-E : LIST OF ESSENTIAL EQUIPMENTS PROVIDED AT THE STATION
- APPENDIX-F : RULES FOR WORKING OF DK STATION, HALTS, IBH, IBS AND OUTLYING SIDINGS
- APPENDIX-G : RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS

## APPENDIX 'A' TO STATION WORKING RULES OF BHADRAK STATION

### 1.0. WORKING OF 'C' CLASS LEVEL CROSSING GATE AT KM. 292/17-19(UP), 292/20-18(DN) L.C.No-118 AT BHADRAK STATION.

#### 1.1 **BRIEF DESCRIPTION:**

1.	No. of Level Crossing Gate	:	118
2.	Engineering or Traffic gate	:	Traffic gate
3.	Under control of station master or permanent way inspector.	:	SMR/BHC
4.	Location at Km.	:	KM. 292/17-19(UP), 292/20-18(DN)
5.	At station	:	BHC
6.	In between stations	:	BHC –RNTL Link Jn. Cabin.
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	:	EKT
12.	Provision of gate signals	:	--
13.	Signaling arrangement	:	Station Stop Signal
14.	Means of communication.	:	Telephone with SM/RRI
15.	Width of the level crossing gate	:	5.50 mtr
16.	Type of road	:	Others
17.	Name of road	:	Dogarasahi Baralapokhari Road
18.	Metalled /Non-Metalled	:	Metalled
19.	Approach road	:	Metalled
20.	Width of the road	:	5.0 mtr
21.	Angle of road crossing (in case of the SKEW gates)	:	-
22.	Road gradients (if any) (i) North /East side	:	Level
	(ii) South/West side	:	1 in 40
23.	Road alignment (straight/Curve) (i) North/East side	:	Straight
	(ii) South/West side	:	Straight
24.	Provision of height gauges	:	Yes
25.	Type of barriers	:	Lifting
26.	Length of check rails	:	8.90 mtr
27.	Road surface in between level crossing gates.	:	Black Topped
28.	Length of rumble strip/ speed breakers.	:	5.5 mtr
29.	Road signs	:	Available
30.	Speed breakers indication board	:	Available
31.	TVU	:	17630 , Aug 2009
32.	Census next due on	:	Aug, 2012
33.	Demarcation for placement of detonators.	:	Available
34.	No. of gatemen working	:	3
35.	Nearest Railway Medical Assistance	:	Bhadrak
36.	Nearest Private Medical Assistance available (if any)	:	Bhadrak
37.	List of equipment available (Yes/No)	:	Yes

## 1.2 **EQUIPEMENT TO BE AVAILABLE AT THE GATE:**

1	Battery operated LED based flashing lamps	3
2	Hand Signal Flag Green	1 mounted on stick
3	Hand Signal Flag Red	3 mounted on sticks
4	Banner Flag Red	3
5	Posts for exhibiting red banner flag	2
6	Spare Chains with Padlocks	2 with stop mark
7	Detonators	10 in tin case
8	Gate lamps	2
9	Tommy Bar	1
10	Mortar Pan	1
11	Spade/ Fowrah	1
12	Pick Axe	1
13	Tin Case for Flags	1
14	Cane for oil	1
15	Water pot/Bucket	1
16	Canister for Muster roll	1
17	Set of spare spectacles of gateman wearing glasses	1
18	Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1
19	Basket	1
20	Whistle	1
21	Wall clock	1
22	Small size chain with padlock	2

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

In addition to the above equipment, following records shall also be kept at the Gate Loge.

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 Gatemen, including date of passing vision test, initial/refresher course, safety camp, etc.
8. Accident Register.
9. Record of last census of road traffic at Level Crossing gate.
10. Public Complaint Book.
11. Inspection Book.

## 1.4 **MODE OF OPERATION:**

### **INTERLOCKING AND NORMAL WORKING:**

This gate is interlocked with all UP reception signals and DN dispatch signals. The interlocking is achieved by means of Electrical Key Transmission system. The normal position of the gate is open. A Two way lever frame is provided at the gate lodge. The key of the L.C.Gate remains in the winch when the gate is in open condition. When it is necessary to close the gate for taking off signals or for shunting operations, the Station Master on duty shall take following steps.



**INTIMATION TO GATEMAN**

- Before taking off reception/departure/shunt signals, station master shall inform the gateman, the number, description and direction of the train.
- The gateman shall close the gate and transfer the key to the station master. ( the detail procedure is described below)
- The reception/departure/signal signals will be taken "OFF".
- In order to ensure that road traffic is not held up for a long time, the station master must ensure that the train is ready for departure in all respects before he advises the gateman for closing the gate.
- When a train has to be Pilot ed to and from the station yard or any shunting movement is to be done, the staff deputed to Pilot the trains or to perform the shunting across the gate shall be personally responsible to ensure that the gate is closed against road traffic before allowing any movement across the gate.

The Gateman on duty shall then close the barriers of the L.C. Gate by operating winch. The key 'M' is to be extracted from the winch, which will be inserted in the GF -2. GF -2 when reversed locks the booms of the gates and releases Key 'N' and GF -1. This key 'N' will be inserted in the EKT and turned and GF-1 will be reversed for taking "OFF" UP Home/Calling-on Signals (1A/B/C/D/E/F/G/H, C-1/A/B/C/D/E/F/G/H and 3 or C3), DN Starter/Calling On/ Shunt Signals (S/C-36,58) (S/C-22/24/26/28/30)A/B, SH(22.24.26.28.30)A/B, SH(32.34.36.38.58)) and Shunt Signals SH5(A-J) & SH9(A-E). Station Master on duty will press level crossing control button No.181 (Chocolate) and group button (release), L.C.Gate closed indication will appear in the panel and concerned signals automatically get released.

After the passage of train or completion of shunting the Station Master on duty shall inform the Gateman and press L.C.Gate controlling button No.181 and common group button (Trans) and keep it pressed till such time the Gateman extracts the gate control key 'N' from the EKT instrument. After getting Key-N this key is inserted GF-2.This will unlock GF-2.GF-2 when normalized key M is released. After getting the Key 'M' the Gateman will unlock the winch and open the L.C.Gate.

Emergency gate release operation facility is provided in the panel when the route gets locked due to some failure. For emergency release of gate, the SM on duty shall press signal cancellation button and then emergency gate release button and gate button No.181. A red flashing (Gate lock) indication will appear and after a lapse of 120sec gate lock indication will disappear and a white light will glow over the emergency gate release button indicating that the operation is matured. The SM on duty shall then operate push button no 181 for gate and group Trans button to release the key from EKT in gate Lodge. All such operation will be registered in the emergency gate operation counter. All such emergency operation shall be recorded in the station diary and in the register meant for it.

GF-1 is provided at the gate lodge to put back the concerned signal to danger in case of emergency by pulling the GF-1 to normal position.

The level crossing gate shall be so worked as to cause the least possible inconvenience to vehicular traffic consistent with safety according to SR 16.03.01(a).To avoid the detention to the road traffic at the Level crossing gate, the gate signals should not be taken off too early in advance and LC gate should not be kept closed for more than 10minutes at a stretch according to SR 16.03.01(b).

**1.5 DUTIES OF GATEMAN:**

- (1) **ALERTNESS:** The gateman shall be alert and be prepared to take immediate action, should danger be apprehended. Keys of the gate shall be in his personal custody.
- (2) **POSITION DURING PASSAGE OF TRAINS:**  
During passage of trains, gateman will stand in the manner indicated below:
- (i) Gateman will stand attentively in front of the gate lodge facing the approaching train.
  - (ii) In day time, gateman shall hold red and green flags furled up on separate sticks in right and left hands respectively.
  - (iii) In night time, gateman shall hold lighted hand signal lamp with white light facing the track.
  - (iv) He shall keep the whistle slung around his neck from a cord.
- (3) **ROUTINE DUTIES OF GATEMAN:**
- (i) Gateman shall place red banner flag during emergencies and obstructions on the track.
  - (ii) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
  - (iii) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
  - (iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
  - (v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
  - (vi) Gateman shall also be prepared to repeat any signal which guard may give to Loco Pilot on walkie – talkie or in any other way.
  - (vii) If lifting barriers / leaf gates get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
  - (viii) Gateman shall report to the nearest SM, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
  - (ix) In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.
  - (x) At the gate whose signal have become defective, the gateman shall close and lock and lifting barriers on sighting a train and hand signal or Pilot the train past the defective signal. In such case he should inform the Loco Pilot to report the defect at the next station.
  - (xi) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
  - (xii) Gateman shall ensure that he is having competency certificate in his possession while on duty.
  - (xiii) Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.
  - (xiv) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
  - (xv) Gateman shall see that the channel for the flange of the wheel is kept clear.
  - (xvi) Gateman shall keep the road surface well watered and rammed in case of Non-metalled roads.
  - (xvii) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
  - (xviii) Gateman on electrified section shall watch that road vehicles / animals passing from gate are within the height loading gauge provided on either side of the level crossing gate.
  - (xix) Gateman shall prevent trespassing by persons or cattle to the maximum extent.

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

In case gateman observes anything unusual with a passing train, he shall take following action.

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

**(5) ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:**

- (i) In case of an obstruction at the level crossing gate, gateman shall maintain the gate signals, if any, in the 'ON' position.
- (ii) Thereafter, if he is unable to remove the obstruction, gateman shall immediately advise the Station Master on duty, if connecting by telephone, regarding the defects/obstructions at the gate, under exchange of private number.
- (iii) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.

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

- (i) 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, Battery operated LED based flashing lamps and red flag by day and red hand signal lamp by night.
- (iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night 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 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 light up Battery operated LED based flashing lamps to warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

**(b) Other action to be taken by Gateman:**

- (i) At night gateman shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub paras (a) and (b) above.
- (ii) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers / leaf gates or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.
- (iii) He shall note down the particulars of the road vehicle, vehicle number, name of the Driver, owner and relay these details to the nearest Station Master or Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

**1.6 FAILURE OF TELEPHONIC COMMUNICATION:**

- When Telephonic Communication fails or it does not get any response from the Gateman despite 2 or 3 attempts, the following procedure should be adopted:
- (i) Station Master on duty shall send written advice to the gateman through the porter with full details of number, description and direction of the train.
  - (ii) Gate man on receipt of such advice shall close the gate and transmit the key to the station master, which will enable him to take 'OFF' reception/departure signals.
  - (iii) When sufficient time is not available because of greater frequency of train service, station master will issue written authority to the train Loco Pilot to pass the signal at 'ON' position.
  - (iv) In addition Station master shall also issue a caution order advising the Loco Pilot to whistle continuously and approach the gate cautiously.
  - (v) The train Loco Pilot shall be instructed to pass the gate cautiously, on being hand signal by the gateman. If hand signal is not seen, Loco Pilot should be prepared to stop sort of the gate and ensure that gate is closed following GR 3.73(2)(b).
  - (vi) In case of an approaching train, the Station Master shall advise the Station Master at the dispatching end, under exchange of private number that the telephone at the gate has failed.
  - (vii) The Station Master at the dispatching end shall then issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
  - (viii) Station master should also advise S & T staff responsible for maintenance of the telephone to rectify the defect at the earliest.
  - (ix) Normal working will be resumed only after S & T staff rectify the telephone and issue reconnection/ fit memo for the same.

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

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

- 1.8 **FAILURE OF GATE KEY WITH THE GATE IN CLOSED POSITION, WHEN GATE KEY CANNOT BE EXTRACTED FOR OPENING THE GATE:**
- (i) If the gate key cannot be extracted from the winch, the gate leaves or the key transmitter then gateman must immediately inform the Station Master on duty on telephone, under exchange private number.
  - (ii) If Emergency Key is available at the gate lodge/Gateman will take it out from the sealed box by breaking the seal and open the gate for road traffic. ( In this gate the emergency key is not available)
  - (iii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/ dispatch of trains as prescribed for non-interlocked gates, should be adopted.
  - (iv) Station Master on duty shall issue a caution order to the Loco Pilot of a departing train.
  - (v) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
  - (vi) Station Master shall advise S & T staff responsible for maintenance of winch/gate leaves/key transmitter to rectify the defect at the earliest.
  - (vii) Normal working will be resumed only after S & T staff repairs the winch/gate leaves/key transmitter and issue reconnection/ fit memo for the same.
- 1.9 **FAILURE OF GATE KEY WITH THE GATE IN OPEN CONDITION:**
- (i) If the gate key cannot be extracted from the winch, gate lever or key transmitter then gateman must immediately inform the Station Master on duty on telephone, under exchange of private number.
  - (ii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/ dispatch of trains as prescribed for non-interlocked gates should be adopted.
  - (iii) Gateman shall secure the gate against road traffic by means of chains and padlocks and pass trains on hand signals.
  - (iv) Station Master on duty shall issue caution order to the Loco Pilot of a departing train.
  - (v) He shall also advise the Station Master at the dispatching end, under exchange of private number to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
  - (vi) Station Master shall advise S & T staff responsible for maintenance of winch/gate leaves/key transmitter to rectify the defect at the earliest
  - (vii) Normal working will resumed only after S & T staff repair the winch/gate leaves/key transmitter and issues reconnection/ fit memo for the same.
- 1.10 **OBSTRUCTION AT THE GATE:**
- (i) If the gate is broken by a road vehicle which is fouling the track or if lifting barriers/ leaf gates or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
  - (ii) Immediately after this, the gateman shall advise the Station Master on duty, regarding the defects / obstructions at the gate, under exchange of private number.
  - (iii) Station Master on duty shall be advised to put the reception/departure signals back to 'ON' position, if taken 'OFF' for a train.
  - (iv) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.
  - (v) Gateman shall then rush with detonators, Battery operated LED based flashing lamps, and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect gate vide GR.16.07.

- (vi) Thereafter he shall protect the gate from the other direction also.
- (vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and relay these details to the Station Master who shall not start the train unless he has been assured by the gateman that the road vehicle or the lifting barriers/ leaf gates are not fouling the track.
- (viii) The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.
- (ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- (x) Station Master shall then issue a caution order to Loco Pilot of all trains to proceed cautiously, and pass the reception/departure signal at "ON" position on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.
- (xi) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and there after exhibit green hand signal, if the gate is not obstructed.
- (xii) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers/leaf gate to repair the same at the earliest.
- (xiii) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers/ leaf gates and issue reconnection/ fit memo for the same.

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

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No.1.10 above. If the obstruction fouls the Level Crossing Gate, gate man must keep the gates closed against road traffic till the track is cleared of the obstruction.

2.0 **WORKING OF 'B1' CLASS LEVEL CROSSING GATE AT KM. 293/35-37(UP), 293/38-36(DN) L.C.No-119 AT BHADRAK STATION.**

2.1 **BRIEF DESCRIPTION**

1.	No. of Level Crossing Gate	:	119
2.	Engineering or Traffic gate	:	Traffic gate
3.	Under control of station master or permanent way inspector.	:	SMR/BHC
4.	Location at Km.	:	KM. 293/35-37(UP), 293/38-36(DN)
5.	At station	:	BHC
6.	In between station	:	BHC -BUDR
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	:	EKT
12.	Provision of gate signals	:	--
13.	Signaling arrangement	:	Station Stop Signal
14.	Means of communication.	:	Telephone with SM/RRI
15.	Width of the level crossing gate	:	5.40 mtr
16.	Type of road	:	Others
17.	Name of road	:	Gunthunia Bazar Road
18.	Metalled /Non-Metalled	:	Metalled
19.	Approach road	:	Metalled
20.	Width of the road	:	5.0 mtr
21.	Angle of road crossing (in case of the SKEW gates)	:	-
22.	Road gradients (if any) (i) North /East side	:	1 in 30
	(ii) South/West side	:	1 in 25
23.	Road alignment (straight/Curve) (i) North/East side	:	Straight
	(ii) South/West side	:	Straight
24.	Provision of height gauges	:	Yes
25.	Type of barriers	:	Lifting
26.	Length of check rails	:	9.50 mtr
27.	Road surface in between level crossing gates.	:	Black Topped
28.	Length of rumble strip/ speed breakers.	:	5.0 mtr
29.	Road signs	:	Available
30.	Speed breakers indication board	:	Available
31.	TVU	:	25116 , Aug 2009
32.	Census next due on	:	Aug 2012
33.	Demarcation for placement of detonators.	:	Available
34.	No. of gatemen working	:	3
35.	Nearest Railway Medical Assistance	:	Bhadrak
36.	Nearest Private Medical Assistance available (if any)	:	Bhadrak
37.	List of equipment available (Yes/No)	:	Yes

## 2.2 **EQUIPMENT TO BE AVAILABLE AT THE GATE:**

1	Battery operated LED based flashing lamps	3
2	Hand Signal Flag Green	1 mounted on stick
3	Hand Signal Flag Red	3 mounted on sticks
4	Banner Flag Red	3
5	Posts for exhibiting red banner flag	2
6	Spare Chains with Padlocks	2 with stop mark
7	Detonators	10 in tin case
8	Gate lamps	2
9	Tommy Bar	1
10	Mortar Pan	1
11	Spade/ Fowrah	1
12	Pick Axe	1
13	Tin Case for Flags	1
14	Cane for oil	1
15	Water pot/Bucket	1
16	Canister for Muster roll	1
17	Set of spare spectacles of gateman wearing glasses	1
18	Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1
19	Basket	1
20	Whistle	1
21	Wall clock	1
22	Small size chain with padlock	2

## 2.3 **RECORDS TO BE KEPT AT GATE LODGE**

In addition to the above equipment, following records shall also be kept at the Gate Lodge.

1. Gate Working Instructions in Hindi/English.
2. 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 Gatemen, including date of passing vision test, initial/refresher course, safety camp, etc.
8. Accident Register.
9. Record of last census of road traffic at Level Crossing gate.
10. Public Complaint Book.
11. Inspection Book.

## 2.4 **MODE OF OPERATION:**

### **INTERLOCKING AND NORMAL WORKING:**

This gate is interlocked with all DN reception signals and Up dispatch signals. The interlocking is achieved by means of Electrical Key Transmission system. The normal position of the gate is open. A Two way lever frame is provided at the gate lodge. The key of the L.C.Gate remains in the winch when the gate is in open condition. When it is necessary to close the gate for taking off signals or for shunting operations the Station Master on duty shall take following steps.



**INTIMATION TO GATEMAN**

- Before taking off reception/departure/shunt signals, station master shall inform the gateman, the number, description and direction of the train.
- The gateman shall close the gate and transfer the key to the station master. ( the detail procedure is described below)
- The reception/departure signals will be taken "OFF".
- In order to ensure that road traffic is not held up for a long time, the station master must ensure that the train is ready for departure in all respects before he advises the gateman for closing the gate.
- When a train has to be Pilot ed to and from the station yard or any shunting movement is to be done, the staff deputed to Pilot the trains or to perform the shunting across the gate shall be personally responsible to ensure that the gate is closed against road traffic before allowing any movement across the gate.

The Gateman on duty shall then close the barriers of the L.C.Gate by operating winch. The key 'P' is to be extracted from the winch, which will be inserted in the GF -2. GF -2 when reversed locks the booms of the gates and releases Key 'Q' and GF -1. This key 'Q' will be inserted in the EKT and turned and GF-1 will be reversed for taking "OFF" DN Home/Calling-on Signals (2A/B/C/D/E/F/G and C-2/A/B/C/D/E/F/G), Up Starter/Calling On/Shunt Signals (S/C-31/33/37/39/41/43/45/73,SH(31.33.35.37.39.41.43.45.53.55.73)B, SH(31.33.35.37.39.41. 43. 45.53.55.73)A,SH(61.63.65),SH(35.37.39.41.43.45)C, SH(57, 59) and Shunt Signals SH10(A-I),SH8(A-K),SH6(A-M). Station Master on duty will press level crossing control button No.180 (Chocolate) and group button (release), L.C.Gate closed indication will appear in the panel and concerned signals automatically get released.

After the passage of train or completion of shunting the Station Master on duty shall inform the Gateman and press L.C.Gate controlling button No.180 and common group button (Trans) and keep it pressed till such time the Gateman extracts the gate control key 'Q' from the EKT instrument. After getting Key-Q this key is inserted Gf-2.This will unlock GF-2.GF-2 when normalized key P is released. After getting the Key 'P' the Gateman will unlock the winch and open the L.C.Gate.

Emergency gate release operation facility is provided in the panel when the route gets locked due to some failure. For emergency release of gate, the SM on duty shall press signal cancellation button and then emergency gate release button and gate button No.180. A red flashing (Gate lock) indication will appear and after a lapse of 120sec gate lock indication will disappear and a white light will glow over the emergency gate release button indicating that the operation is matured. The SM on duty shall then operate push button no 180 for gate and group Trans button to release the key from EKT in gate Lodge. All such operation will be registered in the emergency gate operation counter. All such emergency operation shall be recorded in the station diary and in the register meant for it.

GF-1 is provided at the gate lodge to put back the concerned signal to danger in case of emergency by pulling the GF-1 to normal position.

The level crossing gate shall be so worked as to cause the least possible inconvenience to vehicular traffic consistent with safety according to SR 16.03.01(a).To avoid the detention to the road traffic at the Level crossing gate, the gate signals should not be taken off too early in advance and LC gate should not be kept closed for more than 10minutes at a stretch according to SR 16.03.01(b).

**2.5 DUTIES OF GATEMAN:**

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

(2) **POSITION DURING PASSAGE OF TRAINS:**

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

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

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

- (i) Gateman shall place red banner flag across the track during emergencies and obstructions on the track.
- (ii) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- (iii) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
- (iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- (v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- (vi) Gateman shall also be prepared to repeat any signal which guard may give to Loco Pilot on walkie – talkie or in any other way.
- (vii) If lifting barriers / leaf gates get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- (viii) Gateman shall report to the nearest SM, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- (ix) In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.
- (x) At the gate whose signal have become defective, the gateman shall close and lock and lifting barriers on sighting a train and hand signal or Pilot the train past the defective signal. In such case he should inform the Loco Pilot to report the defect at the next station.
- (xi) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- (xii) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- (xiii) Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.
- (xiv) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- (xv) Gateman shall see that the channel for the flange of the wheel is kept clear.
- (xvi) Gateman shall keep the road surface well watered and rammed in case of Non-metalled roads.
- (xvii) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- (xviii) Gateman on electrified section shall watch that road vehicles / animals passing from gate are within the height loading gauge provided on either side of the level crossing gate.
- (xix) Gateman shall prevent trespassing by persons or cattle to the maximum extent.

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

In case gateman observes anything unusual with a passing train, he shall take following action.

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

**(5) ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:**

- (i) In case of an obstruction at the level crossing gate, gateman shall maintain the gate signals, if any, in the 'ON' position.
- (ii) Thereafter, if he is unable to remove the obstruction, gateman shall immediately advise the Station Master on duty, if connecting by telephone, regarding the defects/obstructions at the gate, under exchange of private number.
- (iii) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.

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

- (i) 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, Battery operated LED based flashing lampss 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 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 light up Battery operated LED based flashing lamps to warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

**(b) Other action to be taken by Gateman:**

- (i) At night gateman shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub paras (a) and (b) above.
- (ii) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers / leaf gates or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.
- (iii) He shall note down the particulars of the road vehicle, vehicle number, name of the **Driver** , owner and relay these details to the nearest Station Master or Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

**2.6 FAILURE OF TELEPHONIC COMMUNICATION:**

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

- (i) Station Master on duty shall send written advice to the gateman through the porter with full details of number, description and direction of the train.
- (ii) Gate man on receipt of such advice shall close the gate and transmit the key to the station master, which will enable him to take 'OFF' reception/departure signals.
- (iii) When sufficient time is not available because of greater frequency of train service, station master will issue written authority to the train Loco Pilot to pass the signal at 'ON' position.
- (iv) In addition Station master shall also issue a caution order advising the Loco Pilot to whistle continuously and approach the gate cautiously.
- (v) The train Loco Pilot shall be instructed to pass the gate cautiously, on being hand signal by the gateman. If hand signal is not seen, Loco Pilot should be prepared to stop sort of the gate and ensure that gate is closed following GR 3.73(2)(b).
- (vi) In case of an approaching train, the Station Master shall advise the Station Master at the dispatching end, under exchange of private number that the telephone at the gate has failed.
- (vii) The Station Master at the dispatching end shall then issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (viii) Station master should also advise S & T staff responsible for maintenance of the telephone to rectify the defect at the earliest.
- (ix) Normal working will be resumed only after S & T staff rectify the telephone and issue reconnection/ fit memo for the same.

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

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

- 2.8 **FAILURE OF GATE KEY WITH THE GATE IN CLOSED POSITION, WHEN GATE KEY CANNOT BE EXTRACTED FOR OPENING THE GATE:**
- (i) If the gate key cannot be extracted from the winch, the gate leaves or the key transmitter then gateman must immediately inform the Station Master on duty on telephone, under exchange private number.
  - (ii) If Emergency Key is available at the gate lodge/Gateman will take it out from the sealed box by breaking the seal and open the gate for road traffic. ( In this gate the emergency key is not available)
  - (iii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/ dispatch of trains as prescribed for non-interlocked gates, should be adopted.
  - (iv) Station Master on duty shall issue a caution order to the Loco Pilot of a departing train.
  - (v) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
  - (vi) Station Master shall advise S & T staff responsible for maintenance of winch/gate leaves/key transmitter to rectify the defect at the earliest.
  - (vii) Normal working will be resumed only after S & T staff repairs the winch/gate leaves/key transmitter and issue reconnection/ fit memo for the same.
- 2.9 **FAILURE OF GATE KEY WITH THE GATE IN OPEN CONDITION:**
- (i) If the gate key cannot be extracted from the winch, gate lever or key transmitter then gateman must immediately inform the Station Master on duty on telephone, under exchange of private number.
  - (ii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/ dispatch of trains as prescribed for non-interlocked gates should be adopted.
  - (iii) Gateman shall secure the gate against road traffic by means of chains and padlocks and pass trains on hand signals.
  - (iv) Station Master on duty shall issue caution order to the Loco Pilot of a departing train.
  - (v) He shall also advise the Station Master at the dispatching end, under exchange of private number to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
  - (vi) Station Master shall advise S & T staff responsible for maintenance of winch/gate leaves/key transmitter to rectify the defect at the earliest.
  - (vii) Normal working will resumed only after S & T staff repair the winch/gate leaves/key transmitter and issues reconnection/ fit memo for the same.
- 2.10 **OBSTRUCTION AT THE GATE:**
- (i) If the gate is broken by a road vehicle which is fouling the track or if lifting barriers/ leaf gates or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
  - (ii) Immediately after this, the gateman shall advise the Station Master on duty, regarding the defects / obstructions at the gate, under exchange of private number.
  - (iii) Station Master on duty shall be advised to put the reception/departure signals back to 'ON' position, if taken 'OFF' for a train.
  - (iv) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.
  - (v) Gateman shall then rush with detonators, Battery operated LED based flashing lamps, and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect gate vide GR.16.07.
  - (vi) Thereafter he shall protect the gate from the other direction also.

- (vii) He shall note down the particulars of the road vehicle, name of the **Driver** , owner and relay these details to the Station Master who shall not start the train unless he has been assured by the gateman that the road vehicle or the lifting barriers/ leaf gates are not fouling the track.
- (viii) The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.
- (ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- (x) Station Master shall then issue a caution order to Loco Pilot of all trains to proceed cautiously, and pass the reception/departure signal at "ON" position on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.
- (xi) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and there after exhibit green hand signal, if the gate is not obstructed.
- (xii) Station Master shall advise maintenance staff responsible fir maintaining the lifting barriers/leaf gate to repair the same at the earliest.
- (xiii) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers/ leaf gates and issue reconnection/ fit memo for the same.

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

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No.2.10 above. If the obstruction fouls the Level Crossing Gate, gate man must keep the gates closed against road traffic till the track is cleared of the obstruction.

3.0 **WORKING INSTUCTIONS OF 'A' CLASS LEVEL CROSSING GATE BETWEEN STATIONS BHADRAK-BAUDPUR AT KM. 296/23-25 (UP) & 296/26-24 (DN)**

3.1 **BRIEF DESCRIPTION:**

1.	No. of Level Crossing Gate	:	120
2.	Engineering or Traffic gate	:	Engineering.
3.	Under control of station master or permanent way inspector.	:	SSE(P.Way)/BHC
4.	Location at Km.	:	296/23-25 (UP) & 296/26-24(DN).
5.	At station	:	---
6.	In between station	:	BHC-BUDR
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	:	Gate stop signal
12.	Provision of gate signal at Km.	:	UP Gate stop signal & DN Gate stop signal
13.	Signaling arrangement	:	UP Gate stop signal, DN Gate stop signal, DN distant & UP distant
14.	Means of communication.	:	Magneto Telephone with SM/RRI
15.	Width of the level crossing gate	:	10.50 mtr.
16.	Type of road	:	Metalled (C. C. Block in gate)
17.	Name of road	:	Gilitia Road
18.	Metalled /Non-Metalled	:	Non-metalled.
19.	Approach road	:	Metalled
20.	Width of the road	:	-
21.	Angle of road crossing (in case of the SKEW gates)	:	-
22.	Road gradients (if any)	:	[a]North Side: 1 : 40
		:	[b] South Side: 1 : 30
23.	Road alignment (straight/Curve)	:	[a] North /East Side: Straight
		:	[b] South / West Side: Straight
24.	Provision of height gauges	:	Provided
25.	Type of barriers	:	Lifting barriers
26.	Length of check rails	:	11.0 mtr.
27.	Road surface in between level crossing gates.	:	C. C. Block
28.	Length of rumble strip/ speed breakers.	:	6.90 mtr.
29.	Road signs	:	Yes
30.	Speed breakers indication board	:	Yes
31.	TVU	:	47840 August – 2009
32.	Census next due on	:	August – 2012
33.	Demarcation for placement of detonators.	:	Yes
34.	No. of gatemen working	:	3 (Three)
35.	Nearest Railway Medical Assistance	:	BHC
36.	Nearest Private Medical Assistance available (if any)	:	BHC
37.	List of equipment available (Yes/No)	:	Yes

### 3.2 **EQUIPEMENT TO BE AVAILABLE AT THE GATE :**

1.	Battery operated LED based flashing lamp	3
2.	Hand Signal Flag Green	1 mounted on stick
3.	Hand Signal Flag Red	3 mounted on sticks
4.	Banner Flag Red	3
5.	Posts for exhibiting red banner flag	2
6.	Spare Chains with Padlocks	2 with stop mark
7.	Detonators	10 in tin case
8.	Gate lamps	2
9.	Tommy Bar	1
10.	Mortar Pan	1
11.	Spade/ Fowrah	1
12.	Rammer	1
13.	Pick Axe	1
14.	Tin Case for Flags	1
15.	Cane for oil	1
16.	Water pot/Bucket	1
17.	Canister for Muster roll	1
18.	Set of spare spectacles of gateman wearing glasses	1
19.	Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1
20.	Basket	1
21.	Whistle	1
22.	Wall clock	1
23.	Small size chain with padlock	2 Nos

### 3.3 **RECORDS TO BE KEPT AT GATE LODGE**

In addition to the above equipment, following records shall also be kept at the Gate Loge.

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

### 3.4 **DUTIES OF GATEMAN:**

#### (1) **ALERTNESS:**

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

#### (2) **POSITION DURING PASSAGE OF TRAINS:**

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

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



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

- (I) Gateman shall place red banner flag across the track during emergencies and obstructions on the track.
- (ii) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- (iii) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, 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, handing battery, any vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vaccum cylinder or any other situation endangering safe running of trains.
- (vi) Gateman shall also be prepared to repeat any signal which guard may give to Loco Pilot on walkie – talkie or in any other way.
- (vii) If lifting barriers / leaf gates get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- (viii) Gateman shall report to the nearest SM, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- (ix) In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.
- (x) At the gate whose signal have become defective, the gateman shall close and lock and lifting barriers / leaf gates on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco Pilot to report the defect at the next station.
- (xi) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- (xii) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- (xiii) Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.
- (xiv) Gateman shall ensure the equipment supplied at the gate is in good order and ready for immediate use.
- (xv) Gateman shall see that the channel for the flange of the wheel is kept clear.
- (xvi) Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
- (xvii) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- (xviii) Gateman on electrified section shall watch that road vehicles / animals passing from gate are within the height loading gauge provided on either side of the level crossing gate.
- (xix) Gateman shall prevent trespassing by persons or cattle to the maximum extent.

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

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

**(5) ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:**

- (i) In case of an obstruction at the level crossing gate, gateman shall maintain the gate signals, in the 'ON' position.
- (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 after two or three attempts, he shall first protect the gate and then inform on phone.

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

- (i) 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, Battery operated LED based flashing lamp and red flag by day and red hand signal lamp by night.
- (iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night 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 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 the return to the site of obstruction, picking up the intermediate detonator on his way back.
- (vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
- (vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- (viii) Thereafter, he shall light up Battery operated LED based flashing lamp to warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

**(b) OTHER ACTION TO BE TAKEN BY GATEMAN:**

- (i) At night gateman shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub paras (a) above.
- (ii) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.
- (iii) He shall note down the particulars of the road vehicle, vehicle number, name of the driver, owner and relay these details to the nearest Station Master or Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

**3.5 MODE OF OPERATION:-****INTERLOCKING AND NORMAL WORKING:**

The gate is normally kept open for road traffic and is closed against the road traffic for the safe passage of trains as and when required. The gate is interlocked with the UP & DN Gate stop signals. A five lever ground frame is provided adjacent to gate lodge for the operation of signal and locking of gate booms.

The function of the lever frame is as under:

Lever No.1	Spare.
Lever No.2	Boom locking lever
Lever No.3	Up Gate stop signal.
Lever No.4	Down Gate stop signal.
Lever No.5	Spare

To close the gate the Gateman shall close the gate barrier by operating the winch provided at the gate lodge. He shall then take "OUT" key 'G' from the winch and insert it in the lock of lever No.2 and turn. This lever No.2 when reversed affects boom locking and releases UP and DN Gate stop signals GF3 and GF4 respectively.

After the passage of the train the signal levers to be normalized and lock levers to be made normal. This will unlock the gate boom and to allow the key "G" to be taken out. This key "G" will be inserted in the winch and unlock to open the gate by operating the winch".

### 3.6 **INTIMATION TO GATEMAN**

- (i) Immediately after departure of the train, station master shall advise the gateman through telephone connected at his end, the number, description and direction of the train and expected passage of the train at the gate.
- (ii) If the actual running time of the train from either end of the section is less than 10 (ten) minutes, Station Master will convey this advise to the gateman before obtaining/granting line clear.
- (iii) It should be the duty of the gate man to ensure that the gate is closed in time so that there is no detention to the train or excessive detention to road traffic.

### 3.7 **FAILURE OF TELEPHONIC COMMUNICATION**

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

- (i) If the telephone fails at the gate connected with the Station at the dispatching end, station master shall then issue a caution order to the Loco Pilot of the departing train.
- (ii) Station master shall advise the Loco Pilot to whistle continuously and proceed cautiously while approaching the gate.
- (iii) In case the gate signal is ON he should stop short of gate signal and follow the procedure laid under GR 3.73.
- (iv) In case of an approaching train, the Station Master shall advise the Station Master at the dispatching end, under exchange of private number that the telephone at the gate has failed.
- (v) The Station Master at the dispatching end shall then issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vi) Station master will also advise the gateman through gangman/patrolman/Loco Pilot of the first train that the telephone has become defective.
- (vii) Station master should also advise S & T staff responsible for maintenance of the telephone to rectify the defect at the earliest.
- (viii) Normal working will be resumed only after S & T staff rectify the telephone and issue reconnection/ fit memo for the same.

### 3.8 **FAILURE OF LIFTING BARRIERS:**

- (i) When the gate cannot be closed due to failure of lifting barriers or leaf gates, the gateman will immediately inform the Station Master on duty, under exchange of private number, and ensure the lifting barriers or leaf gates do not foul the track.
- (ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.
- (iii) Gateman shall secure the gate against road traffic by means of safety chains and padlocks.
- (iv) After securing the gate against road traffic, gateman shall show green hand signal flag by day and green light to the Loco Pilot of the approaching train.

- (v) Station Master on duty shall issue caution order to the Loco Pilot of departing trains.
- (vi) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vii) Station Master shall advise maintenance staff responsible for maintenance of lifting barriers/ leaf gates to repair the defect at the earliest.
- (viii) Normal working will resumed only after maintenance staff repair the lifting barrier/ leaf gates and issue reconnection/ fit memo for the same.

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

- (i) If the gate key cannot be extracted from the winch, the gate leaves or the key transmitter then gateman must immediately inform the Station Master on duty on telephone, under exchange private number.
- (ii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/dispatch of trains as prescribed for non-interlocked gates should be adopted.
- (iii) Station Master on duty shall issue a caution order to the Loco Pilot of a departing train.
- (iv) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (v) Station Master shall advise S & T staff responsible for maintenance of winch/gate leaves/key transmitter to rectify the defect at the earliest.
- (vi) Normal working will be resumed only after S & T staff repairs the winch/gate leaves/key transmitter and issue reconnection/ fit memo for the same.

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

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

**3.11 DEFECTIVE GATE SIGNALS:**

- (i) The gateman shall treat the gate signal as defective and must not lower them under following circumstances:
  - (a) If gate signals can be taken "OFF" without closing the gate, or
  - (b) The key can be extracted from the operating winch when the gate is in open condition, or
  - (c) The key can be extracted from the leaf gates when the gate is in open condition.
- (ii) If the Gate or the Gate Signal or Distant Signal becomes defective in "OFF" position, the gateman will make all efforts to put it at "ON" position even by cutting signal wires, if necessary.
- (iii) The gateman will immediately advise the Station Master on duty, under exchange of private number, regarding defective gate signals.
- (iv) Thereafter, the gate must be treated as non interlocked and procedure for reception/ dispatch of trains as prescribed for non-interlocked gates should be adopted.

- (v) He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.
- (vi) Station Master on duty will issue caution order to the Loco Pilot of a departing train.
- (vii) He shall also advise the Station Master at the dispatching end, under exchange of private number; to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (viii) Station Master shall advise S & T staff responsible for maintaining the gate signal to repair the same at the earliest
- (ix) Normal working will be resumed after S & T staff rectifies the defective gate signal and issue reconnection/ fit memo for the same.

### 3.12 **OBSTRUCTION AT THE GATE:**

- (i) If the gate is broken by a road vehicle which is fouling the track or if lifting barriers/ leaf gates or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- (ii) He shall fix red banner flag by day and red lamp by night on posts provided at both ends of the gate for this purpose.
- (iii) Immediately after this, the gateman shall advise the Station Master on duty, regarding the defects / obstructions at the gate, under exchange of private number.
- (iv) Station Master on duty shall be advised to put the reception/departure signals back to 'ON' position, if taken 'OFF' for a train.
- (v) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.
- (vi) Gateman shall then rush with detonators, Battery operated LED based flashing lamp, and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect gate vide GR.16.07.
- (vii) Thereafter he shall protect the gate from the other direction also.
- (viii) He shall note down the particulars of the road vehicle, name of the driver, owner and relay these details to the Station Master who shall not start the train unless he has been assured by the gateman that the road vehicle or the lifting barriers/ leaf gates are not fouling the track.
- (ix) The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.
- (x) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- (xi) Station Master shall then issue a caution order to Loco Pilot of all trains to proceed cautiously, and pass the reception/departure signal at "ON" position on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.
- (xii) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and there after exhibit green hand signal, if the gate is not obstructed.
- (xiii) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers/leaf gate to repair the same at the earliest.
- (xiv) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers/ leaf gates and issue reconnection/ fit memo for the same.

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

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No.3.12 above. If the obstruction fouls the Level Crossing Gate, gate man must keep the gates closed against road traffic till the track is cleared of the obstruction.

## **APPENDIX 'B' TO STATION WORKING RULES OF BHADRAK STATION**

### **DETAILS OF SIGNALLING AND INTERLOCKING INSTALLATION AND COMMUNICATION ARRANGEMENTS AT THE STATION**

The station is provided with provision of Standard –III Interlocking. The points and Signals etc. are power operated from the panel installed in RRI Cabin. The Station is equipped with Multiple Aspect Colour Light Signaling. Route Relay Interlocking Cabin is controlling movements of trains from/to HWH/VSKP and BHATATIRA ends.

#### **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 the Station Master faces the panel, the yard drawing of the panel corresponds to the actual layout.

#### **1.2 POINT PUSH BUTTON:**

Points are normally operated automatically along with route setting operation. However, required points can be operated individually also. For this point push buttons, 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 (black with red dot) (Normal) or (Reverse) as per requirement, fitted on the top of panel board.

1.2.1 When a point is set and locked in NORMAL position, a 'Yellow' strip light indication on straight line appears suggesting that the point is in NORMAL position.

1.2.2 When a point is set and locked in REVERSE position, a 'Yellow' strip light indication in reverse appears suggesting that the point is in REVERSE position.

1.2.3 When the points of any route have been correctly set and relevant signal is taken 'OFF', 'RED' indication appears near the points indicating that the concerned points are locked either in NORMAL or REVERSE.

1.2.4 When the points are neither set nor locked either in NORMAL or in REVERSE correctly, the normal and reverse indication will not be there but the indication will start flashing till such time the point is housed and 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 indication will flash during point operation also.

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

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

1.2.7 **DESCRIPTION OF POINT PUSH BUTTON**a) **HWH END POINTS:**

SL. No.	Button No.	Colour	Description
1.	105A/B WN	BLACK	Crossover point between Up and Down main line.
2.	117A/B WN	BLACK	Crossover point between Up and Down main line.
3.	123 WN	BLACK	DS point between Bhatatira Line and Line No.1
4.	137 WN	BLACK	DS point between DN Bhatatira Line and Line No.5.
5.	121 WN	BLACK	Crossover point between Up Main Line and Line-2
6.	127 WN	BLACK	DS point in Line no- 2
7.	125A/B WN	BLACK	Crossover point between Line-1 and Line-2.
8.	129A/B WN	BLACK	Crossover point between Line-1 and MV Siding.
9.	139A/B WN	BLACK	Crossover point between Line-5 and Dn. Main line.
10.	143A/B WN	BLACK	Crossover point between Line-5 and line-6.
11.	145A/B WN	BLACK	Crossover point between Line-5 and Dn. Main line.
12.	147 WN	BLACK	Crossover point between Line-7 and line-8.
13.	149 WN	BLACK	Crossover point between Line-8 and line-9.
14.	151 WN	BLACK	Crossover point between Line-6 and line-7.
15.	CONTROL 131	BLACK	Control on MV siding.
16.	CONTROL 181	CHOCOLATE	Control on LC Gate at Km. 292/17-19(Up) & 292/20-18(Dn).

b) **VSKP END POINTS**

SL. No.	Button No.	Colour	Description
1.	102A/B WN	BLACK	Crossover point between Up main line & shunting neck towards VSKP end.
2.	104A/B WN	BLACK	Crossover point between Up and Down main line.
3.	146 WN	BLACK	DS point in shunting Neck towards VSKP end.
4.	106A/B WN	BLACK	Crossover point between Shunting neck towards VSKP end and Tower Wagon Siding.
5.	118A/B WN	BLACK	Crossover point between Shunting neck and Down Main line.
6.	122A/B WN	BLACK	Crossover point between Up and Down main line.
7.	128A/B WN	BLACK	Crossover point between Line-7 and Down main line.
8.	126A/B WN	BLACK	Crossover point between Line-7 and classification line (Line No.1).
9.	134 WN	BLACK	Point between Line-7 and line-8.
10.	136 WN	BLACK	Point between Line-8 and line-9.
11.	130A/B WN	BLACK	Crossover point between Line-6 and Down Main line.
12.	132A/B WN	BLACK	Crossover point between Line-5 and Down Main line.
13.	148 WN	BLACK	Crossover point between Line-2 and line-1.
14.	120A/B WN	BLACK	Crossover point between Line-2 and Up Main line.
15.	150A/B WN	BLACK	Crossover point between Line-1 and Goods Sidings.
16.	152 WN	BLACK	Crossover point between Goods siding-1 and Goods siding-2.
17.	154A/B WN	BLACK	Crossover point between Line-2 and line-1.
18.	158A/B WN	BLACK	Crossover point between Line-1 and ART Siding/Holding line.
19.	160A/B WN	BLACK	Crossover point between Line-1 and ARME Siding/Saloon siding.
20.	CONTROL 180	CHOCOLATE	Control on LC Gate at Km. 293/35-37(Up) & 293/38-36(Down).

### 1.2.8 **DESCRIPTION OF POINT GROUP BUTTON:**

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

### 1.3 **SIGNAL PUSH BUTTON:**

These are RED coloured push button on the panel near the stop signals on the panel. These are operated in conjunction with Route button (white coloured) to take 'OFF' the signals.

#### **DESCRIPTION OF SIGNAL BUTTONS:**

SL. No.	Button No.	Colour	Description
1	C1 A/B/C/D/E/F/G/ H	RED with WHITE Dot	Up Calling-on signal for Up Main, Up loop and Common Loop lines from HWH end/.
2	1 A/B/C/D/E/F/G/H	RED	Up Home signal for Up Main, Common Loop Lines from HWH end.
3	2 A/B/C/D/E/F/G	RED	Down Home Signals for Down Main, Common Loop lines from VSKP end.
4	C2 A/B/C/D/E/F/G	RED with White dot.	Down Calling-on signal for Down Main, Common Loop lines from VSKP end.
5	3	RED	Up Home signal on UP Line from BHATATIRA Jn.
6	C-3	RED with White dot.	Up Calling-on signal on UP Line from BHATATIRA Jn.
7	60	RED	Down Advanced Starter Signal for BHC- RANITAL Line Junction Cabin.
8	75	RED	UP Advanced Starter.
9	62	RED	Down Advanced Starter Signal for BHC- BHATATIRA Jn.
10	36	RED	Common Loop Line no.1 starter signal.
11	58	RED	Down main starter.
12	30	RED	Common Loop Line no.5 starter signal.
13	28	RED	Common Loop (Goods) Line no.6 starter signal.
14	26	RED	Common Loop (Goods) Line no.7 starter signal.
15	24	RED	Common Loop (Goods) Line no.8 starter signal.
16	22	RED	Common Loop (Goods) Line no.9 starter signal.
17	31	RED	Common Loop Line no.1 starter signal.
18	33	RED	Up Loop Line starter signal.
19	73	RED	Up main starter.
20	37	RED	Common Loop Line no.5 starter signal.
21	39	RED	Common Loop (Goods) Line no.6 starter signal.
22	41	RED	Common Loop (Goods) Line no.7 starter signal.
23	43	RED	Common Loop (Goods) Line no.8 starter signal.
24	45	RED	Common Loop (Goods) Line no.9 starter signal.
25	C36	RED with White dot.	Calling-on signal below Common Loop Line no.1 starter signal.
26	C58	RED with White dot.	Calling-on signal below Down Main line starter signal.
27	C30	RED with White dot.	Calling-on signal below Common Loop Line no.5 starter signal.



28	C28	RED with White dot.	Calling-on signal below Common Loop (Goods) Line no.6 starter signal.
29	C26	RED with White dot.	Calling-on signal below Common Loop (Goods) Line no.7 starter signal.
30	C24	RED with White dot.	Calling-on signal below Common Loop (Goods) Line no.8 starter signal.

31	C22	RED with White dot.	Calling-on signal below Common Loop (Goods) Line no.9 starter signal.
32	C31	RED with White dot.	Calling-on signal below Common Loop Line no.1 starter signal.
33	C33	RED with White dot.	Calling-on signal below Loop Line no.1 starter signal.
34	C73	RED with White dot.	Calling-on signal below Up Main line starter signal.
35	C37	RED with White dot.	Calling-on signal below Common Loop Line no.5 starter signal.
36	C39	RED with White dot.	Calling-on signal below Common Loop (Goods) Line no.6 starter signal.
37	C41	RED with White dot.	Calling-on signal below Common Loop (Goods) Line no.7 starter signal.
38	C43	RED with White dot.	Calling-on signal below Common Loop (Goods) Line no.8 starter signal.
39	C45	RED with White dot.	Calling-on signal below Common Loop (Goods) Line no.9 starter signal.
40	SH36	YELLOW	Shunt signal below Common Loop Line no.1 starter signal.
41	SH58	YELLOW	Shunt signal below Down Main line starter signal.
42	SH30	YELLOW	Shunt signal below Common Loop Line no.5 starter signal.
43	SH28	YELLOW	Shunt signal below Common Loop (Goods) Line no.6 starter signal.
44	SH26	YELLOW	Shunt signal below Common Loop (Goods) Line no.7 starter signal.
45	SH24	YELLOW	Shunt signal below Common Loop (Goods) Line no.8 starter signal.
46	SH22	YELLOW	Shunt signal below Common Loop (Goods) Line no.9 starter signal.
47	SH31	YELLOW	Shunt signal below Common Loop Line no.1 starter signal.
48	SH33	YELLOW	Shunt signal below Loop Line no.1 starter signal.
49	SH73	YELLOW	Shunt signal below Up Main line starter signal.
50	SH37	YELLOW	Shunt signal below Common Loop Line no.5 starter signal.
51	SH39	YELLOW	Shunt signal below Common Loop (Goods) Line no.6 starter signal.
52	SH41	YELLOW	Shunt signal below Common Loop (Goods) Line no.7 starter signal.
53	SH43	YELLOW	Shunt signal below Common Loop (Goods) Line no.8 starter signal.

54	SH45	YELLOW	Shunt signal below Common Loop (Goods) Line no.9 starter signal.
55	SH5 A/B/C/D/E/F/ G/H/I/J	YELLOW	Shunt signal for MV Siding, Goods Common loops(L/6,L/7,L/8,L/9),Common loops(L/1,L/5), UP Loop(L/2),Up main line, Dn. main line
56	SH 9 A/B/C/D/E	YELLOW	Shunt signal for shunting neck i.e. extended from Line No.5 towards HWH end.
57	SH 32	YELLOW	Shunt signal on Up main line for shunting up to Down Advanced starter signal no-60.
58	SH 34	YELLOW	Shunt signal on Up loop line for shunting up to Down Advanced starter signal no-60.
59	SH 38	YELLOW	Shunt signal on MV Siding.
60	SH 63	YELLOW	Shunt signal on Spur line/Classification line (Line no.2) towards HWH end.
61	SH 61	YELLOW	Shunt signal on classification line (Line no.1)
62	SH 35 A/B/C	YELLOW	Shunt signal on line no.4 towards VSKP end for shunting upto Up Advanced starter signal no-75 and shunting neck towards VSKP end.
63	SH 55A/B	YELLOW	Shunt signal on ARME Siding/Saloon siding.
64	SH 53A/B	YELLOW	Shunt signal on ART Siding/Holding line.
65	SH 57	YELLOW	Shunt signal on Goods Siding.
66	SH 59	YELLOW	Shunt signal on Goods Siding.
67	SH 65	YELLOW	Shunt signal on TW Siding.
68	SH 10 A/B/C/D/E/F/ G/H/I	YELLOW	Shunt signal on shunting neck for classification lines, Goods Common loops(L/6,L/7,L/8,L/9),Common loops(L/5),TW Siding and Down main line.
69	SH8 A/B/C/D/E/F/ G/H/I/J/K	YELLOW	Shunt signal for ARME Siding/ Saloon siding, ART Siding, Holding line, Goods Common loops(L/6,L/7,L/8,L/9),Common loops (L/1,L/5),Loop (L/2),Up main line, Down main line.
70	SH6 A/B/C/D/E/F/ G/H/I/J/K/L/M	YELLOW	Shunt signal for ARME Siding/Saloon siding, ART Siding/Holding line/Goods Sidings, Goods Common loops (L/6,L/7,L/8,L/9),Common loops(L/1,L/5), UP Loop (L/2), Up main line, Down main line

**SIGNAL INDICATIONS:**

The aspects of the signals as obtained at any time are shown on the panel on the signal indication along side of the track. The 'ON' aspect indications of stop signals are RED and 'OFF' aspect indications are GREEN on panel. The 'ON' Aspect of distant signal is yellow and 'OFF' Aspect is Green on the panel.

**1.4 ROUTE BUTTONS:**

1.4.1 Route buttons are provided separately on each running line on the panel for initiation of route. Common route buttons are also provided for taking off starters. An individual route button is provided for taking "OFF" Advanced Starter for clearing the signal. It is necessary to operate the signal button and the concerned route button simultaneously for taking "OFF" concerned signal.

1.4.2 **DESCRIPTION OF ROUTE BUTTONS:**

SL. No	Button No.	Colour	Description
1.	L1-UN	WHITE	Route button for Down Home/ Up Home on Common loop Line-1 overlap set to Main Line.
2.	L1-UN1	WHITE WITH BLACK DOT	Route button for Down Home/ Up Home on Common loop Line-1 overlap setting towards DS No.123/146 /C2G/SH (6,8)/C1A/SH -5B,3 & C3.
3.	L2-UN	WHITE	Route button for Up Home on UP loop Line-2 overlap set to Main Line
4.	L2-UN1	WHITE WITH BLACK DOT	Route button for Up Home on UP loop Line-2 setting towards DS No.146 SH(6,8)H,C1B,SH5C
5.	L3-UN	WHITE	Route button for Up Home / Up Calling-On/Shunt Signal No 5D/ Shunt Signal No (6,8) G.
6.	L4-UN	WHITE	Route button for Dn. Home / Dn. Calling-On/Shunt Signal No 5E/ Shunt Signal No (6, 8) F/Shunt Signal No 10I.
7.	L5-UN	WHITE	Route button for Up Home/Down Home set to Main Line.
8.	L5-UN1	WHITE WITH BLACK DOT	Route button for UP/DN Home setting towards shunting neck DS No.137/UP Calling-on/DN Calling-on/Shunt 5F/Shunt 9A/ Shunt 6E/Shunt 8E/ Shunt 10H.
9.	L6-UN	WHITE	Route button for Up Home/Down Home set to Main Line.
10.	L6-UN1	WHITE WITH BLACK DOT	Route button for DN Home set to Sand hump of Line 7/UP Calling-on/DN Calling-on/Shunt 5G/Shunt 9B/ Shunt 6D/Shunt 8D/ Shunt 10G/UP home for setting towards shunting neck.
11.	L7-UN	WHITE	Route button for Up Home/Down Home set to Main Line.
12.	L7-UN1	WHITE WITH BLACK DOT	Route button for DN Home set to Sand hump/Up home set to over run line of Line 7/UP Calling-on/DN Calling-on/Shunt 5H/Shunt 9C/ Shunt 6C/Shunt 8C/ Shunt 10F.
13.	L8-UN	WHITE	Route button for Up Home/Down Home set to Main Line.
14.	L8-UN1	WHITE WITH BLACK DOT	Route button for DN Home set to Sand hump of Line no.7/Up home set to overrun line of Line-7/UP Calling-on/DN Calling-on/Shunt 5I /Shunt 9D / Shunt 6B/Shunt 8B/ Shunt 10E.
15.	L9-UN	WHITE	Route button for Up Home/Down Home set to Main Line.
16.	L9-UN1	WHITE WITH BLACK DOT	Route button for DN Home set to Sand hump/Up home set to over run line of Line no.7/UP Calling-on/DN Calling-on/Shunt 5J/Shunt 9E/ Shunt 6A/Shunt 8A/ Shunt 10D.
17.	75-UN	WHITE	Route button for Up Advanced starter signal.
18.	SN2-UN	WHITE	Common route button for SH (31,33,35,37,39,41,43,45,53,55,73)A,SH-57,SH-59).

19.	75AT- UN	WHITE	Common route button for SH (31,33,35,37,39,41,43,45,53,55, 73) B,S/C-31,33,37,39,41,43,45,73.
20.	SN1-UN	WHITE	Common route button for SH (35,37,39,41,43,45)C,SH-61,63,65.
21.	TWS-UN	WHITE	Route button for Shunt signal no-10A.
22.	GS1-UN	WHITE	Route button for Shunt signal no-6M.
23.	GS2-UN	WHITE	Route button for Shunt signal no-6L.
24.	SPR-UN	WHITE	Route button for Shunt signal no-10B.
25.	CSF-UN	WHITE	Route button for Shunt signal no-10C.
26.	ART-UN	WHITE	Route button for Shunt signal no-(6,8)K.
27.	ARME-UN	WHITE	Route button for Shunt signal no-(6,8)J.
28.	MV SDG-UN	WHITE	Route button for Shunt signal no-(5,7)A.
29.	9AT-UN	WHITE	Common route button S/C/SH (22,24,26,28,30)A.
30.	60AT- UN	WHITE	Common route button for,S/C-36,58, SH(32,34,36,38,58), S/C-SH(22,24,26,28,30)B
31.	60-UN	WHITE	Route button for Dn. Advanced starter signal to Ranital Link Jn. Cabin.
32.	62-UN	WHITE	Route button for Dn. Advanced starter signal to BHATATIRA Jn.

#### **CRANK HANDLE PUSH BUTTON**

SL. No.	Button No.	Colour	Description
1.	CH-1	BLUE	To be pressed to extract Crank Handle Key for operation of Point No. 102 & 120 along with "TRANS" Push Button
2.	CH-2	BLUE	To be pressed to extract Crank Handle Key for operation of Point No. 104 & 122 along with "TRANS" Push Button.
3.	CH-3	BLUE	To be pressed to extract crank handle key for operation of point No. 106, 118 along with "TRANS" push button.
4.	CH-4	BLUE	To be pressed to extract crank handle key for operation of point No.128,130 & 132 along with "TRANS" push button.
5.	CH-5	BLUE	To be pressed to extract crank handle key for operation of point No. 124,126,134,136 & 138 along with "TRANS" push button
6.	CH-6	BLUE	To be pressed to extract crank handle key for operation of point No.146,150 & 152 along with "TRANS" push button.
7.	CH-7	BLUE	To be pressed to extract crank handle key for operation of point No. 148 & 154 along with "TRANS" push button
8.	CH-8	BLUE	To be pressed to extract crank handle key for operation of point No. 158 & 160 along with "TRANS" push button
9.	CH-9	BLUE	---
10.	CH-10	BLUE	To be pressed to extract crank handle key for operation of point No. 105 & 117 along with "TRANS" push button
11.	CH-11	BLUE	To be pressed to extract crank handle key for operation of point No. 123 & 129 along with "TRANS" push button
12.	CH-12	BLUE	To be pressed to extract crank handle key for operation of point No. 121,125 & 127 along with "TRANS" push button

13.	CH-13	BLUE	To be pressed to extract crank handle key for operation of point No. 137 along with "TRANS" push button
14.	CH-14	BLUE	To be pressed to extract crank handle key for operation of point No. 139 & 145 along with "TRANS" push button
15.	CH-15	BLUE	To be pressed to extract crank handle key for operation of point No. 143 along with "TRANS" push button
16.	CH-16	BLUE	To be pressed to extract crank handle key for operation of point No. 147,149 & 151 along with "TRANS" push button

### **MISCELLANEOUS PUSH BUTTONS**

<b>SL No</b>	<b>Button No.</b>	<b>Colour</b>	<b>Description</b>
1.	SM'S EMERGENCY POINT OPERATION KEY		This Key is to be inserted and operated in the event of Emergency Point operation.
2.	SM'S PANEL KEY.		To lock the control panel to prevent unauthorized operation.
3.	GROUP TRANS BUTTON	WHITE WITH BLACK DOT.	To be pressed to initiate Slot of Crank Handle Or L.C. Gate operation along with concerned Slot / Crank Handle / L.C. Gate Button.
4.	GROUP RELEASE PUSH BUTTON	WHITE WITH BLACK DOT.	To be pressed to withdraw / Normalise the control of slot / Crank Handle/ L.C Gate operation along with concerned Slot/ Crank Handle/L.C Gate push Button.
5.	POINT GROUP NORMAL PUSH BUTTON	BLACK WITH RED DOT.	To be pressed to initiate "NORMAL" setting of point along with concerned point push button.
6.	POINT GROUP REVERSE PUSH BUTTON	BLACK WITH RED DOT.	To be pressed to initiate "REVERSE" setting of point along with concerned point push button.
7.	EMERGENCY ROUTE RELEASE PUSH BUTTON	WHITE WITH RED DOT.	To be pressed for emergency Route Release.
8.	SIGNAL CANCELLATION PUSH BUTTON	RED	To be pressed for canceling a signal which is already taken "OFF" or to release a Route after passage of train.
9.	SIGNAL LAMP FAILURE ACKNOWLEDGEMENT PUSH BUTTON	RED WITH WHITE DOT	To be pressed for acknowledging signal lamp failure failure Buzzer.
10.	POINT FAILURE ACKNOWLEDGEMENT PUSH BUTTON	RED WITH WHITE DOT	To be pressed for acknowledging point failure Buzzer.

11.	EMERGENCY POINT PERATION	BLACK WITH RED DOT	To be pressed to operate the point when concerned point zone axle counter or track failed.
12.	EMERGENCY POINT PERATION		Key to be inserted on the panel for emergency operation of points
13.	BUTTON HELD ACKNOWLEDGEMENT PUSH BUTTON	WHITE WITH RED DOT	To be pressed for silencing button Held Buzzer in case of any push button remains pressed after the button is released.
14.	EMERGENCY GATE RELEASE BUTTON FOR L.C. GATE AT KM 292/17-19(Up),292/20-18(Dn.)	CHOCOLATE WITH RED DOT	To be pressed for emergency Gate Release at KM 292/17-19(Up) & 292/20-18(Dn.)
15.	L.C. GATE CONTROL 181 PUSH BUTTON	CHOCOLATE	To be pressed for extending Control to open L.C. Gate at KM 292/17-19(Up) & 292/20-18(Dn.)
16.	EMERGENCY GATE RELEASE BUTTON FOR L.C. GATE AT KM 293/35-37(Up),293/38-36(Dn.)	CHOCOLATE WITH RED DOT	To be pressed for emergency Gate Release at KM 293/35-37(Up),293/38-36(Dn.)
17.	L.C. GATE CONTROL 180 PUSH BUTTON	CHOCOLATE	To be pressed for extending Control to open L.C. Gate at KM 292/17-19(Up) & 292/20-18(Dn.)
18.	SIDING CONTROL POINT NO.131 PUSH BUTTON.	BLACK	To be pressed along with TRANS button for extracting key from RKT to operate the MV siding point.
19.	UP BLOCK RELEASE PUSH BUTTON	CHOCOLATE WITH WHITE DOT.	To be pressed for normalizing the Block Instrument for section RANITAL LINK JN. CABIN – BHC.
20.	DN BLOCK RELEASE PUSH BUTTON	CHOCOLATE WITH WHITE DOT.	To be pressed for normalizing the Block Instrument for section BUDR – BHC.
21.	UP BLOCK RELEASE PUSH BUTTON	CHOCOLATE WITH WHITE DOT.	To be pressed for normalizing the Block Instrument for section BHC-BHATATIRA Jn. UP Line.

**POINT FAILURE INDICATION (RED) /POINT FAILURE BUZZER/POINT FAILURE MUTING BUTTON (RED WITH WHITE DOT):**

Whenever there is failure of point due to non-setting, point failure indication flashing light appears near the point button along with point failure Buzzer. The buzzer stops when the point failure acknowledgement button is pressed, but the flashing light above the ACK button shall continue to glow. The flashing light at the concerned point zone can identify the defective point. After the failure is rectified, the flashing light above the ACK button will disappear.

1.5 **FAILURE OF LED SIGNAL AND MUTING BUTTON:**

LED signals have been used at this station. Failure of signals will be indicated by the flashing indication of the concerned signal and appearance of 'RED' light on indication panel along with audible buzzer, which can be stopped by pressing the acknowledgement button. But the RED light will glow until the LED signal is replaced. For rectification of failure Dy.SS on duty should inform the ESM/JE/SE about the failure.

1.6 **EMERGENCY ROUTE RELEASE COUNTER:**

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

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

The panel interlocking is based on the principle of 'DEAD APPROACH LOCKING'. As such when a route is set and signal is taken 'OFF' 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 first the emergency route release button (white with red dot) positioned in the top of panel to be pressed and subsequently the concerned signal button is to be pressed releasing the emergency route release button. A flashing white light above the emergency route release button will lit indicating that the timer has started. 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 (White strip lights) does not disappear, it suggests that the route is not released/cancelled. In such case the concerned S&T staff should be advised immediately to get the emergency route release button sealed after rectification of fault if any. Each operation of emergency cancellation of route is recorded in the emergency route release counter by registering the next higher number. All such operations and the new number should be recorded in the station diary and in the Train Signal Register.

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

Emergency point operation facility is provided to operate the point from the panel in case of failure of point controlling track circuit. If such operation is necessary, the Dy.SS on duty, after ensuring that no vehicle is standing on the concerned point track circuit shall insert the emergency point operation key and press the emergency point operation button along with relevant point button simultaneously. Then retaining 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'. 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.

1.9 **EMERGENCY GATE RELEASE OPERATION(CHOCOLATE WITH RED DOT):**

Emergency gate release operation facility is provided in the panel when the route gets locked due to some failure. For emergency release of LC gate at KM 292/17-19(UP), Km 292/20-18(DN), the Dy.SS on duty shall press signal cancellation button and then emergency gate release button no 181 and gate button No.181. For emergency release of LC gate at KM293/35-37(UP), Km 293/38-36(DN), the Dy.SS on duty shall press signal cancellation button and then emergency gate release button no 180 and gate button No.180 A red flashing (Gate lock) indication will appear and after a lapse of 120sec Gate lock indication will disappear and a white light will glow over the emergency gate release button indicating that the operation is matured. The Dy.SS on duty shall then operate push button for gate and group Trans button to release the key from EKT in gate Lodge. All such operation will be registered in the emergency gate operation counter. All such emergency operation shall be recorded in the station diary and in the register meant for it.

1.10 **BUTTON HELD ACKNOWLEDGEMENT (WHITE WITH RED DOT):**

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

1.11 **TIME RELEASE (WHITE LIGHT):**

Separate indications (White 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 overlap is locked by any Home Signal route 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.

1.12 **TRACK CIRCUITS:**

All the running lines are track circuited, In addition short length track circuits in advance of Advanced starter Signals and Home signals in both the directions are also provided. For Calling-on signals (91M Rail length) track circuits are also provided in rear of the Home signals in both directions. From last trailing point/fouling mark in either side of Yard to Advanced Starter Signals is also track circuited (i.e. 75AT and 60AT & 62AT in Up and Down directions respectively). Normally the indication on panel is blank except point and Block section Indications for the above track circuits. When a signal is cleared, the route indication YELLOW appears for the particular route set and Red light appears as the train occupies the track circuit.

i) **Digital Axle counter is provided in the following sections:**

[a] The entire Block Section on both Up and Down Lines between the stations BHC-BUDR, BHC-RANITAL LINK JN. CABIN and BHC-BHATATIRA are monitored by Digital Axle counter system. These Digital Axle Counters are provided for Last Vehicle check on either Block Sections as well as for dispatching a train in block section from either end of the section. These Digital Axle counter system counts the Axles 'IN' and counting axles 'OUT' in the respective block sections which indicate whether the concerned sections monitored by digital axle counters is "clear" or "occupied".

[b] Fiber glass trolley wheels are to be provided for push trolleys in lieu of trolley suppression track circuits.

A pair of electronic axle counter is provided between BHC-BUDR on Up line one just beyond Up advanced starter of BHC and another on track circuit no.1T1 i.e. 180m beyond Up Home signal of BUDR. Similarly, a pair of electronic axle counter is provided between BUDR-BHC on down line one just beyond Down Advanced Starter signal of BUDR and another on track circuit no.2T2 i.e. 180 m beyond DN Home Signal of BHC.

Another pair of electronic axle counter is provided between BHC-RANITAL LINK JN. CABIN on Up line one just beyond Up advanced starter RANITAL LINK JN. CABIN and another on track circuit no.1T1 i.e. 180 m beyond Up Home Signal of BHC. Similarly, a pair of electronic axle counter is provided between BHC-RANITAL LINK JN. CABIN on down line one just beyond Down Advanced starter of BHC and another on track circuit no.2T2 i.e. 180m beyond DN Home signal of RANITAL LINK JN. CABIN.



Another pair of electronic Digital axle counter is provided between BHC-BHATATIRA Jn. on Up line one just beyond Up advanced starter of BHATATIRA Jn. and another on track circuit no. -3T2 i.e. 180 m beyond Up Home Signal of BHC Similarly, a pair of electronic Digital axle counter is provided between BHC- BHATATIRA Jn. on down line one just beyond Down Advanced starter of BHC on BHATATIRA line and another on track circuit no.-4T2 i.e. 180m beyond DN Home signal of BHATATIRA Jn.

The position of the Block section whether "clear" or "occupied" are reflected in the panel diagram provided in the RRI/Cabin which shows 'GREEN' when the Block Section is clear and 'RED' when occupied. Whenever a train enters in to the Block Section, "Block Section Clear" indication 'GREEN' for the particular block section disappears and 'RED' indication appears.

After complete arrival of the train i.e. **clearance of block section** the 'RED' indication will disappear and 'GREEN' indication will appear. If after the complete arrival of the train the 'RED' indication does not change to 'GREEN' it should be assumed as Block Instrument failure for the particular section and necessary action as per GR.14.13 is to be followed. The axle counters are interlocked with the respective block instruments for that section. If axle counter fails, Advanced Starter signal shall not come to OFF and the concerned instrument shall remain locked in last operated position.

A resetting arrangement for resumption of the system in case of failure of axle counter has been provided in the RRI Cabin of the adjacent block stations after being assured by both the on duty Dy.SS/SM that the train has arrived complete with its Last Vehicle at the receiving station, by exchanging Private Number then resetting to be complied with.

**NOTE:**

Before taking off reception and dispatch signals for Up and Down directions the Dy.SS on duty should ensure that the entire route including overlap and berthing portion is clear of all obstructions by observing the Track indication/Axle counter indication. The indication of track circuit will exhibit Red Light when track is occupied. There will be no track indication when any route is not set.

2.0 **STATION MASTER'S PANEL CONTROL KEY:**

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

2.1 **CRANK HANDLES:**

When any point fails to operate normally by the route setting operation or through the concerned point button through panel, it is inevitable to operate the points with crank handle. SS (PF) on duty pertaining to his end shall personally ensure clamping and padlocking all facing and trailing points in the route. Crank handles are interlocked with signals and interlocking system. The CH push button (Blue) and group button (white with black dot) is provided at the top of the panel board. This 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 extract from RKT. This is called 'Crank handle key locked' indication. The Crank Handle is normally kept in a locked box fitted in RRI cabin and the key is with Dy.SS on duty. This crank handle is Common to all points and is to be taken along with CH key for manual operation of point.

For extracting CH key from RKT, Dy.SS has to press relevant CH button and group trans button simultaneously. The white light besides the CH button starts flashing. After extraction of CH key from RKT at Location box flashing white light disappears. On extraction of CH key from RKT, the points in that particular group can not be operated from the panel. After completion of point operation the CH key will be retransmitted to the station electrically by inserting the CH key in RKT at Location box and turned, the white flashing indication appears on the panel board. The flashing will be stopped and steady indication appears on pressing concerned CH button and group release button (white with black dot).

**Release of Crank Handle when Route is locked:**

When a route is Locked and the crank handle has to be taken out, then first the concerned Signal Button and Signal Cancellation Button has to be pressed for canceling the Signal. Thereafter for extracting CH key from RKT, Dy.SS has to press relevant CH button and group trans button simultaneously. After 120 seconds The red locked Light disappears and . The white light besides the CH button starts flashing After extraction of CH key from RKT at Location box flashing white light disappears. On extraction of CH key from RKT, the points in that particular group can not be operated from the panel. After completion of point operation the CH key will be retransmitted to the station electrically by inserting the CH key in RKT at Location box and turned, the white flashing indication appears on the panel board. The flashing will be stopped and steady indication appears on pressing concerned CH button and group release button (white with black dot).

**2.2 SETTING OF ROUTE AND TAKING OFF RECEPTION SIGNALS:**

For setting a route all the concerned points must be set by operation of relevant point button and group button one at a time in the desired position or by operating signal button and route Button. As soon as the required points are set to the required position, the concerned signal for the route will clear and a YELLOW strip of light will appear on the entire route confirming that the Route is set and locked. The signal 'off' indication will appear on the panel.

**2.3 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 group button one at a time in the desired position or by operating signal button and route button.

To take off advanced starter, line clear must be obtained from the concerned block station in advance. Then the concerned advance starter signal button shall be pressed along with the advanced starter route button for two to three seconds and released. This will clear the advanced starter signal and a YELLOW strip of light will appear on the panel.

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 YELLOW strip of light will appear on the route from the concerned starter to the advanced starter.

**2.4 (i) TAKING OFF CALLING-ON SIGNAL:**

Miniature colour light Calling-on-signals are provided below the Home and Starter 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/dispatch of a train when the Home/Starter signal above it cannot be taken 'OFF' due to failure of that signal or failure of track circuit in the route or any other reason or for a train to be admitted on blocked line.

- (a) To take 'OFF' Calling-on-signal, the train must come to a stop at the foot of the Home Signal occupying the Calling-on-Signal track circuit in the 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 the

train is intended to be received shall be set by operating individually by the panel push button and group button or by signal and route button pressing or by crank handling in the event of failure of operation of point through panel. After the route is set, the Calling-on signal button(C1 A/B/C/D/E/F/G/H – C2 A/B/C/D/E/F/G/H) - C3 (For BHATATIRA Line) shall be pressed simultaneously along with the concerned route button for 2-3 seconds and released. After a lapse of 120 seconds, the calling on signal clears i.e. Yellow light glows at the concerned Calling-on signal on the panel.

- (b) Calling-on signals(C-22/24/26/28/30/36/58 or C-31/33/37/39/41/43/45/73) are also provided below all Up and DN starter signals. When starter signal cannot be taken off due to failure of track circuit, failure of Block Instrument or failure of Up Advanced Starter Signal, the Calling-on signal can be taken off for dispatch of trains.

To take off Calling-on signal provided below Up and DN starter signals, the route must be correctly set and Dy.SS on duty of RRI cabin must satisfy about the clearance of the route including fouling.

**NOTE:**

Dy.SS on duty to ensure that no through signals are given while receiving a train on Calling-on.

- (ii) **FAILURE OF CALLING - ON TRACK AND SPECIAL MEASURES FOR TAKING OFF A "CALLING ON" SIGNAL :-**

In case of failure of the Calling ON track, the trains shall be piloted treating the Calling –on signal as failure and S&T official shall be informed for rectification.

During the failure of the track circuit, before taking off "Calling on" signal, the clearance of the track must be certified by the SS on duty at platform by exchanging private number with the Dy.SS on duty. In all cases of Reception/Despatch of a train by taking off the "Calling on" signal, necessary particulars including the train No. "Calling on" signal No. and the No. Registered on the corresponding veeder counter should be recorded in a Register maintained for this purpose.

2.5 **RELEASE/CANCELLATION OF ROUTE:**

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

**NOTE:**

Up and Down Calling-on signals, Up and Down Advanced starters signal are to be manually cancelled after the passage of the train to cancel the route.

2.6 **REPLACEMENT OF SIGNALS TO 'ON':**

Signals are replaced to 'ON' automatically by the occupation of first track in advance of 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) is to be pressed simultaneously.

2.7 **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 signals and starters.

- 2.7.1. Advanced starter is interlocked with respective Block Instrument in Line Clear Position.

- 2.7.2. The Block Instrument cannot be made normal unless the respective Home signal is put back to 'ON' aspect and the respective block section monitored by axle counter is clear of trains.
- 2.7.3. 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.

## 2.8 **PILOTING OF TRAINS INTO STATION YARD:**

Whenever Home signal becomes defective, trains can be admitted by taking off Calling-on signal. When both Home and Calling-on signal failed, then the trains will be piloted 'IN' in terms of SR 3.69.3(a) & (c).

The Dy.SS on duty at RRI Cabin shall nominate a clear line and shall set the nominated route correctly from the panel. If the concerned points cannot be set from the panel, then the TPM on duty shall set the points correctly with the help of crank handle. The TPM on duty shall clamp and padlock the same under the supervision of SS on duty at Platform/SM on duty at RRI Cabin.

Then the SS on duty at platform/SM on duty at RRI Cabin shall then hand over the written authority (T/369(3b)) to the TPM for "Piloting IN" the train. While going towards Home signal, the TPM shall check that the points have been correctly set, clamped and padlocked. After the train has been brought to a dead stop at the foot of the home signal the TPM shall hand over the PILOT memo to the Loco Pilot, board the engine and display proceed hand signal to pass the defective home signal.

After the train has brought to a dead stop at the Home signal the TPM shall hand over the pilot memo to the Loco Pilot, board the engine and display proceed hand signal to pass the defective signal.

### **NOTE:**

- (1) The Station Master on duty at RRI Cabin/SS on duty at platform shall personally supervise the correct setting, clamping and padlocking of both end points for admission of a train.
- (2) The keys of padlock used for clamps on the points shall be kept in the personal custody of SM on duty at RRI Cabin/SS on duty at platform till such movement is either completed or alternatively cancelled.
- (3) The SM on duty at RRI Cabin shall ensure the closure of the interlocked gate supported by a Private Number from the Gateman on duty.

## 2.9 **PILOTING OF TRAINS - OUT OF STATION YARD:**

When the starter signal has become defective, the Dy.SS at RRI Cabin shall take 'OFF' the Calling-on signal provided below concerned starter signal for dispatch of train. When both starter signal and Calling-on signal can not be taken 'OFF', the Dy.SS on duty at RRI Cabin shall set the points correctly from the panel. If the points cannot be set from the panel, the concerned points will be set correctly by the TPM on duty for the outgoing train with the help of crank handle. The TPM on duty shall clamp and padlock both the facing and trailing end points under supervision of SM on duty at RRI/SS on duty at platform in both the cases. The SM on duty at RRI Cabin shall also advise the gateman to close the level crossing gate on the route for dispatch of a train. The SM on duty at RRI Cabin/SS on duty at platform shall then authorize the TPM on duty to hand over the Pilot Memo T/369(3b) along with other authorities if any to the Loco Pilot of the train. Thereafter, he shall display proceed hand signal at the foot of the starter signal vide Subsidiary Rule 3.70.01.

In case Advanced Starter Signal becomes defective, such signal shall be passed on the written authority on the form T/369(3b). Proceed hand signal shall not be displayed vide Subsidiary Rule 3.70.02 .The TPM shall hand over the pilot memo in form T/369(3 b) to the Loco Pilot after the train stopped.

**NOTE:**

- (1) The Station Master on duty at RRI Cabin/SS on duty at platform shall personally supervise the correct setting, clamping and padlocking of both end points for dispatching of a train.
- (2) The keys of padlock used for clamps on the points shall be kept in the personal custody of SM on duty at RRI Cabin/SS on duty at platform till such movement is either completed or alternatively cancelled.
- (3) The SM on duty at RRI Cabin shall ensure the closure of the interlocked gate supported by a Private Number from the Gateman on duty.

**3.0 SHUNTING:**

- (i) For shunting from running lines and Sidings to Shunting neck or up to Advanced starter independent Shunt signals shall be used.
- (ii) For back shunting individual shunt signals are provided at North and South side of the yard respectively for shunting back to the station yard in desired direction. The particular route on which it is intended to do shunting is to be set by operating the desired points individual from the point or by pressing the shunt signal button and the required route button simultaneously for 2-3 seconds. When the route is set and locked correctly YELLOW strip of lights will appear on the route and the concerned shunt signal shall display 'OFF' aspect.

**3.1 SHUNTING IN THE SIDING:**

While shunting in the Shunting neck/sidings/classification lines, it should be authorised by issuing T/806 clearly mentioning the limits up to which shunting is permitted as also the lines occupied in shunting. The relevant provision of GR 5.14 and SRs thereto shall be meticulously followed for shunting operation in Shunting neck/sidings/classification lines.

**(a) SHUNTING NECKS:**

- i) The shunting neck is the extended portion of Line No.1(common loop) towards VSKP end of the yard with one side entry. It is isolated by a derailing switch point no.146, which is motor operated. The point is operated from SM at RRI Cabin. It is terminated with a Dead End chainage 1481.7 mtrs towards VSKP end. Entrance & Exit of trains from the shunting neck are controlled by shunt signal no.SH(31, 33, 37, 39, 41, 43, 45, 73)A provided below the concerned Up Starter signals, SH35, SH53, SH55, SH57, SH59 & SH(A-M) respectively. The Points shunt signals are operated from SM/RRI.
- ii) The shunting neck is the extended portion of Line No.7(Goods Common loop) towards VSKP end of the yard with one side entry. It is isolated by a derailing switch point no.124, which is motor operated. The point is operated from SM/RRI. It is terminated with a Dead End chainage 1178.0 mtrs towards VSKP end. Entrance & Exit of trains from the shunting neck are controlled by shunt signal no.SH(37, 39, 41, 43, 45)C provided below the concerned Up Starter signals, SH35, SH61, SH61, SH63, SH65 & SH10(A-I) respectively. The Points shunt signals are operated from SM/RRI.

(b) **TOWER WAGON SIDING :**

The Tower Wagon siding at VSKP end of the yard with one side entry is taking off from the shunting neck i.e. extended from line no.7(Goods Common loop). The siding is isolated by a derailing switch point no.106B, which is motor operated. The dead end chainage of the siding is 561.0 mtrs. The take off point chainage for the siding is 701.0 mtrs. Entrance & exit of Tower Wagon from the siding is controlled by SH10A & SH65 respectively. The points & shunt signals meant for the siding are operated from SM/RR1.

(c) **ARME SIDING/SALOON SIDING :**

The ARME siding at VSKP end of the yard with one side entry is taking off from line no.1(common loop). It is isolated by a derailing switch & terminated with a dead end CH.127.0 mtrs. The take off point chainage for the siding is 268.5 mtrs. The entrance point 160A & corresponding derailing switch 160B are motor operated points. Entrance & exit of ARME/Saloon from the siding is controlled by SH(6, 8)J & SH55AB respectively. The points & shunt signals meant for the siding are operated from SM/RR1.

(d) **ART SIDING/HOLDING LINE :**

The ART siding/Holding Line at VSKP end of the yard with one side entry is taking off from line no.1(common loop). It is isolated by a derailing switch & terminated with a dead end CH.36.5 mtrs. The take off point chainage for the siding is 349.0 mtrs. The entrance point 158A & corresponding derailing switch 158B are motor operated points. Entrance & exit of ART/Trains from the siding is controlled by SH(6, 8)K & SH53AB respectively. The points & shunt signals meant for the siding are operated from SM/RR1.

(e) **GOODS SIDING :**

i) The Goods siding at VSKP end of the yard with one side entry is taking off from line no.1(common loop). It is isolated by a derailing switch & terminated with a dead end CH.27.0 mtrs. The take off point chainage for the siding is 600.0 mtrs. The entrance point 150A with corresponding derailing switch 150B & 152 are motor operated points. Entrance & exit of trains from the siding is controlled by SH6L & SH59 respectively. The points & shunt signals meant for the siding are operated from SM/RR1.

ii) The Goods siding at VSKP end of the yard with one side entry is taking off from the goods siding i.e. taking off from line no.1(common loop). The take off point chainage for the siding is 535.0 mtrs. It is terminated with D.E chainage 174.0 mtrs. The entrance point no.152 is a motor operated point. Entrance & exit of trains from the siding is controlled by SH6M & SH57 respectively. The points & shunt signals meant for the siding are operated from SM/RR1.

(f) **SPUR LINE/CLASSIFICATION LINE:**

i) The Classification Line No. 1 with one side entry is taking off from line no.7(Goods Common loop) at VSKP end of the yard. The take off point chainage for the classification line is 473.0 mtrs. The dead end chainage of the classification line is 90.0 mtrs. Entrance & exit of trains from classification line is controlled by SH10C & SH61 respectively. The points & shunt signals meant for the classification line are operated from SM/RR1.

ii) The Spur Line/Classification Line No.2 at VSKP end of the yard with one side entry is taking off from classification line no.1. . The dead end chainage of the spur line/classification line is 90.0 mtrs. The take off point chainage for the spur line/classification line is at point CH.401.0 mtrs. Entrance & exit of trains from spur line/classification line is controlled by SH10B & SH63 respectively. The points & shunt signals meant for the spur line/classification line are operated from SM/RR1.

(g) **MEDICAL VAN (MV) SIDING**

The MV siding is provided at HWH end of the common loop line no.1 with entry from both directions. The siding is isolated from the running line by derailing switch. VSKP end of the siding is operated by arc lever at site. The entrance point is fitted with hand plunger lock. The hand plunger lock is unlocked by MV siding key 'A1' & released by pressing the button No.131 & common group trans button provided at SM/RRI. Reception signals ( i.e. 1A, C1A, 3,C-3 in UP direction & 2G,C2G in DN direction) & shunt signal No.SH-5, SH-6-I,SH-8-I,SH-38,SH-36SH-31A/B & Dispatch signals( No. 31,C-31,36,C-36) are electrically interlocked in such a way that these signals can not be taken 'off' if the MV siding key is taken 'OUT' from the RKT provided at siding location box at site. The entrance point no.129 A & corresponding derailing switch point no.129 B towards HWH end of MV siding are motor operated from SM/RRI. Entrance & Exit of trains at HWH end from the MV siding are controlled by shunt signal no.SH-5A, & SH-38 respectively operated from SM/RRI.

- (h) Line No.5 (Common loop) is extended towards HWH end and is connected to Bhatatira Jn. It is isolated by a derailing switch point no.137, which is motor operated. The point is operated from SM/RRI. The movement of trains from this line is controlled by shunt signal no.SH(22, 24, 26, 28, 30)A provided below the concerned DN Starter signals & SH9(A-E) respectively. The Points and shunt signals are operated from SM/RRI.
- (i) Line No.1 is extended towards HWH end and is connected towards Bhatatira Jn. It is isolated by a derailing switch point no.123, which is motor operated. The points & shunt signals are operated from RRI by SM on duty.

3.2 **DESCRIPTION OF LEVEL CROSSINGS:**

- i) There is a 'C' class interlocked level crossing gate situated at Km 292/17-19(UP) and Km292/20-18(DN), at HWH end of the Station yard & directly operated by means of a winch from Gate Lodge. Telephone communication is provided between the Gate lodge and RRI Cabin/ BHC.
- ii) There is a 'B1' class interlocked level crossing gate situated at Km 293/35-37(UP) and Km 293/38-36(DN), at VSKP end of the Station yard & directly operated by means of a winch from Gate Lodge. Telephone communication is provided between the Gate lodge and RRI Cabin/BHC.
- iii) There is an 'A' class interlocked level crossing gate is situated in the mid section at Km 296/23-25(UP) and Km 296/26-24(DN) between BHC-BUDR stations. Telephone communication is provided between the Gate lodge and the RRI cabin/BHC.

4.0 **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 Dy. SS on duty personally through Luminous 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.

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

Crank handle operation is interlocked with the Signalling and interlocking system at this station.

Key for Crank handles are normally locked inside the RKT instrument at the Location box, can be taken out only when all the 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 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 at 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 Diesel shunting engine or tower wagon, indicating the occupancy of track, it is necessary that the Dy.SS on duty satisfies himself that the said vehicle has cleared the point zone track circuits by observing the track indications of the track on either side of the crossovers by positively checking the 'entrance' and 'exit' track circuits are showing occupancy and clearance in accordance with the train movement.

4.2 **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. Dy.SS on duty shall meticulously observe the proper functioning of the relevant track circuits (occupancy/clearance) while admitting a train. Such observance should continue for a minimum of four to five trains thereafter. If the Dy.SS 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 shall be informed for attending to this.

5.0 **EMERGENCY OPERATIONS:**

The following are the instructions for emergency operations.

5.1 **CANCELLATION BUTTON AND VEEDER COUNTER:**

5.1.1 For the purpose of emergency operations there is an emergency 'Route cancellation' button. 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 Dy.SS on duty must press the emergency route cancellation button and the signal button in accordance with para 1.7 confirming to the section for which emergency route release is desired. An indication will appear indicating that the timer has started operating and after a lapse of 120 seconds, the desired route will be release, provided all other conditions are favourable for route release.

5.1.2 The veeder counter registers the number of such emergency cancellation operations. Dy.SS on duty should specify the cause for its usage giving the particulars of causes and the time of operation as related to a particular train etc., in the train signal register as well as in a separate register meant for this purpose. The detailed operational instructions are as follows:

5.2 **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 "ON" position.
- b) Operation as detailed in Para 1.8 to be followed.

6.0 **MAINTENANCE OF S&T INSTALLATION AND ADHERENCE TO MAINTENANCE SCHEDULES:**

6.1 Regular maintenance of the S&T installations, adherence to schedules of maintenance testing of points, track circuits, 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.

6.2 The tests, checks and replacements etc., shall confirm to the schedules of maintenance as indicated in the Signal Engineering Manual as also as per the current and extant instructions/circulars on the subject.



- 7.0 **PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF AN INTERLOCKING GEAR:**
- 7.1 In case of failure of any interlocking gear at the station, the failure report should be communicated by the Dy.SS to the sectional Maintainer, the signal inspector of the section and others through a memo as per GR and SR 3.51.04 and 3.68.04 and document all such transactions.
- 7.2 **INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:**  
Before declaring a signal as defective, the setting of the point on the route to which it applies shall be inspected by the SS on duty at Platform irrespective of the position of the buttons.
- 7.3 **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 Reconnection Memo detailing the rectification. Thereafter the SS on duty at Platform 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) and (D).
- 8.0 **PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORK:**  
Whenever any normal maintenance or special works for major renewals etc., are involved, the Signal and Telecom should preplan these works. Field staff and the Inspector of the section should give to the Station master in writing 'Advance Intimation' about this work in terms of G and SR.15.08.0.
- 9.0 **EMERGENCIES:**  
Notwithstanding, anything contained in the aforesaid paras when equipment is found defective and unsafe for passage of trains, the Signal and Telecom staff must at once suspend the working of the equipment and associated installations and issue 'Suspension Memo' explaining the seriousness of the defect or damage to the interlocking installation to the Dy.SS and take the Dy.SS's acknowledgement. After this, the usual practice of exchange of disconnection memo and reconnection memo can follow. The Dy.SS 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's according to extant instructions as contained in GR and SR.3.77.
- 10.0 **PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF SIGNALS AND POINTS AND USE OF CRANK HANDLE:**
- 10.1 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 Dy.SS on duty, till it is replaced back in RKT.
- 10.2 The cases of failure of motor operated points should be promptly reported to the concerned Signal maintainer/Signal Inspector for rectification.
- 10.3 Whenever an Emergency Crank Handle is required to be used by a signal official for maintenance work or attending to failure, the signal official will give a disconnection memo to the Station master on duty and after making necessary entries in the Emergency Crank Handle Register. The Dy.SS on duty will obtain the acknowledgement of the signal official in the Emergency Crank Handle Register and then hand over to him the Emergency Crank Handle. The points will be treated as defective until the Emergency Crank Handle is returned back to the Dy.SS on duty.

- 10.4 Before parting with the Emergency Crank Handle either for attending failures or for maintenance work by Signal maintenance officials, the Dy.SS 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 Dy.SS 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 tailing points over which the train is to pass, as per GR.3.69 and 3.70 with relevant SRs. The SS (PF)/SM (RRI cabin) on duty will be personally responsible for setting and locking of points for reception and despatch of all trains.
- 10.5 The Emergency Crank Handle Register is to be maintained vide OM 20.06 note (d) by the Dy.SS on duty wherein the particulars of the usage of the Emergency Crank Handle must be recorded.
- 11.0 **SUSPENSION OF LAST STOP SIGNALS:**  
When the Block Instrument is suspended with its handle in 'TRAIN GOING TO' position for whatever reason, the concerned last stop signal controlled by the Block Instruments must be treated as suspended and trains shall be piloted 'OUT'.
- 11.1 The Station Master on duty shall not grant 'LINE Clear' unless he has ensured that the lamps of fixed signals which apply to the train are burning. If the signal lights can not be kept burning, the Station Master on duty before giving 'LINE CLEAR' shall initiate action in accordance with the procedure prescribed in GR.3.61 to 3.72 and relevant SRs vide GR.3.49(4).
- 12.0 **NORMALISATION OF THE BLOCK AXLE COUNTER AND OF BLOCK WORKING BY RESETTING FEATURE:**
- 13.1 Digital Axle Counters are provided on both Up and Down line Block Sections between BHC-BUDR, BHC-RANITAL LINK JN. CABIN and BHC –BHATATIRA Jn.
- 13.2 The occupation and clearance of the axle counter section are indicated on the panel by 'RED' and 'GREEN' light.
- 13.3 If any Block proving Axle Counter section fails, the Last Stop Signal at the rear station cannot be taken 'OFF' and Block instrument at Advance Station cannot be turned to 'Line Closed' position after arrival of a train and in such case, resetting of last vehicle Checking Device is to be resorted to either Section.
- 13.4. No train should be allowed on signal to leave a station in any particular direction unless:-  
Track clear indication is available for the relevant Axle Counter portion and Last Stop Signal is taken OFF.
- 13.5. Reset arrangements are provided in the operation cum indication panel in the RRI Cabin for sections BHC-BUDR, BHC-RANITAL LINK JN. CABIN and BHC – BHATATIRA Jn. with DLBI. The Up & Dn resetting key along with reset push button for either sections are provided on the resetting Panel for resetting the axle counter in case of its failure. Every such operation of the resetting button and shall be recorded giving details of date of use, train number, time, number registered on the counter and reasons for resetting and initial each such entry.
- 13.6. **RESETTING OF DIGITAL AXLE COUNTERS WHEN FAILED (FOR SECTION BHC-RANITAL LINK JN. CABIN, BHC-BUDR AND BHC-BHATATIRA Jn.**  
After complete arrival of train, if the axle counter of the section does not clear or Axle counter section free indication (G) does not appear in the panel, The receiving station SM shall apprise the sending station SM through telephone for resetting giving details of last train that has arrived complete at his station and the block section is clear.

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

As digital Axle counters are provided as LVCD in Block section, resetting is to be done by both of sending end and receiving end individually. (No co-operation or permission is required from the other station).

The status of the section LVCD i.e. Clear (GREEN), occupied (RED), preparatory reset (GREEN) and power on indications (WHITE) 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
- B. Press LV reset button and reset key provided on the Reset box.
- C. Release SM's LV reset key and reset button.
- D. Turn left the SM's LV reset key and remove it. The power on indication glows momentarily.
- E. The system obtains preparatory reset state and preparatory reset indication (Yellow) glows on the Box.
- 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 in the section to make the system normal.

The SM on duty shall record in it Train in the Register the resetting operation giving details of train number, time, Private Number exchanged with SM of sending station giving reasons for the resetting operation.

If the axle counters functioning properly now, then Block Section cleared indication 'G' 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 section shall be suspended and failure intimation to be given to sectional signal Maintainer/JE/SE (Signal) for early rectification.

Separate register shall be maintained in the Station to record every operation of resetting and the number in the veeder counter in addition this should be recorded in TSR. While taking over/handing over duties the Dy.SS shall record in the TSR the number displayed in the veeder counter and shall acknowledge the same.

### 13.0 **SIGNAL LIGHTS:**

The Dy.SS on duty at 00.00 hours (2nd night shift) must also ensure from panel board that all the signal lights are glowing properly and brightly. This fact must be recorded in the Diary under a separate entry and confirm to the Section Controller on duty.

### 14.0 **CORRECTING TIME IN STATION CLOCK:**

The Dy.SS 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 GR and SR.4.01.01 and 4.01.02.

### 15.0 **TELECOMMUNICATIONS:**

- a) Telephone attached to SGE type Lock and Block Instruments for sections BHC-BUDR and BHC-RANITAL LINK JN. CABIN and Bhadrak-Bhatatira Jn.
- b) Railway Auto Telephone is provided at the station.
- c) BSNL phone is provided at this station.
- d) The Station is connected to BHC-KIS and BHC – KJP Control Circuit.
- e) VHF set is provided at the station.
- f) Telephone communication is provided between SS on duty at Platform & SM at RRI Cabin.

### **NOTE**

(P. K. DAS)  
DSTE/CON/BBS

(D.R.PAUL)  
DOM/KUR

1. For obtaining line clear VHF should be used as a last alternative and not as a sole means of communication.
2. VHF & Walkie-Talkie sets should not be used for unnecessary discussion with Loco Pilot/Guards and any other staff.
  - a) The station is connected to BHC-BRAG traction power control circuit.
  - b) Telephone attached to L.C. Gate at Km. 292/17-19 (UP) and Km 292/20-18 (DN), Km. 293/35-37(UP) and Km 293/38-36 (DN) & Km. 296/23-25 (UP) and Km 296/26-24 (DN)
  - c) Telephone communication is provided between SM at RRI and Up CH locations & Down CH Locations.
  - d) Telephone communication is provided between SM at RRI & M.V. siding location.

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

**ANTI COLISION DIVICE (RAKSHA KAVACH)**

=== NIL ===

(P. K. DAS)  
DSTE/CON/BBS

(D.R.PAUL)  
DOM/KUR

## **APPENDIX – ‘D’ TO THE STATION WORKING RULES OF BHADRAK STATION.**

### **1. STATION MANAGER (SUPERVISORY) :**

He is over all incharge of the Station. He is responsible for the efficient discharge of duties devolving upon all the staff employed at the station whether permanently or temporarily according to Station Working Rules, Manuals & Safe working instructions issued from time to time. He shall get himself well conversant with the detailed working of station, panel, points, signals and L.C.Gates etc.,. He shall see that all signals, points, level crossings and the whole machinery at the station are in perfect working order. He shall report all defects to the concerned officials. He shall satisfy himself that the staff employed at his station are thoroughly conversant with the Station Working Rules and perform their duties correctly. It is his personal responsibility to maintain the Station Working Rules, all Rules Books and Assurance Register up to date. He shall conduct surprise night inspections, safety meetings and fire drills etc., as per instructions issued from time to time. He shall also ensure that the safety equipments at the station building/RRI building as mentioned in Station Working Rules are supplied in full and they are in good working order.

He shall see that all safety records are maintained properly and all rule books 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 are civil and helpful to all users of railway.

He shall frequently visit the platform, RRI cabin, 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 Group ‘C’ and Group ‘D’ staff for PME and Refresher Course / Safety camp in their due time. His Special attention is drawn out to chapter II of General and Subsidiary Rules and GR 5.01 to 5.08 with relevant Subsidiary Rules, Chapter – XXII of Operating Manual.

He shall see that all equipments, 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 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.

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

He shall pay special attention towards the passenger amenities and coaching trains punctuality and yard fluidity. He shall endeavor for minimising detention to freight trains by judicious planning of train staff. He shall pay attention to smooth functioning of goods shed to eliminate detention. He shall attend to all complaints by travelling/trading public.

**1.1. Assurance Register :**

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

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

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

The declarations are to 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 period of 15 days and over.

**1.2. Use of Private Number Books and Identification Number :**

Sufficient Private Number Books and Identification Number sheets in sealed cover shall always be kept in stock by Dy. Station Superintendent under lock and key. One Register shall be maintained with particulars of receipt brought into use, closed date sent back to office for renewal for this purpose.

**1.3. Accidents :**

Accidents shall be reported and immediately action shall be taken by the Station Manager In accordance with the instructions laid down in the Accident Manual. Whenever the Station Master/Dy.SS/SS on duty 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 messages and reports and follow up all safety principles without delay.

- 1.4. RRI Cabin is installed at North end of the yard and station building (SS on duty at platform) is situated towards VSKP end of the yard. SS on duty at PF is responsible for correct setting, clamping & padlocking of all the points pertaining to VSKP end of the yard in case of failure of motor operated points/signals. Similarly, SM on duty on Line Clear at RRI is responsible for correct setting, clamping & padlocking of all the points/signals pertaining to HWH and BHATATIRA end of the yard in case of failure of motor operated points

**2. Station Superintendent at PF**

He shall perform duties detailed below and remain responsible for the efficient working of Station during his duty.

- i) Being a Notice station, maintenance of Caution Order Register and preparation of Caution Order for all trains during tenure of his duty is devolved on him.
- ii) Nomination of line for admission of coaching Trains and right time departure of all trains. He shall deal with all passenger amenities and complaints by travelling public.
- iii) Prompt attendance on all coaching trains to ensure loading and unloading is completed in time and to avoid complaints of any kind from the travelling public.
- iv) Eliminating detention to the coaching trains and goods trains at station and outside signals.
- v) He shall see that shunting operation is supervised by an authorised person and is carried out as per rules.
- vi) Ensure proper co-ordination with all departments for quick movement of trains within the yard and expeditious reception/despatch there of to and from the yard and platform.
- vii) Ensure prompt attention to vehicles marked sick and reduce detention to such damaged/defective vehicles to lesser duration.
- viii) Ensure improvement of turn-round of wagons/vehicles and ensure that placement and drawing out of vehicles in goods shed and other sidings are properly.
- ix) Maintain close liaison with the control office in all matters relating to train operation, balancing of Crew and Guard, yard clearance and coaching stock and fueling point.
- x) He is responsible for over-all supervision in the station.
- xi) Ensure proper provision and function of other passenger amenities like drinking water, water cooler, lights, fans, waiting Rooms/halls, retiring rooms, enquiry, reservation counters etc.
- xii) He shall ensure alertness of all staff working at the station and maintain discipline law and order, cleanness in co-ordination with other departments.
- xiii) Shunting movements will be supervised in case of emergency.
- xiv) In the absence of Station Manager, the duties of Station Manager will devolve on him.
- xv) During failure / suspension of Panel working, the SS (Platform duty) is responsible for piloting of all trains at VSKP end of the yard in terms of relevant rules as laid down in General and Subsidiary rules and to ensure correct setting, clamping and padlocking of concerned points, on route (either in the event of piloting 'IN' or piloting 'OUT' of trains) and further ensuring the route on which the trains is to pass is free and clear of all obstructions. He shall maintain the Block Ticket, Pilot memo, starting order, authority for Temporary Single line working (T/D-602) etc as required during the abnormal working condition. While doing so he shall ensure by Dy.SS on duty at RRI cabin to the effect of setting, clamping and padlocking of route supported by private number before issuing pilot memo.
- xvi) In the event of resorting to calling – on signal operation, the SS (Platform duty) shall be responsible for ensuring the clearance of the concerned route.
- xvii) He will be responsible for correct use of the Crank Handles and associated Crank Handle Controlling Keys.
- xviii) He will assist the Dy.Station Superintendent on duty at RRI in punctual running of trains by supervising loading, unloading, attaching, detaching by all trains and all other activities connected with train operations as and when necessary.
- xix) In the event of any traffic blocks and disconnection or suspension of any working in field gears or installations, either for normal maintenance works or repairs by the Engineering, S&T & TRD department or any other department concerned in the point zones of the yard, the S.S. on duty at Platform shall be present at the site for necessary coordination with Dy.Station Superintendent on duty at RRI in all matters of safe and expeditious train operations.
- xx) In case of any accident in the Station yard, in addition to SMR, S.S. on duty at PF shall be present at the site for maintaining the necessary coordination between the Dy.Station Superintendent on duty at RRI and any other field officials at the site for expediting all such operations as are needed for effecting quick relief and the restoration work.



- xxi) He shall be responsible for ensuring the clearance of the concerned route during failure of track (s) by physical verification under exchange of private number with Dy.SS on duty at RRI before piloting IN/OUT the train.
- xxii) He shall ensure for the ringing of the station bell if and when required.

The S.S.(PLATFORM)'s special attention is drawn to the GR 5.01 to 5.23 where details are indicated.

3. **Deputy Station Superintendent at RRI Cabin:**

He shall work for train passing duties. He shall carry out the test in person about the working of reception signal(s) & emergency cross over points once daily when no train is due to arrive and no train is due to leave and record the results of the test in the Station Master's Diary vide SR 5.03(c) (ii) and SR 5.03(d). He is responsible to authorize the Station Master of RRI cabin for granting line clear for incoming trains & to obtain line clear for outgoing trains. He shall nominate line for admission of trains in consultation with the Section Controller on duty. He shall maintain coordination with SS on duty at platform in train movement. He shall take suitable action in case of emergencies as required under rules in vogue in consultation with SS on duty at platform. He will operate the panel board for reception/ dispatch of trains and for shunting operation etc. He shall maintain Train Signal Register along with other safe working records such as Station Master's Diary, Private Number Book, I.D. covers, and other authorities as required from time to time for train operation etc. He shall speak to Section Controller on duty and shall work as per his advice in passing of trains. Arrival / departure report of trains shall be convened in time. He shall be responsible for protection of a running line when it is blocked by any means. He shall also be responsible for Transmitting crank handles and maintenance of corresponding registers including failure register, properly.

He shall make entry in the diary the condition of all the running lines, at the time of handing over charge, these entries shall be countersigned by the Dy.Station Superintendent coming on duty and taking over charge. However, before handing over the charge, the Dy.SS on duty shall ensure physically that respective lines are clear of obstructing for admission of any train on that line. The Dy.Station Superintendent on duty who makes an entry in the Train Signal Register shall continue till all the entries pertaining to the trains are completed vide SR 14.07.01(a), (b), (c) & (d). He is also responsible for ensuring that the work is carried out in safe and proper manner.

He should report defects or deficiencies, if any, in Panel and Block Instrument and other gears under his control to the concerned staff for speedy repairs. He is responsible for safe custody of the keys of Panel and Block Instruments and crank handle and other keys concerned with safety. He shall not permit unauthorised persons to enter into the Panel Room to operate or interfere with Block Instrument / Panel. He shall not leave his duty spot till relieved by a competent railway servant.

During failure of track circuit of a concerned route, he shall apprise the SS on duty at platform to ensure the clearance of the same by physical verification under exchange of private number.

He shall see that safety equipments pertaining to panel are available as per norms in good working order.

In the event of failure of points/signals towards HWH and BHATATIRA end of the yard, he shall depute the on duty Station Master of RRI cabin for ensuring correct setting, clamping and padlocking of points before piloting a train.

4. **Station Master at RRI Cabin:**

He shall assist the Dy.SS of RRI Cabin for working "Line Clear" duties through Double Line Block Instruments. He shall ensure closure of interlocked Level Crossing Gates and Midsection Level Crossing Gate for taking 'OFF' signals, for granting/obtaining "Line Clear" or for shunting operations. He shall exchange alright signals with the Loco Pilot and Guard and ensure the complete arrival of the train before closing the block section. He is responsible for piloting of trains pertaining to HWH and BHATATIRA end. He shall ensure correct setting, clamping and padlocking of the nominated route for the incoming/outgoing train during failure of motor operated points/signals at HWH and BHATATIRA end. He shall also ensure that the route on which the train is to pass is free and clear of obstructions before issuing the pilot memo. He shall ensure by Dy.SS (panel) to the effect of setting, clamping and padlocking of route supported by private number before issuing pilot memo.

He will be responsible for correct use of Crank Handles and associated with the Crank Handle controlling Keys

5. **Shunting Master :**

He shall work under the direction of the Station Manager/Station Superintendent/Dy.Station Superintendent (PF)/SM (RRI) on duty. He shall see that shunting is carried out in a proper and safe manner. He is responsible to keep the nominated line clear and free from all obstructions. He shall ensure correct setting of points before displaying hand signal for the movement. He shall ensure closure of the L.C. Gates during shunting operation.

6. **Traffic points Man :**

He shall work under the instructions of SMR/ SS (Platform)/Dy S.S. (PF)/SM (RRI) on duty and follow the GR 2.05 to 2.11 and other relevant rules as laid down in G & SR. He shall remain responsible for –

- a). Correct Setting, clamping, padlocking and Crank Handling of points for reception / dispatch of trains and shunting operation.
- b). Coupling and uncoupling vehicles.
- c). Protection of line in an emergency.
- d). Piloting and hand signaling of trains when necessary and handing over caution orders and / or any other line clear authorities to the Loco Pilots and guards of the Trains.
- e). Attending off side to observe safe running of through trains and correct displaying of hand signals.
- f). Securing of vehicles as per GR 5.23 and SR thereto.
- g). Being conversant with the layout of the yard and compliance of rules relating to shunting operations.
- h). Observing General Rules 5.13 to 5.21 and relevant subsidiary Rules during shunting.
- i). Cleaning and lighting of hand signal lamps, oiling the clamps & padlocks if necessary.
- j). Loading and unloading of parcels and luggage packages, goods and guard's boxes to and from the trains and watching the packages and other materials by properly stocking in the station premises.
- k). Cleaning and dusting of S.S. (PF) & SM (RRI cabin), Furniture's and equipments, if required.
- l). Working as Fog Signal man as and when required.
- m). Filling up the FIRE buckets with sand / water.
- n). Getting train intact Arrival Register (T/1410) signed by the Guard / Loco Pilot as and when required.
- o). Any other duties entrusted to him by the SMR/SS (PF)/Dy S.S (RRI)/ SM (RRI) on duty from time to time.
- p). Ringing the station bell if necessary.
- q). Knowledge of hand signals and their use.

**GENERAL**

1. A set of Flags and Battery operated LED based flashing lamps will be the part of essential equipment of the staff while on duty. He shall not leave the station except when required by the SMR / SS (PF)/Dy S.S (RRI)/SM (RRI) on duty or with his permission and shall comply with subsidiary Rules 4.42.02 (b) (i) & (d).
2. Staff working at the station must be able to distinguish up and down line clear tickets and educated in distinguishing other operational forms & documents, delivered to Loco Pilot and Guards.

**APPENDIX 'E' TO STATION WORKING RULES OF BHARRAK STATION**

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

Sl.No	Description	Station
1.	Detonator Signals	30
2.	Battery operated LED flashing Hand signal lamps	12
3.	Hand signal Flags	12 sets
4.	Safety chain with Padlocks.	6
5.	Clamps with padlocks	16 (4 at station and 6 at each goomty)
6.	Skids(i) Iron = 6 (ii) Wooden = 6	12
7.	Fire and Sand Buckets.	6
8.	Reminder Collar	12
9.	Motor Trolley on line lable.	3
10.	Fire extinguisher	4 (DCPT).
11.	First Aid Box	1
12.	Stretcher	1
13.	Block Suspension Board	3
14.	Power Block Collar	3

(P. K. DAS)  
DSTE/CON/BBS

(D.R.PAUL)  
DOM/KUR

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

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

- 1.1 **MID-SECTION OUTLAYING SIDING:-**  
There is no mid-section siding on either end of block section
- 1.2. **IBH, IBS/DK STATION:-**  
There is no IBH or IBS or DK station on either end of block section
- 1.3. **HALT STATION:-**  
NIL

(P. K. DAS)  
DSTE/CON/BBS

(D.R.PAUL)  
DOM/KUR