Srl. No**: -**SWR/BLGR/29

EAST COAST RAILWAY
SAMBALPUR DIVISION

STATION WORKING RULES OF BALANGIR JN, STATION (CODE: BLGR)

BG/MG/NG: Broad Gauge
Date of issue:13.04.2023
Date brought into force: 28.05.23

NOTE: -

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

1**. STATION WORKING RULE; -**

1.1 **STATION WORKING RULE DIAGRAM NO.** SI/WRD **–** 22202 ALT 'A'

1.2 **SIGNAL INTERLOCKING PLAN NO**.: - S.I – 22202. ALT 'A'

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

2**. DESCRIPTION OF STATION**: **-**

BALANGIR JN, is a five-line station situated in Jharsuguda Jn.-Titlagarh Jn. section at KM.681.004 from HWH. The new BG line Balangir Jn. - Khurda Road takes off from this station. It is Standard–II(R) interlocked Class' B' station with Electronic Interlocking (EI) and Absolute Block System of Working. LVCD axle counters at either end are provided at the station for last vehicle check.

2.1 **GENERAL LOCATION:-**

2.1.1	**NAME OF STATION**	**:**	BALANGIR JN, (BLGR).
2.1.2	**CLASSIFICATION OF STATION**	**:**	'B' class
2.1.3	**NAME OF THE SECTION**	**:**	Jharsuguda Jn.- Titlagarh Jn, (Double line towards DEOGAON ROAD and LOISINGHA AND Khurda Road-Balangir New BG line (Single line towards Bichhupali end), RE, BG section.
2.1.4	**ROUTE**	**:**	"D"
2.1.5	**LOCATION**	**:**	KM 681.004 from HWH via JSG Jn.
2.1.6	**PI/EI**	**:**	EI.

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

i) Titlagarh end - DEOGAON ROAD (Code: DFR) inter distance 17.40KM.

ii) (a)Sambalpur Jn. end - LOISINGHA (Code: LSX) inter distance 19.104KM and

(b) Khurda Road end - BICHHUPALI inter distance 14.580KM

iii) Passenger Halt: - BALANGIR ROAD

iv) Flag station: - Nil

v) Outlying siding: - Nil

vi) D.K. station: - Nil.

vii) IBH: - NIL

viii) (a) IBS: - The section between BLGR-DFR has been split into two Block Sections by providing Intermediate Block Signal (IBS) at Km. 690.494 and Km. 690.171 on UP and DN line respectively. There are no DK stations in both sides of the station.

(b) IBS: - The section between BLGR-LSX has been split into two Block Sections by providing Intermediate Block Signal (IBS) at Km. 671.600 and Km.670.845 on UP and DN line respectively. There are no DK stations in both sides of the station.

2.3 BLOCK SECTION LIMITS: -

Between stations	**The point from which 'Block section' commences.**	**The point at which 'Block section' ends.**
Between BLGR-DFR (UP Line)	UP Advanced starter signal No.47 of BLGR.	400m beyond UP IB Signal No. 49.
Between BLGR-DFR (UP Line)	UP IB Signal No. 49.	Outermost facing point No. 41A of DFR.
Between BLGR-DFR (DN Line)	DN Advanced starter signal No.28 of DFR	400m beyond DN IB Signal No. 30.
Between BLGR-DFR (DN Line)	DN IB Signal No. 30.	BSLB on DN line of BLGR Station.
Between BLGR-LSX (UP Line)	UP Advanced starter signal No.27 of LSX.	400m beyond UP IB Signal No. 29.
Between BLGR-LSX (UP Line)	UP IB Signal No. 29.	BSLB on UP line of BLGR Station.
Between BLGR-LSX (DN Line)	DN Advanced starter signal No.46 of BLGR	400m beyond DN IB Signal No. 44.
Between BLGR-LSX (DN Line)	DN IB Signal No. 44.	BSLB on DN line of LSX Station.
Between BLGR- Bichhupali	DN Advanced starter signal No.48 of BLGR	UP Advanced Starter Signal of Bichhupali Station.

2.3.1 **STATION SECTION:**

The portion in between DN Advanced starter signal No. 46 and BSLB on DN line & between UP Advance starter No.47 and BSLB on UP line and DN Adv. Starter signal No.48 at BHPI end is the station section of the BLGR station.

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2.3.2 **STATION LIMIT:**

The portion between UP Gate stop-cum-UP Distant signal at LSX end and UP Advanced starter signal No-47 at DFR end & UP Inner Distant signal at Bichhupali end and UP Advanced starter signal No-47 at DFR end and Further, the portion between DN Inner Distant signal at DFR end to DN Advanced starter signal No. 46 at LSX end is station limit of the Station.

2.4: **GRADIENT: -**

(a) **FROM THE CENTER OF STATION BUILDING TOWARDS DEOGAON ROAD (UP LINE)**

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
FROM	TO		
0	880.458	880.458	1 in 408.7 R
880.458	946.00	65.542	LEVEL
946.00	1726.00	980.00	1 in 526 R
1726.00	1926.00	200.00	1 in 234.4 R
1926.00	2126.00	200.00	1 in 600 R
2126.00	2445.40	319.40	1 in 190 R
2445.40	2665.50	220.10	1 in 227 R
2665.50	4261.00	1595.50	1 in 150 R
4261.00	block section	---	1 in 170.4 R

(b) **FROM THE CENTER OF STATION BUILDING TOWARDS DEOGAON ROAD (DN LINE)**

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
FROM	TO		
0	877.46	877.46	1 in 400 R
877.46	946.00	68.54	LEVEL
946.00	1726.00	780.00	1 in 526 R
1726.00	1926.00	200.00	1 in 234.3 R
1926.00	2206.00	280.00	1 in 600 R
2206.00	2446.00	240.00	1 in 155 R
2446.00	2666.00	220.00	1 in 227 R
2666.00	Block Section	---	1 in 150 R

(c) **FROM THE CENTER OF STATION BUILDING TOWARDS LOISINGHA END.(DN LINE)**

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
FROM	TO		
0	1464.00	1464.00	1 in 400 F
1464.00	1654.00	190.00	LEVEL
1654.00	1954.00	300.00	1 in 1000 R
1954.00	2054.00	100.00	LEVEL
2054.00	2174.00	120.00	1 in 550 R
2174.00	2274.00	100.00	LEVEL
2274.00	2414.00	140.00	1 in 240 F
2414.00	2714.00	300.00	1 in 1400 F
2714.00	2794.00	80.00	LEVEL
2794.00	3014.00	220.00	1 in 134 F

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3014.00	3294.00	280.00	1 in 215 F
3294.00	3534.00	240.00	1 in 350 F
3534.00	3674.00	140.00	1 in 700 R
3674.00	3734.00	60.00	LEVEL
3734.00	3854.00	120.00	1 in 450 F
3854.00	4234.00	380.00	LEVEL
4234.00	Block Section	---	1 in 350 F

(d) **FROM THE CENTER OF STATION BUILDING TOWARDS LOISINGHA END.(UP LINE)**

Chainage in meter		**Inter distance in meter**	**Gradient (Falling/Raising/Level)**
FROM	**TO**		
0	1515.075	1515.075	1 in 408.7 F
1515.075	1654.00	138.925	LEVEL
1654.00	1954.00	300.00	1 in 1000 R
1954.00	2054.00	100.00	LEVEL
2054.00	2164.00	110.00	1 in 550 R
2164.00	2300.00	136.00	LEVEL
2300.00	2414.00	114.00	1 in 200 F
2414.00	2714.00	300.00	1 in 1400 F
2714.00	2789.00	75.00	LEVEL
2789.00	3314.00	525.00	1 in 175 F
3314.00	3534.00	220.00	1 in 350 F
3534.00	4254.00	720.00	LEVEL
4254.00	Block Section	---	1 in 350 F

(e) **FROM THE CENTER OF STATION BUILDING TOWARDS BICHHUPALI END(UP/DN LINE)**

Chainage in meter		**Inter distance in meter**	**Gradient (Falling/Raising/Level)**
FROM	**TO**		
0	1100.00	1100.00	1 in 408.7 F
1100.00	1570.00	470.00	1 in 9792 R
1570.00	2130.00	560.00	1 in 271.2 F
2130.00	2926.00	796.00	1 in 583 F
2926.00	5271.00	2345.00	1 in 213.76 F
5271.00	Block Section	---	LEVEL

2.5 **LAY OUT: -**

i) No. of running lines :- 05 (five)

ii) No. of sidings :- 08 (Eight)

a) Ballast Siding cum Shunting Neck (415m) takes off from Line No.2 at LSX end of the yard.

b) Ballst siding (292m) takes off from Ballast Siding cum Shunting Neck at LSX end of the siding.

c) Engine Holding siding (289m) takes off from Ballast Siding cum Shunting Neck at LSX end of the siding.

d) Engine holding line(57m) takes off from ORL of L-1 at LSX end.

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e) (i.)Satellite depot **:**

(i) Line No.1 (158m) takes off from Ballast Siding cum Shunting Neck at LSX end.

(ii) Line No.2 (158m) takes off from Ballast Siding cum Shunting Neck at LSX end.

f) T.M. siding (293m) takes off from Ballast Siding cum Shunting Neck at LSX end of the siding.

g) Sick siding (125m) takes off from over run line of Line No.5 at DFR end of the yard.

h) Tower Wagon siding(122m) takes off from the overrun line of Line No.5 at DFR end of the yard..

iii) No. of Passenger platform :- 03 (Three),

(a) One High level Platform of dimension 565.0M X 10.5M X 8.1m beside Line No.-1

(b) And One High level Island platform of dimension 600.00M X 11M in between Line No.3 and Line No.4.

iv) No. of goods shed platform :- 04 (Four)

(a) One Ballast Holding Platform of dimension 210.920mx15m beside Ballast siding takes off from Ballast Siding cum Shunting Neck at LSX end of the siding.

(b) One Rail Level Paved Concrete Platform of dimension 670MX15m beside line No.5.

(c) One Goods Platform of dimension 270MX15m beside Sick Siding.

(d) 3m width working platform beside TM siding.

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

DESCRIPTION	**CSL**	**ISOLATION PROVIDED**	
		TOWARDS DFR	**TOWARDS LSX**
Line No.1 (Common Loop Line)	715 mtrs. (STR. to STR)	ORL	ORL
Line No.2 (DN Main)	742mtrs. (STR. to SH)	---	---
Line No.3 (UP Main)	854 mtrs. (STR. to SH)	---	---
Line No.4 (Common Loop Line)	774mtrs. (STR. to STR.)	ORL	ORL
Line No.5 (Common Loop Line)	1086mtrs. (STR. to STR.)	ORL	ORL

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

A) Trains arriving from DEOGAON ROAD end are DN trains.

B) Trains arriving from LOISINGHA or BICHHUPALI end are UP trains.

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2.5.2 **NON-RUNNING LINES AND CSL**. –

Sl. No.	Description	CSL	Takes off from	Exit	Operation
1.	Ballast Siding cum Shunting Neck	415M (SH-SB)	Line No. 2	One way	Controlled by point No.61A/B.
2.	Ballast siding	292M (SH to SB)	Ballast Siding cum Shunting Neck	One way	Controlled by point No.75A/B.
3.	Engine Holding Line	289M (SH to SB)	Ballast Siding cum Shunting Neck	One way	Controlled by point No.75A.
4.(i)	Satellite Depot siding Line No.1	158M (SH to SB)	Ballast Siding cum Shunting Neck	one way	Controlled by point No.71.
(ii)	Satellite Depot siding Line No.2	158M (SH to SB)	Ballast Siding cum Shunting Neck	one way	Controlled by point No.65.
5.	T.M siding	293M (SH to SB)	Ballast Siding cum Shunting Neck	one way	Controlled by Point No.63A/B.
6.	Sick Siding	125M (SH-SB)	Over run line Of Line No.5	One way	Controlled by point No.64A/B.
7.	Tower Wagon siding	122M (SH to SB)	Over run line of Line No.5	one way	Controlled by Point No.62.
8.	Engine Holding Line	57M (SH to SB)	Over run Line of L/1	One way	Controlled by Point No.79

2.5.3 **ANY SPECIAL FEATURES IN THE LAYOUT: -** Nil.

(i) LEVEL CROSSINGS: (STATION SECTION) – 01 Nos.

1.	Between BLGR-DFR	681/33-35(UP) 681/32-36(DN) (JT-98)	Open to Road Traffic	'Spl'	Interlocked	Electrically operated Lifting barrier	Voice logger telephone with SM/BLGR

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

Sl. No	Location	K.M. LC No.	Normal Position	Class	Type	Operation	Communication
1.	Between LSX-BLGR	665/23-25(UP) 665/24-26(DN) (JT-85)	closed to Road Traffic	'C'	Non-Interlocked	Winch operated Lifting barrier	Voice logger telephone with SM/LSX
2.	Between LSX-BLGR	668/17-19(UP) 668/18-20(DN) (JT-87)	closed to Road Traffic	'C'	Non-Interlocked	Winch operated Lifting barrier	Voice logger telephone with SM/LSX
3.	Between LSX-BLGR	669/7-9(UP) 669/8-10(DN) (JT-88)	Open to Road Traffic	'C'	Interlocked	Electrically operated Lifting barrier	Voice logger telephone with SM/LSX
4.	Between LSX-BLGR	670/13-15(UP) 670/14-16(DN) (JT-89)	Open to Road Traffic	'C'	Non-Interlocked	Winch operated Lifting barrier	Voice logger telephone with SM/LSX
5.	Between LSX-BLGR	673/31-33(UP) 673/32-34(DN) (JT-90)	Open to Road Traffic	'B-1'	Interlocked	Electrically operated Lifting barrier	Voice logger telephone with SM/LSX
6.	Between BLGR - LSX	678/11-13(UP) 678/12-14(DN) (JT-94)	Open to Road Traffic	'Spl'	Interlocked	Electrically operated Lifting barrier	Voice logger telephone with SM/BLGR
7.	Between BLGR - LSX	678/21-23(UP) 678/22-24(DN) (JT-95)	Open to Road Traffic	'Spl'	Interlocked	Electrically operated Lifting barrier	Voice logger telephone with SM/BLGR
8.	Between BLGR - LSX	679/3-5(UP) 679/4-6(DN) (JT-96)	closed to Road Traffic	'C'	Non-Interlocked	Winch operated Lifting barrier	Voice logger telephone with SM/BLGR
9.	Between BLGR-DFR	682/33-35(UP) 682/34-36(DN) (JT-99)	close to Road Traffic	'C'	Non-Interlocked	Winch operated Lifting barrier	Voice logger telephone with SM/BLGR

(Train Actuated Warning Device has been provided at Level Crossing Gate No. JT-94)
(Working of Level Crossing Gate is detailed in appendix 'A')

3. SYSTEM AND MEANS OF WORKING:-

(Rule No.:- Chapter XIV of G&SR, Chapter III, Part-II of Chapter V & Chapter VI of BWM)

i) **System of working- :** - Absolute Block system.
ii) **Type of block instrument- :-** Token less Block instrument (DAIDO) for BLGR-BHPI section and DLBI for BLGR-LSX section & BLGR-DFR section.

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iii) **Instrument-** **: -** BLGR-BHPI instrument - co-operative type and BLGR-LSX & BLGR-DFR instrument- non-Cooperative type.

iv) **Block Telephone-** **:-** Provided with respective block instruments of BLGR-LSX, BLGR-BHPI & BLGR-DFR sections.

v) **Staff responsible for their operations-** **: -** S.M. on duty.

vi) **Custodian of keys-** **: -** S.M. on duty.

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

4.1.1 **STANDARD OF INTERLOCKING AND TYPE OF SIGNALLING: –**

The station is provided with Standard II (R) interlocking with Multiple Aspect Colour Light Signalling and Dual LVCD Axle Counters in BLGR-DFR, BLGR-LSX & BLGR -BHPI section . All the points are operated from VDU by on duty Station Master. The Home signals and Advanced Starter signals are interlocked with respective block instruments. GR 3.08(4) (b) governs the aspect and indications of the signals respectively. The station has no end cabins. Distant signal of LC gate No.JT-95 is combined with DN Adv. starter signal No. S-46. UP distant signal is combined with Gate stop signal of JT-95.

Minimum equipment of signal – Distant, Inner Distant, Home, Starter and Advanced starter in either direction. Starter signals are released by Advanced starter signals.

4.1.2 **STATION MASTER'S OPERATING VDU: -**

The Station is provided with central Electronic Interlocking (EI) system. All signals and points are electrically operated from the VDU provided at SM's Office. A stand by VDU is also provided to switch over the system in case of failure of working VDU. Calling-on signals are provided below Home signals as well as starter signals (i.e. in both UP & DN directions). Central VDU is provided in the Station Master's office to electrically control all signals, points, Gate & siding key, etc.,

NOTE: All operations and Indications shall be carried out through VDU only **.**The details of operation from VDU is given under APPENDIX-'B'.

4.1.3 **TRACK CIRCUIT: -**

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

4.1.3.1 **AXLE COUNTER**:

Block Sections between BLGR-LSX & BLGR-BHPI and BLGR-DFR is monitored by Dual Digital Axle Counter System. Dual Digital Axle Counters along with associated accessories are provided at either end of the block Section.

A pair of SSDAC Axle Counter is provided between BLGR-BHPI one beyond DN Advanced starter signal of BLGR & another just before UP Advanced starter signal of Bichhupali for counting the axles 'IN' and for counting the axles 'OUT' to indicate whether the block section is clear of trains as well as to verify the last vehicle of the incoming train.

(i) **<u>DFR- BLGR DN IB Section (28 AXT):</u>**

A pair of Dual Digital Axle Counter is provided, one beyond DN Advanced starter signal No.28 of DFR and another 400m beyond DN IB Stop Signal No.30 for counting the axles "IN" and

axles "OUT" to indicate whether the Block section is clear of trains as well as to verify the last vehicle of the incoming train.

(ii) **DFR- BLGR DN LVV: (DRAXT)**
A pair of Dual Digital Axle Counter is provided, one beyond DN IB Stop Signal No.30 and another 180M beyond the DN Home Signal of BLGR for counting the axles "IN" and axles "OUT" to indicate whether the Block section is clear of trains as well as to verify the last vehicle of the incoming train.

(iii) **DFR- BLGR: UP IB SECTION (47AXT)**
A pair of Dual Digital Axle Counter is provided, one beyond the UP Advanced starter signal No.47 of BLGR and another 400m beyond UP IB Stop Signal No.49 for Counting the axles "IN" and axles "OUT" to indicate whether the Section is clear of trains as well as to verify the last vehicle and complete arrival of the incoming train.

(iv) **DFR- BLGR UP LVV: (UDAXT)**
A pair of Digital Axle Counter is provided, one beyond the UP IB Stop Signal No.49 and another 180M beyond the UP Home Signal of DFR Station for Counting the axles "IN" and axles "OUT" to indicate whether the Block Section is clear of trains as well as to verify the last vehicle and complete arrival of the incoming train.

(v) **BLGR-LSX DN: IB SECTON (46AXT).**
A pair of Dual Digital Axle Counter is provided, one beyond DN Advanced starter signal No.46 of BLGR and another 400m beyond DN IB Stop Signal No.44 for counting the axles "IN" and axles "OUT" to indicate whether the Block section is clear of trains as well as to verify the last vehicle of the incoming train.

(vi) **BLGR-LSX DN LVV: (DD LVV)**
A pair of Dual Digital Axle Counter is provided, one beyond DN IB Stop Signal No.44 and another 180M beyond the DN Home Signal of LSX for counting the axles "IN" and axles "OUT" to indicate whether the Block section is clear of trains as well as to verify the last vehicle of the incoming train.

(vii) **BLGR-LSX UP: IB SECTION (27AXT)**
A pair of Dual Digital Axle Counter is provided, one beyond the UP Advanced starter signal No.27 of LSX and another 400m beyond UP IB Stop Signal No.29 for Counting the axles "IN" and axles "OUT" to indicate whether the Section is clear of trains as well as to verify the last vehicle and complete arrival of the incoming train.

(viii) **LSX- BLGR UP LVV: (URLVV)**
A pair of Digital Axle Counter is provided, one beyond the UP IB Stop Signal No.29 and another 180M beyond the UP Home Signal of BLGR Station for Counting the axles "IN" and axles "OUT" to indicate whether the Block Section is clear of trains as well as to verify the last vehicle and complete arrival of the incoming train.

The position of the Block section whether cleared or occupied are reflected in the VDU provided in the Station Master's office 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 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. The LVV section axle counters are interlocked with respective block instruments and IB section axle counter are interlocked with respective LSS.

A resetting arrangement for resumption of the system in case of failure of axle counter has been provided in the SM office of the adjacent Block stations after being assured by both the SM that the last vehicle has arrived complete at the receiving station by exchanging Private Number then resetting to be complied with. (Details of resetting procedure are given in this SWR (Appendix-B)).

NOTE:
Before taking off reception and dispatch signals for UP and DN directions, the SM 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/ Axle counter will exhibit Red Light when track is occupied and White light when track is clear. There will be no track indication when any route is not set.

4.1.4 **POSITION AND OPERATION OF POINTS: -**
The positions of all points are shown in station Working Rule Diagram and also on VDU. All points are operated through VDU by Station Master on duty. All cross over points on running line are independently worked by electric point machine and have built in locking and detection arrangement.

4.1.5 **ELECTRICAL KEY TRANSMITTER (EKT)**:-
EKTs with crank handle keys are provided at both end locations for the operation of points in case of failure of point motors. The keys for the crank handles are transmitted electrically to the crank handle locations for operating the points by crank handles. EKTs are also provided for key transmission with traffic LC gates No.JT-98.

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

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

4.1.6 **CALLING ON SIGNALS**:-

Miniature colour light Calling-on signal is provided below the Home signals in terms of GR.3.13 (6) (b). A Calling-on signal shows no light in the 'ON' position and Yellow light when taken "OFF". A calling-on signal, will be taken 'OFF' for reception of a train when the Home signal above it cannot be taken 'OFF' due to failure or any other reason or for admission of train on a blocked line. Before taking 'OFF' Calling on signal during failure of track circuit the route and clearance of the track over which the train will be admitted must be checked physically by SM on duty. "Calling On" Signals has been provided below UP and DN home signal and Starter No S-32,S-34,S-38,S-40 in DN direction and S-23,S-25,S-27,S-31 in UP direction are shown no light when "ON" and yellow light when taken "OFF". No time allowance is required for release of calling ON signal provided below starter signal.

To take "OFF" Calling-on signal the train must come to a stop at the foot of the Home signal, occupying the track circuit in rear of the signal. When a train occupies the track circuit a RED light strip will appear on the VDU. The particular route on which train is intended to be received shall be set by selecting the desired route and SM on duty shall left click on the same after a train occupies the approach track circuit in rear of the Home signal. The Calling-

on signal is cleared after a lapse fo 60 seconds i.e. a Yellow light glows at the concerned Calling-on signal on the VDU. Each such operation shall be recorded by the SM on duty along with the reasons to do so. The calling-on signal route can be released after complete arrival of the train or by emergency cancellation. Calling-on signals are also provided bellow starter signals. Before taking off calling-on bellow starter signal it must be ensured that the train has come to a stop at the foot of concerned starter signal. Then the calling on signal may be taken off which will release without any delay.

Note: While receiving a train in calling on signal, SM must satisfy himself that the line on which train is to be received is free from obstruction by physical verification in case of failure of track circuit.

NOTE:

i) Before taking "OFF" Calling-on signal during failure of track circuit, the clearance of track over which the train is intended to be received must be verified physically.

ii) SM on duty to ensure that no through signals are given while receiving a train on Calling-on signal.

4.1.7 **SHUNT SIGNALS:-**

Independent shunt signals SH7 (A-E), SH9(A-E), SH-5(A-I), SH-22, SH-24, SH-26, SH-28, SH-30, SH-36(ABC), SH-13, SH-4(A-E), SH-29, SH-6 & SH-8 have been provided. Off aspect of shunt signals and shunt / calling-on signals provided bellow starter signals shall be used for conducting shunting in the yard.

4.1.8 **ANTI COLLISION DEVICE: -** NIL

4.1.9 **EMERGENCY CROSSOVER:-** NIL

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

4.1.11 **CRANK HANDLE**

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

CRANK HANDLE		**CONTROL POINTS**
CH-1	----------	51A/B.
CH-2	----------	53,
CH-3	----------	55A/B, 59A/B, 73A/B, 60A/B,
CH-4	----------	57A/B. 58A/B.
CH-5	----------	67A/B. 77A/B.
CH-6	----------	56A/B, 81A/B,
CH-7	----------	69.
CH-8	----------	79.
CH-9	----------	61A/B, 63A/B, 65, 71.
CH-10	----------	75A/B.
CH-11	----------	62, 64A/B.
CH-12	----------	52A/B, 54A/B,

These crank handle keys are interlocked with the signaling and interlocking system at this station and normally locked inside the RKT instrument at the respective Crank Handle 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 key can be released by SM by tracking the mouse pointer on to the concerned crank handle button icon. This will enable two options to be displayed on the menu i.e. Crank handle Transmit control and Crank Handle Release control. To release the crank handle key, SM should click the Crank handle 'TRANSMIT' control option. After transmission the KEY IN indication will start flashing, now

the key can be extracted from the EKT. After extracting the key from the EKT, the KEY IN indication will disappear. 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 to both ends locations of the yard for manual operation of the defective points.

SM on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency Crank handle register shall be maintained by the SM on duty at the station as per Para 2.19 of the Operating Manual. Correct setting, clamping and padlocking of the points devolve on the SM on duty. The cases of failure of motor point should be promptly reported to the concerned signal maintainer/SSE (Signal) for immediate rectification. One emergency key provided at SM's room to release all crank handles of this station during failure of both VDU's to release the crank handle key. SM's should turn the key. After completion of 120 sec. crank handle will be released.

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

Emergency point operation facility is provided to operate the point from the VDU in case of failure of point controlling track circuit/Axle Counter. Before doing the emergency operation, the Emergency Point Operation Key is to be made "KEY IN" by clicking the KEY IN menu. The user name and password is be logged in. On clicking the concerned point icon, a pop-up menu is displayed carrying four options: 1) Normal 2) Reverse 3) Emergency Normal 4) Emergency Reverse. For emergency operation of concerned point, drag the pointer to either emergency normal or emergency reverse whichever is desired. A normal or reverse flashing indication will appear and the indication will be steady after the point is set to Normal or reverse, whichever is desired. After the completion of Emergency point operation, the key is to be KEY OUT by clicking KEY OUT menu. The user name and password is to be given for KEY OUT also. This action will be recorded in a counter. Each operation of emergency point operation shall be recorded in the station diary and in the Register meant for this purpose.

4.1.12 **EMERGENCY CRANK HANDLE OPERATION DURING FAILURE OF BOTH VDUs.**

In case of failure of both VDUs on duty SM shall turn the VDU selection switch towards 'NO VDU' and turn the emergency, crank handle key provided on the SM table to 'KEY IN' position. This operation will release all crank handle of this station.

After restoration of VDUs SM on duty shall turn the emergency crank handle key towards 'KEY OUT' position and turn VDU selection switch either of the VDU and restore the crank handles through VDU as per standard procedure. During, this period SM on duty shall follow safety precaution describing para 4.4.11 in Appendix-B.

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

The Electronic 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), click on the concerned signal. After clicking by the left button on the mouse a pop-up menu will appear. Click on the cancellation menu (Main/Calling-on) of the concerned signal, the signal will immediately go to ON aspect. After doing so click on the route release menu, the route locked indication will start flashing for 120 seconds. After completion of 120 seconds, the White light along with the White strip of light will disappear suggesting the route has been released. This action will be recorded in a counter. The counter will register the next number for each and every such action. 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.

Each operation of emergency cancellation of route should be 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 diary Veeder counter register and in the train signal register.

4,1.14 **EMERGENCY ROUTE RELEASE COUNTER:**

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

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

Custody of Relay Room key and procedure for its handover and taking over between SM & S&T staff has to follow the procedure as per Para No.13.16 of Operating Manual (2015), JPO/02/2012, dated 29.08.2012, RB JPO issued vide No.2021/Sig/21/Safety Performance, dated.10.06.2023.

The provision of double locks in relay room includes all relay rooms, relay huts, goomties, LC Gate relay huts/goomties within station limits and cabins provided as an extension of station relay room for housing signaling gears in station yard.

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

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

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

On completion of work, the concerned Signal Maintainer/ Signal Supervisor shall properly close Relay Room door and lock it with both the locks and then return the key of operating lock to the SM on duty making the entry in the relay room register.

When the key of Operating Lock is returned by S& T staff to SM on duty, he shall first verify the Relay Room for proper locking and then keep the key in safe custody and acknowledge it on the Relay-Room key register. If the relay room key is handed over to the Signal staff regarding the interference in safety gears the train shall be piloted in and out.

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

Entry to be made in S& T failure register by SM on duty and failure Memo has to be issued to S& T staff. S& T staff shall not take the Relay Room Key for attending failures and open the Relay Room unless the failure is recorded in Signal failure register. If disconnection is required, Disconnection Memo has to be given by S& T staff to SM on duty. Failure Memo should be acknowledged and entry in relay room key register to be made by S& T staff before obtaining Station Master's key. Relay Room key for Schedule maintenance shall be taken once in a calendar Month during monthly inspection by Sectional Supervisor. Relay room can

be opened by following above procedure for special maintenance activities like cable insulation testing, block/ disconnection memos, selection/ locking table testing, maintenance work inside relay room by Electrical and Engineering staff, during failures, data logger resetting and inspection by Divisional and Headquarter officials, Track Circuit adjustments & voltage monitoring during monsoon and whenever required during rains. Works required by S& T Construction & open line staff for preparatory works and during commissioning. In each such case, the Construction Staff Shall follow the detailed guidelines issued regarding working on signaling gears under the charge of open line.

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

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

4.3 **POWER SUPPLY: -**

Power signaling and interlocking installations and ancillary field units are fed from the following sources of power supply.

i) The station works on 230V single phase power supply. The normal power supply is from the auxiliary transformer (25KVA Rating) connected to OHE traction distribution system.

ii) Standby power supply: Odisha State Electricity Board Supply.

iii) An Auto changeover switch is provided in the Station Master's Office with the three power supplies viz. UP AT, DN AT and Local supply for automatic selection from available source or changing the switch position to the required supply manually. A luminous indicator provided above the circuit breaker for each supply indicates the availability of the supply.

iv) Normally the switch is kept in auto mode. Whenever power block is to be given, the on duty SM must ascertain that power is available on the other AT and local power supply. If power block is given to the UP line, DN AT must be available and vice-versa.

v) 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 Up and when tripped it goes down). In case of failure of both AT supplies, the Local supply shall be utilized by operating the switch if required. If the circuit breaker is tripping even after resetting, no attempt shall be made to hold it by any means and a message shall be given to concerned SSE [Elect.] and SSE/PSI [OHE] for prompt rectification.

a) For IPS system which provides supply to EI, a manual changeover switch is provided at SM's Office with the two power supplies viz., selected supply from CLS panel and State power supply for changing the switch to required supply position manually.
b) Normally manual changeover switch is kept in selected supply from CLS panel position, if in case any emergency, changeover switch is changed to local supply position by on duty SM.
c) There is a remote monitoring ASM box provided at the Cabin to monitor the health of IPS.

REMOTE MONITORING ASM BOX: -

Remote monitoring ASM box gives alarm to the ASM for the following fault conditions:-

a) 50% DOD (Depth of Discharge) of Battery. In this condition Audio/Visual alarm comes which can be acknowledged with audio cut off.
b) 60% DOD (Depth of Discharge), which warns for emergency. The Alarm for this condition is same as for condition 1.
c) 70% DOD (Depth of Discharge), which signals system, shut down. In this condition Signal feed cut off and all DC-DC converters continue working. Audio alarm will continue till power supply restored.
d) Any of the Module fails, which calls for "Call S&T".

Whenever there is a failure of AT supply, the SM shall take prompt action to inform to all concerned for the rectification. The SM himself, during his daily checks, shall test the availability of AT supply and make an entry in station diary duly initiating action for rectification of failure, if any.

5.0 **TELECOMMUNICATION FACILITIES: -**

(i) Telephone attached with TLBI of BLGR-BHPI and DLBI of BLGR-LSX & BLGR-DFR Block Sections.
(ii) Station to Station fixed telephone (Hot line) is provided
(iii) Station is provided with Auto telephone connected with Railway Exchange.
(iv) BSNL telephone is provided.
(v) The station is connected to Balangir - SPRD control circuit by a control telephone.
(vi) Station to station 25 Watt VHF communication is provided.
(vii) Telephone is provided between Station and both end crank handle locations.
(viii) Telephone is provided between Station and L.C. Gates LC No.JT-94, at Km.678/11-13(UP) & Km.678/12-14(DN), LC No.JT-95, at Km.678/21-23(UP)&Km.678/22-24(DN), LC No.JT-96, at Km.679/3-5(UP) & Km.679/4-6(DN), LC No.JT-98, at Km.681/32-36(DN) & km.681/33-35(UP), No.JT-99 at Km.682/33-35(UP) & Km.682/34-36(DN),
(ix) Telephonic communication is provided between SM's office and UP IB Signal post at Km. 690.494.
(x) Telephonic communication is provided between SM's office and DN IB Signal post at Km. 670.845.
(xi) Telephone is provided for communication with TPC.

NOTE:

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

(ii) VHF and Walkie Talkie sets should not be used for unnecessary discussions with Loco Pilots, Guards or any other staff.

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5.1 **FAILURE OF COMMUNICATION: -**

The on duty SM shall use the above electrical communication instruments stated in Para-5.0 from item No. (i) to (vi) strictly in order of preference for obtaining/granting line clear vide SR 14.01.01. In case of partial failure above means of communication between the adjacent block stations the SM on duty shall work vide SR 6.02.06. In the event of total failure of communications SR 6.02.04 shall be observed for working the train between section BLGR-BHPI and SR 6.02.03 shall be observed for working the train between section BLGR-DFR and BLGR-LSX. During failure of signal, inter-locking, points, block instrument telephone etc. the S&T staff should be informed for rectification.

6.0 **SYSTEM OF TRAIN WORKING: -**

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

6.1 **DUTIES OF TRAIN WORKING STAFF: -**

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

6.1.1 **TRAIN WORKING STAFF: -**

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

SL. NO.	DESIGNATION	ROSTER	NO. OF STAFF IN EACH SHIFT	HRS. OF DUTY
1.	SS(In-charge)	Excluded	--	--
2.	SM	Continuous	01	8 hrs.
3.	PM-B/ PM-A	Continuous	01	8 hrs.
4.	GK (JT-98)	Continuous	01	8 hrs.

The above staff shall work as per the rosters issued by Sr.DPO/SBP from time to time and these rosters shall be displayed in the SS's office and in gate lodge for traffic gateman.

6.1.2 **RESPONSIBILITY OF ASCERTAINING CLEARANCE OF THE LINE: -**
The SM on duty is responsible to ascertain the clearance of the nominated line (GR.14.10).

6.1.3 **ASSURANCE OF STAFF IN ASSURANCE REGISTER: -**

All staff before taking up independent charge of their duties at this station shall make a written declaration in the assurance register that they have read and thoroughly understood the system in force and must sign in such declaration vide SR 5.01.02.No Railway servant shall be entrusted with any duty involving safety of the public unless the station in-charge is satisfied that the concerned staff is competent for the post. No Railway servant unless duly examined and certified shall be allowed to work the points and signals. The SS is responsible to see that all the staff are conversant with the Station Working Rules and their signatures obtained in the Assurance register after he is satisfied that they have thoroughly understood the working rules of the station. In case of Group 'D' staff, their signature/thumb impression must be obtained after explaining fully about their duties and responsibilities.

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

The declaration shall be renewed in the following cases: -

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

(i) For any staff who have not worked at the station or were away from the station for a period of 15 days or more.

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

a. The conditions laid in GR 8.01(1)(a),(b)(c), 8.01(2)(b),8.03(2),(a),(b),(c) (ii) & 8.03(1) (a),(b) (c)(ii) shall be complied with the SM on duty before line is considered clear and line clear is granted.

b. Before granting line clear for a train the SM on duty shall personally ensure that the reception signals pertaining to a train are in the 'ON' position and burning properly vide GR 3.49(4).

c. **[A] For double line Section-(BLGR-DFR)**

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

i) The whole of the last preceding train has arrived complete inside outermost facing points or the BSLB in any.

ii) All necessary signals have been put back to 'ON' behind the said train.

(iii) The line is clear up to the BSLB on DN line of BLGR for DN train.

[B] For double Line Section-(BLGR-LSX).

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

i) The whole of the last preceding train has arrived complete inside outermost facing points or the BSLB in any.

ii) All necessary signals have been put back to 'ON' behind the said train.

(iii) The line is clear up to the BSLB on UP line of BLGR for UP train.

[C] For Single Line Section (BLGR-BHPI)

(i) The whole of the last preceding train has arrived complete.

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

(iii) Block section is clear of trains running in the direction towards the block station for which such line clear is being given.

(iv) The line is clear up to Advanced starter signal No.48 for UP train.

6.2.1 **OUTLYING SIDING: -** NIL.

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

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

All Points shall normally be set for the straight except when authorized by special instruction. When a running line is blocked by stable load, wagon, vehicle or by train which is to cross or give precedence to another train or immediately after arrival of a train at the station,

the points in rear should immediately be set against the blocked line except when shunting or for any other movement towards the blocked line is required to be done vide 3.51.06(a). if all the lines at the station happen to be blocked then SR.3.51.06(b) will be followed.

Safety Point Alarm Unit (SPAU):

A safety point alarm unit is provided on the SM table with different indications: On complete arrival of a train at the station, the SM has to set the points immediately against the occupied line as per SR 3.51.06. In case the SM forgets to alter the points, after a time lag of 02 minutes, an audible buzzer will be heard from this instrument along with the 'RED' indication of the line on which the train has arrived. The SM shall then press 'ACK' button to mute the buzzer, and immediately set the required points against the line on which the train has arrived. On setting the points against the occupied line, the RED indication will disappear. In case SM fails to set the required points against the occupied line a fault message will be triggered SMS will be sent to concerned station mobile and all concerned. If all the lines of a station happen to be blocked when line clear has been granted to a train the safety point alarm will not work and the point should be set for the line occupied by a stable load or a goods train by SM on duty, in that order so that, in case of any mishap, the chance of causalities minimized. In case of all the lines are occupied by passenger trains points should be set for a loop line to negotiate which the speed of incoming train would be reduced, which in turn would minimize the consequences/causalities vide SR 3.51.06 (b). These precautions shall be taken in addition to the observance of other precautions as contained in SR 5.04.01 and SR 5.23.01.

6.2.2.2 **RECEPTION OF TRAIN ON BLOCKED LINE: -**

(The SM on duty shall comply with the instructions laid down in GR 5.09 and SRs thereto.) Whenever trains are to be admitted on an obstructed line the SM on duty shall authorize the Loco pilot with form T/509 indicating the reason for such admission, the line number and the nature of obstruction on that line.

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

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

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

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

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

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

6.2.5 **DESPATCH OF TRAINS FROM LINE PROVIDED WITH COMMON STARTER SIGNAL -** N/A

6.2.6 **SPECIAL RESTRICTIONS**:

(i) Speed is raised to 30kmph on first loop lines on either side of main line and over its turnouts. However, no train shall be allowed to negotiate at a speed more than 15kmph if it involves negotiating more than one crossover at a time.

(ii) Due to steep falling gradient 1 in 150 in UP direction approaching IB signal No.49(BLGR) no loaded goods train shall be allowed in the rear of a passenger train, if the block section ahead is occupied by a passenger train.

6.3 **CONDITIONS FOR TAKING 'OFF' APPROACH SIGNAL: -**

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

Adequate distances to be kept clear vide General Rule 3.40(3) (b) for reception of trains.

A. **CLEARANCE OF ADEQUATE DISTANCE**: -

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

Sr. No.	Line No.	UP TRAIN		DN TRAIN	
		FROM	TO	FROM	TO
1	Line No. 1 (Common Loop Line)	Foot of the UP starter signal No.31.	Up to the end of ORL.	Foot of the DN Starter Signal No. 32	Up to the end of ORL or Up to Advanced starter signal No.46 towards LSX.
2	Line No. 2 (DN Main)	---	---	Foot of the DN starter signal No.34	Up to the Advanced starter Signal No.46 towards LSX .
3	Line No. 3 (UP Main)	Foot of the UP starter signal No.27.	Up to the edge of the LC Gate No.JT-98.	---	---
4	Line No. 4 (Common Loop Line)	Foot of the UP starter signal No.25.	Up to the edge of the LC Gate No.JT-98 or upto the end of ORL.	Foot of the DN Starter Signal No. 38	Upto the end of ORL
5	Line No. 5 (Common Loop Line)	Foot of the UP starter signal No.23.	Up to the edge of the LC Gate No.JT-98 or upto the end of ORL	Foot of the DN Starter Signal No. 40	Upto the end of ORL

Before admitting a train on any line, it must be ensured that the track indication for the respective line indicates 'Clear' indication in the VDU. To receive a train, for which line clear is granted, the SM on duty shall nominate a clear line in consultation with the Section Controller on duty. SM shall personally satisfy himself that the nominated line is clear and free from all obstructions by seeing the track circuit indication on VDU or by physical verification of the nominated route in case of failure of track circuit. He shall suspend all non-isolated shunting and thereafter set the points of the nominated route are set trough VDU. He shall then verify from the visual indication available in the VDU that points are set to the desired route.

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

Miniature Colour light calling on signal is provided below the Home signals in terms of GR 3.13(6) (b). A calling-on signal shows no light in the 'ON' position. The calling on signal is taken off for reception of a train when the Home signal above it cannot be taken off due to failure of track circuit or any other reason or for admission of a train on blocked line.

B. TAKING OFF CALLING ON SIGNAL

To take "OFF" Calling-on signal the train must come to a stop at the foot of the Home signal/Starter signal, occupying the track circuit in rear of the signal. When a train occupies the track circuit a RED light strip will appear on the VDU. The particular route on which train is intended to be received shall be set by tracking the pointer in VDU on to the signal below which the calling on signal is provided. Various options in terms of the total routes over which the signal will lead to will appear on the menu. Then the SM must drag the pointer and click over the particular Calling on route amongst the various options displayed in the menu by the left button of the mouse as a result of which the Calling-on signal will blink for 60 seconds in case of calling ON signal below Home signal.

After a lapse of 60 seconds, the Calling-on signal below Home signal will clear. In case of calling ON signal below starter signal SM on duty should ascertain that the train has stopped, at the foot of the starter signal then only SM will take OFF calling ON signal below starter signal, without delay the Calling ON will clear i.e., a White light glows at the concerned calling-on signal on the VDU. Every such operation has to be recorded by the on duty SM along with the reasons to do so. The calling-on signal route can be released after complete arrival of the train or by emergency cancellation.

NOTE:

i) Before taking "OFF" Calling-on signal during failure of track circuit, the clearance of track over which the train is intended to be received must be verified physically.

ii) SM on duty to ensure that no through signals are given while receiving a train on Calling-on signal.

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

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

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

According to the existing interlocking at this station, the simultaneous reception and dispatch of trains are permitted as stipulated below (GR3.47).

(i)	While receiving a DN train on Line No.1 Set to ORL	Dispatch of DN train from Line No. L2/L4/L5 or receive/dispatch of UP train on L3/L4/L5.
(ii)	While receiving a DN train on Line No.2	Dispatch of DN train from Line No. L4/L5 towards BHPI or receive/dispatch of UP train on L3/L4/L5.
(iii)	While receiving a DN train on Line No.4 Set to ORL(DS-69)	Dispatch of DN train from Line No. L1/L2/L/5 or receive of UP train on L1 & L/5 (from SBP & BHPI end).
(iv)	While receiving a DN train on Line No.5 Set to ORL	Dispatch of DN train from Line No. L1/L2 /L4or receive of UP train on L1 set to ORL.

(v)	While receiving an UP train on Line No.1.	Dispatch of UP train from Line No. L3/L4/L5.Reception of DN train on L4/L5.
(vi)	While receiving an UP train on Line No.3.	Reception & Dispatch of a DN train on Line No.L1/L2.
(vii)	While receiving an UP train on Line No.4. Set to ORL	Reception & Dispatch of a DN train on Line No.L1/L2 or Reception of DN train on L-5. Dispatch of UP train from L1, L3 or L5.
(viii)	While receiving an UP train on Line No.5. Set to ORL	Reception and Dispatch of a DN train on Line No.L1/L2. Dispatch of UP train from L1/L3/L4. Admission of DN train on L/4.

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

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

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

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

6.5.2 **L.V. VERIFICATION WHEN AXLE COUNTER FAILS:-**
In case of failure of axle counter, the Station Master on duty shall obtain complete arrival certificate from the Guard of the train in the complete arrival register (T/1410) maintained at the station for stopping train. For through passing train the station master on duty shall satisfy himself about complete arrival of train by verification of the last vehicle indicator vide GR 4.16 that the train is complete. In case a train arrives/passes incomplete, action shall be taken as per Subsidiary Rules 4.17.02. 'The train out of block section signal' shall be withheld to the station in rear until complete arrival certificate is received from the station in advance supported by a Private Number.

Train passing on adjacent line shall be stopped and Guard and Loco pilot shall be issued with caution order to proceed cautiously and stop short of any obstruction as per SR. 4.17.03.

6.5.3 **L.V. VERIFICATION WHEN MOTOR TROLLEY FOLLOWING:-**
On occasions when motor trolley follows a train, the points shall not be altered until the following motor trolley is admitted on the same line. In the event of motor trolley is delayed in the section the Station Master on duty shall take action in terms of Subsidiary Rule 15.25.03 (b)(vi).

6.6 **DISPATCHING OF TRAINS: -**
Dispatch of trains are governed by General Rules 3.36, 3.38, 3.42, 5.11,14.08 & 8.01 Subsidiary Rule 3.36.04(b), 3.42.04 and Block Working Manual 2.07(5)(a)(b) and other provisions of General Rules, Subsidiary Rules, Block Working Manual and Station Working Rules of the station.

To dispatch a train, the Station master on duty having obtained line clear for that train, shall set the route for the outgoing train correctly and satisfy him by observing the visual indication on the VDU. He shall suspend all non-isolated shunting and ensure that the Level crossing

gates are closed against road traffic and then shall take "OFF" the concerned route starter, Advanced starter signal and IB signal. The 'OFF' aspect of the concerned starter and Advanced starter/IB signal is the authority to proceed into the block section.

The Station Master on duty shall watch the safe passage of the train with its last vehicle indicator. If a train worked without Guard or Brake Van the instruction laid down in Subsidiary Rule shall be followed.

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

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

If a signal once taken 'Off' for reception/despatch of a train has to be, in an emergency, put back to 'ON', the procedure laid down in Subsidiary Rules 3.36.02 shall be followed. In case of reception of train, route shall not be altered until the train has come to a stand outside Home signal. In case of departure signal before changing route, the SM shall take action as per SR 3.36.02(b) (i).

6.7 **TRAINS RUNNING THROUGH**: -

The provision of GR 3.4, 4.17, 4.42 with relevant SRs and SR 3.42.02 (a) (iv) and other relevant provision of BWM shall be observed.

b) The sequence for taking 'OFF' signals for run through trains is governed by SR 3.42.02 (a) (iv)

c) In every case in which trains are permitted to run through on a non isolated line, all shunting shall be stopped and no vehicle unattached to an engine or not properly secured in accordance with rule 5.23 may be kept standing on a connected line which is not isolated from through line vide SR 4.11 (2).

d) The SM on duty is responsible to see that a train passes complete with its last vehicle indicator. If a train passes without last vehicle indicator or its authorized substitute, action shall be taken as per General and Subsidiary Rule. [Ref. GR 3.42, 4.17, 4.42 and SR 4.42.02 (b) (i),(ii).

e)The SM is responsible to observe/watch the condition of the vehicles on a train and shall wave green hand signal horizontally as per Subsidiary Rule 4.42.02. (b) until anything wrong is noticed on train. For this purpose the SM on duty shall stand in such a position that a clear view of the passing train is seen by him and that his hand signals can clearly be seen by the Loco Pilot and Guard of the train. He shall depute his points man with hand signal to the other side of the passing train who shall exhibit hand danger signal to draw the attention of the guard/ Loco Pilot of the train in case of observing any unsafe condition/abnormalities of the train. He shall also report to the SM on duty for taking further suitable action in terms of SR 4.42.02(d).

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

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

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

6.8.2 **TRACK CIRCUIT**

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

6.8.3 **AXLE COUNTER**

If the axle counter fails between the block sections, resetting procedure will be adopted as mentioned in Appendix-B. if the axle counter indication does not appear 'Green & continues to show 'RED' condition after resetting, the concerned block instrument shall be suspended & failure intimation to be given to sectional signal Maintainer /JE/SSE (signal) for rectification.

6.8.4 **DEFECTIVE SIGNALS:**

When signals become defective, the procedure laid down in GR & SR shall be followed. A signal in the OFF position is the final indication that the points are correctly set for the route for which it applies and if it is found impossible to take OFF a signal, the setting of points on the route to which it applies shall be inspected by the Station Master on duty before the signal is declared as defective irrespective of what is indicated by the position of the route, [Refer GR 3.68 to 3.46, 3.52 to 3.56, 3.71, 3.80 and SR 3.68.01 (c)].

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

6.8.5 **BLOCK INSTRUMENT**

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, SR 6.02.04 & 6.02.06)

Both UP and DN advanced Starters are electrically interlocked with respective IB Axle counter so that the same cannot be taken off unless the concerned IB Axle counter section is clear. When the block instrument is suspended in 'Line clear' position, the concerned Advanced Starter must also be treated as suspended.

During the failure of Block Instrument of the section BLGR-Bichhupali, the authority will be PLCT with identification number & Private Number issued from the station in advance written both in figure and words. During the failure of Block Instruments of the section BLGR – LSX and BLGR-DFR trains will be worked on T/369(b).

6.8.6 **DEFFECTIVE INTERLOCKING**

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

6.8.7 **DEFFECTIVE/DAMAGED POINTS**

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

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

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

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

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

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

6.8.9 **INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE**:

However, before declaring a signal is defective, the setting of the point on the route to which it applies shall be inspected by the Station Superintendent/Station Master irrespective of the position of the switches point laid down in GR with relevant SRs shall be followed. [Refer GR 3.68, 3.70 & SR 3.77.01(b)]. Initiate action in accordance with the procedure prescribed in GR and relevant Subsidiary Rules there to. [Refer GR 3.49(4) and 3.68, 3.77]

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

6.9 **WORKING OF MOTOR TROLLEY, MATERIAL LORRIES ETC: -**

(a) Motor Trolleys are run in accordance with Subsidiary Rules 15.25.03 to 15.25.07.
(b) Material Trolleys will work in accordance with Subsidiary Rules 15.27.05 to 15.27.08.
(c) Rail Dolleys will work in accordance with Subsidiary Rules 15.27.10.

The following precautions must be taken:

i) The section where axle counters are provided in lieu of track circuits, trolleys, motor trolleys, Lorries etc which are not insulated, shall not be allowed to run except on line clear.
ii) Motor trolleys / tower wagons / material Lorries are not likely to actuate the axle counter correctly.
iii) In all other respects, the working of a light Motor trolley shall conform to the rules laid down for ordinary trolleys while running without block protection and to those laid down for motor trolleys while running under block protection or following another light motor trolley or a motor trolley.

7. **BLOCKING OF LINES: -**

Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement. 'Line Block' is to be activated on VDU by SM on duty following procedures as laid down in para no. 6.2.2. 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, SR5.04.01 (a) and SR 5.23.01(a)]

7.1 **LINE BLOCK FEATURE IN VDU** -Line block feature identical to conventional panel is incorporated in VDU panel of BLGR station for blocking of a running line which is blocked either by loose vehicles or by stabling of a train or by a train which is to cross or give precedence to another train. For blocking/unblocking of line, SM on duty has to click the mouse near the route button provided on running line and a popup menu Blocking & Unblocking will appear. By selecting the blocking option the said line is blocked and

reception signal pertaining to that line cannot be taken off. For unblocking the line SM on duty has to select the unblocking option from popup menu. Similarly Blocking/Unblocking feature is provided near the advanced starter signals of both end of the station for Blocking/Unblocking the block section. By selecting the blocking option no train can be dispatched to the block section.

7.2 **SECURING OF VEHICLES** :-

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

NOTE: Special care shall be taken to secure special type vehicles fitted with roller bearings while standing in siding or on running lines.

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

a) When a running line is blocked by stable load e.g, wagons, vehicles or by a train which is to cross or give precedence to another train or immediately after arrival of a train at the station etc. the points at either end should immediately be set against the blocked line except when shunting or another movement is required to be performed in that direction on the same line.

b) If all the lines at a station happens to be blocked when line clear has been granted to a train, the points should be set for the line occupied by a stable load or a goods train in that order so that in a case of mishap, the chances of casualties are minimized.

c) In case all the lines are occupied by passenger carrying trains points should be set for a loop line, to negotiate which the speed of the incoming train would be reduced, which in turn would minimize the consequences of casualties. While doing so, points shall be set for a loop, occupied by a train if any, whose engine is facing the direction of approach of the incoming train rather than a loop line, occupied by a train whose passenger coach will, in case of collision, receive the impact.

7.5 **LOADING AND UNLOADING OF VEHICLES ON RUNNING LINE**:-

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

At stations where loading and unloading of goods is permitted whether full rake or part thereof, the station master shall ensure that no goods are left fouling any line before and after clearance of the rake from the line. The railway servant supervising loading and unloading shall also ensure that consignment does not foul any line vide SR 5.19.001: (a).

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

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

8.0 **SHUNTING: -**

8.1 **GENERAL PRECAUTIONS: -** (i)The rules laid down in GR 3.46, 3.52 to 3.56, 5.13 to 5.23, 8.05(2) (3), 8.06 and 8.14, 8.15 (c) with relevant SRs and OM 7.01, 7.07 and 7.08 shall be observed. All shunt moment shall be supervised by Guard/SS/SM, point man on duty vide SR 5.13.03 as the case may be.

In the event of any non-signaled movement, the SM on duty shall ensure physical verification of the clearance of the crossover points.

The staff supervising shunting shall ensure correct setting of both facing and trailing points, clamping and pad locking of points, if necessary.

8.2 **SHUNTING IN FACE OF AN APPROACHING TRAIN:.**
When line clear has been given, no obstruction shall be permitted outside the station but shunting within the station section may go on continuously, provided the necessary signals are kept at “ON” vide GR 8.05 (2).

8.3 **PROHIBITION OF SHUNTING ANY SPECIAL FEATURES IF ANY:**
Hand shunting /Fly shunting/ Loose shunting is prohibited at both ends of the yard.

8.4 **SHUNTING ON SINGLE LINE (BHPI end):** .

(i) Shunting within station section (GR 8.10 to be followed).

(ii) The line outside the station section and upto the Home Signal shall not be obstructed unless a Railway Servant specially appointed on his behalf by the Station Master on duty who is the in-charge of the operations and unless the block section into which the shunting is to take place is clear of approaching train and all relevant & necessary signals are kept at ‘‘ON’’ position (GR 8.12).

(iii) The line outside the first stop signal at BHPI end shall not be obstructed unless line has been blocked back (GR-8.13).

8.5 **SHUNTING ON DOUBLE LINE (LSX & DFR end):**

(i) When the line clear has been given no shunting shall be permitted in the block section in rear Vide GR 8.06 (1).

(ii) Shunting or obstruction for any other purpose shall not be permitted in the block section in rear unless it is clear and is blocked back Vide GR 8.06(2) and BWM 6.15.

(iii) Shunting or obstruction for any other purpose shall not be permitted in the block section in advance unless it is clear and is blocked forward Vide GR 8.06(3) and BWM 6.15.

8.6 SHUNTING IN THE SIDING TAKING OFF FROM THE STATION YARD:
Shunt signals have been provided for conducting shunting in the sidings of the station yard. For any non-signalled movement T/806 shall be issued and concerned points shall be clamped and padlocked.

8.6.1 **SHUNTING OUTSIDE STATION SECTION:-**

(i) Shunting shall not be permitted in block section (i.e., in the block section in rear) unless it is clear and blocked back.

(ii) Shunting shall not be permitted in block section in advance unless it is clear and is block forward.

(iii) When line clear is been given, no shunting shall be permitted in the block section in rear vide GR. 8.05[2] & GR 8.12.

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

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

9.0 **ABNORMAL CONDITIONS: -**

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

[I] **PARTIAL FAILURE OF COMMUNICATION: -**

In the event of suspension of 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.(Refer BWM Chapter-III & 6.16 and SR 6.02.06)

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

If a train carrying passenger does not arrive within 10 minutes or if a goods train does not arrive within 20 minutes after allowing for its normal running time from the station in rear, the SM at the station in advance shall immediately advise the station in rear and the control of this fact. SM shall stop the movement of trains on the adjacent line and issue caution order about the fact. There after SMs at either end of the Block section shall send one Railway servant into block section to collect the whereabouts of train, condition of train and nature of assistance, if any, required. SM on duty shall collect the full particulars from railway servant so deputed and intimate the same to SM at other of block section and to the section control simultaneously for taking action according to circumstances of the case. [Refer GR 6.04 & SRs thereto].

[III] **FAILURE/PASSING OF INTEMEDIATE BLOCK STOP SIGNAL AT ON: -** Details of the operation are given in Appendix 'F' of SWR.

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

Detail operation is given in Appendix 'B' of SWR.

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

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

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

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

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

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

9.1(a) TOTAL FAILURE OF COMMUNICATION (SINGLE LINE): -

In the event of total interruption of all communications occurring between BLGR-BHPI stations, i.e when line clear cannot be obtained by one of the following means stated in order of preference viz,

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

and action shall be taken as per SR 6.02.04. The train which is to be dispatched to the affected section will be stopped and the Loco Pilot and Guard of the train shall be informed about the fact. Before dispatching the light engine /main engine/motor trolley /Tower wagon/Trolley /Cycle trolley/Moped trolley/Diesel car/rail motor car/EMU rake, the SM on duty

shall hand over an Authority i.e.T/B-602 for opening of communication during total failure interruption of communication on Single Line Section to the Loco Pilot /motorman/Guard/SM who is being sent to open communication, which includes.

(i) An authority to proceed without "Line Clear" in the prescribed form.
(ii) A Caution Order restricting speed of the train to 15Kmph by day when the view ahead is clear and 10 Kmph during night or when view ahead is obstructed in addition to other speed restrictions in force.
(iii) Authority to pass the Last Stop Signal at 'ON' position.
(iv) A "Line Clear" enquiry message (T/E 602) asking "Line Clear" for the awaiting train.
(v) A conditional "Line Clear" message T/F-602 for the light engine to return with or without a train attached, supported by a Private Number.

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

If there be an even flow of in both directions, Enquiry and Conditional line clear message for each succeeding train may be sent through the Guard of the preceding train.

If the Station Master at one end has more than one train to dispatch in the same direction he may ask line clear not only for one train but also for the following trains. It must be stated that these later trains will be dispatched after the first train at an interval of 30 minutes.

When dispatching the second and subsequent train particulars of last preceding train along with its departure time will be endorsed and a caution order restricting the speed to 25 Kmph. over straight when view ahead is clear and 10 Kmph. when the view ahead is not clear is to be issued.

While adopting this procedure the Guard and Loco Pilot should be instructed to keep a 'Sharp' lookout and be prepared to stop short of any obstruction. Trains must continue to work on this system until any one of the means of communication is restored.

As soon as any one of the means of communication has been restored, the conditional line clear working of trains shall be cancelled when there is no train in the affected block section and message shall be exchanged supported by Private Number keeping Section Controller

(b) TOTAL FAILURE OF COMMUNICATION BETWEEN STATIONS IN DOUBLE LINE SECTION:

In the event of total failure of communications between BLGR-LSX and BLGR-DFR i.e. when line clear cannot be obtained by any one of the following means stated in order of preference viz.

(a) Block Instruments, Track Circuits or Axle counters,
(b) Telephone attached to the Block Instruments,
(c) Station to station fixed telephones wherever available,
(d) Fixed telephones such as Railway auto phones & BSNL phones,
(e) Control telephone, and
(f) VHF set.

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

(i) Each train before being allowed to enter into the Block Section should be stopped and the Guard and Loco Pilot of the train apprised of the situation.
(ii) The SM will hand over an authority T/C 602 for working of train during total interruption of communication to the Loco Pilot of each train which shall include-

a) Authority to proceed without 'Line Clear'.
b) Authority to pass the Last Stop Signal at its "ON" position.

c) A caution order restricting the speed to 25KMPH by day when view ahead is clear and 10KMPH by night or when view ahead is not clear.

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

(iv) Fixed signals except the last stop signal may be taken "OFF" for the dispatch of the train and for the reception of the train at the next block station, reception signals may be taken off only after the train has been brought to a stand outside it.

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

(vi) Before resuming normal working when any means of communication is established. SM of either end must satisfy that there is no train in the block section. [Refer SR 6.02.03].

9.2 **TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION:**

During temporary single line working, when one line is clear and the other line is obstructed between BLGR-DFR & BLGR-LSX Section the trains shall be worked as per the procedure, which is summarized as follows:

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

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

(c) SM proposing single line working must issue a message with

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

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

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

(i) Authority for Temporary Single Line (TSL) working on double line (T-D/602) indicating there in

- Caution order
- The line on which single line working is introduced.
- The kilometer of obstruction.
- Any other speed restriction, if any existing.
- Endorsement to inform all Gang man and Gatekeeper about the single line working (for the first train only).
- The speed of the first train to be restricted to 25 KMPH subject to other speed restriction.
- Authority to pass Signal in "ON" position.

(ii) The approach stop signals at the station in advance may be taken 'OFF'. In case a train proceeding on wrong line, the train shall be piloted out and at the receiving station, the train shall be piloted 'IN', on the authority of T/510

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

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

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

9.3 **THE AUTHORITY TO PROCEED IN OCCUPIED BLOCK SECTION IN CASE OF OBSTRUCTION ON LINE OR ACCIDENT:-**

In case, it is necessary to allow a train into an obstructed block section due to engine failure, obstruction or accident, a block ticket shall be issue in terms of SR 6.02.05 Absolute Block System on the affected block section shall be suspended and concurrence of the SM at other end shall be obtained and recorded in caution order register and train signal register SM's diary.
On the block ticket(T/A 602) it shall be mentioned in details the place of obstruction i.e. Engine at km. B/Van km., whether the train is to return or to wait at the place of obstruction for the arrival of another following train(s) or to proceed to next station and to obey the site officer instructions.
A caution order shall be issued restricting the speed to 15kmph in day light hours when the visibility is clear and 10kmph at night or whenever clear view of 800 mtrs. is not clear.
On arrival at the station the block ticket shall be collected with necessary endorsement from Loco pilot/Guard and cancelled and pasted to its record foil shall be sent to the issuing station for cancellation.
In case of accident/engineering block assurance from SSE/P.WAY concerned shall be obtained that the line is safe for movement of trains before resumption of normal working. When the obstruction is removed and assurance in writing is obtained from SSE/P.WAY concerned or Guard/Loco Pilot the SM on duty may resume normal working after exchanging proper messages supported by Private Number.
Rules and Regulations for working of trains on an obstructed line in case of obstruction or accident on the authority of Block Ticket (T/A-602) when communicated are available shall be followed in accordance with the provisions which is 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:

a) The previous Block Ticket is collected and 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 cancelled from the Loco Pilot of the previous train by the official –in-charge at the site and kept in the personal custody & shall be kept until the arrival of the next train and such assurance is given over the telephone installed at the site quoting the serial number of the Block Ticket so collected.

e) SM will suspend the Absolute Block System of Working and both SMs concerned should arrange for running of trains on the authority of Block Ticket.
f) SM at the dispatching end will hand over to the driver the block Ticket as the authority which shall include:
   i. Caution Order: Existing Speed Restriction/s shall be indicated in the Caution Order portion. The Speed Restriction to 15 KMPH during clear visibility and 10 KMPH when visibility is obstructed shall be clearly indicated.
   ii. An authority to pass the Stop Signal at "ON" position.
g) Before resumption of normal working a message between the SMs of the concerned stations shall be exchanged with private number.[Ref SR 6.02.05(d)(vi)]

The Block Ticket so issued must be collected by SM 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 Loco Pilot/Guard of the train and cancelled.

10**.** **VISIBILITY TEST OBJECT**: -
UP and DN Route 1 Starter signal Number S-31 AND S-32 is earmarked as Visibility Test Object

11. **ESSENTIAL EQUIPMENTS AT THE STATION**: -
This is mentioned in the Appendix 'E' of the SWR. Essential equipment shall be kept ready on hand in good condition with necessary relief stock.

12. **FOG SIGNAL MEN NOMINATED TO BE CALLED IN CASE OF FOG: -**
The station has been provided with double Distant signals which give adequate pre-warning to the loco Pilot. Hence, placing of detonators in case of fog shall be dispensed with vide SR 3.61.01. However, Fog Signal Register shall be maintained as per GR 3.61 and Subsidiary Rules thereto. In charge of the station shall ensure that the information maintained in the register is kept upto date and is accurate in all respects. 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.

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 signalmen posted at the station from time to time.
   Part – II: Particulars of receipt and stock of detonating (fog) signals at the station to be filled in whenever detonators are used or received.
   Part – III: Periods of fogs, fog signalmen on duty and details of detonators used.
   Part – IV: Particulars of issue and testing of fog signals at the station.
(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.

CERTIFICATE:-
NOTHING IN THESE RULES SHALL BE READ AS CANCELLING, AMENDING AND MODIFYING ANY OF THE GENERAL RULES, SUBSIDIARY RULES, BLOCK WORKING MANUAL AND OPERATING MANUAL. THESE RULES HENCEFORTH CANCELL ALL PREVIOUS STATION WORKING RULES OF **BALANGIR JN**, STATION.

S.MISHRA
DSTE(TELE)/SBP

LINGARAJ GARTIA
DOM(G)/SBP

APPENDICES

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

APPENDIX – 'A'

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

1.0 **GATE WORKING INSTRUCTIONS OF "SPL" CLASS ENGINEERING INTERLOCKED LEVEL CROSSING GATE NO. JT-94 AT KM 678/11-13 (UP) & 678/12-14 (DN) IN BETWEEN BLGR-LSX STATIONS.**

1.1 **GENERAL INSTRUCTIONS***: -*

1.1.1 **DESCRIPTION OF THE LEVEL CROSSING GATE**:

Following details shall be maintained at all manned level crossing gates:

1.	Number of level crossing gate	:	JT-94
2.	Engineering or Traffic Gate	:	Engineering
3.	Under control of Station Master or SSE(P.WAY)	:	SSE(P.WAY)
4.	Location at KM	:	KM 678/11-13(UP), 678/12-14(DN)
5.	At station	:	----
6.	In between station	:	BLGR-LSX
7.	BG/MG/NG	:	BG
8.	Single line/Doubling Line/Multiple Line	:	Double line
9.	Normal position	:	Open to road traffic
10.	Interlocked/Non-interlocked	:	Interlocked
11.	Means of interlocking	:	Relay interlocking with gate stop signal
12.	Provision of gate Signal at Kms	:	(a) UP Gate Signal: KM.678/1-2 (b) DN Gate Signal: Km.678/6-7
13.	Signaling arrangement	:	Gate stop signal & distant signal
14.	Means of communications /Telephone with or without Voice logger	:	Voice logger connection from gate goomty with SM Office/BLGR
15.	Width of Level Crossing Gate	:	7.5 MTRS
16.	Type of Road (NH/SH/Others)	:	Others
17.	Name of Road	:	Sonepur Road
18.	Metaled/Non Metaled	:	Metaled
19.	Approach Road	:	Metaled
20.	Width of the Road	:	6 MTRS.
21.	Angle of Road Crossing (in case of the SKEW gates)	:	-----
22.	Road Gradient (if any)	:	(a) North/East side – 1 in 30
		:	(b) South/West side – 1 in 30
23.	Road alignment (straight/curve)	:	(a) North/East side – Straight (b) South/West side - Straight
24.	Provision of height gauge	:	Provided
25.	Type of Barrier	:	Electrical Operated lifting barrier
26.	Length of check Rail	:	9.5 MTRS.
27.	Road surface in between LC gates.	:	C.C Block
28.	Length of Rumble strip/speed breakers.	:	5.5 MTRS
29.	Road Signs	:	Provided
30.	Speed breakers indication board	:	Provided.
31.	TVU	:	96994 on 11/2024
32.	Census next due on	:	11/2027
33.	Demarcation for placement of detonators.	:	Provided.

34.	No. of Gatekeepers working	:	03 (08 Hours shift)
35.	Nearest Railway Medical Assistance	:	Balangir
36.	Nearest Private Medical Assistance available (if any)	:	Balangir
37.	List of equipment available Yes / No.	:	YES

1.2. **EQUIPMENT**:

	ITEMS	QUANTITY/NUMBERS
1.	LED based flashing tri colour hand signal lamp	3
2.	Hand signal Flag Green	1 mounted on sticks
3.	Hand Signal Flag Red.	3
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 (in case of asphalted road this may not be provided)
13.	Pick Axe	1 (in case of asphalted road this may not be provided)
14.	Tin case for flags	1
15.	Water pot/Bucket	1
16.	Canister for Muster Roll	1
17.	Set of spare spectacles of Gatekeeper 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 chains with padlocks to be used in case of failure of boom lock.	2

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

i) Gate working instructions in Hindi / English.
ii) Gate working instructions in local vernacular language.
iii) Gatekeeper Rule Book in Local vernacular language.
iv) List for tools and books.
v) Duty Roasters.
vi) Certificate of competency for working as Gatekeeper.
vii) Bio–Data particulars of Gatekeepers, including date of passing vision test, initial/refresher course, safety camp etc.
viii) Accident Register.
ix) Records of last census of road traffic at LC gate.
x) Public complaint Book.
xi) Inspection Book.

xii) S&T Register.

1.4 **DUTIES OF GATEKEEPER**:

1. **ALERTNESS:**

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

2. **POSITION OF GATE KEEPER DURING PASSAGE OF TRAINS**:

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

i) Gate Keeper will stand attentively in front of the gate lodge facing the approaching train.
ii) In daytime, Gate Keeper shall hold red and green flags furled up on separate sticks in right and left hands respectively.
iii) In nighttime, Gate Keeper 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 GATEKEEPER**:

i) Gatekeeper shall ensure that red banner flag by day and red light by night is placed across the track in case of emergency and obstruction on the track.
ii) Gatekeeper shall ensure that all gate light and hand signal lights are lighted and kept burning continuously from sunset to sunrise.
iii) Gatekeeper shall perform his duties strictly according to the duty roster and shall not leave the gate unless his reliever arrives and takes over charge from him. However, if it is necessary to leave the gate in an emergency, he must close and lock the gate against road traffic, before leaving the gate.
iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
v) Gatekeeper shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle/wagons /trains/battery/ box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
vi) Gatekeeper shall also be prepared to repeat any signal which TMR may give to Loco Pilot.
vii) If lifting barriers get damaged or becomes out of order, the Gatekeeper shall use the spare chain with disc and padlocks for securing the gate against road traffic.
viii) Gatekeeper shall report to the nearest Station Master, Gang mate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
ix) Gatekeeper shall wear badge and prescribed uniform while on duty at level crossing gate.
x) Gatekeeper shall ensure that he is having competency certificate in his possession while on duty.
xi) Gatekeeper shall work the gate as per gate working instructions and remain well conversant with these instructions.
xii) Gatekeeper shall ensure that equipments supplied at the gate is in good order and ready for immediate use.
xiii) Gatekeeper shall see that the channel for the flange of the wheel is kept clear.
xiv) Gatekeeper must keep the road surface well-watered and rammed in case of non-metaled roads.
xv) Gatekeeper must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
xvi) Gatekeeper shall prevent tress passing by persons or cattle to the maximum extent.
xvii) Gatekeeper 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.
xviii) Before opening the gate, he shall ensure that the train has passed complete over the level crossing by observing the last vehicle indicator of the train.
xix) In the event of gate signal becoming defective the gatekeeper shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.

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

In case Gate Keeper observes anything unusual with a passing train, he shall take following action:

i) He shall take prompt action to warn the Loco Pilot/TMR 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/TMR by whistling continuously, shouting, gesticulating, and throwing ballast on the brake van or by any other means.
iii) If Loco Pilot/TMR fails to take notice, Gate Keeper shall immediately inform the station Master to take appropriate action, under exchange of private number.
iv) In case of train parting, Gate Keeper 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/TMR 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, Gate Keeper shall immediately inform the Station Master to take appropriate action, under exchange of private number.

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

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

THE GATE KEEPER SHALL PROTECT THE LINE AS UNDER: -

(A) ON ELECTRIFIED SECTION:

i) On noticing that, the whole or part of the OHE or a feeder or a cable falling down, the gate keeper shall ensure that, as far as possible, human beings, animals or vehicles etc. are kept away in order to avoid any contact with the live equipment.
ii) As soon as it is noticed that, Pantograph of an electric rolling stock getting damaged and/or entanglement of the same with the OHE, he shall make every possible effort to stop the train and immediately inform SM on duty.
iii) Any damage to the track or structures of the OHE comes to the notice of on duty GK, he shall immediately inform SM on duty and take all necessary measure for protection of the line as under,

(B) PROTECTION ON DOUBLE LINE:-

If both lines are obstructed the Gatekeeper shall plant a red banner flag by day and a red light by night at 5 meters away from the line on which train is expected to arrives first.

i) Then he will similarly plant the other red banner flag by day and red light by night on the other line at 5 meters away from the site of obstruction.
ii) Gatekeeper shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
iii) Gatekeeper 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 and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.

iv) 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.

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

vi) In case the Gate Keeper 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.

vii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(C) **OTHER ACTIONS TO BE TAKEN BY GATEKEEPER**:

i) At night, Gatekeeper shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub Paras (a) and (b) above.

ii) If the gate is broken by a road vehicle, which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the Gatekeeper shall take immediate action.

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

1.5 **ENGINEERING ITEMS:**

i) **Visibility :**-

Direction	Side	Visibility Distance
UP	Right	400 m.
	Left	200 m.
DN	Right	600 m.
	Left	500 m.

ii) Speed Barker: Speed Breakers of approved design are provided on either side of the Level Crossing gate.

iii) Periodical Census of traffic has been taken and the latest TVU is 96994 on 11/2024.

1.6 **SPECIAL INSTRUCTIONS:-**

1. **MODE OF OPERATION**:

This is an interlocked L.C.Gate operated electrically situated in BLGR-LSX section and the L.C.gate is interlocked with gate signals. Telephone connection is provided between the L C. gate lodge with SM on duty of BLGR Station. The level crossing gate is of lifting barrier type and motor operated by means of motor from panel provided at the gate lodge. The normal position of the gate is open to road traffic.

When it is necessary to close the gate, for taking off signals, the SM on duty shall inform the gate man to close and lock the gate. Then he shall close the barriers of the LC gate by operating the RED push button provided on the panel. Gate man will keep the red push button till gate is closed & locked against road traffic and the red indication appears on the panel. After gate is closed & locked signal switches GS1 & GS2 are to be reversed to take off Up & DN gate stop signals respectively. Dead approach locking with sixty seconds is provided. For opening of LC fate, after passage of train switch GS1 & GS2 shall be push back to normal. Approach warning is provided on both UP train DN direction.

After passage of UP train L.C.No.JT-94 shall be released automatically after sequential occupation & clearance of track circuit Nos GS1T. After passage of DN train LC No.JT-94

shall be released automatically after sequential occupation &clearance of track circuit Nos GS2T. The provision for actuation of AWS system is to be provided at 02 (two) K.M distance.

In case of mid-section gate interlocking failure, the gatekeeper will inform SM/BLGR with PN exchanged ,then key-"A" (chained with crank handle) is extracted from the EKT (Electro mechanical free) , provided at gate lodge(in a locked and sealed red box with glass cover) for manual operation of lifting barrier by crank handling.

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

2. INTIMATION TO GATE KEEPER:

(i) Before taking off DN departure signals the Station Master/BLGR shall advise the gatekeeper through telephone connected at his end, the number, description, direction and expected time of passage of the train at the gate.

(ii) This advice shall also be given by the Station Master/ BLGR to the gatekeeper as soon as he receives train entering section advice from the dispatching station SM/LSX.

(iii) If the actual running time of the train from either end of the section is less than 10 minutes, Station Master/ BLGR will convey this advice to the gatekeeper before obtaining/granting line clear.

(iv) It should be the duty of the gatekeeper to ensure that the gate is closed in time, so that there is no detention to the train of excessive detention to road traffic.

WORKING OF SLIDING BOOM BARRIER:

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

INSTRUCTIONS FOR OPERATION OF SLIDING BOOM:

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

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

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

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

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

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

In the event of failure of reception and dispatch signals or during Non-interlocking working the Traffic Gatekeeper shall be informed and the Train shall be passed in terms of SR 3.69.02, 3.69.03 and 3.70.01 after ensuring correct closing and locking of L.C Gate. During, this period the L.C Gate shall be opened only when necessary and safe to do so. The LC gate shall be so worked as to cause least possible inconvenience to the vehicular traffic consistence with safety as per subsidiary rule 16.03.01(a).

OPERATION OF ELECTRIC LIFTING BARRIER DURING 110/24 V DC POWER FAILURE:

(Hand Generator Mode-During Power Failure)

In case of power failure (110/24 V DC), the barriers cannot be operated from the panel. But the barriers can be operated simultaneously by use of hand generator as mentioned below.

1. Put the Mode selector switch on the panel to MANUAL position.
2. To close the barriers rotate the lever on the main control panel in clock-wise direction till both the barriers reach the horizontal and locking takes place.
3. To open the barriers rotate the lever on the main control panel in anti-clock-wise direction. Both the locks will open first and the barriers will start rising. Keep cranking till the required position is achieved.

OPERATION OF ELECTRIC LIFTING BARRIER WHEN 110/24 V DC POWER SUPPLY AS WELL AS HAND GENERATOR FAILS:- (During Power Failure and failure of hand generator)

In case of failure of 110/24 V DC power supply as well as fault in the hand generator system a provision of hand cranking of each barrier has been provided.

1. Insert the crank handle, which can be obtained from the emergency key box EKT-H, on the slot provided in with the barrier pedestal.
2. Now crank in the anticlockwise direction to open the barrier, first the lock will open and then the barrier will start rising.
3. Crank in the clockwise direction till the barriers are fully closed. Keep cranking till the locking takes place.

INDICATIONS PROVIDED ON CONTROL PANEL FOR OPERATION OF ELECTRICAL LIFTING BARRIER:

1. RED colour emergency push button which is to be pushed in case any or both of the booms do not get locked (GREEN indicators do not light up). It will be used only after physical verification of locking at both the lock posts.
2. LED INDICATOR (AMBER) LAMP (At the Top) which glows when power supply is available. NO GLOW will indicate that hand generator has to be used. It glows continuously.
3. SELECTOR SWITCH which allows you to choose operation on Manual or Auto mode.
4. LED INDICATOR (AMBER) LAMP (2 nos) –Glows when the plunger of the barriers has been detected. Meaning thereby that the barrier has reached its Horizontal position.
5. YELLOW COLOUR push button which has to be kept pressed till the barriers reach the horizontal position.
6. LED INDICATOR LAMP (GREEN) (2 nos) glows when the barrier has been securely LOCKED. The lamp will turn off as soon as the lock has been opened.
7. GREEN COLOUR push button which has to be kept pressed till the barriers reach the fully open position.

8. Mode Selector Switch provided in Operating panel to be kept either in Auto position or Manual position as per requirement. It is only to be kept in Manual position for using hand generator when power supply fails or else it is to be kept in AUTO position.
9. 'Power' indicator LED will glow continuously if power supply is available.

Gate is locked when a signal is taken off. Locking of the gate is released only when the train movement for which signals are taken off is completed. For emergency opening of the LC gate before completion of train movement or if the route given for a train has not been released, then emergency gate release operation has to be initiated in the following manner. Signal cancellation button and the concerned signal button has to be pressed. Then emergency gate release button along with control 27 button has to be pressed. A flashing Red indication will appear on the top of the emergency gate release button. When the Gate lock indication disappear (i.e. after 120 seconds) gate key can be transmitted by pressing gate key and group trans button simultaneously for opening the gate.

In the event of failure of reception and dispatch signals or during Non-interlocking working the Traffic Gatekeeper shall be informed and the train shall be passed in terms of SR 3.69.02, 3.69.03 and 03.70.01 after ensuring correct closing and locking of L.C Gate. During this period the L.C Gate shall be opened only when necessary and safe to do so. The LC Gate shall be so worked as to cause least possible inconvenience to the vehicular traffic in consistence with safety as per subsidiary rule 16.03.01(a).

1.7 FAILURE OF TELEPHONIC COMMUNICATION:

When telephonic communication fails or he does not get any response from gatekeeper despite two or three attempts, the following procedure should be adopted:

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

1.8 FAILURE OF LIFTING BARRIERS AND SLIDING BOOM WORKING.

i) When the gate cannot be closed due to failure of lifting barriers, the Gate Keeper will immediately inform, the Station Master on duty/BLGR under exchange private number, and ensure the lifting barriers of gate do not foul the track.
ii) Then he shall resort to operate the sliding barrier to close against the road traffic. If both the lifting barrier and sliding barrier became defective, then he shall take the following action.
iii) 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.
iv) Gate Keeper shall secure the gate against road traffic by means of safety chains and padlocks.

v) After securing the gate against road traffic, Gate Keeper shall show green hand signal flag by day and green light by night to the Loco Pilot of the approaching train.
vi) Station Master on duty/ BLGR shall issue a caution order to the Loco Pilot of a departing train.
vii) He shall also advise the station Master/LSX at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train into the block section from his end.
viii) Station Master/ BLGR will advise maintenance staff responsible for maintenance of lifting barriers to repair the defect at the earliest.
ix) Normal working will be resumed only after maintenance staff repair the barrier and issue reconnection/fit memo for the same.

Note: Authority to pass signals in 'ON' position as per rules shall also be issued to the Loco Pilots of both departing and arriving trains.

1.9 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, gate signal lever or key transmitter then gatekeeper must immediately inform the Station Master/BLGR on duty on telephone, under exchange of private number.
(ii) For emergency opening of the gate, he will extract key-A from EKT kept in the red sealed glass box which is mechanically free & electrically proved. Concerned signals will be put back to "ON" position when emergency key is extracted. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gatekeeper.
(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/ BLGR shall issue caution order to the Loco Pilot of a departing train.
(v) He shall also advise the Station Master/LSX at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train into the block section his end.
(vi) Station Master/BLGR shall advise S&T staff responsible for maintenance the key transmitter to repair the same at the earliest.
(vii) Normal working will be resumed only after S&T staff repair the key transmitter and issue reconnection/fit memo for the same.

1.10 FAILURE OF THE GATE KEY WITH THE GATE IN OPEN CONDITION :

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

1.11 DEFECTIVE GATE SIGNAL:

(i) The gatekeeper 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 gate lever when the gate is in open condition.

(ii) If the Gate or the Gate Signal or Distant Signal becomes defective in 'OFF' position, the gatekeeper will make all efforts to put it at 'ON' position even by cutting signal wire/power, if necessary.

(iii) The gatekeeper will immediately advise the Station Master on duty/ BLGR, under exchange of private number, regarding defective gate signals.

(iv) Thereafter, the gate must be treated as non–interlocked and procedure for reception/dispatch as prescribed for non-interlocked gates should be adopted.

(v) He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.

(vi) Station Master on duty/ BLGR will issue a caution order to the Loco Pilot of departing train.

(vii) He shall also advise the Station Master/LSX under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching train in the block section from his end.

(viii) Station Master/ BLGR shall advise S&T staff responsible for maintaining the gate signal to repair the same at the earliest.

(ix) Normal working will be resumed only after S&T staff rectify the defective gate signal and issue reconnection/fit memo for the same.

1.12 OBSTRUCTION AT THE GATE:

i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gatekeeper shall immediately normalize GS switch to put back concerned signals and then 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 gatekeeper shall inform the Station Master / BLGR on duty, regarding the defects/obstruction at the gate, under exchange of private number.

iii) Station Master / BLGR 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/BLGR after two or three attempts, he shall first protect the gate and then inform on phone.

v) Gatekeeper shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of Gatekeeper under item No.1.4 (5).

vi) Thereafter he shall protect the gate from the other direction also.

vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and reply these details to the station Master/ BLGR who shall not start the trains unless he has been assured by the Gatekeeper that the road vehicle or the lifting barriers are not fouling the track.

viii) The Station Master/ BLGR shall also inform the station Master /LSX at the dispatching end, under exchange of private number, asking him not to dispatch any train into the block section from his end, until the track has been cleared of all obstructions.

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

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

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

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

xiii) Station Master/ BLGR shall then issue a caution order to Loco Pilots of all trains to proceed cautiously, and pass the gate signal at 'ON' position on green hand signal of the Gatekeeper, if the gate is broken, but is clear of any obstruction

1..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 gatekeeper, the gatekeeper and Station Master will adopt the procedure given under item No. 1.12 above. If the obstruction fouls the level Crossing Gate, gatekeeper must keep the gates closed against road traffic till the track is cleared of the obstructions.

1.14 DUTIES OF GATEKEEPER IN CASE OF ACCIDENTAL ROLLING DOWN OF TRAIN.

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

i) First close the gate against the road traffic.
ii) Then immediately inform the SM on duty.
iii) He shall not open the gate till he ensured that the train has completely stopped.

CERTIFICATE:

NOTHING IN THESE RULES SHALL BE READ AS CANCELLING, AMENDING AND MODIFYING ANY OF THE RULES IN GENERAL RULES, SUBSIDIARY RULES, BLOCK WORKING MANNUAL AND OPERATING MANNUAL.

2.0 GATE WORKING INSTRUCTIONS OF "SPL" CLASS ENGINEERING INTERLOCKED LEVEL CROSSING GATE NO. JT-95 AT KM 678/21-23(UP) & 678/22-24(DN) IN BETWEEN BLGR-LSX STATIONS.

2.1 GENERAL INSTRUCTIONS*:* -

2.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

Following details shall be maintained at all manned level crossing gates:

1.	Number of level crossing gate	:	JT-95
2.	Engineering or Traffic Gate	:	Engineering
3.	Under control of Station Master or SSE(P.WAY)	:	SSE(P.WAY)
4.	Location at KM	:	678/21-23(UP), 678/22-24(DN)
5.	At station	:	----
6.	In between station	:	BLGR-LSX
7.	BG/MG/NG	:	BG
8.	Single line/Doubling Line/Multiple Line	:	Double line
9.	Normal position	:	Open to road traffic
10.	Interlocked/Non-interlocked	:	Interlocked
11.	Means of interlocking	:	Relay interlocking with gate stop signal
12.	Provision of gate Signal at Kms	:	(a) UP Gate Signal: KM.678/11 (b) DN Gate Signal: Km.679/2-3
13.	Signaling arrangement	:	Gate stop signal
14.	Means of communications /Telephone with or without Voice logger	:	Voice logger connection from gate goomty with SM Office/BLGR
15.	Width of Level Crossing Gate	:	6.0 MTRS
16.	Type of Road (NH/SH/Others)	:	Others (Village)
17.	Name of Road	:	Sonepur Road
18.	Metaled/Non Metaled	:	Metaled
19.	Approach Road	:	Metaled
20.	Width of the Road	:	6.0 MTRS.
21.	Angle of Road Crossing (in case of the SKEW gates)	:	-----
22.	Road Gradient (if any)	: :	(a) North/East side –Level (b) South/West side – Level
23.	Road alignment (straight/curve)	:	(a) North/East side – Straight (b) South/Wset side - Straight
24.	Provision of height gauge	:	Provided
25.	Type of Barrier	:	Electrically Operated Lifting barrier
26.	Length of check Rail	:	7.5 MTRS.
27.	Road surface in between LC gates.	:	C.C Block
28.	Length of Rumble strip/speed breakers.	:	6.0 MTRS
29.	Road Signs	:	Provided
30.	Speed breakers indication board	:	Provided.
31.	TVU	:	295717 on 11/2024
32.	Census next due on	:	11/2027
33.	Demarcation for placement of detonators.	:	Provided.
34.	No. of Gatekeepers working	:	03
35.	Nearest Railway Medical Assistance	:	Balangir
36.	Nearest Private Medical Assistance available (if any)	:	Balangir
37.	List of equipment available Yes / No.	:	YES

2.2. **EQUIPMENT**:

	ITEMS	QUANTITY/NUMBERS
1.	LED based flashing tri colour hand signal lamp	3
2.	Hand signal Flag Green	1 mounted on sticks
3.	Hand Signal Flag Red.	3
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 (in case of asphalted road this may not be provided)
13.	Pick Axe	1 (in case of asphalted road this may not be provided)
14.	Tin case for flags	1
15.	Water pot/Bucket	1
16.	Canister for Muster Roll	1
17.	Set of spare spectacles of Gatekeeper wearing glasses.	1
19.	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 chains with padlocks to be used in case of failure of boom lock.	2

2.3 **THE GATEKEEPER SHALL BE PROVIDED WITH FOLLOWING REGISTERS**: -

i) Gate working instructions in Hindi / English.
ii) Gate working instructions in local vernacular language.
iii) Gatekeeper Rule Book in Local vernacular language.
iv) List for tools and books.
v) Duty Rosters.
vi) Certificate of competency for working as Gatekeeper.
vii) Bio–Data particulars of Gatekeepers, including date of passing vision test, initial/refresher course, safety camp etc.
viii) Accident Register.
ix) Records of last census of road traffic at LC gate.
x) Public complaint Book.
xi) Inspection Book.
xii) S&T Register.

2.4 **DUTIES OF GATEKEEPER**:

1. **ALERTNESS:**

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

2. POSITION OF GATE KEEPER DURING PASSAGE OF TRAINS:

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

i) Gate Keeper will stand attentively in front of the gate lodge facing the approaching train.
ii) In daytime, Gate Keeper shall hold red and green flags furled up on separate sticks in right and left hands respectively.
iii) In nighttime, Gate Keeper 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 GATE KEEPER:

i) Gatekeeper shall ensure that red banner flag by day and red light by night is placed across the track in case of emergency and obstruction on the track.
ii) Gatekeeper shall ensure that all gate light and hand signal lights are lighted and kept burning continuously from sunset to sunrise.
iii) Gatekeeper shall perform his duties strictly according to the duty roster and shall not leave the gate unless his reliever arrives and takes over charge from him. However, if it is necessary to leave the gate in an emergency, he must close and lock the gate against road traffic, before leaving the gate.
iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
v) Gatekeeper shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle/wagons /trains/battery/ box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
vi) Gatekeeper shall also be prepared to repeat any signal which TMR may give to Loco Pilot.
vii) If lifting barriers get damaged or becomes out of order, the Gatekeeper shall use the spare chain with disc and padlocks for securing the gate against road traffic.
viii) Gatekeeper shall report to the nearest Station Master, Gang mate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
ix) Gatekeeper shall wear badge and prescribed uniform while on duty at level crossing gate.
x) Gatekeeper shall ensure that he is having competency certificate in his possession while on duty.
xi) Gatekeeper shall work the gate as per gate working instructions and remain well conversant with these instructions.
xii) Gatekeeper shall ensure that equipments supplied at the gate is in good order and ready for immediate use.
xiii) Gatekeeper shall see that the channel for the flange of the wheel is kept clear.
xiv) Gatekeeper must keep the road surface well-watered and rammed in case of non-metaled roads.
xv) Gatekeeper must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
xvi) Gatekeeper shall prevent tress passing by persons or cattle to the maximum extent.
xvii) Gatekeeper 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.
xviii) Before opening the gate, he shall ensure that the train has passed complete over the level crossing by observing the last vehicle indicator of the train.
xix) In the event of gate signal becoming defective the gatekeeper shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN.

In case Gate Keeper observes anything unusual with a passing train, he shall take following action:

i) He shall take prompt action to warn the Loco Pilot/TMR 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/TMR by whistling continuously, shouting, gesticulating, and throwing ballast on the brake van or by any other means.
iii) If Loco Pilot/TMR fails to take notice, Gate Keeper shall immediately inform the station Master to take appropriate action, under exchange of private number.
iv) In case of train parting, Gate Keeper 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/TMR 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, Gate Keeper shall immediately inform the Station Master to take appropriate action, under exchange of private number.

5. ACTION IN EMERGENCY AT THE LEVEL CROSSING:

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

THE GATE KEEPER SHALL PROTECT THE LINE AS UNDER: -

(A) ON ELECTRIFIED SECTION:

i) On noticing that, the whole or part of the OHE or a feeder or a cable falling down, the gate keeper shall ensure that, as far as possible, human beings, animals or vehicles etc. are kept away in order to avoid any contact with the live equipment.
ii) As soon as it is noticed that, Pantograph of an electric rolling stock getting damaged and/or entanglement of the same with the OHE, he shall make every possible effort to stop the train and immediately inform SM on duty.
iii) Any damage to the track or structures of the OHE comes to the notice of on duty GK, he shall immediately inform SM on duty and take all necessary measure for protection of the line as under,

(B) PROTECTION ON DOUBLE LINE:-

i) If both lines are obstructed the Gatekeeper shall plant a red banner flag by day and a red light by night at 5 meters away from the line on which train is expected to arrives first.
ii) Then he will similarly plant the other red banner flag by day and red light by night on the other line at 5 meters away from the site of obstruction.
iii) Gatekeeper shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
iv) Gatekeeper 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 and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
v) Thereafter, he shall proceed 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 Gate Keeper observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.

viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(C) **OTHER ACTIONS TO BE TAKEN BY GATEKEEPER**:

i) At night, Gatekeeper shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub Paras (a) and (b) above.

ii) If the gate is broken by a road vehicle, which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the Gatekeeper shall take immediate action.

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

2.5 **ENGINEERING ITEMS:**

i) **Visibility :**-

Direction	Side	Visibility Distance
UP	Right	400 m.
	Left	200 m.
DN	Right	600 m.
	Left	500 m.

i) Speed Barker: Speed Breakers of approved design are provided on either side of the Level Crossing gate.

ii) Periodical Census of traffic has been taken and the latest TVU is 295717 on 11/2024.

2.6 **SPECIAL INSTRUCTIONS**:

1. **MODE OF OPERATION**:

This is an interlocked L.C. Gate situated in BLGR-LSX section and the L.C. gate is interlocked with gate signals. Telephone connection is provided between the L C. gate lodge with SM on duty of BLGR Station. The level crossing gate is of lifting barrier type and motor operated by means of motor from panel provided at the gate lodge. The normal position of the gate is open to road traffic. The key “M” of the LC normally remains locked in the Panel when the gate is in open condition.

When it is necessary to close the gate, for taking of signals, the SM on duty shall inform the gate man to close and lock the gate. Then close the barriers of the LC gate by operating the RED push button provided on the panel. Gate man will keep the red push button till gate is closed & locked against road traffic and the red indication appears on the panel. After gate is closed & locked key “M’ is extracted from EKT-1. Key ‘M’ thus extracted from EKT-1 is inserted in EKT-2 and signal switches GS3 & GS4 are to be reversed to take off Up & DN gate stop signals respectively. Dead approach locking with sixty seconds is provided.

After passage of UP train L.C.No.JT-95 shall be released automatically after sequential occupation & clearance of track circuit Nos.GS3T. After passage of DN train LC No.JT-95 shall be released automatically after sequential occupation &clearance of track circuit Nos GS4T. Approach warning is provided from track circuit No.GS1AT (in sequence) for DN direction and 1T & 1AT (in sequence) in UP direction.

In case of mid-section gate interlocking failure leading to non-extraction of the normal key used for operation an emergency key is provided and kept in a secured place at the gate. The

arrangement shall be such that the signal shall be put back to on as soon as the process of emergency key extraction is initiated and the emergency key can be extracted only after a time delay of sixty seconds.

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

2. **INTIMATION TO GATE MAN**:

(i) Before taking off DN departure signals, Station Master/BLGR shall advise the gatekeeper through telephone connected at his end, the number, description, direction and expected time of passage of the train at the gate.

(ii) This advice shall also be given by the Station Master/ BLGR to the gatekeeper as soon as he receives train entering section advice from the dispatching station SM/LSX.

(iii) If the actual running time of the train from either end of the section is less than 10 minutes, Station Master/BLGR will convey this advice to the gatekeeper before obtaining/granting line clear.

(iv) It should be the duty of the gatekeeper to ensure that the gate is closed in time, so that there is no detention to the train of excessive detention to road traffic.

WORKING OF SLIDING BOOM BARRIER:

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

INSTRUCTIONS FOR OPERATION OF SLIDING BOOM:

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

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

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

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

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

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

In the event of failure of reception and dispatch signals or during Non-interlocking working the Traffic Gatekeeper shall be informed and the Train shall be passed in terms of SR 3.69.02, 3.69.03 and 3.70.01 after ensuring correct closing and locking of L.C Gate. During, this period the L.C Gate shall be opened only when necessary and safe to do so. The LC gate shall be so worked as to cause least possible inconvenience to the vehicular traffic consistence with safety as per subsidiary rule 16.03.01(a).

OPERATION OF ELECTRIC LIFTING BARRIER DURING 110/24 V DC POWER FAILURE:

(Hand Generator Mode-During Power Failure)

In case of power failure (110/24 V DC), the barriers cannot be operated from the panel. But the barriers can be operated simultaneously by use of hand generator as mentioned below.

1. Put the Mode selector switch on the panel to MANUAL position.
2. To close the barriers rotate the lever on the main control panel in clock-wise direction till both the barriers reach the horizontal and locking takes place.
3. To open the barriers rotate the lever on the main control panel in anti-clock-wise direction. Both the locks will open first and the barriers will start rising. Keep cranking till the required position is achieved.

OPERATION OF ELECTRIC LIFTING BARRIER WHEN 110/24 V DC POWER SUPPLY AS WELL AS HAND GENERATOR FAILS:- (During Power Failure and failure of hand generator)

In case of failure of 110/24 V DC power supply as well as fault in the hand generator system a provision of hand cranking of each barrier has been provided.

1. Insert the crank handle, which can be obtained from the emergency key box EKT-H, on the slot provided in with the barrier pedestal.
2. Now crank in the anticlockwise direction to open the barrier, first the lock will open and then the barrier will start rising.
3. Crank in the clockwise direction till the barriers are fully closed. Keep cranking till the locking takes place.

INDICATIONS PROVIDED ON CONTROL PANEL FOR OPERATION OF ELECTRICAL LIFTING BARRIER:

1. RED colour emergency push button which is to be pushed in case any or both of the booms do not get locked (GREEN indicators do not light up). It will be used only after physical verification of locking at both the lock posts.
2. LED INDICATOR (AMBER) LAMP (At the Top) which glows when power supply is available. NO GLOW will indicate that hand generator has to be used. It glows continuously.
3. SELECTOR SWITCH which allows you to choose operation on Manual or Auto mode.
4. LED INDICATOR (AMBER) LAMP (2 nos) –Glows when the plunger of the barriers has been detected. Meaning thereby that the barrier has reached its Horizontal position.
5. YELLOW COLOUR push button which has to be kept pressed till the barriers reach the horizontal position.
6. LED INDICATOR LAMP (GREEN) (2 nos) glows when the barrier has been securely LOCKED. The lamp will turn off as soon as the lock has been opened.
7. GREEN COLOUR push button which has to be kept pressed till the barriers reach the fully open position.
8. Mode Selector Switch provided in Operating panel to be kept either in Auto position or Manual position as per requirement. It is only to be kept in Manual position for using hand generator when power supply fails or else it is to be kept in AUTO position.
9. 'Power' indicator LED will glow continuously if power supply is available.

Gate is locked when a signal is taken off. Locking of the gate is released only when the train movement for which signals are taken off is completed. For emergency opening of the LC gate before completion of train movement or if the route given for a train has not been released, then emergency gate release operation has to be initiated in the following manner. Signal cancellation button and the concerned signal button has to be pressed. Then emergency gate release button along with control 27 button has to be pressed. A flashing Red indication will appear on the top of the emergency gate release button. When the Gate lock indication disappear (i.e. after 120 seconds) gate key can be transmitted by pressing gate key and group trans button simultaneously for opening the gate.

In the event of failure of reception and dispatch signals or during Non-interlocking working the Traffic Gatekeeper shall be informed and the train shall be passed in terms of SR 3.69.02, 3.69.03 and 03.70.01 after ensuring correct closing and locking of L.C Gate. During this period the L.C Gate shall be opened only when necessary and safe to do so. The LC Gate shall be so worked as to cause least possible inconvenience to the vehicular traffic in consistence with safety as per subsidiary rule 16.03.01(a).

2.7 FAILURE OF TELEPHONIC COMMUNICATION:

When telephonic communication fails or he does not get any response from gatekeeper despite two or three attempts, the following procedure should be adopted:

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

2.8 <u>FAILURE OF LIFTING BARRIERS:-</u>

i) When the gate cannot be closed due to failure of lifting barriers, the Gate Keeper will immediately inform, the Station Master on duty/BLGR under exchange private number, and ensure the lifting barriers of gate do not foul the track. Then he shall resort to operate the sliding barrier to close against the road traffic. If both the lifting barrier and sliding barrier became defective, then he shall take the following action.
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) Gate Keeper shall secure the gate against road traffic by means of safety chains and padlocks.
iv) After securing the gate against road traffic, Gate Keeper shall show green hand signal flag by day and green light by night to the Loco Pilot of the approaching train.
v) Station Master on duty/BLGR shall issue a caution order to the Loco Pilot of a departing train.

vi) He shall also advise the station Master/LSX at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train into the block section from his end.
vii) Station Master/BLGR will advise maintenance staff responsible for maintenance of lifting barriers to repair the defect at the earliest.
viii) Normal working will be resumed only after maintenance staff repair the barrier and issue reconnection/fit memo for the same.

Note: Authority to pass signals in 'ON' position as per rules shall also be issued to the Loco Pilots of both departing and arriving trains.

2.9 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, gate signal lever or key transmitter then gatekeeper must immediately inform the Station Master/KBJ on duty on telephone, under exchange of private number.
ii) For emergency opening of the gate, he will extract key-P from EKT kept in the red sealed glass box which is mechanically free & electrically proved. Concerned signals will be put back to "ON" position when emergency key is extracted. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gatekeeper.
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/BLGR shall issue caution order to the Loco Pilot of a departing train.
v) He shall also advise the Station Master/LSX at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train into the block section his end.
vi) Station Master/ BLGR shall advise S&T staff responsible for maintenance the key transmitter to repair the same at the earliest.
vii) Normal working will be resumed only after S&T staff repair the key transmitter and issue reconnection/fit memo for the same.

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

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

2.11 DEFECTIVE GATE SIGNAL:

i) The gatekeeper 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 gate lever when the gate is in open condition.

ii) If the Gate or the Gate Signal or Distant Signal becomes defective in 'OFF' position, the gatekeeper will make all efforts to put it at 'ON' position even by cutting signal wire/power, if necessary.

iii) The gatekeeper will immediately advise the Station Master on duty/ BLGR, under exchange of private number, regarding defective gate signals.

iv) Thereafter, the gate must be treated as non–interlocked and procedure for reception/dispatch as prescribed for non-interlocked gates should be adopted.

v) He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.

vi) Station Master on duty/ BLGR will issue a caution order to the Loco Pilot of departing train.

vii) He shall also advise the Station Master/LSX under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching train in the block section from his end.

viii) Station Master/ BLGR shall advise S&T staff responsible for maintaining the gate signal to repair the same at the earliest.

ix) Normal working will be resumed only after S&T staff rectify the defective gate signal and issue reconnection/fit memo for the same.

2.12. **OBSTRUCTION AT THE GATE**:

i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gatekeeper shall immediately normalize GS switch to put back concerned signals and then 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 gatekeeper shall inform the Station Master / BLGR on duty, regarding the defects/obstruction at the gate, under exchange of private number.

iii) Station Master / BLGR 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/ BLGR after two or three attempts, he shall first protect the gate and then inform on phone.

v) Gatekeeper shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of Gatekeeper under item No.2.4(5).

vi) Thereafter he shall protect the gate from the other direction also.

vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and reply these details to the station Master/ BLGR who shall not start the trains unless he has been assured by the Gatekeeper that the road vehicle or the lifting barriers are not fouling the track.

viii) The Station Master/ BLGR shall also inform the station Master /LSX at the dispatching end, under exchange of private number, asking him not to dispatch any train into the block section from his end, until the track has been cleared of all obstructions.

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

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

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

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

xiii) Station Master/ BLGR shall then issue a caution order to Loco Pilots of all trains to proceed cautiously, and pass the gate signal at 'ON' position on green hand signal of the Gatekeeper, if the gate is broken, but is clear of any obstruction.

2.13. **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 gatekeeper, the gatekeeper and Station Master will adopt the procedure given under item No. 2.12 above. If the obstruction fouls the level Crossing Gate, gatekeeper must keep the gates closed against road traffic till the track is cleared of the obstructions.

2.14 DUTIES OF GATEKEEPER IN CASE OF ACCIDENTAL ROLLING DOWN OF TRAIN.

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

i) First close the gate against the road traffic.
ii) Then immediately inform the SM on duty.
iii) He shall not open the gate till he ensured that the train has completely stopped.

CERTIFICATE: -

NOTHING IN THESE RULES SHALL BE READ AS CANCELLING, AMENDING AND MODIFYING ANY OF THE RULES IN GENERAL RULES, SUBSIDIARY RULES, BLOCK WORKING MANNUAL AND OPERATING MANNUAL.

3.0 WORKING INSTRUCTIONS FOR 'B1' CLASS ENGG. NON-INTERLOCKED LEVEL CROSSING GATE NO.JT-96 AT KM 679/3-5(UP) & 679/4-6(DN) IN BETWEEN BLGR-LSX STATIONS.

3.1 GENERAL INSTRUCTIONS-

3.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

Following details shall be maintained at all manned level crossing gates:

1.	Number of level crossing gate	:	JT-96
2.	Engineering or Traffic Gate	:	Engineering
3.	Under control of Station Master or SSE(P.WAY)	:	SSE(P.WAY)
4.	Location at KM	:	KM. 679/3-5(UP), 679/4-6 DN)
5.	At station	:	----
6.	In between station	:	BLGR-LSX
7.	BG/MG/NG	:	BG
8.	Single line/Doubling Line/Multiple Line	:	Double line
9.	Normal position	:	Close to road traffic
10.	Interlocked/Non-interlocked	:	Non-Interlocked
11.	Means of interlocking	:	Nil
12.	Provision of gate Signal at Kms	:	(a) UP Gate Signal: Nil (b) DN Gate Signal: Nil
13.	Signaling arrangement	:	Nil
14.	Means of communications /Telephone with or without Voice logger	:	Voice Logger Telephone with gate from the SM Office /BLGR
15.	Width of Level Crossing Gate	:	7.5 MTRS
16.	Type of Road (NH/SH/Others)	:	Others
17.	Name of Road	:	Village Road
18.	Metaled/Non Metaled	:	Metaled
19.	Approach Road	:	Metaled
20.	Width of the Road	:	5.5 MTRS.
21.	Angle of Road Crossing (in case of the SKEW gates)	:	-----
22.	Road Gradient (if any)	:	(a) East/North side -1 in 30
		:	(b) West/South side – 1 in 30
23.	Road alignment (straight/curve)	:	(a) East/North side – Straight (b) West/South side - Straight
24.	Provision of height gauge	:	Provided
25.	Type of Barrier	:	Winch Operated Lifting barrier
26.	Length of check Rail	:	9.5 MTRS.
27.	Road surface in between LC gates.	:	CC BLOCK
28.	Length of Rumble strip/speed breakers.	:	5.5 MTRS
29.	Road Signs	:	Provided
30.	Speed breakers indication board	:	Available
31.	TVU	:	25723 on 11/2024
32.	Census next due on	:	11/2027
33.	Demarcation for placement of detonators.	:	Available
34.	No. of Gatekeepers working	:	02 (12 Hours shift)
35.	Nearest Railway Medical Assistance	:	Balangir
36.	Nearest Private Medical Assistance available (if any)	:	Balangir
37.	List of equipment available Yes / No.	:	YES

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

	ITEMS	QUANTITY/NUMBERS
1.	LED based flashing tri colour hand signal lamp	3
2.	Hand signal Flag Green	1 mounted on sticks
3.	Hand Signal Flag Red.	3
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 (in case of asphalted road this may not be provided)
13.	Pick Axe	1 (in case of asphalted road this may not be provided)
14.	Tin case for flags	1
15.	Water pot/Bucket	1
16.	Canister for Muster Roll	1
17.	Set of spare spectacles of Gatekeeper wearing glasses.	1
20.	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 chains with padlocks to be used in case of failure of boom lock.	2

3.3 **THE GATEKEEPER SHALL BE PROVIDED WITH FOLLOWING REGISTERS: -**

ii) Gate working instructions in Hindi / English.
iii) Gate working instructions in local vernacular language.
iv) Gatekeeper Rule Book in Local vernacular language.
v) List for tools and books.
vi) Duty Rosters.
vii) Certificate of competency for working as Gatekeeper.
viii) Bio–Data particulars of Gatekeepers, including date of passing vision test, initial/refresher course, safety camp etc.
ix) Accident Register.
x) Records of last census of road traffic at LC gate.
xi) Public complaint Book.
xii) Inspection Book.

3.4 **DUTIES OF GATEKEEPER**:

1. <u>ALERTNESS:</u>

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

2. <u>POSITION OF GATE KEEPER DURING PASSAGE OF TRAINS:</u>

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

i) Gate Keeper will stand attentively in front of the gate – lodge facing the approaching train.

ii) In daytime, Gate Keeper shall hold red and green flags furled up on separate sticks in right and left hands respectively.
iii) In nighttime, Gate Keeper 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 GATE KEEPER:

i) Gatekeeper shall ensure that red banner flag by day and red light by night is placed across the track in case of emergency and obstruction on the track.
ii) Gatekeeper shall ensure that all gate light and hand signal lights are lighted and kept burning continuously from sunset to sunrise.
iii) Gatekeeper shall perform his duties strictly according to the duty roster and shall not leave the gate unless his reliever arrives and takes over charge from him. However, if it is necessary to leave the gate in an emergency, he must close and lock the gate against road traffic, before leaving the gate.
iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
v) Gatekeeper shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle/wagons /trains/battery/box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
vi) Gatekeeper shall also be prepared to repeat any signal which TMR may give to Loco Pilot.
vii) If lifting barriers get damaged or becomes out of order, the Gatekeeper shall use the spare chain with disc and padlocks for securing the gate against road traffic.
viii) Gatekeeper shall report to the nearest Station Master, Gang mate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
ix) Gatekeeper shall wear badge and prescribed uniform while on duty at level crossing gate.
x) Gatekeeper shall ensure that he is having competency certificate in his possession while on duty.
xi) Gatekeeper shall work the gate as per gate working instructions and remain well conversant with these instructions.
xii) Gatekeeper shall ensure that equipments supplied at the gate is in good order and ready for immediate use.
xiii) Gatekeeper shall see that the channel for the flange of the wheel is kept clear.
xiv) Gatekeeper must keep the road surface well-watered and rammed in case of non-metaled roads.
xv) Gatekeeper must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
xvi) Gatekeeper shall prevent tress passing by persons or cattle to the maximum extent.
xvii) Gatekeeper 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.
xviii) Before opening the gate, he shall ensure that the train has passed complete over the level crossing by observing the last vehicle indicator of the train.

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN:

In case Gate Keeper observes anything unusual with a passing train, he shall take following action:

i) He shall take prompt action to warn the Loco Pilot/TMR 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/TMR by whistling continuously, shouting, gesticulating, and throwing ballast on the brake van or by any other means.
iii) If Loco Pilot/TMR fails to take notice, Gate Keeper shall immediately inform the station Master/BLGR to take appropriate action, under exchange of private number.

iv) In case of train parting, Gate Keeper 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/TMR 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, Gate Keeper shall immediately inform the Station Master/BLGR to take appropriate action, under exchange of private number.

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

i) Place banner flag/red light lamp on the stave on track at 5M away from the check rail end.
ii) Thereafter, if he is unable to remove the obstruction, Gate Keeper shall immediately inform the Station Master on duty by telephone, regarding the defects/obstructions at the gate, under exchange of private number.
iii) If there is no response from the Station Master after two or three attempts he shall first protect the gate and then inform on phone.

THE GATE KEEPER SHALL PROTECT THE LINE AS UNDER: -

(A) ON ELECTRIFIED SECTION:

i) On noticing that, the whole or part of the OHE or a feeder or a cable falling down, the gate keeper shall ensure that, as far as possible, human beings, animals or vehicles etc. are kept away in order to avoid any contact with the live equipment.
ii) As soon as it is noticed that, Pantograph of an electric rolling stock getting damaged and/or entanglement of the same with the OHE, he shall make every possible effort to stop the train and immediately inform SM on duty.
iii) Any damage to the track or structures of the OHE comes to the notice of on duty GK, he shall immediately inform SM on duty and take all necessary measure for protection of the line as under,

(B) PROTECTION ON DOUBLE LINE:-

i) If both lines are obstructed the Gatekeeper shall plant a red banner flag by day and a red light by night at 5 meters away from the line on which train is expected to arrives first.
ii) Then he will similarly plant the other red banner flag by day and red light by night on the other line at 5 meters away from the site of obstruction.
iii) Gatekeeper shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
iv) Gatekeeper 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 and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
v) Thereafter, he shall proceed 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 Gate Keeper observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(C) **OTHER ACTIONS TO BE TAKEN BY GATEKEEPER**:

i) At night, Gatekeeper shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub Paras (a) and (b) above.

ii) If the gate is broken by a road vehicle, which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the Gatekeeper shall take immediate action.

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

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3.5 ENGINEERING ITEMS:

i) **Visibility :**-

Direction	Side	Visibility Distance
UP	Right	500 m.
	Left	1000 m.
DN	Right	1000 m.
	Left	500 m.

ii) Speed Barker: Speed Breakers of approved design are provided on either side of the Level Crossing gate.

iii) Periodical Census of traffic has been taken and the latest TVU is 25723 on 11/2024.

3.6 **SPECIAL INSTRUCTIONS**-

1. MODE OF OPERATION:-

This is a Manned & Non-interlocked Engineering L.C.Gate situated at Km 679/3-5(UP) & 679/4-6(DN) in between BLGR-LSX Stations. This gate is provided with winch operated coupled lifting barriers and the gate is closed/opened by the gatekeeper manually by winch operation. Telephone communication is provided between the L C. gate lodge with SM office of BLGR station. The level crossing gate is normally kept closed and locked against road traffic. The Station Master/BLGR shall not permit any train to enter the block section, unless he is assured of the closure and locking of the gate by the gatekeeper supported by exchange of private number. When the gatekeeper desires to open the gate for passage of road traffic he should ensure that no PN has been exchanged with the Station Master/BLGR for the passage of train or the whole of the train with last vehicle indicator has passed over the level crossing gate for which the gatekeeper has exchanged private number with the SM/BLGR. Before opening the gate for road traffic, he shall display banner flag/danger signal at either side of the track at a distance of 5 meters away from the gate.

2. EXCHANGE OF PRIVATE NUMBERS:

(i) The normal position of level crossing gate being “Closed to Road Traffic” it should always be in closed condition against road traffic, except when, it is opened for passage of road traffic over the level crossing, subject to conditions prescribed below.

(ii) The Station Master / BLGR before permitting each train to enter into the block section, shall ask Gatekeeper on the telephone by giving a Private Number whether, gate is closed against road traffic for the passage of train. The Gatekeeper only after ensuring that the gate is

actually closed and locked against road traffic shall give a Private Number to the Station Master / BLGR in assurance of gate being closed and locked against road traffic.

(iii) The Station Master / BLGR shall not permit any train to enter the block section, unless he is assured of the closure and locking of the gate by the gatekeeper supported by exchange of private number.

(iv) When the gatekeeper desires to open the gate for passage of road traffic he should ensure that:
  (a) He has not exchanged any private number with the SM / BLGR as per (ii) above.
  (b) If he has exchanged private number with the Station Master / BLGR , the whole of the train with last vehicle indicator has passed over the level crossing gate and Station Master / BLGR has not exchanged private number with him for any other movement immediately in rear of the train.

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

(v) In case the Gatekeeper is not responding on the telephone or in case the telephone becomes defective or private number is not received from the Gateman, the Station Master/ BLGR shall adhere to the procedure prescribed in SR 16.03.04.

(vi) In the event of failure of telephone, if the gate is required to be opened for the passage of road traffic, the gatekeeper shall look out in both directions before opening the gate to ensure that no train is approaching from either end. He shall then plant a banner flag during day and a hand signal lamp with the red light during night, 5 meters away from the gate on the track on either side. He will thereafter, open the gate for passing the road traffic keeping a red flag / red hand signal lamp ready in his hand to stop approaching train if any.

3.7 FAILURE OF TELEPHONIC COMMUNICATION:

When telephonic communication fails or he does not get any response from gatekeeper despite two or three attempts, the following procedure should be adopted:

i) Station Master/BLGR shall issue caution order to the Loco Pilot of the departing train.
ii) In the caution order, it shall advice the Loco Pilot to whistle continuously and approach the gate cautiously.
iii) The Loco Pilot shall be instructed to pass the gate cautiously, on being hand signalled by the gatekeeper. If hand signal is not seen, the Loco Pilot should be prepared to stop short of the gate and depute his Assistant Loco Pilot to see the condition of the gate. If gate is closed, ALP will give all right signal and if gate is not closed, the ALP must close the gate and then give all right signal. In the absence of the ALP, the LP may take the assistance of TMR.
iv) In case of an approaching train, the SM shall advise the SM at the dispatching end, under exchange of private number that the telephone at the gate has failed.
v) The SM at the dispatching end shall then issue a caution order to the LP before dispatching a train in the block section from his end.
vi) The SM shall advise the GK through gang man/patrol man or the LP of the first train that the telephone has become defective.

vii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.

viii) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection/fit memo for the same.

3.8 FAILURE OF LIFTING BARRIERS:-

i) When the gate cannot be closed due to failure of lifting barriers, the Gate Keeper will immediately inform, the Station Master on duty/ BLGR under exchange private number, and ensure the lifting barriers of gate do not foul the track.

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

iii) Gate Keeper shall secure the gate against road traffic by means of safety chains and padlocks.

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

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

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

vii) Station Master/ BLGR will advise maintenance staff responsible for maintenance of lifting barriers to repair the defect at the earliest.

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

3.9 OBSTRUCTION AT THE GATE:-

i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gatekeeper 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 gatekeeper shall advise the Station Master/ BLGR on duty, regarding the defects/obstruction at the gate, under exchange of private number.

iii) Station Master/ BLGR 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/ BLGR after two or three attempts, he shall first protect the gate and then inform on phone.

v) Gatekeeper shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gatekeeper under item No.3.4(5).

vi) Thereafter he shall protect the gate from the other direction also.

vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and reply these details to the Station Master/ BLGR who shall not start the trains unless he has been assured by the gatekeeper that the road vehicle or the lifting barriers are not fouling the track.

viii) The Station Master/ BLGR shall also inform the Station Master/LSX at the dispatching end, under exchange of private number, asking him not to dispatch any train into the block section from his end, until the track has been cleared of all obstructions.

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

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

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

xii) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers and issue reconnection/fit memo for the same

3.10 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 gatekeeper, the gatekeeper and Station Master/ BLGR will adopt the procedure given under item No. 3.9 above. If the obstruction fouls the level Crossing Gate, gatekeeper must keep the gates closed against road traffic till the track is cleared of the obstruction.

3.11 <u>ACCIDENTAL ROLLING DOWN OF TRAIN</u>:

When the Gate Keeper observes that a train is rolling down or immediately after receipt of the information about accidental rolling down of the train the gatekeeper shall:

First close the gate against the road traffic.

i) First close the gate against the road traffic.

ii) Then immediately inform the SM on duty.

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

<u>CERTIFICATE</u>: -

NOTHING IN THESE RULES SHALL BE READ AS CANCELLING, AMENDING AND MODIFYING ANY OF THE RULES IN GENERAL RULES, SUBSIDIARY RULES, BLOCK WORKING MANNUAL AND OPERATING MANNUAL

4.0 GATE WORKING INSTRUCTIONS OF 'SPL' CLASS TRAFFIC INTERLOCKED LEVEL CROSSING GATE NO. JT-98 AT KM: 681/33-35(UP), 681/32-36(DN) IN BETWEEN OUTERMOST FACING POINT AND UP ADVANCED STARTER SIGNAL OF BALANGIR.

4.1. GENERAL INSTRUCTIONS:-

4.1.1. DESCRIPTION OF THE LEVEL CROSSING GATE:-

Following details shall be maintained at all manned level crossing gates:

1.	Number of Level Crossing Gate:	JT-98
2.	Engineering or Traffic Gate:	Traffic
3.	Under control of Station Master / SSE(P.WAY)	SM/BLGR
4.	Location at KM:	681/33-35 (UP), 681/32-36 (DN)
5.	At Station:	BALANGIR
6.	In between stations:	BLGR-DFR
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:	Inter locked.
11.	Means of Interlocking	Interlocked with station signals
12.	Provision of Gate signal at Kms.	NIL
13.	Signaling arrangements:	MACLS
14.	Means of communications /Telephone with or without Voice logger	Voice logger telephone connection with SM Office/BLGR
15.	Width of level crossing gate:	7.5 M.
16.	Type of road (NH/SH/Others):	Others.
17.	Name of Road:	Khujenpali Road
18.	Metalled / non-metalled:	Metalled.
19.	Approach road:	Metaled
20.	Width of the road:	7.5 M
21.	Angle of road crossing (in case of the skew gates):	------
22.	Road gradient (if any)	(a) North/East side: Level. (b) South/West side: Level.
23.	Road alignment (straight/curve)	(a) North/East side: Straight (a) South/West side: Straight
24.	Provision of height gauges:	Provided
25.	Type of Barriers:	Electrically Operated Lifting Barrier with sliding boom
26.	Length of Check rails:	9.50 M
27.	Road surface in between LC gates:	Leveled with Hexagonal concrete blocks.
28.	Length of Rumble strip / speed breakers:	7.5 M
29.	Road signs:	Provided
30.	Speed breaker indication board:	Provided
31.	TVU:	159287 on 11/2024
32.	Census next due on:	11/2027
33.	Demarcation for placement of Detonators:	Provided
34.	No. of Gatekeepers working:	03 (08 Hours Shift)
35.	Nearest Railway Medical Assistance	Balangir
36.	Nearest Private Medical Assistance available (if any):	Balangir
37.	List of equipment available Yes / No:	Yes

4.2 EQUIPMENTS TO BE AVAILABLE AT THE GATE:

S N	DESCRIPTION	REQUIREMENT	TO BE USED AS
1.	LED based flashing Tri colour hand signal lamps	Two	One for use and another for spare.
2.	Green hand signal flag	One flag mounted on sticks	To hold in furled condition while passing train.
3.	Red hand signal flag	Two flags mounted on sticks	One to hold in furled condition and another for spare.
4.	Red banner flag mounted with sticks	Double Line–2	In case of obstruction, one flag is to be displayed on each line except on single line it is to be placed on either side of the line.
5.	Spare chains with padlocks	2 chains with 2 padlocks	For securing gate against road traffic in case of gate boom cannot be closed.
6.	Stop boards	2 retro reflective stop boards with stands	To display towards road traffic when gate is secured by gate chains due to failure of booms.
7.	Padlock	One	To lock the door of the gate lodge in case of necessity.
8.	Detonators	(10) Ten in a tin case	For use in case of obstruction of track.
9.	Tommy bar	One	For leveling the soil surface or to clean the channels of rails.
10.	Bucket	One	To keep water.
11.	Whistle	One	For alerting road users on approach of train and LP/Train Manager to call their attention.
12.	Wall clock	One	To note down the timings in PN/Log book
13.	A small size chain for use in case of failure of gate boom/leaf lock.	Two	For securing boom in closed condition in case of failure of boom lock.

4.3 THE GATEKEEPER SHALL BE PROVIDED WITH FOLLOWING REGISTERS: -

i) Gate Working Instructions in Hindi/English.
ii) Gate Working Instructions in Local vernacular language
iii) Gatekeeper Rule Book in Local vernacular language.
iv) List for tools and books.
v) Duty roster.
vi) Certificate of Competency for working as gatekeeper.
vii) Bio-data particulars of Gatekeepers, including date of passing vision test, Initial/refresher course, safety camp etc.
viii) Accident Register.
ix) Records of last census of road traffic at LC gate.
x) Public Complaint Book.
xi) Inspection Book.

4.4 **DUTIES OF GATEKEEPER**:

1 ALERTNESS:

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

2. POSITION OF GATEKEEPER DURING PASSAGE OF TRAINS:

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

i) Gatekeeper will stand attentively in front of the gate lodge facing the approaching train.
ii) In daytime, Gatekeeper shall hold red and green flags furled up on separate sticks in right and left hands respectively.
iii) In night time, Gatekeeper 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 GATEKEEPER:

i) Gatekeeper shall ensure that red banner flag by day and red light by night is placed across the track in case of emergency and obstruction on the track.
ii) Gatekeeper shall ensure that all gate light and hand signal lights are lighted and kept burning continuously from sunset to sunrise.
iii) Gatekeeper shall perform his duties strictly according to the duty roster and shall not leave the gate unless his reliever arrives and takes over charge from him. However, if it is necessary to leave the gate in an emergency, he must close and lock the gate against road traffic, before leaving the gate.
iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
v) Gatekeeper shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle/wagons /trains/battery/ box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
vi) Gatekeeper shall also be prepared to repeat any signal which TMR may give to Loco Pilot.
vii) If lifting barriers get damaged or becomes out of order, the Gatekeeper shall use the spare chain with disc and padlocks for securing the gate against road traffic.
viii) Gatekeeper shall report to the nearest Station Master, Gang mate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
ix) Gatekeeper shall wear badge and prescribed uniform while on duty at level crossing gate.
x) Gatekeeper shall ensure that he is having competency certificate in his possession while on duty.
xi) Gatekeeper shall work the gate as per gate working instructions and remain well conversant with these instructions.
xii) Gatekeeper shall ensure that equipments supplied at the gate is in good order and ready for immediate use.
xiii) Gatekeeper shall see that the channel for the flange of the wheel is kept clear.
xiv) Gatekeeper must keep the road surface well-watered and rammed in case of non-metalled roads.
xv) Gatekeeper must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
xvi) Gatekeeper shall prevent tress passing by persons or cattle to the maximum extent.
xvii) Gatekeeper 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.
xviii) Before opening the gate, he shall ensure that the train has passed complete over the level crossing by observing the last vehicle indicator of the train.
xix) In the event of gate signal becoming defective the gatekeeper shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.

4. <u>ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN</u>.

In case Gatekeeper observes anything unusual with a passing train, he shall take following action:

i) He shall take prompt action to warn the Loco Pilot/TMR 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/TMR by whistling continuously, shouting, gesticulating, and throwing ballast on the brake van or by any other means
iii) If Loco Pilot/TMR fails to take notice, Gatekeeper shall immediately inform the Station Master on duty to take appropriate action, under exchange of private number.
iv) In case of train parting, Gatekeeper 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/TMR 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, Gatekeeper shall immediately inform the Station Master, to take appropriate action, under exchange of private number.

5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

i) In case of an obstruction at the level crossing gate, Gate Keeper shall maintain the gate signals, if any, in the 'ON' position by normalizing slot switch/signal knob.
ii) Thereafter, if he is unable to remove the obstruction, Gate Keeper shall immediately inform the Station Master on duty, 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.

<u>THE GATE KEEPER SHALL PROTECT THE LINE AS UNDER</u>: -

(A) <u>ON ELECTRIFIED SECTION:-</u>

i) On noticing that, the whole or part of the OHE or a feeder or a cable falling down, the gate keeper shall ensure that, as far as possible, human beings, animals or vehicles etc are kept away in order to avoid any contact with the live equipment.
ii) As soon as it is noticed that, Pantograph of an electric rolling stock getting damaged and/or entanglement of the same with the OHE, he shall make every possible effort to stop the train and immediately inform SM on duty.
iii) Any damage to the track or structures of the OHE comes to the notice of on duty GK, he shall immediately inform SM on duty and take all necessary measure for protection of the line as under,

(B) <u>PROTECTION ON DOUBLE LINE:-</u>

i) If both lines are obstructed the Gatekeeper shall plant a red banner flag by day and a red light by night at 5 meters away from the line on which train is expected to arrives first.
ii) Then he will similarly plant the other red banner flag by day and red light by night on the other line at 5 meters away from the site of obstruction.
iii) Gatekeeper shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
iv) Gatekeeper 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 and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in10 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 Gate Keeper observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.

viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(C) **OTHER ACTIONS TO BE TAKEN BY GATEKEEPER**:

i) At night, Gatekeeper shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub paras (a) and (b) above.

ii) If the gate is broken by a road vehicle, which is fouling the track or if lifting barriers or any other part of the gate foul the track or if there is any other obstruction at the gate, the Gatekeeper shall take immediate action.

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

4.5 **ENGINEERING ITEMS: -**

(i) Visibility: -

Direction	Side	Visibility Distance
UP	Right	1000 m.
	Left	1000 m.
DN	Right	1000 m.
	Left	1000 m.

ii) Speed Breaker: - Speed Breakers of approved design are provided on either side of this Level Crossing gate.

iii) Periodical Census of traffic has been taken and the latest TVU is 159287 on 11/2024

4.6 SPECIAL INSTRUCTIONS:

1 **MODE OF OPERATION**:

This is an interlocked L.C. Gate situated at the BALANGIR JN (at DFR end) of the yard in between Crossover No.54 and UP advanced starter signal of BALANGIR JN. station. Telephone communication is provided between the L C. gate lodge and SM office of BLGR Station. The level crossing gate is of lifting barrier type and motor operated by means of motor from panel provided at the gate lodge. The normal position of the gate is open to road traffic. The key “G” of the LC normally remains locked in the Panel when the gate is in open condition.

When it is necessary to close the gate, for taking off signals, the SM on duty shall inform the gate man to close and lock the gate. The gate man on duty shall close the barriers of the LC gate by operating the RED push button provided on the panel. Gate man will keep the red push button till gate is closed & locked against road traffic and the red indication appears on the panel. Then key ‘G’ is to be extracted from EKT-1 and inserted in EKT-2. This Key ‘G’ will be transmitted electrically to SM VDU in conjunction with switch GS reversed to control concerned UP & DN signals, Switch ‘GS’ is provided in the panel to put back the concerned signal to ‘ON” in case of emergency.

After passage of the Train, the SM on duty shall inform the gatekeeper and click on LC gate controlling icon No.80 and the gate man extracts the control key 'G' from the EKT-2 and insert in EKT-1.

During reception of down train once LC Gate is closed and Key 'G' is transmitted electrically to SM, Gate control-80 can be released after passing of train through sequential occupation and clearance of track circuits. Keeping the switch GS in normal position the gate man will get a gate free indication on panel and subsequently the gate can be opened by

Pressing the GREEN push button till gate is fully opened. The LC gate shall be so worked as to cause least possible inconvenience to the vehicular traffic consistence with safety as per subsidiary rule 16.03.01(a).

During Non Interlocking working the Traffic Gatekeeper shall be informed and the Train shall be passed in terms of SR 3.69.02, 3.69.03 and 3.70.01 after ensuring correct closing and locking of L.C Gate. During this period the L.C Gate shall be opened only when necessary and safe to do so.

Incase of failure in extracting key-G from EKT, one emergency key 'H' mechanically free & electrically proved is provided in a red sealed glass box and the barriers are to be opened by manual operation of lifting barriers by crank handling. Concerned signals will be put back to "ON" position when emergency key "H" is extracted from EKT-3. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gateman. During DN Home reception, once L.C.gate is closed & key "L" is transmitted electrically to SM, gate control No.-80 can be released after passage of train through sequential occupation & clearance of Track circuit 2T1 & 2T2.

WORKING OF SLIDING BOOM BARRIER IN CASE OF FAILURE/DEFECTIVENESS LIFTING BARRIERS.

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

INSTRUCTION FOR OPERATION OF SLIDING BOOM

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

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

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

iv) The far end sliding boom is normally in padlocked condition and the Key-SB-1 is in the custody of gateman. The gateman shall unlock the sliding boom by this key and slide it against the road traffic and lock it in closed position by pushing the locking plunger. The locking plunger is initially in locked condition. This can be freed by unlocking the E-type lock with the help of key attached to the chain of the boom and 'SB-1' concurrently. This will also release key 'SB-2' (Sliding Barrier-2) attached to the far end lock post. Key SB-2 when extracted locks the far end sliding boom and key-SB-1. This Key-SB-2 is to be

transmitted to SM by inserting it in EKT-4 provided in the gate lodge in conjunction with the GS (Gate Slot) switch provided in the gate lodge to enable the SM on duty to take off concerned signals.

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

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

In the event of failure of reception and dispatch signals or during Non- interlocking working the traffic gateman shall be informed and the train shall be passed in terms of SR 3.69.02, 3.69.03 and 3.70.01 after ensuring correct closing and locking of L.C Gate. During, this period of L.C Gate shall be opened only when necessary and safe to do so. The LC gate shall be so worked as to cause least possible inconvenience to the vehicular traffic consistence with safety as per subsidiary rule 16.03.01(a).

OPERATION OF ELECTRIC LIFTING BARRIER DURING 110/24 V DC POWER FAILURE:

(Hand Generator Mode-During Power Failure)

In case of power failure (110/24 V DC), the barriers cannot be operated from the panel. But the barriers can be operated simultaneously by use of hand generator as mentioned below.

1. Put the Mode selector switch on the panel to MANUAL position.
2. To close the barriers rotate the lever on the main control panel in clock-wise direction till both the barriers reach the horizontal and locking takes place.
3. To open the barriers rotate the lever on the main control panel in anti-clock-wise direction. Both the locks will open first and the barriers will start rising. Keep cranking till the required position is achieved.

OPERATION OF ELECTRIC LIFTING BARRIER WHEN 110/24 V DC POWER SUPPLY AS WELL AS HAND GENERATOR FAILS:- (During Power Failure and failure of hand generator)

In case of failure of 110/24 V DC power supply as well as fault in the hand generator system a provision of hand cranking of each barrier has been provided.

1. Insert the crank handle, which can be obtained from the emergency key box EKT-H, on the slot provided in with the barrier pedestal.
2. Now crank in the anticlockwise direction to open the barrier, first the lock will open and then the barrier will start rising.
3. Crank in the clockwise direction till the barriers are fully closed. Keep cranking till the locking takes place.

INDICATIONS PROVIDED ON CONTROL PANEL FOR OPERATION OF ELECTRICAL LIFTING BARRIER:

1. RED colour emergency push button which is to be pushed in case any or both of the booms do not get locked (GREEN indicators do not light up). It will be used only after physical verification of locking at both the lock posts.
2. LED INDICATOR (AMBER) LAMP (At the Top) which glows when power supply is available. NO GLOW will indicate that hand generator has to be used. It glows continuously.
3. SELECTOR SWITCH which allows you to choose operation on Manual or Auto mode.
4. LED INDICATOR (AMBER) LAMP (2 nos) –Glows when the plunger of the barriers has been detected. Meaning thereby that the barrier has reached its Horizontal position.
5. YELLOW COLOUR push button which has to be kept pressed till the barriers reach the horizontal position.

6. LED INDICATOR LAMP (GREEN) (2 nos) glows when the barrier has been securely LOCKED. The lamp will turn off as soon as the lock has been opened.
7. GREEN COLOUR push button which has to be kept pressed till the barriers reach the fully open position.
8. Mode Selector Switch provided in Operating panel to be kept either in Auto position or Manual position as per requirement. It is only to be kept in Manual position for using hand generator when power supply fails or else it is to be kept in AUTO position.
9. 'Power' indicator LED will glow continuously if power supply is available.

Gate is locked when a signal is taken off. Locking of the gate is released only when the train movement for which signals are taken off is completed. For emergency opening of the LC gate before completion of train movement or if the route given for a train has not been released, then emergency gate release operation has to be initiated in the following manner. Signal cancellation to be done. Then emergency gate release icon control 27 has to be clicked. A flashing Red indication will appear on the top of the emergency gate release button. When the Gate lock indication disappear (i.e. after 120 seconds) gate key can be transmitted by clicking the gate key for opening the gate.

In the event of failure of reception and dispatch signals or during Non-interlocking working the Traffic Gatekeeper shall be informed and the train shall be passed in terms of SR 3.69.02, 3.69.03 and 03.70.01 after ensuring correct closing and locking of L.C Gate. During this period the L.C Gate shall be opened only when necessary and safe to do so. The LC Gate shall be so worked as to cause least possible inconvenience to the vehicular traffic in consistence with safety as per subsidiary rule 16.03.01(a).

2. INTIMATION TO GATEKEEPER: -

i) Before taking off reception/departure signals (DFR end), SM/BLGR shall inform the gatekeeper, the number, description, and direction of the train.

ii) The gatekeeper shall close the gate and transmit the key to the SM/BLGR.

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

iv) In order to ensure that road traffic is not held up for a long time, the SM/BLGR must ensure that the train is ready for departure in all respects before he advises the gatekeeper for closing the gate.

v) When a train has to be piloted to and from the station yard or any shunting movement is to be done, the staff deputed to pilot the train to perform the shunting across the gate shall be personally responsible to ensure that the gate is closed against road traffic before allowing any movement across the gate.

4.7 FAILURE OF TELEPHONIC COMMUNICATION:

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

i) Station Master on duty / BLGR shall send written advice to the Gate Keeper through the porter with full details of number, description and direction of the train.

ii) Gate Keeper 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/ BLGR will issue written authority to the train Loco Pilot to pass the signal at 'ON' position.

iv) In addition, Station Master/ BLGR 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 before signaled by the gatekeeper. If hand signal is not seen, Loco Pilot should be prepared stop short of the gate and ensure that gate is closed following GR.3.73.

vi) In case of an approaching train, the Station Master/ BLGR shall advise the SM/DFR under exchange of private number, that the telephone at the gate has failed.
vii) The station Master/DFR shall then issue a caution order to the Loco Pilot before dispatching a train into the block section from his end.
viii) He should also advise S&T staff responsible for maintenance of the telephone rectify the defect at the earliest.
ix) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection /fit memo for the same.

4.8 **FAILURE OF LIFTING BARRIERS:**

i) When the gate cannot be closed due to failure of lifting barriers of the gate, the gatekeeper will immediately inform the Station Master on duty, He shall then resort to operate the sliding boom for closing of the gate. If both of them fails, then he shall follow the following procedure, under exchange of private number, and ensure that lifting barriers of the gate do not foul the track.
ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.
iii) Gatekeeper shall secure the gate against road traffic by means of safety chains and padlocks.
iv) After securing the gate against road traffic, Gatekeeper shall show green hand signal flag by day and green light at night to the Loco Pilot of the approaching train.
v) Station Master/ BLGR on duty shall issue caution order to the Loco Pilot of departing train.
vi) He shall also advise the Station Master at the other 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/ BLGR shall advise maintenance staff responsible for maintenance of lifting barriers to rectify the defect at the earliest.
viii) Normal working will be resumed only after maintenance staff rectify the lifting barrier and issue reconnection/ fit memo for the same.

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

4.9 FAILURE OF GATE WHEN THE GATE IN CLOSED POSITION AND CANNOT BE OPENING THE GATE FROM THE GATE PANEL: -

(i) If the gate cannot be opened then gatekeeper must immediately inform the Station Master on duty on telephone, under exchange private number.
(ii) Switch GS (Gate Slot) should be in normal position. If the gate cannot be opened from the Gate panel, emergency direct crank handle operation has to be done. The gatekeeper on duty shall obtain permission from SM on duty under exchange of private number for breaking the seal for emergency operation. For this operation, a Red sealed glass box is provided at the gate lodge. A crank handle welded with EKT-H is provided in the sealed box. After breaking the seal, the EKT-H has to be taken out from the box which is mechanically free. Then the crank handle is to be inserted into the hole provided in the mechanism box rear door. Unlock the Barrier 'A' and Barrier 'B' by crank handle. For opening the barrier, rotate the crank handle anti clock wise direction. As soon as the crank handle is inserted electrical operation is automatically cut off and remains cut off till crank handle is removed from the hole. In addition to above facilities, individual operation of barriers is also provided. For individual barrier operation, barrier "A" and "B" can be operated from pedestal individually.
(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 other 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 transmitter to rectify the defect at the earliest.

(vii) Normal working will be resumed only after S & T staff repairs the pedestal/gate operating panel/key transmitter and issue reconnection/ fit memo for the same.

4.10 FAILURE OF GATE WHEN THE GATE IN OPEN CONDITION:

i) If the gate cannot be closed from Gate panel then gatekeeper must immediately inform the Station Master on duty on telephone, under exchange of private number.

ii) The gatekeeper on duty shall obtain permission from SM on duty under exchange of private number for breaking the seal for emergency operation. For this operation, a Red sealed glass box is provided at the gate lodge. A crank handle welded with EKT-H is provided in the sealed box. After breaking the seal, the EKT-H has to be taken out from the box which is mechanically free. Then the crank handle is to be inserted into the hole provided in the mechanism box rear door. For closing the barrier, rotate the crank handle clock wise direction. As soon as the crank handle is inserted electrical operation is automatically cut off and remains cut off till crank handle is removed from the hole. In addition to above facilities, individual operation of barriers are also provided. For individual barrier operation, barrier “A” and “B” can be operated from pedestal individually.

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 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 pedestal/gate operating panel/key transmitter to rectify the defect at the earliest

vii) Normal working will be resumed only after S & T staffs repair the pedestal/gate operating panel/key transmitter and issues reconnection/ fit memo for the same.

4.11 OBSTRUCTION AT THE GATE:-

i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gatekeeper shall immediately normalize GS switch to put back concerned signals and then 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 gatekeeper shall advise the Station Master/ BLGR on duty, regarding the defects/obstruction at the gate, under exchange of private number.

iii) Station Master/ BLGR 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/ BLGR after two or three attempts, he shall first protect the gate and then inform on phone.

v) Gate Keeper shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of Gate Keeper under item No. 4.4(5).

vi) Thereafter he shall protect the gate from the other direction also.

vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and reply these details to the station Master/ BLGR who shall not start the trains unless he has been assured by the Gate Keeper that the road vehicle or the lifting barriers are not fouling the track.

viii) The Station Master/ BLGR shall also inform the station Master/DFR at the dispatching end, under exchange of private number, asking him not to dispatch any train into the block section from his end, until the track has been cleared of all obstructions.

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

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

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

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

xiii) Station Master/ BLGR shall then issue a caution order to Loco Pilots of all trains to proceed cautiously, and pass the gate signal at 'ON' position on green hand signal of the Gate Keeper, if the gate is broken, but is clear of any obstruction.

4.12 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 gatekeeper and Station Master will adopt the procedure given under item No. 4.11 above. If the obstruction fouls the Level Crossing Gate, gatekeeper must keep the gates closed against road traffic till the track is cleared of the obstruction.

4.13 DUTIES OF GATEKEEPER IN CASE OF ACCIDENTAL ROLLING DOWN OF TRAIN:

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

(i) First close the gate against the road traffic.
(ii) Then immediately inform the SM on Duty.
(iii) He shall not open the gate till he ensured that the train has completely stopped.

CERTIFICATE: -

NOTHING IN THESE RULES SHALL BE READ AS CANCELLING, AMENDING AND MODIFYING ANY OF THE RULES IN GENERAL RULES, SUBSIDIARY RULES, BLOCK WORKING MANNUAL AND OPERATING MANNUAL.

5. GATE WORKING INSTRUCTIONS OF "C" CLASS ENGG. NON-INTERLOCKED LEVEL CROSSING GATE No.JT-99 AT KM.682/33-35(UP), 682/34-36(DN) IN BETWEEN BALANGIR JN– DEOGAON ROAD STATIONS.

5.1 GENERAL INSTRUCTIONS: -

5.1.1 **DESCRIPTION OF THE LEVEL CROSSING GATE**:

Following details shall be maintained at all manned level crossing gates:

1.	Number of level crossing gate	:	JT-99
2.	Engineering or Traffic Gate	:	Engineering.
3.	Under control of Station Master or SSE(P.WAY)	:	SSE(P.WAY)
4.	Location at KM	:	682/33-35(UP), 682/34-36 DN)
5.	At station	:	----
6.	In between station	:	BLGR-DFR
7.	BG/MG/NG	:	BG
8.	Single line/Doubling Line/Multiple Line	:	Double line
9.	Normal position	:	C lose to road traffic
10.	Interlocked/Non-interlocked	:	Non-Interlocked
11.	Means of interlocking	:	Nil
12.	Provision of gate Signal at Kms	:	(a) UP line Nil (b) DN line Nil
13.	Signaling arrangement	:	Nil
14.	Means of communications /Telephone with or without Voice logger	:	Voice Logger telephone from gate goomty with SM/BLGR
15.	Width of Level Crossing Gate	:	7.5 MTRS
16.	Type of Road (NH/SH/Others)	:	Others
17.	Name of Road	:	Jalia (Village Road)
18.	Metaled/Non Metaled	:	Metaled
19.	Approach Road	:	Metaled
20.	Width of the Road	:	5.5 MTRS.
21.	Angle of Road Crossing (in case of the SKEW gates)	:	NIL
22.	Road Gradient (if any)	:	(a) North/East side – 1 in 30
		:	(b) South/West side – 1 in 30
23.	Road alignment (straight/curve)	:	(a) North/East side – Curve (b) South/West side – Curve
24.	Provision of height gauge	:	Provided
25.	Type of Barrier	:	Winch Operated Lifting barrier
26.	Length of check Rail	:	9.5 MTRS.
27.	Road surface in between LC gates.	:	CC BLOCK
28.	Length of Rumble strip/speed breakers.	:	5.5 MTRS
29.	Road Signs	:	Provided
30.	Speed breakers indication board	:	Available
31.	TVU	:	4738 on 11/2024
32.	Census next due on	:	11/2027
33.	Demarcation for placement of detonators.	:	Provided.
34.	No. of Gatekeepers working	:	02 (12 Hours shift)
35.	Nearest Railway Medical Assistance	:	Titlagarh
36.	Nearest Private Medical Assistance available (if any)	:	Balangir
37.	List of equipment available Yes / No.	:	YES

5.2 EQUIPMENTS TO BE AVAILABLE AT THE GATE:

	ITEMS	QUANTITY/NUMBERS
1.	LED based flashing tri colour hand signal lamp	3
2.	Hand signal Flag Green	1 mounted on sticks
3.	Hand Signal Flag Red.	3
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 (in case of asphalted road this may not be provided)
13.	Pick Axe	1 (in case of asphalted road this may not be provided)
14.	Tin case for flags	1
15.	Water pot/Bucket	1
16.	Canister for Muster Roll	1
17.	Set of spare spectacles of Gatekeeper wearing glasses.	1
21.	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 chains with padlocks to be used in case of failure of boom lock.	2

5.3 **THE GATEKEEPER SHALL BE PROVIDED WITH FOLLOWING REGISTERS**: -

i) Gate working instructions in Hindi / English.
ii) Gate working instructions in local vernacular language.
iii) Gatekeeper Rule Book in Local vernacular language.
iv) List for tools and books.
v) Duty Rosters.
vi) Certificate of competency for working as Gatekeeper.
vii) Bio–Data particulars of Gatekeepers, including date of passing vision test, initial/refresher course, safety camp etc.
viii) Accident Register.
ix) Records of last census of road traffic at LC gate.
x) Public complaint Book.
xi) Inspection Book.

5.4 DUTIES OF GATEKEEPER:

1. <u>ALERTNESS:</u>

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

2. POSITION OF GATE KEEPER DURING PASSAGE OF TRAINS:

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

i) Gate Keeper will stand attentively in front of the gate – lodge facing the approaching train.
ii) In daytime, Gate Keeper shall hold red and green flags furled up on separate sticks in right and left hands respectively.
iii) In nighttime, Gate Keeper 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 GATE KEEPER:

i) Gatekeeper shall ensure that red banner flag by day and red light by night is placed across the track in case of emergency and obstruction on the track.
ii) Gatekeeper shall ensure that all gate light and hand signal lights are lighted and kept burning continuously from sunset to sunrise.
iii) Gatekeeper shall perform his duties strictly according to the duty roster and shall not leave the gate unless his reliever arrives and takes over charge from him. However, if it is necessary to leave the gate in an emergency, he must close and lock the gate against road traffic, before leaving the gate.
iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
v) Gatekeeper shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle/wagons /trains/battery/box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
vi) Gatekeeper shall also be prepared to repeat any signal which TMR may give to Loco Pilot.
vii) If lifting barriers get damaged or becomes out of order, the Gatekeeper shall use the spare chain with disc and padlocks for securing the gate against road traffic.
viii) Gatekeeper shall report to the nearest Station Master, Gang mate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
ix) Gatekeeper shall wear badge and prescribed uniform while on duty at level crossing gate.
x) Gatekeeper shall ensure that he is having competency certificate in his possession while on duty.
xi) Gatekeeper shall work the gate as per gate working instructions and remain well conversant with these instructions.
xii) Gatekeeper shall ensure that equipments supplied at the gate is in good order and ready for immediate use.
xiii) Gatekeeper shall see that the channel for the flange of the wheel is kept clear.
xiv) Gatekeeper must keep the road surface well-watered and rammed in case of non-metaled roads.
xv) Gatekeeper must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.

xvi) Gatekeeper shall prevent tress passing by persons or cattle to the maximum extent.

xvii) Gatekeeper 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.

xviii) Before opening the gate, he shall ensure that the train has passed complete over the level crossing by observing the last vehicle indicator of the train.

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN:

In case Gate Keeper observes anything unusual with a passing train, he shall take following action:

i) He shall take prompt action to warn the Loco Pilot/TMR 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/TMR by whistling continuously, shouting, gesticulating, and throwing ballast on the brake van or by any other means.

iii) If Loco Pilot/TMR fails to take notice, Gate Keeper shall immediately inform the station Master/BLGR to take appropriate action, under exchange of private number.

iv) In case of train parting, Gate Keeper 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/TMR 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, Gate Keeper shall immediately inform the Station Master/BLGR to take appropriate action, under exchange of private number.

xii) **ACTION IN AN EMERGENCY AT THE LC GATE:**

i) Place banner flag/red light lamp on the stave on track at 5M away from the check rail end.

ii) Thereafter, if he is unable to remove the obstruction, Gate Keeper shall immediately inform the Station Master on duty 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.

<u>THE GATE KEEPER SHALL PROTECT THE LINE AS UNDER: -</u>

(A) ON ELECTRIFIED SECTION:

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

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

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

(B) PROTECTION ON DOUBLE LINE:-

i) If both lines are obstructed the Gatekeeper shall plant a red banner flag by day and a red light by night at 5 meters away from the line on which train is expected to arrives first.

ii) Then he will similarly plant the other red banner flag by day and red light by night on the other line at 5 meters away from the site of obstruction.

iii) Gatekeeper shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.

iv) Gatekeeper 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 and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.

v) Thereafter, he shall proceed 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 Gate Keeper observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.

viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(C) **OTHER ACTIONS TO BE TAKEN BY GATEKEEPER**:

i) At night, Gatekeeper shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub Paras (a) and (b) above.

ii) If the gate is broken by a road vehicle, which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the Gatekeeper shall take immediate action.

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

5.5 ENGINEERING ITEMS:

i) **Visibility :**-

Direction	Side	Visibility Distance
UP	Right	1000 m.
	Left	1000 m.
DN	Right	1000 m.
	Left	1000 m.

ii) Speed Breaker: - Speed Breakers of approved design are provided on either side of the Level Crossing gate.

iii) Periodical Census of traffic has been taken and the latest TVU is 4738 on 11/2024.

5.6 SPECIAL INSTRUCTIONS:

1. **MODE OF OPERATION**:

This is a Non-interlocked 'C' Class Engineering L.C. Gate situated at Km 682/33-35(UP), 682/34-36(DN) between BLGR-DFR stations. This gate is provided with winch operated coupled lifting barriers. The gatekeeper closes and opens the lifting barriers of gate manually by operating the winch. Telephone connection is provided between the L C. gate lodge and SM's office at SM/ BLGR station. The level crossing gate is normally closed to road traffic. The SM/ BLGR shall not permit any train to enter the block section, unless he is assured of the closure and locking of the gate by the gatekeeper supported by exchange of private number. When the gatekeeper desires to open the gate for passage of road traffic he should ensure that no PN has been exchanged with the SM/ BLGR for the passage of train or the whole of the train with last vehicle indicator has passed over the level crossing gate for which the gatekeeper has exchanged private number with the SM/ BLGR. Before opening the gate for road traffic, he shall display banner flag/danger signal at either side of the track at a distance of 5 meters away from the gate.

2. **EXCHANGE OF PRIVATE NUMBERS**.

(i) The normal position of level crossing gate being "Closed to Road Traffic" it should always be in closed condition against road traffic, except when, it is opened for passage of road traffic over the level crossing, subject to conditions prescribed below**.**

(ii) The SM/ BLGR before permitting each train to enter into the block section, shall ask Gatekeeper on the telephone by giving a Private Number whether, gate is closed against road traffic for the passage of train. The Gatekeeper only after ensuring that the gate is actually closed and locked against road traffic shall give a Private Number to the SM/ BLGR in assurance of gate being closed and locked against road traffic.

(iii) The SM/ BLGR shall not permit any train to enter the block section, unless he is assured of the closure and locking of the gate by the gatekeeper supported by exchange of private number.

(iv) When the gatekeeper desires to open the gate for passage of road traffic he should ensure that:

(1) He has not exchanged any private number with the SM/ BLGR as per (ii) above**.**

(2) If he has exchanged private number with the SM/ BLGR, the whole of the train with last vehicle indicator has passed over the level crossing gate and SM/ BLGR has not exchanged private number with him for any other movement immediately in rear of that train**.**

Before opening the gate for road traffic, he shall display banner flag/danger signal at either side of the track at a distance of 5 meters away from the gate. Then he shall

open the gate for passing the road traffic, keeping a red flag / red hand signal lamp ready in his hand to stop approaching train if any**.**

(v) In case the Gatekeeper is not responding on the telephone or in case the telephone becomes defective or private number is not received from the Gateman, the SM/ BLGR shall adhere to the procedure prescribed in SR 16.03.04**.**

(vi) In the event of failure of telephone, if the gate is required to be opened for the passage of road traffic, the gatekeeper shall look out in both directions before opening the gate to ensure that no train is approaching from either end. He shall then plant a banner flag during day and a hand signal lamp with the red light during night, 5 meters away from the gate on the track on either side. He will thereafter, open the gate for passing the road traffic keeping a red flag / red hand signal lamp ready in his hand to stop approaching train if any.

5.7 **FAILURE OF TELEPHONIC COMMUNICATION**:

When telephonic communication fails or he does not get any response from gatekeeper despite two or three attempts, the following procedure should be adopted:

i) Station Master/BLGR shall issue caution order to the Loco Pilot of the departing train.

ii) In the caution order, it shall advice the Loco Pilot to whistle continuously and approach the gate cautiously.

iii) The Loco Pilot shall be instructed to pass the gate cautiously, on being hand signalled by the gatekeeper. If hand signal is not seen, the Loco Pilot should be prepared to stop short of the gate and depute his Assistant Loco Pilot to see the condition of the gate. If gate is closed, ALP will give all right signal and if gate is not closed, the ALP must close the gate and then give all right signal. In the absence of the ALP, the LP may take the assistance of TMR.

iv) In case of an approaching train, the SM shall advise the SM at the dispatching end, under exchange of private number that the telephone at the gate has failed.

v) The SM at the dispatching end shall then issue a caution order to the LP before dispatching a train in the block section from his end.

vi) The SM shall advise the GK through gang man/patrol man or the LP of the first train that the telephone has become defective.

vii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.

viii) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection/fit memo for the same.

5.8 <u>FAILURE OF LIFTING BARRIERS:-</u>

i) When the gate cannot be closed due to failure of lifting barriers, the Gate Keeper will immediately inform, the Station Master on duty/ BLGR under exchange private number, and ensure the lifting barriers of gate do not foul the track.

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

iii) Gate Keeper shall secure the gate against road traffic by means of safety chains and padlocks.

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

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

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

vii) Station Master/ BLGR will advise maintenance staff responsible for maintenance of lifting barriers to repair the defect at the earliest.

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

5.9 <u>OBSTRUCTION AT THE GATE:-</u>

i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gatekeeper 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 gatekeeper shall advise the Station Master/ BLGR on duty, regarding the defects/obstruction at the gate, under exchange of private number.

iii) Station Master/ BLGR 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/ BLGR after two or three attempts, he shall first protect the gate and then inform on phone.

v) Gatekeeper shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gatekeeper under item No.5.4 (5).

vi) Thereafter he shall protect the gate from the other direction also.

vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and reply these details to the Station Master/ BLGR who shall not start the trains unless he has been assured by the gatekeeper that the road vehicle or the lifting barriers are not fouling the track.

viii) The Station Master/ BLGR shall also inform the Station Master/DFR at the dispatching end, under exchange of private number, asking him not to dispatch any train into the block section from his end, until the track has been cleared of all obstructions.

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

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

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

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

5.10 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 gatekeeper, the gatekeeper and Station Master/ BLGR will adopt the procedure given under item No. 5.9 above. If the obstruction fouls the level Crossing Gate, gatekeeper must keep the gates closed against road traffic till the track is cleared of the obstruction.

5.11 DUTIES OF GATEKEEPER IN CASE OF ACCIDENTAL ROLLING DOWN OF TRAIN:

When the Gate Keeper observes that a train is rolling down or immediately after receipt of the information about accidental rolling down of the train the gatekeeper shall:

i) First close the gate against the road traffic.
ii) Then immediately inform the SM on Duty.
iii) He shall not open the gate till he ensured that the train has completely stopped.

CERTIFICATE: -

NOTHING IN THESE RULES SHALL BE READ AS CANCELLING, AMENDING AND MODIFYING ANY OF THE RULES IN GENERAL RULES, SUBSIDIARY RULES, BLOCK WORKING MANNUAL AND OPERATING MANNUAL

APPENDIX – 'B'

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

1.0 **BRIEF DESCRIPTION OF THE SIGNALLING & INTERLOCKING INSTALLATIONS**:
This is a 'B' class station provided with Standard –II(R) interlocking. The station is provided with Route setting type Electronic Interlocking system having points, signals, track circuits and other signaling gears. The Station is equipped with Multiple Aspect Colour Light Signaling. All points and Signals etc. are power operated through a central Visual Display Unit (VDU) with a standby VDU installed in the SM's Office.

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

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

2.2 An additional VDU connected with a computer is provided as standby arrangement in case of failure of the working operator console. In case of failure of the working operator console the system shall switch over to the stand by VDU automatically.

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

SL. NO	ICONS	INDICATIONS	FUNCTIONS	REMARKS
1	SM's Key	Yellow light when key is 'IN'	Ensures operation of VDU by authorized person	Protected by pass word
2.	---	Emergency Route release - UP & DN	Flashing indication appears when Emergency route release operation is initiated.	

S.MISHRA
DSTE(TELE)/SBP

LINGARAJ GARTIA
DOM(G)/SBP

3.	---	Emergency Gate release	Flashing indication appears when Emergency gate release operation is initiated.	
4.	Emergency Point operation key	Yellow light when key is 'IN'	Ensures emergency point operation by authorized person	For each operation concerned counter shall register one count higher.
5.	---	System indication On/Off	Indicates System 'A' or 'B' is in working mode	
6.	Point failure Ack. Icon	Yellow	Flashing indication appears when any point fails. SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement buzzer stops. After verification at site inform S&T staff Immediately.
7.	Signal failure Ack. Icon	Yellow	Flashing indication appears when any signal fails. SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement buzzer stops. Inform S&T staff Immediately.
8.	CH-1 to CH12	Yellow lamp indicates 'KEY IN'. Red lamp indicates ' CH LOCKED'	In normal condition yellow lamp will be lit. Whenever the crank handle is locked in route or otherwise red indication will glow.	--
9.	'DN Train Entering Section' muting	Yellow - acknowledged	SM shall left click on the button icon to acknowledge it.	
10.	'UP Train Entering Section' muting	Yellow - acknowledged	SM shall left click on the button icon to acknowledge it.	
11.	UP Block release	Yellow – Prepared for Block release.	On getting indication SM shall left click on the button icon which shall release Block Handle.	After complete arrival of train this will be activated
12.	DN Block release	Yellow – Prepared for Block release.		
13	Line Block	Red when blocked	SM shall point the curser on the icons provided on the berthing track and right click. One drop menu will appear indicating line blocked and un-blocked, SM has to select the required menu.	When line block is selected the concerned berthing portion of track will appear as thick Red line.

3.0. OPERATIONAL PROCEDURE THROUGH VDU AND INDICATIONS:

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

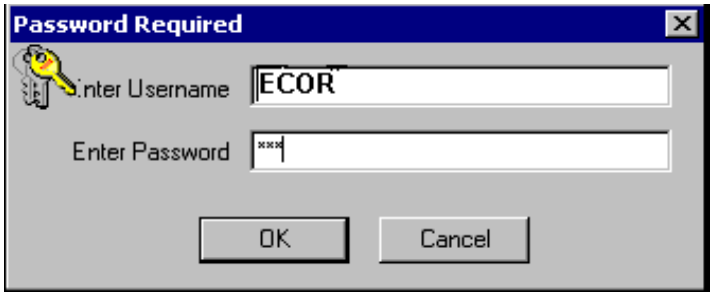
3.1 ELECTRONIC INTERLOCKING (E.I) SYSTEM INDICATIONS:

Electronic Interlocking Equipment (E.I) at the center can work in either of the two modes i.e, System-'A' or System-'B'. On the VDU (Computer), there are two system indications in which Green indication mentioning the On-line system and the Red indication mentioning that the system is in power off condition.

3.2 OPERATION PROCEDURE OF SM's KEY :

To prevent the unauthorized operation by any person other than SM on duty this facility is provided on VDU. On duty SM needs to track the pointer to the "SM KEY" icon and click the 'KEY IN' menu by the clicking left button of the mouse, by this a Password window will appear. SM on duty needs to enter the password and press the 'OK' Button provided on the Password window. This will allow operating all the controls e.g., Signals, Points, and Crank handles etc. through VDU. In case incorrect password or user name is entered, no operation can be made. In such cases the same procedure is to be repeated till correct password is entered.

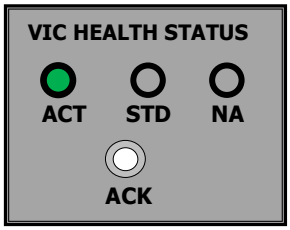




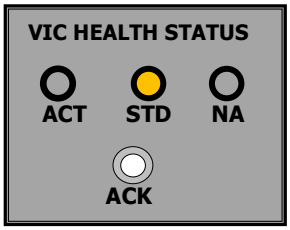
Enter the USER NAME and PASSWORD and click the OK button.
Now the Operating VDU is ready for use & the entire yard can be controlled from the VDU.
Similarly Station Master to select the KEY OUT to prevent the unauthorized operation.

3.1.1.1 VIC (Vital Interlocking Computer) Status Indications:

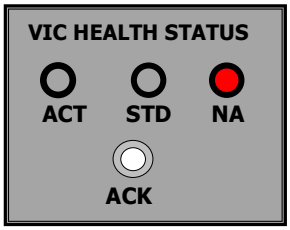
VIC-A Active, Stand By and Not Available indications will be displayed in VDU as shown below:



VIC-A is Active

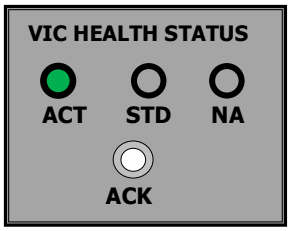


VIC-A is Stand-by

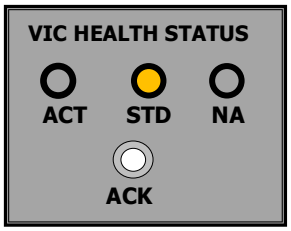


VIC–A is Not Available

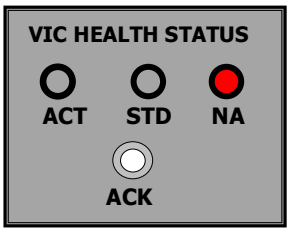
VIC-B Active, Stand By and Not Available indications will be displayed in VDU as shown below:



VIC-B is Active

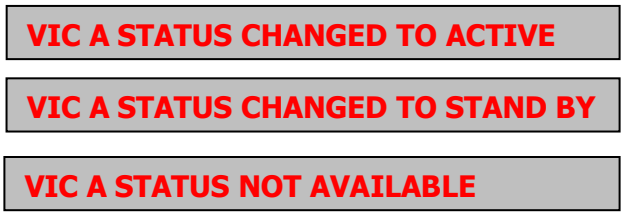


VIC-B is Stand-by



VIC-B is Not Available

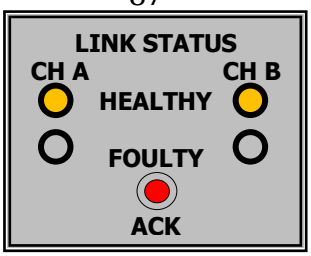
If there is any change in VIC's status, its changed status will be displayed in VDU as shown below to alert the Station Master. When the Station Master acknowledges the fault message, the corresponding fault message will be cleared in VDU. For acknowledging the fault message the operator needs to Right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



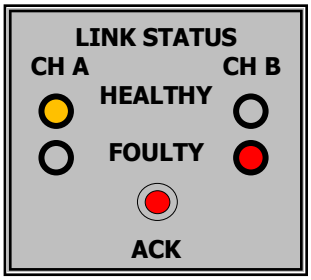
If at least one VIC is available in Active State EI will continue to function normally. On observing the fault message, SM shall acknowledge the fault message and immediately inform to EI Maintainer.

3.1.1.2 Link Status Indications:

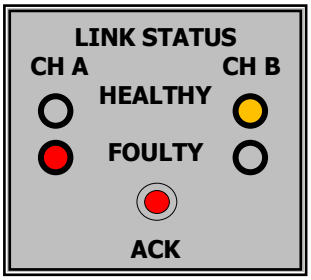
These indications are provided to display the status of communication between VDU and CIU (Central Interlocking Unit).
When both Channels A & B communication links with CIU are Healthy, then the corresponding indications will be displayed as shown below:



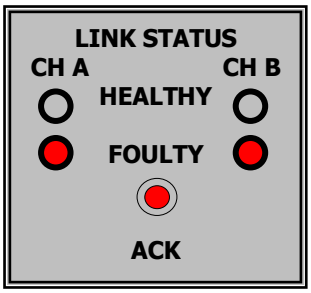
When Channel–A Link Status is Healthy and Channel–B is Faulty then the corresponding indications will be displayed as shown below:



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



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



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

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

3.1.1.3 OC SHUTDOWN STATUS(VCOR RELAY DROP)

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

VCOR RELAY DROPPED AT OC NO- 4

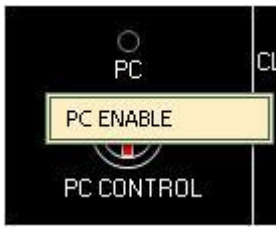
3.1.1.4 CIU SHUT-DOWN

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

During the both system's failure, all indications on the VDU become blank. Then the station master should immediately inform to the EI Maintainer.

3.3 OPERATION PROCEDURE OF PC Enable :

On duty SM/ASM needs to track the pointer to the "PC CONTROL" icon and click right button of the mouse, a pop up menu appear as shown below and then select the "PC ENABLE" option with left click. Now SM/ASM can operate all controls from the active VDU.



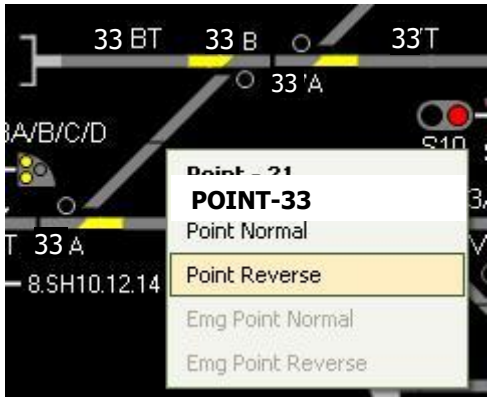
After selecting PC Enable, it will ask for Login Authentication as shown below.



Select the User Name and Enter Password and click the OK button.
Now the Operating VDU is ready for use & the entire yard can be controlled from the VDU.

3.4 OPERATION AND INDICATION OF POINT:

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



3.3.1 REVERSE TO NORMAL OPERATION:

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

3.3.2 NORMAL TO REVERSE OPERATION:

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

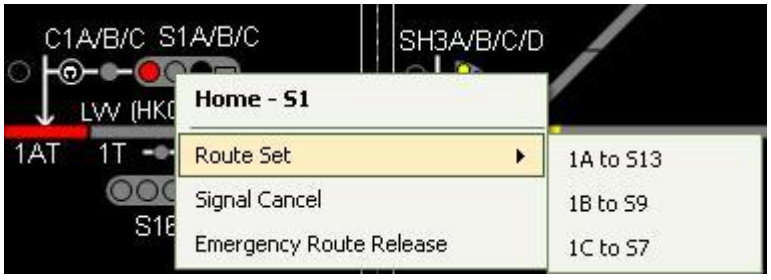
3.3.3 POINT INDICATIONS

For every point, a steady strip of yellow light will appear in the point zone to indicate the point Normal / Reverse condition. It will flash if the point is operating from Normal to Reverse or vise versa. And it will flash continuously if the point's detection not available.

For every point, an indication is provided, it will show Red indication if the Point is in Locked condition otherwise it will be blank.

3.4 PROCEDURE FOR SETTING OF ROUTES AND TAKING OFF SIGNALS:

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



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

3.4.1 SETTING A ROUTE AND ITS INDICATIONS:

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

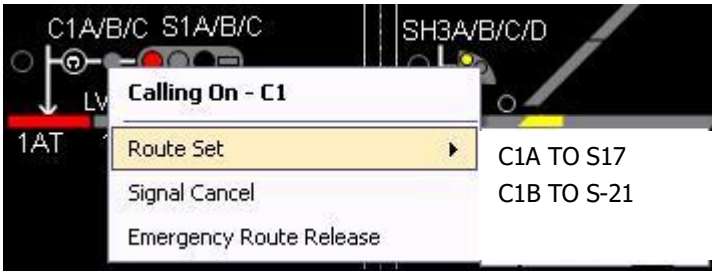
3.4.2 SHUNT SIGNAL OPERATION:

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



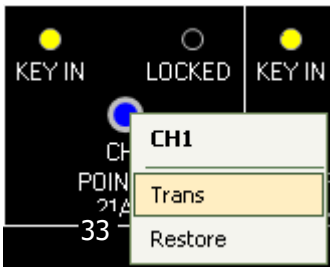
3.4.3 CALLING ON SIGNAL OPERATION:

The same procedure as main signal has to be followed as explained above. To set the signal route for CALLING ON signals SM on duty shall select the desired route and left click on the same after a train occupies the approach track circuit in immediate rear of the stop signal. The signal is cleared after a lapse of 60 seconds provided other conditions are fulfilled. The calling-on signal bellow starter signal is cleared without any time delay provided the trains stops at the foot of concerned starter signal.



3.5 CRANK HANDLE CONTROL OPERATION:

Normally a 'KEY IN' (Yellow) indication will appear on the VDU indicating that the crank handle's Key is in RKT. To Transmit or Receive control of the Crank Handle, right click on the crank handle control button icon provided on VDU.
The appearing pop-up menu gives details of the possible commands on the Crank Handle.



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

3.6 LEVEL CROSSING GATE OPERATION:

To Transmit or Release control of the Level crossing gate, click on the Level crossing control button icon provided on the VDU.
The appearing pop-up menu gives details of the possible commands on the Level crossing gate.



Normally no indication will be available on the VDU indicating that the gate control key is out and gate is open. When it is required to close the gate SM on duty shall intimate the gate man to close the gate. On instructed by the SM on duty the gate man shall close and lock the gate and after reversing the concerned slot lever, he shall transmit the gate control key to station by inserting and transmitting the key in the RKT. A flashing yellow indication will appear on the VDU seeing which SM on duty shall receive the control by clicking on the L.C. Gate control button icon and select 'Restore'. The flashing indication shall become steady.
When the key is required to be transmitted to the Gate man, SM on duty has to transmit the control by clicking, after transmission the CLOSED indication will start flashing, now the KEY can be extracted from the RKT. When the gate has been closed, locked & slot transmitted,

after putting the key in the RKT, A CLOSED flashing indication will appear on the VDU. Now the SM has to release the control for the steady indication.
The locked indication will appear when the LC Gate has locked by initiation of any of the possible signal routes.

3.7 OVERLAP TIME RELEASE (YELLOW LIGHT):

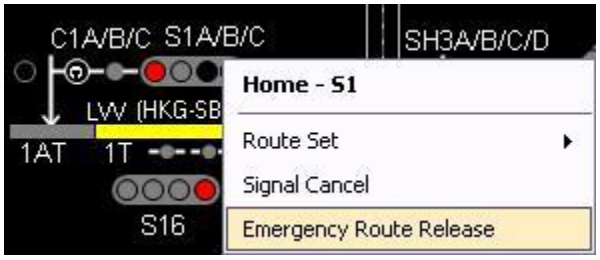
Separate indication (Yellow Light) for each overlap is provided near the starter signal to indicate the free or locked condition of overlap. This indication light will glow when any Home Signal route locks overlap and there will be no light when overlap is free. The locked indication starts flashing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

4 EMERGENCY OPERATIONS:

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

4.1 CANCELING A ROUTE/ EMERGENCY ROUTE RELEASE:

To cancel a signal route when the route is set and the signal is taken-off, click on the signal. After clicking by the right button on the mouse, a pop-up menu will appear as shown in Para 3.4 above. Click on the “Signal Cancel” menu of the concerned signal, the signal will immediately go to ‘ON’ aspect. After doing so, click on the “Emergency Route release” menu the route locked indication will starts flashing for 120 sec & the Emergency Route Release Indication (UP / DN as the case may be) will flash for the entire time interval. After the completion of 120 sec, the locked route will be released. This action will be recorded in a counter. The counter will increase to next higher number for each and every such operation and also, this number should be recorded by the SM on duty who shall record the details of the Route cancellation along with the latest counter no. in a register and SM’s diary.



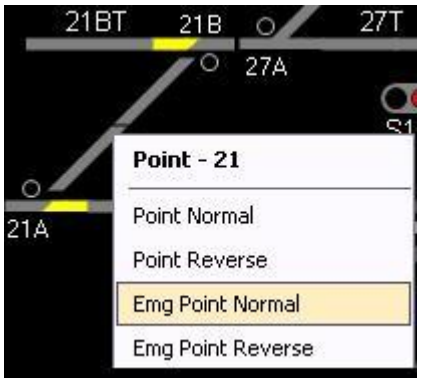
4.2 EMERGENCY OPERATION OF POINTS:

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

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

4.2.1 EMERGENCY NORMAL OPERATION

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



After the completion of the Emergency point operation, the Key to be 'KEY OUT' by clicking 'KEY OUT' menu. The User Name and Password is to be given for "KEY OUT" also.

4.2.2 EMERGENCY REVERSE OPERATION OF POINTS:

Before doing the emergency operation an Emergency Point Operation Key is to be made 'KEY IN' by clicking the 'KEY IN' menu. The user name and password is to be logged in. Emergency reverse menu is to be clicked. Track the pointer to 'EMERGENCY REVERSE' menu and click. A Reverse flashing indication will appear and the indication will be steady after the point is set to Reverse. The counter will increase by next number for each and every such action and also, this number should be recorded by the SM on duty who shall record the details of the Emergency Point Operation along with the latest counter no. in a register.

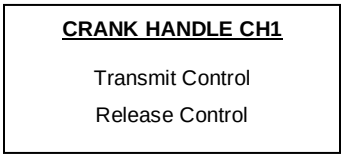
After the completion of the Emergency point operation, the Key to be 'KEY OUT' by clicking 'KEY OUT' menu. The user name and password is to be given for 'KEY OUT' also.

4.3 (a)EMERGENCY CRANK HANDLE RELEASE OPERATION:

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



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



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

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

(b)EMERGENCY CRANK HANDLE OPERATION DURING FAILURE OF BOTH THE VDUs.

In case of failure of both VDUs on duty SM shall turn the VDU selection switch to 'NO VDU' and turn the emergency, crank handle key provided on the SM table to 'KEY IN' position. This operation will release all crank handle of this station.

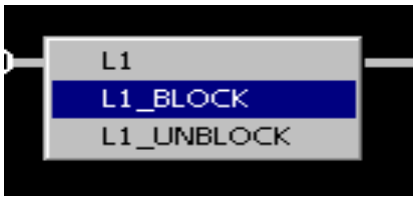
After restoration of VDUs SM on duty shall turn the emergency crank handle key towards 'KEY OUT' position and turn VDU selection switch either of the VDU and restore the crank handles through VDU as per standard procedure. During, this period SM on duty shall follow safety precaution describing para 4.4.11 in Appendix-B.

4.4 LINE BLOCK AND UNBLOCK:

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

4.4.1 LINE BLOCK:

To set the 'LINE BLOCKED', the SM on duty shall select "L. No.- - BLOCK" command using the left mouse button, after selecting the Line Block that particular line will be blocked for all the possible Track circuit section on that particular line. The 'TRACK BLOCK' yellow colour indication will be displayed after the successful application of such a blocking process on the VDU.



4.4.2 LINE UNBLOCK:

To release the set block of any particular line, the SM should select "L. No.___ UNBLOCK" command using the left mouse button. After selecting the "L. No.___ UNBLOCK" that particular line will be available for the train movement leading to all the possible L1 Track circuit section.

5.0 PROCEDURE FOR RESETTING OPERATION OF LVCD (DIGITAL) AXLE COUNTER IN SECTION BLGR-LSX AND BLGR-DFR.

5.1 Digital Axle Counters are provided on both UP & DN line of BLGR-LSX section and BLGR-DFR block section. The occupation and clearance of the axle counter section are indicated on VDU by RED & GREEN light respectively**.** When after arrival of a train the LVCD Axle counter does not show clear indication and the 'Section Occupied' indication continues to glow SM on duty shall initiate resetting procedure for the LVCD Axle Counter monitoring the Block section. Before initiating Resetting procedure SM on duty shall ensure that the train which has left arrived completely at receiving station and block section is clear [free] of trains. If the track indication of that particular block section is showing 'Red" then the following actions are to be performed by the SM on duty.

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 before resorting to resetting operation.

The status of the section LVCD i.e. Clear (GREEN), occupied (RED), preparatory reset (miniature GREEN) and power on indications (YELLOW) are provided in the reset box.
The procedure to be followed for re-setting operation is detailed in Appendix-'F'.

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

The SM shall record in his Train Register the resetting operation giving details of train number, time, Private Number exchanged with SM in rear, giving reasons for the resetting operation.
If the axle counters functioning properly now, then Block Section cleared indication 'GREEN' will appear on the panel and the concerned Block working will be normalised.
If the axle counter section indication does not appear 'Green' and continues to show 'RED' indication, the concerned Block section shall remain suspended and failure intimation to be given to sectional signal Maintainer/JE/SE (Signal) for early rectification.

5.2 **INTIMATION TO SIGNAL STAFF IN CASE OF FAILURE OF DUAL SSDAC:**
Both UP and DN Line between BLGR-DFR & BLGR-LSX section, Dual SSDAC are provided for monitoring both IB and LVCD clearance. Visual indication of Dual SSDAC have been provided before SM. When one of the two SSDAC fails (Red indication will glow continuously) SM on duty immediately inform SSE/ESM to attend failure.

6.0 MAIN SIGNAL LAMP FAILURE INDICATION AND BUZZER ACKNOWLEDGMENT:
LED signal lamps are provided for main signals at this station. In case failure of LED signals will be indicated by the appearance of 'RED' light on VDU along with audible buzzer, which can be acknowledged and muted by pressing the 'SIGNAL FAILURE ACKNOWLEDGEMENT' button icon. However the RED light will continue to glow until the LED lamp is replaced by a new lamp. For rectification of failure SM on duty should inform the concerned S&T staff.
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S.MISHRA
DSTE(TELE)/SBP

LINGARAJ GARTIA
DOM(G)/SBP

6.1 POINT FAILURE INDICATION (RED), POINT FAILURE BUZZER AND POINT FAILURE ACKNOWLEDGEMENT:

Whenever there is failure of point due to non-setting, point failure indication flashing light appears near the point button icon along with point failure Buzzer.

The buzzer stops when the point failure acknowledgement button icon 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 'POINT FAILUR ACK' button will disappear.

6.2 SHOWING OF COUNTERS:

Physically veeder counter box is provided on SM table.

7.0 TRACK CIRCUITS:

All lines are track circuited from Home signal to Advanced starter signals at either direction of the yard. Approach Track Circuit (5 Rail lengths) for Calling-on signal are also provided in rear of the Home signals in both directions. In addition there are (5 Rail length) track circuits beyond Advanced starter Signals in both the directions for replacement of Last Stop Signal. Indications for the above track circuits are available on VDU at SM's office. Yellow strip on VDU indicates 'ROUTE IS SET AND TRACK CLEAR' and Red strip indicates 'TRACK OCCUPIED CONDITION'.

7.1 On account of the doubtful operation of any track circuit by a light vehicle including self-propelled vehicle such as motor trolley or light engine or tower wagon etc., indicating the occupancy/clearance of track, it is necessary that the Station Master on duty satisfies himself that the said vehicle has cleared the point zone track circuits by observing the track indications 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.

8.0 TAKING OFF CALLING-ON SIGNAL:

Miniature colour light Calling-on signal is provided below the Home signals in terms of GR.3.13 (6)(b). A Calling-on signal shows no light in the 'ON' position. A Calling-on signal is taken 'OFF' for reception of a train when the Home signal above it cannot be taken 'OFF' for admission of train on blocked line or due to failure of main signal due to any other reason.

To take off Calling-on signal the train must come to stop at the foot of the Home signal, occupying the track circuit (1AT, 2AT etc.) as the case may be in rear of the Home signal. When a train occupies the track circuit, a RED light strip will appear on the VDU. The particular route on which the train is intended to be received shall be set by selecting and setting desired route through VDU by SM on duty. After a lapse of 60 seconds, the Calling-on signal clears. In case of Calling On signal below Home signal, white light glows at the concerned Calling-on signal on the VDU.

Calling-on signal provided bellow starter signals clears without any time delay. However, before taking off calling-on signal bellow starter signal, it is to be ensured that the train has stopped at the foot of the concerned starter signal.

NOTE:

i) Before taking "OFF" Calling-on signal during failure of track circuit, the clearance of track over which the train is intended to be received must be verified physically.

ii) SM on duty to ensure that no through signals are given while receiving a train on Calling-on signal.

9.1 RELEASE/CANCELLATION OF ROUTE:

Normally when a train is received on any route or dispatched, the route illumination will disappear automatically after passage of the train suggesting that the route is released. When the route is not released automatically after passage of train over it or when SM on duty intends to cancel the route set by him shall follow procedure for cancellation of route described in para 4.1 of APPENDIX-B above.

NOTE:

UP and DN Calling-on signals are to be manually cancelled after the passage of the train to release the route.

9.2 REPLACEMENT OF SIGNALS TO 'ON':

Signals are replaced to 'ON' automatically by the passage of a train beyond 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 SM shall follow para No. 3.4 of APPENDIX-B.

9.3 INTERLOCKING OF SIGNALS:

UP IB Signal no.49 is interlocked with Block Instrument of section BLGR-DFR and DN IB Signal no.44 signal is interlocked with Block Instrument of section BLGR-LSX in Line Clear position.

The Block Instrument cannot be made normal unless the respective Home signal is put back to 'ON' and the respective Block Section monitored by Axle Counter is clear of trains. Signals once taken 'OFF' can be put back to danger in case of emergency by following para No. 3.4 of APPENDIX-B even when the SM's Key is withdrawn from VDU.

9.4 PILOTING OF TRAINS IN TO STATION YARD.

Whenever Home signal becomes defective, trains can be admitted by taking off Calling-on signal. Whenever both Home signal and Calling-on signal failed, all trains will be piloted in vide SR 3.69.06.

9.5 PILOTING OF TRAINS - OUT OF STATION YARD:

With PN & ID for Double line. In case of Single line the Loco Pilot shall be issued PLCT as authority to proceed. When the starter signal fails the SM on duty shall pilot the train out as per SR 3.70.03.

9.6 SHUNTING:

Shunt signals at top point i.e. SH-5 an SH-7 at LSX end and SH-9 at BHPI end, SH-4 at DFR end have been provided for back shunt movement. Dependent shunt signal are also provided below starter signal No.SH-32, SH-34, SH-36, SH-38, SH-40 for shunting towards BHPI & LSX end and SH-23, SH-25, SH-27, SH-29 & SH-31 provided below starter for shunting towards DFR end.

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

9.7 SIDINGS TAKING OFF FROM STATION:-

(1) **Tower Wagon Siding:** The Tower Wagon siding of CSL 122 meters with one side entry takes off from line No. 5 at TIG end. The entry point of the siding is motor operated controlled from SM's VDU. For shunting; shunt signals shall be used. GR 5.23 and SR 5.23.01 shall be followed for securing of vehicles in the siding.

(2) **Sick Siding:** The Sick siding of CSL 125 meters with one side entry takes off from line No. 5 at TIG end. The entry point of the siding is motor operated controlled from VDU. For shunting shunt signals shall be used. GR 5.23 and SR 5.23.01 shall be followed for securing of vehicles in the siding.

(3) **Ballast Siding/Shunting Neck:** The Ballast siding/Ballast Siding of CSL 415meters with one side entry takes off from line No. 2 at SBP end. The entry point of the siding is motor operated controlled from VDU. For shunting shunt signals shall be used. GR 5.23 and SR 5.23.01 shall be followed for securing of vehicles in the siding.

(4) **Ballast Siding:** The Ballast siding of CSL 292meters with one side entry takes off from Ballast siding/Shunting Neck at SBP end. The entry point of the siding is motor operated controlled from VDU. For shunting shunt signals shall be used. GR 5.23 and SR 5.23.01 shall be followed for securing of vehicles in the siding.

(5) **Engine Holding Line:** The Engine Holding Line of CSL 289meters with one side entry takes off from line Ballast siding/Shunting Neck at SBP end. The entry point of the siding is motor operated controlled from VDU. For shunting shunt signals shall be used. GR 5.23 and SR 5.23.01 shall be followed for securing of vehicles in the siding.

(6) **T.M.Siding:** The T.M.Siding of CSL 293meters with one side entry takes off from line Ballast siding/Shunting Neck at SBP end. The entry point of the siding is motor operated controlled from VDU. For shunting shunt signals shall be used. GR 5.23 and SR 5.23.01 shall be followed for securing of vehicles in the siding.

(7) **(a)Satelite Depot Siding-1:** The Satelite Depot Siding-1 of CSL 158meters with one side entry takes off from line Ballast siding/Shunting Neck at SBP end. The entry point of the siding is motor operated controlled from VDU. For shunting shunt signals shall be used. GR 5.23 and SR 5.23.01 shall be followed for securing of vehicles in the siding.

(b)Satelite Depot Siding-2: The Satelite Depot Siding-2 of CSL 158meters with one side entry takes off from line Ballast siding/Shunting Neck at SBP end. The entry point of the siding is motor operated controlled from VDU. For shunting shunt signals shall be used. GR 5.23 and SR 5.23.01 shall be followed for securing of vehicles in the siding.

(8) **Engine Holding Line-** Engine holding line, CSL 57meters takes off from L/1 at SBP end. The entry point of the siding is motor operated controlled from VDU. For shunting, shunt signals shall be used. GR 5.23 and SR 5.23.01 shall be followed for securing vehicles in the yard.

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

10 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 shall be kept clear of any obstruction for the passages of any train or for any other movements. The clearance of the route including overlap must be ensured by the SM on duty personally through VDU indications and/or physical verification 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.

11 CRANK HANDLING/EMERGENCY OPERATION OF POINTS:

Crank handle operation is interlocked with the Signaling and interlocking system at this station. Key for Crank handle keys are normally locked inside the RKT instrument inside Location boxes in the yard and can be taken out only when all the signals leading are in the 'normal' position and the route is not locked for whatever reasons. Crank handle can be transmitted or released by following procedure as laid down in Para no.3.5 of Appendix-'B'. 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.

12. OBSERVATION OF TRACK CIRCUIT AFTER 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. Station Master 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 Station Master 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 maintainer/SSE(Signal) to be informed for rectification of the failure.

13. LOCKING OF RELAY ROOM: Refer para no.-4.2 of main SWR.

14. MAINTENANCE OF S & T INSTALLATION AND ADHERENCE TO MAINTENANCE SCHEDULES:

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.

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.

15. PROCEDURE TO BE FOLLOWED INCASE OF FAILURE OF AN INTERLOCKING GEAR:

In case of failure of any interlocking gear at the station, the failure report should be communicated by the Station Master to the sectional Maintainer, the SSE(Signal) 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.

16. INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

Before declaring a point as defective, the setting of the point on the route to which it applies shall be inspected by the Station Master on duty.

17. RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

After receipt of the failure 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 Station Master on duty shall personally check this defective apparatus. After satisfying himself that the gear is in good and proper working order, he shall resume the normal working of the said defective apparatus in terms of SR.3.68.04 (c) and (d) and RB letter No. 2021/SIG/21/safety performance, dtd:10.06.2023 & amendment issued vide letter No: 2023/TT-IV/9/2, dtd:16.06.2023.

18 PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORK:

Whenever any normal maintenance or special works for major renewals etc., are involved, the Signal and Telecom department 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 GR and SR.15.08.01.

19. EMERGENCIES:

Notwithstanding, anything contained in the aforesaid para as 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 Station master and take the Station Master's acknowledgement. After this, the usual practice of exchange of disconnection memo and reconnection memo can follow. The Station Master 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.

20. PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF SIGNAL POINTS AND USE OF EMERGENCY CRANK HANDLE:

20.1 Whenever a Signal or a Point become defective any movements over the Points on the running lines should be made after clamping and padlocking both the facing and trailing Points by Station Master on duty personally for all trains at the Station.

20.2 In case of failure of Signal or a Point and in case the Point cannot be operated from the VDU, the emergency Crank Handle which is interlocked with the system has to be extracted and the following procedure has to be observed.

20.3 One common emergency Crank Handle is provided for all the Motor operated Points of a group. This is mechanically riveted to the Key of RKT. This Key along with Crank Handle can be released from the RKT by following procedure vide 3.5 of appendix-B. The Station Master on duty in case of Point Motor failure will take out the Crank Handle set the Point manually by inserting Crank Handle on the Motor.

20.4 When the Crank Handle is removed from RKT for operation of the defective Motor Operated Points, the responsibility for its safe custody rests with the SM on duty till it is replaced back in RKT and sealed by Signal Maintainer.

20.5 The case of failure of Motor Operated Points should be promptly reported to the concerned SSE(Signal)/ESM for immediate rectification.

20.6 Whenever an emergency Crank Handle is required to be used by a Signal Official for maintenance of work 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 Station Master on duty will obtain acknowledgement of the Signal Official in the emergency Crank Handle Register and then handover to him the emergency Crank Handle for the Points concerned. All the Points will be treated as defective till the Emergency Crank Handle is returned back to Station Master on duty.

20.7 Before working with the Emergency Crank Handle either for attending failure or for Maintenance work by Signal Maintenance Officials, the Station Master on duty will ensure that the reception and departure Signals are put back to on position. The Points of all the lines should be treated as Non-interlocked and the Station Master on duty is responsible for introduction of Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points, both in facing and trailing directions over which the train is to pass, as per GR 3.69 and 3.70 with relevant SR's. The Station Master on duty will be personally responsible for setting and locking of Points, for reception and dispatch of all trains.

21.0 The Emergency Crank Handle Register is to be maintained by the Station Master on duty wherein the particulars of usage of the Emergency Crank Handle must be recorded as per operating manual and other circulars issued.

22.1 INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:

22.2 INTERLOCKING WITH SIGNALS:

All the UP and DN HOME Signals are Electrically interlocked with the respective block instruments, so that before the handle of the Block Instrument can be turned from TRAIN COMING FROM position to LINE CLOSED position of UP or DN direction as the case may be must be in their NORMAL position.

22.3 The DN IB Siganl-44 signal is controlled and interlocked with Block Instrument of section between BLGR-LSX & UP IB Signal No.49 signal is interlocked with Block Instrument of section BLGR-DFR so that this Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in' LINE CLEAR' position.

22.4 SUSPENSION OF LAST STOP SIGNALS:-

When the block instrument for section BLGR-LSX or BLGR-DFR or BLGR-BHPI is suspended with its handle in any position for whatever reason the concerned Last Stop Signal controlled by the Block Instrument must be treated as suspended and a train towards LSX & DFR shall be Piloted Out and a train towards BHPi shall be worked on PLCT.

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

23.1 Digital Axle Counters are provided on both UP and DN line Block Sections between BLGR-LSX and BLGR-DFR section.

23.2 The occupation and clearance of the axle counter section are indicated on the VDU by 'RED' and 'GREEN' light.

23.3 If any Block proving Axle Counter [LVCD] 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.

23.5. No train shall be allowed on signal to leave a station in any particular direction unless: -
Track clear indication is available for the relevant Axle Counter track circuited portion and Last Stop Signal is taken OFF. [Refer Para No:5 of appendix 'B' for procedure of resetting of LVCD Axle counter].

24.0 **TELECOMMUNICATION FACILITIES: -**

(i) Telephone attached with TLBI of BLGR-BHPI and DLBI of BLGR-LSX & BLGR-DFR Block Sections.
(ii) Station to Station fixed telephone (Hot line) is provided
(iii) Station is provided with Auto telephone connected with Railway Exchange.
(iv) BSNL telephone is provided.
(v) The station is connected to Balangir - SPRD control circuit by a control telephone.
(vi) Station to station 25 Watt VHF communication is provided.
(vii) Telephone is provided between Station and both end crank handle locations.
(viii) Telephone is provided between Station and L.C. Gates LC No.JT-94, at Km.678/11-13(UP) & Km.678/12-14(DN), LC No.JT-95, at Km.678/21-23(UP)&Km.678/22-24(DN), LC No.JT-96, at Km.679/3-5(UP) & Km.679/4-6(DN), LC No.JT-98, at Km.681/32-36(DN) & km.681/33-35(UP), No.JT-99, at Km.682/33-35(UP) & Km.682/34-36(DN).
(ix) Telephonic communication is provided between SM's office and UP IB Signal post at Km. 690.494.
(x) Telephonic communication is provided between SM's office and DN IB Signal post at Km. 670.845.
(xi) Telephone communication is provided between Station & TPC.

NOTE:

(i) For obtaining line clear, VHF should be used as a last alternative and not as a sole means of communication.
(ii) VHF and Walkie Talkie sets should not be used for unnecessary discussions with Loco Pilots, Guards or any other staff.
(iii) The on duty SM shall use the above electrical communication instruments stated in Para-24.0 from item No. (i) to (vi) strictly in order of preference for obtaining/granting line clear vide SR 14.01.01. In case of failure of any of the above means of communication the SM on duty shall work vide SR 6.02.06.

25.0 **FAILURE OF COMMUNICATION / FAILURE OF BLOCK INSTRUMENTS:**

1) In the event of failure/suspension of block instrument, Track circuit & Axle Counter 'Line Clear' shall be obtained over telephone attached to the block instrument or station to station telephone by exchanging identification number and supported by private number as per SR 6.02.06 (a) and Chapter–III Part–I of Block Working Manual.

2) In the event of failure/suspension of block instrument and block telephone attached to the block instrument, or the Station to station fix telephone 'Line Clear' shall be obtained on Railway auto phone or BSNL phone, by exchanging identification number supported by private number vide SR 6.02.06 (1)(b) and Chapter-III Part-I of Block Working Manual.

3) In the event of failure/suspension of block instrument, block telephone and station to station fixed telephone or Railway auto phone or BSNL phone, Line Clear shall be obtained over the control phone exchanging identification number and supported by 'Private Number' vide SR 6.02.06(1) (c) and Chapter-III Part-I of Block Working Manual.

4) In the event of failure / suspension of block instrument or block telephone attached to the block instrument, or station to station fixed telephone or Railway auto telephone or BSNL phone or control telephone line clear shall be obtained on the VHF sets exchanging ID number supported by PN provided that the instructions contained in SR 14.01.02 are followed vide SR 6.02.06 (1) (d) Chapter-III Part-I of Block Working Manual.

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

26.0 A) **POWER SUPPLY ARRANGEMENT FOR THE SIGNALLING INSTALLATION**

Power signaling and interlocking installations and the ancillary field units are fed from the following sources of power supply.

i) Normally supply from AT connected to OHE Traction distribution [230 V 50 Hz].

ii) Stand by supply from Odisha State Electricity Board (OSEB) [Single phase 230V-50Hz].

iii) Normal power supply [Single phase 230V-50Hz] to the Signaling & Interlocking installation at the station is drawn from the traction power sources. Whenever traction power supply fails SS/SM on duty shall operate the rotary change over switch provided in the CLS power panel at SM's office connecting the power supply from the healthy sources to the installation.

iv) The SS/SM on duty however maintain the record of AT power supply/ local supply and he must promptly report the failure of AT supply immediately through the section controller and to the concerned Electrical Staff and S&T maintenance staff.

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

b) Normally the switch will be kept towards **auto** supply position. Whenever the power block is to be given on the line, on duty SS/SM must ascertain the power is available on the local supply and other AT and change over the switch to desired position.

c) In case of failure of AT supply without any power block, on duty SS/SM has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is UP and when tripped, it goes DN). In case of failure of AT supply without any power block, the local supplies shall be utilized by operating the changeover switch if required.

d) If the circuit breaker is tripping, even after resetting, no attempts shall be made to hold it by any other means and a message shall be given to the AEEE/GEN and CTFO/PSI/ TRD/GEN for prompt rectification.

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

(B) WORKING OF INTEGRATED POWER SUPPLY [IPS],INDICATIONS & ACTION TO BE TAKEN BY SS/SM ON DUTY

i) Power supply to the signaling installation is fed through IPS installed in the S&T power supply room. The IPS is normally fed through AT traction power. Standby power supply is through local supply. One change over switch is provided in the SM's room for selection of output of AT traction power supply or local power supply. The available traction/local supply is fed to the IPS through auto-change over switch provided in IPS.

ii) The IPS system is connected with Battery as a back-up power source for safe working during transition of power and in case no 230v AC supply is available due to any reason.

iii) In the event of failure of all the sources of 230V, 50 Hz AC supply, the signalling system shall be fed by power generated by back-up battery Bank connected to IPS for a limited power of 08 to 10 hours. The health of battery bank is monitored through one IPS monitoring Panel provided in the SM's room which shall be display the voltage 110V DC [Battery bank provided as back-up source of power supply]. Depending upon the health of the Battery Bank and the system, the following indication/alarm will appear on the Remote Monitoring Panel, their implications and action to be taken by SS/SM on duty is tabulated below.

SN	Instruction	Healthy of Battery Bank /Equipment	Visual Indic[illegible]ication	Audio	Action to be taken by SS/SM on duty
			103A		
A	-	50% DOD (Depth of Discharge)	Red	Alarm	Alarm shall be acknowledged by SS/ SM on duty.
B		60% DOD	Red	Alarm	----Do----
C	System Shutdown	70% DOD	Red	Alarm	Signal feed cut off and all DC-DC converters to work. Audio alarm will continue till power supply is restored.
D	Call S&T Staff.	Equipment fault	Red	Alarm	Failure of any module will give the alarm in SM's panel. Alarm shall be acknowledged by SS/SM on duty for audio cut-off.

On duty SS/SM in each shift shall check and record the readings, indications, etc in the station dairy duly initiating rectification of failures of IPS system, if any.

In the event of failure of remote monitoring ASM console due to any reason when traction power and local power failed, the SS/SM on duty shall inform concerned Electrical staff immediately.

In case ' Call S&T staff' or 'system shut down' indication appear on the remote monitoring panel of IPS and/or mal-functioning of the remote monitoring panel SS/SM on duty shall inform the same to concerned S&T staff immediately.

NOTE: In case of failure of all AC supply sources IPS Battery Bank can provide power supply maximum up to 08 to 10 hours before system shut down indication of IPS.

27.0 WORKING OF AUTOMATIC FIRE DETECTION AND ALARM SYSTEM:

a) In case of any alarm in any particular area due to fire or dust-Zone number on the LCD display can be seen, note down the zone No. displayed in control panel.
b) The moment the smoke detector detects any smoke particles, the RED LED will blink along with the alarm.
c) Once you find the zone number rush to that particular area where the detector gives alarm.
d) Once you reach the area where the detector is giving the alarm, check whether the alarm is due to the fire or for any other reason.
e) Then call immediately to the staff of concerned department.
f) Call the fire station if required.
g) Take action to extinguish the fire by the fire extinguishers available in the station.
h) To alert the people in case of emergency press "*" sign of the fire which is present inside the key pad together for few seconds. This will enable you to hear the panel alarm.
i) To reset the panel follow the instructions provided by S&T official in station master's room near the fire alarm panel.
j) The control panel will get reset and siren muted.
k) If the power fails on this will enable us to see the red indicator on the panel.
l) In case of failure in power and if the battery is fully charged, the panel can function effectively as long as the charge in the battery is present.

APPENDIX - 'C'
ANTI COLLISION DEVICE (RAKSHA KAVACH)
NIL

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APPENDIX - 'D'

1.0 **STATION MANAGER-I (INCHARGE)** :

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

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

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

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

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

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

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

He is responsible for booking all staffs working under him for PME and Refresher Course / Safety camp in their due time. His Special attention is drawn out to chapter II of General and Subsidiary Rules and GR 5.01 to 5.08 with relevant Subsidiary Rules, Chapter – 02 of Operating Manual.

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

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

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

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

His special attention is drawn to chapter No.II of G & SR 1976 (Revised-2012) and GR 5.01 to 5.08 with relevant SRs. He shall follow the instruction laid down in SR 3.68.01© & (d) and SR 14.07.01 and BWM 2.09 (e). He shall conduct surprise night inspection, safety meetings and fire drills. He shall maintain good public relation as well as look after passenger's amenities and be helpful to travelling public.

1.1 **ASSURANCE REGISTER:**

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

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

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

The declaration shall be renewed in the following cases: -

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

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

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

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

3.0 **ACCIDENTS**:

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

4.0 **TESTING OF POINTS AND SIGNALS**:

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

5.0 **SS/STATION MASTER**:

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

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

He is responsible for working beyond this period when called upon to do so in the exigencies of services. He will follow SR 3.68.01© & (d), SR 14.07.01. Their special attention is drawn to Chapter II of G & SR 1976 (Revised-2012) and GR 5.01 to 5.08 with relevant SRs. As an Assistant to the SS, he shall follow the instructions given to him by the Station Superintendent.

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6.0 **HANDING OVER AND TAKING OVER CHARGE**:

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

7.0 **TRAFFIC POINTSMAN:**

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

(i) Delivery of authority to proceed and caution order etc. to the Loco Pilot of train.
(ii) Correct setting and locking and crank handling of points for reception/dispatch and shunting operation under the supervision of Station Master.
(iii) To couple and uncouple vehicles under the supervision of Station Master/Guard when shunting operation is in progress.
(iv) Piloting and hand signalling of trains when necessary.
(v) Knowledge of hand signals, detonators and their use.
(vi) Protection of line in emergency and fog signalling.
(vii) Exchange of signals with the Loco Pilot and Guard of passing trains as directed by the Station Master.
(viii) Cleaning, Oiling and lighting of lamps.
(ix) Loading/unloading of parcels, luggage and packages to and from the train and watching the packages and other materials by properly stacking in the station premises.
(x) Dusting of station office, filling up the fire buckets with sand/water and getting train interact arrival register (T/1410) signed by the Guard as and when required.
(xi) Serving messages and any other duties entrusted to them by the SMR/SM from time to time.
(xii) Uses of emergency crank handle for setting of points.
(xiii) To supervise shunting as per SR 5.13.03.
(xiv) They must be thoroughly conversant with the GR 3.38, 3.46, 3.77(I), 5.09, 3.52 to 3.60, 3.62, 5.13, 5.15, 5.16, 5.21, 5.23 & SRs there to and their special attention is drawn to chapter No.II of G & SR (Amendment) 2000 also.
(xv) When necessary, they will work in the Goomties for observing and reporting the complete/incomplete arrival/departure of trains as per the order of the SM on duty in case of failure of Axle Counter/Track Circuit.

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APPENDIX - 'E'

ESSENTIAL EQUIPMENT OF THE STATION

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

Srl No.	Description	Quantity
1.	Detonators	10 in tin case
2.	Tri colour torch	04 Nos.
3.	Hand signal flags	04 sets.
4.	Safety chains with pad locks	08 Nos.
5.	Wooden Wedges	12 Nos.
6.	Skid	08 Nos.
7.	Fire buckets (with sand and water)	06 Nos.
8.	Clamps with padlocks	12 Nos.
9.	"Block suspension" Boards	03 Nos.
10.	"Motor Trolley on Line" Boards	03 Nos.
11.	First aid Box	01 No.
12.	Stretcher	01No.
13	Fire extinguisher	02 No.
14.	Blanket	01 No.

APPENDIX - 'F'

IBS:RULES FOR WORKING INTERMEDIATE BLOCK SIGNALLING BETWEEN BLGR-LSX

The block section between BLGR-LSX has been split into two block sections by providing Intermediate Block Stop signals at KM 671.600 F/HWH [controlled by LSX station] for UP line and, at KM 670.845 F/HWH [controlled by BLGR station] for DN line. Intermediate Block stop signals are controlled through double line lock and block instruments at the respective receiving ends.

A] The Block working for section between BLGR-LSX on UP & DN lines are controlled by the provision of Double line Lock and Block Instruments (SGE type) and are provided at BLGR and LSX stations. The UP Advanced starter signal no. 27 of LSX and DN Advanced Starter signal no. 46 of BLGR are controlled by the clearance of IB section through respective IB section monitoring axle counters and the IB Home signals are controlled in turn through the line clear position of respective Double line lock and block instruments and LV section monitoring axle counters of receiving stations.

B] Trains between intermediate block signal to respective Home signal of station in advance are worked by means of SGE type lock & block instrument vide GR 3.75, 4.09, 5.07, 14.01 to 14.14 of the G & SR and chapter VI of BWM.

C] Last stop signal to the intermediate block stop signal is controlled by Digital Axle counter and are worked under absolute block system in terms of G & SR 14.01, 14.13.

D] **INDICATIONS PROVIDED FOR I.B. SECTION.**
The indications of signals of IB in both UP and DN directions are provided at BLGR Station and LSX Station.

SECTION BLGR-LSX:

SN	Signal Aspect [S-46] (BLGR)	IB Section Indication [28 AXT]	DN IB Home Aspect	Block Section Indication	Remarks.
1	Green	Green Illuminated when section is clear. When train enters the section RED illuminated	-	-	Advanced starter no. 46 is taken off to dispatch a train up to DN IB Home.
2	Red	Red Illuminated	-	-	IB Section is occupied.
3	-	-	Green	Green illuminated when LVV section is clear. When train enters the section RED illuminated	IB Home taken off for train up to DN Home signal of LSX.
4	-	-	Red	Red Illuminated	LVV section is occupied or IB Home passed at danger.

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SECTION BLGR-LSX

SN	Signal Aspect [S-27] (LSX)	IB Section Indication [27 AXT]	UP IB Home Aspect	Block Section Indication	Remarks.
1	Green.	Green illuminated when section is clear. When train enters the section RED illuminated	-	-	Advanced starter no. 27 of LSX is taken off to dispatch a train up to UP IB Home.
2	Red.	RED Illuminated	-	-	IB section occupied.
3	-	-	Green	Green illuminated when LVV section is clear. When train enters the section RED illuminated	UP IB Home signal is taken off for train up to UP home signal of BLGR.
4	-	-	Red	Red Illuminated	LVV section is occupied or IB Home passed at danger.

E] **Buzzer/Bell**

One audio buzzer has been provided in the SM room at both BLGR and LSX to detect Train Entering section for outgoing trains. After train passes the intermediate block stop signal, the buzzer/bell will start ringing. On hearing the buzzer/bell the SS/SM of sending station must acknowledge the same by clicking on IB train entering section [TES] muting icon to stop the buzzer/bell and then send train entering section report to the receiving station who shall turn the commutator of the Double Line Lock and Block Instrument from the 'Line Clear' position to 'Train On Line' position and acknowledge train entering section following the procedures laid down vide Block Working Manual.

F] **CLOSING OF INTERMEDIATE BLOCK SIGNAL POST:**

In the event of suspension of Lock and Block Instrument or Failure/Suspension of Intermediate Block Home UP or DN line or failure of Axle counter mechanism or failure of track circuit upto 400m from IBS the concerned section shall be suspended, the Intermediate Block Post concerned shall be deemed to be closed and section between the stations on either side of the Intermediate Block Post concerned shall be treated as one block section. Refer to General Rule No. 3.70 and 3.75. The authority to pass the Advanced Starter and Intermediate Block Stop Signal concerned at 'ON' shall be issued by the SM Immediately in rear of such signal.

G] **NORMALIZATION OF IB AXLE COUNTER AND RESTORATION OF BLOCK WORKING BY RESETTING FEATURE:**

i] No train should be allowed to leave station in any particular direction unless IB track clear indication is available for the relevant track circuited portion of IB section and last stop signal cannot be taken off also.

ii] A Resetting arrangement for the resumption of IB Axle counter, under failure condition through co-operative feature of both the SM on duty at either end station of the Block section is provided, which should only be resorted to after the train that was sent last has arrived fully at

the receiving station and is certified in this respect by the SM at the receiving station through exchange of private number.

iii] For monitoring of IB section working & re-setting of IB Axle counters, Track Indications and Re-setting arrangements are provided on the VDUs of BLGR and LSX stations. Counters are also provided for the purpose of recording of each act of re-setting for the IB Axle Counters in case of failures in IB section.

iv] The SM on duty at BLGR station shall maintain a separate register for use for resetting of IB Axle Counters wherein every operation of the resetting shall be recorded giving details of date of use, train number, time, number registered in the counter on Veeder Counter and reasons for resetting and initial for each such entry.

v] The procedure for resetting of the IB Axle counters in terms of clause G(ii) above shall be as follows:

SECTION BLGR-LSX:

	DISPATCHING STATION [BLGR]		**RECEIVING STATION [LSX]**
1	In case of failure of axle counter between sending station and IB signal SM on duty of sending station shall call the attention of SM of receiving station through Telephone for granting Permission to re-set IB Axle counter as well as Train Passed signal with Danger [train run away condition] giving details of last train left the station into the section.	1	SM on duty at receiving station shall after verifying that the said dispatched train arrived fully and exchange private number with SM on duty of sending station and gives permission to re-set by clicking on the 'Reset Permission Button' icon provided on the VDU. Then a flashing yellow indication will appear near the icon. For each such operation the permission granting counter shall increase by one digit. SM on duty shall make an entry of changed permission granting counter number in counter register
2	On getting permission to reset from receiving station, a flashing yellow indication will appear on Permission Received icon which shall be acknowledged by SM on duty by acknowledging 'Permission Ack Button' icon and then flashing indication will become steady. On duty SM at sending station shall then make IB Reset 'key IN' on the VDU and then click 'PRESS' on the 'Reset Push Button' icon. Approximately after 5 seconds click the 'RELEASE' on the reset button icon and then make the reset 'key OUT'. Now SM on duty has to manually reset the near end axle counter. He shall insert the	2	After completion of reset procedure Permission granting indication will go blank at the receiving station.

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	reset key, turn right and press on the reset box simultaneously with reset button. On doing the above process for resetting preparatory reset indication will appear on both VDU and reset box. First train has to be piloted out. On passing of the first train IB Axle counter will get reset. After this preparatory reset and Permission Received indication will go blank. For each such operation, the IB. reset counter provided shall increase by one count. SM on duty shall make an entry of changed Reset counter number in re-setting register.		
3.	In case of train passed IB signal at danger, train run away indication will appear on the VDU along with buzzer. SM on duty shall then acknowledge the same. He shall call the attention of SM of receiving station through telephone for granting Permission to reset the runaway indication giving details of last train left the station into the section.	3.	SM on duty of receiving station, after verifying the complete arrival of last train shall give a private number to the sending station that the section is clear. He shall then grant permission to reset the train run away indication.
4.	SM of the sending station shall acknowledge the permission granted. The trains run way indication will go blank and the system is normalized. In such case there is no need of piloting out of the first train.		

H] **<u>NORMALIZATION OF LVV AXLE COUNTER AND RESTORATION OF BLOCK WORKING BY RESETTING FEATURE</u>:**

	RECEIVING STATION [LSX]		**DISPATCHING STATION [BLGR]**
1	In case of failure of axle counter between IB signal and receiving station, SM on duty of receiving station, after verifying that the last train has arrived fully shall call the attention of the SM of sending station through telephone giving details of last train left the station into the section has arrived complete and exchange private number with SM on duty of sending station and ask for granting permission for resetting of the LVV.	1	SM on duty at sending station shall give permission to reset by clicking on the 'Reset Permission Button' icon provided on the VDU. Then a yellow indication will appear near the icon.
2	On getting permission to reset from sending station, a flashing green indication will appear on Permission Received icon which shall be acknowledged by SM on duty by acknowledging 'Permission Ack. Button' icon and then flashing green indication will become steady.	2	For each such operation, the LVV reset counter provided shall increase by one count. SM on duty shall make an entry of changed Reset counter number in re-setting register.

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	On duty SM at receiving station shall then make IB Reset 'key IN' on the VDU and then click 'PRESS' on the 'Reset Push Button' icon. Approximately after 5 seconds click the 'RELEASE' on the reset button icon and then make the reset 'key OUT'. On doing the above resetting process, preparatory reset indication will appear on VDU. Now SM on duty has to manually reset the near end axle counter. He shall insert the reset key, turn right and press on the reset box simultaneously with reset button. On doing the above resetting process, preparatory reset indication will appear on reset box. T/369(3b) shall be issued to loco pilot of first train to pass IBS at ON. On passing of the first train LVV Axle counter will get reset. For each such operation, the LVV reset counter provided shall increase by one count. SM on duty shall make an entry of changed Reset counter number in re-setting register.		

l] **DISPATCH OF TRAINS:**

Dispatch of trains is governed by the provision of GR 3.42, 3.70 & SR there to and Block working manual rules. For dispatching trains with last vehicles/trains without guard/banking engine in rear, JPO and safety circulars issued along with relevant GR & SRs to be followed.

From BLGR towards LSX.

Train will be dispatched in accordance with the General Rules 3.42, 3.70., 3.75, 4.35 and 8.01 and subsidiary Rules thereto.

BLGR TO IBS ON DN LINE:

The SM on duty shall ensure that the portion of line between Advanced Starter and 400 Mtrs beyond IBS at their respective ends is clear of obstruction and indication to this effect is available in VDU and shall also ensure any non-isolated shunting at their respective ends suspended and shunting authority issued if any is withdrawn and kept in his custody.

IBS SIGNAL TO LSX:

The SM on duty BLGR shall obtain line clear through lock & Block instrument from the station in advance to dispatch a train in to section and pass the IBS signal through by taking off the IBS signal no. 44 of BLGR for DN line.

After the train passes the DN IBS a buzzer will ring at both the receiving and dispatching stations. On hearing the buzzer/bell the SM must acknowledge the same by pressing train entering section [TES] muting icon to stop the buzzer/bell and then send train entering section report to the station master of the station in advance who in turn will turn the commutator of the Double line Lock and Block Instrument from the line clear position to Train On Line position and acknowledge train entering section. After dispatch of a train from BLGR into the Block section, in case when the intermediate stop signal is not taken 'off' but the buzzer has started ringing, this may be either due to the train passing intermediate Block stop signal at 'ON' position or due to failure of the track circuit in advance of that intermediate Block Signal. The SM on duty will then inform the matter to SCR on duty and concerned S&T official.

The above procedure must be rigidly followed irrespective of the fact whether line clear for train has been received from station in advance or not and this must be recorded in the Train Signal Register and SM's diary book of both the Stations.

(i) Dispatch of trains towards LSX station in case of failure of the DN Advanced Starter signal due to failure of "IB Axle Counter" device or otherwise-.

If the failure of the DN Advanced starter of BLGR due to the failure of IB axle counting device or the indication showing 'Red' light either due to power failure or due to any other cause, the SM should resort to the resetting procedure mentioned in para G(iv).

If it is not possible to restore normal working of the IBS by use of the resetting procedure, the ESM-in-charge of the section shall be served with a written memo to attend the defective signal and rectify the same. The ESM-in-charge of the section on being served with a memo by the SM shall attend the failure and rectify the fault. The ESM after ensuring that all S&T gears relating to defective signal have been attended to and are in working order except the axle counter which needs re-setting, shall establish communication with SM concerned and ask him to reset the IB axle counter by following the reset procedure mentioned in the para G(iv). SM on duty shall follow the resetting procedure after ensuring that all the trains which had left his Block Station had arrived complete and intact at LSX (by exchanging of P.N with SM/LSX confirming this) for resumption of normal working.

DESPATCH OF TRAINS IN CASE OF FAILURE OF INTERMEDIATE BLOCK STOP SIGNAL:

[a] When a driver finds an intermediate Block Stop signal at 'ON' Position he shall stop his train in rear of the signal and advise the guard of the fact by sounding long continuous whistle and shall then contact the Station Master of the Block Station in rear over the signal post telephone provided for the purpose vide SR.3.75.01[i].

[b] If the SM of BLGR station, on being contacted over Telephone by the driver, finds that the signal is defective, he shall, after obtaining "Line Clear" for the train from the station in advance, authorize the driver on the telephone to pass intermediate Block Signal at "ON" and enter the block section ahead. He shall give Driver the Private Number and identification Number under which he has received "Line Clear" for the train from the station in advance.
The driver shall then sound one short, one long and one short whistle and, on receipt of Guard's signal shall proceed ahead duly exchanging signals with him. The station Master on being contacted by the Driver on signal post telephone if he is unable to obtain "Line Clear" for the train due to total interruption of communications, shall call for the Guard through the Driver and on being contacted by guard, he shall advise the guard of the circumstances and give a Private Number for the train to proceed up to the next block station. The guard shall prepare a memo in duplicate authorizing the Driver to proceed with the Private Number received from the Station Master. In such case the speed of the train shall be restricted as prescribed in GR 3.75(3).

[c] In such case the Driver shall pass the IB signal at "ON" and proceed cautiously and be prepared to stop short of any obstruction, at a speed not exceeding 15 Kilometers an hour if he has a good view of the line ahead otherwise, at a speed not exceeding 8 kilometers an hour and report the failure to the Station Master at the block station ahead.
While complying with the instructions contained in GR 3.75(3), when the Driver has to pass IB signal at "ON" after waiting for 5 minute at the signal, he shall proceed cautiously preparing to stop short of any obstruction at a speed not exceeding 15KMPH when view ahead is clear and 8 KMPH when view ahead is not clear due to curve, obstruction, rain, fog or any other cause

until he reaches the foot of the next stop signal and even the signal is "OFF" the Driver shall continue to look out for possible obstruction short of the same and will act upon its indication only after he has reached it. Before starting, the Driver shall sound one long whistle which may be repeated as necessary and shall then start his train on receipt of Guard's signal. Thereafter he shall exchange signals with the Guard.
On reaching the block station ahead the Driver shall report the failure of the signal to the Station Master. If the telephone is provided at the intermediate Block Stop signal Post is out of order the Driver will pass the IB signal as per GR 3.75(3) & SR 3.75.02, and on reaching the block station ahead, the Driver shall report the failure of the signal to the SM, Following train shall not be allowed to leave BLGR unless the complete arrival of the receiving train is certified by the SM on duty at LSX under exchange of Private Numbers.

The station Master of the block station working the intermediate block stop signal on becoming aware that such a signal is defective shall, before dispatching the train, treat the entire section up to the block station immediately ahead of the intermediate block post as one block section and issue a written authority to the driver to pass the defective intermediate Block Stop Signal at "ON" without stopping at the signal in accordance with the procedure prescribed by special instruction.

A written authority as mentioned in GR 3.75(4) shall be in Form T/369[3b] in which the Private Number and identification Number obtained from the station in advance in support of the "Line Clear" shall be recorded. Display of "Proceed hand signal at the foot of defective Intermediate Block Stop Signal may be dispensed with.

[d] However, if the SM on the Block station immediately in rear of an intermediate Block Signal is aware that DN intermediate Block Signal is defective shall before Dispatching a train verify that all trains which had left his Block Station had arrived complete and intact at LSX station by exchanging Private Number with SM/LSX and shall follow the resetting procedure mentioned in the para G(iv). Thereafter driver shall be handed over the authority of T-369[3b] to pass IBS Signal at "ON" position where in, the Private Number and identification number obtained for line clear shall also be written. After each such resetting process, next higher number is registered on the veeder Counter and the SM should record this, giving the details of the occasion with timings in the Veeder Counter register kept in the station.

J] **SPECIAL INSTRUCTION IN CASE OF A TRAIN PASSING IBS AT 'ON' POSITION:**

I] In case train run away indication appears the SM of receiving Station shall not turn the block instrument handle to line clear position and SM at sending station shall not take any action to dispatch the third train unless the second train which passed the IB signal at 'ON' position has actually arrived complete and is verified by the receiving station.

II] Every case of a train passing IB signal at 'ON' position without strictly following the provision of GR 3.75 should be treated as a breach of block rule by the driver and action to be taken accordingly.

III] When train run away indication appears at the dispatching Station without any train in the section, then SMs should resort to train run away resetting procedure. If the same could not be reset the IBS system should be treated as failed and Signal Maintainer should be advised. All the subsequent trains shall be Piloted OUT after taking line clear and treating entire section as one Block section as per GR 3.75(4).

IV] Whenever a train after having obtained line clear passes IBS at "ON" position the train run away indication appears at the dispatching station and also at receiving station. Under such

circumstances no further train shall be allowed in the section till the said train arrives completely at the receiving station and its complete arrival report has been received at the receiving station supported by Private Number treating the entire block section as single section.

V] If any train passes IB Signal at 'ON' position when there is a train in the Section between IBS and the receiving station, the train run away indication will appear at both receiving and dispatching station. Under such circumstances the SM in the receiving station shall not turn the Block instrument to Line Clear position and SM at sending station shall not dispatch the (3rd) train, unless the 2nd train which passes the IBS at 'ON' position has actually arrived and its complete arrival is verified by the receiving station.

VI] Resetting procedure is to be followed as detailed in para G(iv) after verifying that the last vehicle of the runaway train has arrived intact and ensured by exchange of private number with the SM of the receiving station.

VII] Whenever a train run away indication appears when there is a train in the section, no further train should be allowed in the section till resetting is done.

VIII] Before any resetting operation is done, the Dispatching station should advise the receiving station giving details of the last train that has entered the section and should ensure by exchange of private number that the last train has arrived complete at the receiving station.

Every Case of re-setting shall be entered in a register in the following proforma.

Date and time	Train No. Last entered the block section	Private No. of station ahead for Complete Arrival of the train Under Col.2	Veeder Counter No Before resetting operation completed	Train No. Entering Block section Immediately after the resetting operation	Remarks	Signature of SS/SM
1	2	3	4	5	6	7

IX] If resetting is not possible under item as mentioned above, the system should be treated as failed and train will work treating the entire section up to the Block Station immediately ahead of the IBS Post as one block section as per GR 3.75(4).

K] **ACTION TO BE TAKEN WHEN A TRAIN PASSES INTERMEDIATE BLOCK STOP SIGNAL AT 'ON'**

a**) By SM of receiving Station.**

I] Shall not turn the Block Instrument commutator to "Line Closed" Position Unless the complete arrival of the train which passed IBS at "ON" position is ensured, without any exception even for such a train which leaves the rear station after obtaining line clear and passes IBS at "ON" position, since there is a chance of leaving a vehicle or vehicles in the Axle Counter area where the function of Axle Counter also fail.

II] In case the bottom needle of the SGE type block instrument is in its 'Line closed' position, action should be taken to turn the block instrument commutator to 'TOL' Position vide BWM 5.16(2)(iv) and must not turn to "Line closed" and then to "Line clear" position unless the train which had

passed the "Intermediate Block Stop Signal" at 'ON' position arrives complete and its complete arrival is verified.

b] **By the SM of both the block stations in rear and in advance of the intermediate Block Stop Signal**.

I] After the complete arrival of the last train, according to the information received vide sub-para (a) above, the SM of the receiving station shall communicate the same to the SM of the sending station supported by a Private Number which shall be acknowledged by the later by issuing Private Number. Thereafter the SM of the dispatching station and the SM of the receiving station shall resort to Resetting procedure. This simultaneous operation will cause the 'counter' to increase by one count at both the stations and SM shall record the next higher number in the register mentioned for the purpose and details of it.

II] After completion of resetting procedure and normalization of IBS the SM of the Block Station in rear shall then take steps or authorize Station master of the receiving station supported by a Private Number to normalize the block instrument.

III] In the event of failure of IBS signal in the "OFF" position or fails to go to "ON" position immediately after passage of train, the station master controlling the signal shall take steps to put back the IBS signal to "ON" position and treat IBS signal failed and train shall be dispatched treating entire section between his station and station in advance as one Block section.

L] **RUNNING OF MOTOR TROLLEYS ON IBS ZONE**:

i) While allowing motor trolley/4 wheeler tower wagon/material trolley etc., entire section between BLGR-LSX shall be treated as one block section and shall be issued T-369 [3B] for passing IBS at "ON" position.

ii) After the complete arrival of the said Motor Trolley/4 wheeler tower wagon/material trolley etc., at the station ahead, Station Master at adjacent station shall exchange Private Number in token of complete arrival and then shall resume normal working by resetting the Axle Counter as stated in the SWR.

iii) Motor Trolleys shall not be allowed on following line clear.
NOTE:- Backing of train on the portion of line after passing the intermediate Block Stop signal normally shall not be allowed, However, if it becomes inevitable to back, such backing may be done with great caution as mentioned in SR 3.75.04.

M**]** **SIGNAL POST TELEPHONE:**

A telephone socket (RE Type portable telephone kept with drivers) with a RED Press button at the bottom is provided at the foot of each IB signal and is meant for driver to contact the SS/SM in rear by pressing the RED button. The driver of the train encountering the IB signal at 'ON' position shall contact the station in rear to find out the occupancy or otherwise of the block section ahead.

N] **NORMAL POWER SUPPLY TO IBS GOOMTIES :**

Power signaling and interlocking installations and the ancillary field units are fed from the following sources of power supply.

i) Normal power supply from UP AT/DN AT connected to OHE traction distribution [230V 50Hz].

ii) Stand by supply from Odisha State Electricity Board (OSEB) [Single phase 230V 50 Hz] .

iii) Normal power supply [Single phase 230V 50Hz] to the signaling and Interlocking Installation at the IB is drawn from the traction power sources. Whenever traction power supply fails the power supply switched over through Auto change over switch provided in the CLS panel at IBS Goomty connecting the power supply from the healthy sources to the installation.

S.MISHRA
DSTE(TELE)/SBP

LINGARAJ GARTIA
DOM(G)/SBP

IBS:RULES FOR WORKING INTERMEDIATE BLOCK SIGNALLING BETWEEN BLGR-DFR

The block section between BLGR-DFR has been split into two block sections by providing Intermediate Block Stop signals at KM 690.494 F/HWH [controlled by BLGR station] for UP line and, at KM 690.171 F/HWH [controlled by DFR station] for DN line. Intermediate Block stop signals are controlled through double line lock and block instruments at the respective receiving ends.

A] The Block working for section between BLGR-DFR on UP & DN lines are controlled by the provision of Double line Lock and Block Instruments (SGE type) and are provided at BLGR and DFR stations. The UP Advanced starter signal no. 47 of BLGR and DN Advanced Starter signal no. 28 of DFR are controlled by the clearance of IB section through respective IB section monitoring axle counters and the IB Home signals are controlled in turn through the line clear position of respective Double line lock and block instruments and LV section monitoring axle counters of receiving stations.

B] Trains between intermediate block signal to respective Home signal of station in advance are worked by means of SGE type lock & block instrument vide GR 3.75, 4.09, 5.07, 14.01 to 14.14 of the G & SR and chapter VI of BWM.

C] Last stop signal to the intermediate block stop signal is controlled by Digital Axle counter and are worked under absolute block system in terms of G & SR 14.01, 14.13.

D] **INDICATIONS PROVIDED FOR I.B. SECTION.**

The indications of signals of IB in both DN and UP directions are provided at BLGR Station and DFR Station.

SECTION DFR - BLGR:

SN	Signal Aspect [S-28] (DFR)	IB Section Indication [28AXT]	DN IB Home Aspect	Block Section Indication	Remarks.
1	Green.	Green illuminated when section is clear. When train enters the section RED illuminated	-	-	Advanced starter no. 28 of DFR is taken off to dispatch a train up to DN IB Home.
2	Red.	RED Illuminated	-	-	IB section occupied.
3	-	-	Green	Green illuminated when LVV section is clear. When train enters the section RED illuminated	DN IB Home signal is taken off for train up to DN home signal of BLGR.
4	-	-	Red	Red Illuminated	LVV section is occupied or IB Home passed at danger.

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SECTION BLGR-DFR:-

SN	Signal Aspect [S-47] (BLGR)	IB Section Indication [47 AXT]	UP IB Home Aspect	Block Section Indication	Remarks.
1	Green	Green Illuminated when section is clear. When train enters the section RED illuminated	-	-	Advanced starter no. 47 of BLGR is taken off to dispatch a train up to UP IB Home.
2	Red	Red Illuminated	-	-	UP IB Section is occupied.
3	-	-	Green	Green illuminated when LVV section is clear. When train enters the section RED illuminated	IB Home taken off for train up to UP Home signal of DFR.
4	-	-	Red	Red Illuminated	LVV section is occupied or IB Home passed at danger.

E] **Buzzer/Bell**

One audio buzzer has been provided in the SM room at both BLGR and DFR to detect Train Entering section for outgoing trains. After train passes the intermediate block stop signal, the buzzer/bell will start ringing. On hearing the buzzer/bell the SS/SM of sending station must acknowledge the same by clicking on IB train entering section [TES] muting icon to stop the buzzer/bell and then send train entering section report to the receiving station who shall turn the commutator of the Double Line Lock and Block Instrument from the 'Line Clear' position to 'Train On Line' position and acknowledge train entering section following the procedures laid down vide Block Working Manual.

F] **CLOSING OF INTERMEDIATE BLOCK SIGNAL POST:**

In the event of suspension of Lock and Block Instrument or Failure/Suspension of Intermediate Block Home UP or DN line or failure of Axle counter mechanism or failure of track circuit upto 400m from IBS the concerned section shall be suspended, the Intermediate Block Post concerned shall be deemed to be closed and section between the stations on either side of the Intermediate Block Post concerned shall be treated as one block section. Refer to General Rule No. 3.70 and 3.75. The authority to pass the Advanced Starter and Intermediate Block Stop Signal concerned at 'ON' shall be issued by the SM Immediately in rear of such signal.

G] **NORMALIZATION OF IB AXLE COUNTER AND RESTORATION OF BLOCK WORKING BY RESETTING FEATURE:**

i] No train should be allowed to leave station in any particular direction unless IB track clear indication is available for the relevant track circuited portion of IB section and last stop signal taken off .

ii] A Resetting arrangement for the resumption of IB Axle counter, under failure condition through co-operative feature of both the SM on duty at either end station of the Block section is provided, which should only be resorted to after the train that was sent last has arrived fully at the receiving station and is certified in this respect by the SM at the receiving station through exchange of private number.

iii] For monitoring of IB section working & re-setting of IB Axle counters, Track Indications and Re-setting arrangements are provided on the VDUs of BLGR and DFR stations. Counters are also

provided for the purpose of recording of each act of re-setting for the IB Axle Counters in case of failures in IB section.

iv] The SM on duty at BLGR station shall maintain a separate register for use for resetting of IB Axle Counters wherein every operation of the resetting shall be recorded giving details of date of use, train number, time, number registered in the counter on Veeder Counter and reasons for resetting and initial for each such entry.

v] The procedure for resetting of the IB Axle counters in terms of clause G(ii) above shall be as follows:

SECTION BLGR-DFR

	DESPATCHING STATION [BLGR]		**RECEIVING STATION [DFR]**
1	In case of failure of axle counter between sending station and IB signal the SM on duty of sending station shall call the attention of SM of receiving station through Telephone for granting Permission to re-set IB Axle counter as well as Train Passed signal with Danger [train run away condition] giving details of last train left the station into the section.	1	SM on duty at receiving station shall after verifying that the said dispatched train arrived fully and exchange private number with SM on duty of sending station and gives permission to re-set by clicking on the 'Reset Permission Button' icon provided on the VDU. Then a flashing yellow indication will appear near the icon. For each such operation the permission granting counter shall increase by one digit. SM on duty shall make an entry of changed permission granting counter number in counter register
2	On getting permission to reset from receiving station, a flashing yellow indication will appear on Permission Received icon which shall be acknowledged by SM on duty by acknowledging 'Permission Ack Button' icon and then flashing indication will become steady. On duty SM at sending station shall then make IB Reset 'key IN' on the VDU and then click 'PRESS' on the 'Reset Push Button' icon. Approximately after 5 seconds click the 'RELEASE' on the reset button icon and then make the reset 'key OUT'. Now SM on duty has to manually reset the near end axle counter. He shall insert the reset key, turn right and press on the reset box simultaneously with reset button. On doing the above process for resetting preparatory reset indication will appear on both VDU and reset box. First train has to be piloted out. On passing of the first train IB Axle counter will get reset. After this preparatory reset and Permission Received indication will go blank. For each such operation, the IB. reset counter provided shall increase by one count. SM on duty shall make an entry of changed Reset counter number in re-setting register.	2	After completion of reset procedure Permission granting indication will go blank at the receiving station.
3.	In case of train passed IB signal at	3	SM on duty of receiving station, after verifying

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	danger, train run away indication will appear on the VDU along with buzzer. SM on duty shall then acknowledge the same. He shall call the attention of SM of receiving station through telephone for granting Permission to reset the runaway indication giving details of last train left the station into the section.	.	the complete arrival of last train shall give a private number to the sending station that the section is clear. He shall then grant permission to reset the train run away indication.
4.	SM of the sending station shall acknowledge the permission granted. The trains run way indication will go blank and the system is normalized. In such case there is no need of piloting out of the first train.		

H] **NORMALIZATION OF LVV AXLE COUNTER AND RESTORATION OF BLOCK WORKING BY RESETTING FEATURE:**

	RECEIVING STATION [DFR]		**DESPATCHING STATION [BLGR]**
1	In case of failure of axle counter between IB signal and receiving station, SM on duty of receiving station, after verifying that the last train has arrived fully shall call the attention of the SM of sending station through telephone giving details of last train left the station into the section has arrived complete and exchange private number with SM on duty of sending station and ask for granting permission for resetting of the LVV.	1	SM on duty at sending station shall give permission to reset by clicking on the 'Reset Permission Button' icon provided on the VDU. Then a yellow indication will appear near the icon.
2	On getting permission to reset from sending station, a flashing green indication will appear on Permission Received icon which shall be acknowledged by SM on duty by acknowledging 'Permission Ack. Button' icon and then flashing green indication will become steady. On duty SM at receiving station shall then make IB Reset 'key IN' on the VDU and then click 'PRESS' on the 'Reset Push Button' icon. Approximately after 5 seconds click the 'RELEASE' on the reset button icon and then make the reset 'key OUT'. On doing the above resetting process, preparatory reset indication will appear on VDU.	2	For each such operation, the LVV reset counter provided shall increase by one count. SM on duty shall make an entry of changed Reset counter number in re-setting register.

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	Now SM on duty has to manually reset the near end axle counter. He shall insert the reset key, turn right and press on the reset box simultaneously with reset button. On doing the above resetting process, preparatory reset indication will appear on reset box. T/369(3b) shall be issued to loco pilot of first train to pass IBS at ON. On passing of the first train LVV Axle counter will get reset. For each such operation, the LVV reset counter provided shall increase by one count. SM on duty shall make an entry of changed Reset counter number in re-setting register.		

l] **DESPATCH OF TRAINS:**

Dispatch of trains is governed by the provision of GR 3.42, 3.70 & SR there to and Block working manual rules. For dispatching trains with last vehicles/trains without guard/banking engine in rear, JPO and safety circulars issued along with relevant GR & SRs to be followed.

FROM BLGR TOWARDS DFR.

Train will be dispatched in accordance with the General Rules 3.42, 3.70., 3.75, 4.35 and 8.01 and subsidiary Rules thereto.

BLGRTO IBS ON UP LINE:

The SM on duty shall ensure that the portion of line between Advanced Starter and 400 Mtrs beyond IBS at their respective ends is clear of obstruction and indication to this effect is available and shall also ensure any non-isolated shunting at their respective ends suspended and shunting authority issued if any is withdrawn and kept in his custody.

IBS SIGNAL TO DFR:

The SM on duty BLGR shall obtain line clear supported by private number and through lock & Block instrument from the station in advance to dispatch a train in to section and pass the IBS signal through by taking off the IBS signal no. 49 of BLGR for UP line.

After the train passes the UP IBS a buzzer will ring at both the receiving and dispatching stations. On hearing the buzzer/bell the SM must acknowledge the same by pressing train entering section [TES] muting icon to stop the buzzer/bell and then send train entering section report to the station master of the station in advance who in turn will turn the commutator of the Double line Lock and Block Instrument from the line clear position to Train On Line position and acknowledge train entering section. After dispatch of a train from BLGR into the Block section, in case when the intermediate stop signal is not taken 'off' but the buzzer has started ringing, this may be either due to the train passing intermediate Block stop signal at 'ON' position or due to failure of the track circuit in advance of that intermediate Block Signal. The SM on duty will then inform the matter to SCR on duty and concerned S&T official.

The above procedure must be rigidly followed irrespective of the fact whether line clear for train has been received from station in advance or not and this must be recorded in the Train Signal Register and SM's diary book of both the Stations.

(i) Dispatch of trains towards DFR station in case of failure of the UP Advanced Starter signal due to failure of "IB Axle Counter" device or otherwise-.

If the failure of the UP Advanced starter of BLGR due to the failure of IB axle counting device or the indication showing 'Red' light either due to power failure or due to any other cause, the SM should resort to the resetting procedure mentioned in para G(iv).

If it is not possible to restore normal working of the IBS by use of the resetting procedure, the ESM-in-charge of the section shall be served with a written memo to attend the defective signal and rectify the same. The ESM-in-charge of the section on being served with a memo by the SM shall attend the failure and rectify the fault. The ESM after ensuring that all S&T gears relating to defective signal have been attended to and are in working order except the axle counter which needs re-setting, shall establish communication with SM concerned and ask him to reset the IB axle counter by following the reset procedure mentioned in the para G(iv). SM on duty shall follow the resetting procedure after ensuring that all the trains which had left his Block Station had arrived complete and intact at DFR (by exchanging of P.N with SM/DFR confirming this) for resumption of normal working.

DESPATCH OF TRAINS IN CASE OF FAILURE OF INTERMEDIATE BLOCK STOP SIGNAL:

[a] When a driver finds an intermediate Block Stop signal at 'ON' Position he shall stop his train in rear of the signal and advise the guard of the fact by sounding long continuous whistle and shall then contact the Station Master of the Block Station in rear over the signal post telephone provided for the purpose vide SR.3.75.01[i].

[b] If the SM of BLGR station, on being contacted over Telephone by the driver, finds that the signal is defective, he shall, after obtaining "Line Clear" for the train from the station in advance, authorize the driver on the telephone to pass intermediate Block Signal at "ON" and enter the block section ahead. He shall give Driver the Private Number and identification Number under which he has received "Line Clear" for the train from the station in advance.
The driver shall then sound one short, one long and one short whistle and, on receipt of Guard's signal shall proceed ahead duly exchanging signals with him. The station Master on being contacted by the Driver on signal post telephone if he is unable to obtain "Line Clear" for the train due to total interruption of communications, shall call for the Guard through the Driver and on being contacted by guard, he shall advise the guard of the circumstances and give a Private Number for the train to proceed up to the next block station. The guard shall prepare a memo in duplicate authorizing the Driver to proceed with the Private Number received from the Station Master. In such case the speed of the train shall be restricted as prescribed in GR 3.75(3).

[c] In such case the Driver shall pass the IB signal at "ON" and proceed cautiously and be prepared to stop short of any obstruction, at a speed not exceeding 15 Kilometers an hour if he has a good view of the line ahead otherwise, at a speed not exceeding 8 kilometers an hour and report the failure to the Station Master at the block station ahead.
While complying with the instructions contained in GR 3.75(3), when the Driver has to pass IB signal at "ON" after waiting for 5 minute at the signal, he shall proceed cautiously preparing to stop short of any obstruction at a speed not exceeding 15KMPH when view ahead is clear and 8 KMPH when view ahead is not clear due to curve, obstruction, rain, fog or any other cause until he reaches the foot of the next stop signal and even the signal is "OFF" the Driver shall continue to look out for possible obstruction short of the same and will act upon its indication only after he has reached it. Before starting, the Driver shall sound one long whistle which may be repeated as necessary and shall then start his train on receipt of Guard's signal. Thereafter he shall exchange signals with the Guard.

On reaching the block station ahead the Driver shall report the failure of the signal to the Station Master. If the telephone is provided at the intermediate Block Stop signal Post is out of order the Driver will pass the IB signal as per GR 3.75(3) & SR 3.75.02, and on reaching the block station ahead, the Driver shall report the failure of the signal to the SM, Following train shall not be allowed to leave BLGR unless the complete arrival of the receiving train is certified by the SM on duty at DFR under exchange of Private Numbers.

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The station Master of the block station working the intermediate block stop signal on becoming aware that such a signal is defective shall, before dispatching the train, treat the entire section up to the block station immediately ahead of the intermediate block post as one block section and issue a written authority to the driver to pass the defective intermediate Block Stop Signal at "ON" without stopping at the signal in accordance with the procedure prescribed by special instruction.

A written authority as mentioned in GR 3.75(4) shall be in Form T/369[3b] in which the Private Number and identification Number obtained from the station in advance in support of the "Line Clear" shall be recorded. Display of "Proceed hand signal at the foot of defective Intermediate Block Stop Signal may be dispensed with.

[d] However, if the SM on the Block station immediately in rear of an intermediate Block Signal is aware that UP intermediate Block Signal is defective shall before Dispatching a train verify that all trains which had left his Block Station had arrived complete and intact at DFR station by exchanging Private Number with SM/DFR and shall follow the resetting procedure mentioned in the para G(iv). Thereafter driver shall be handed over the authority of T-369[3b] to pass IBS Signal at "ON" position where in, the Private Number and identification number obtained for line clear shall also be written. After each such resetting process, next higher number is registered on the veeder Counter and the SM should record this, giving the details of the occasion with timings in the Veeder Counter register kept in the station.

J] **SPECIAL INSTRUCTION IN CASE OF A TRAIN PASSING IBS AT 'ON' POSITION:**

I] In case train run away indication appears the SM of receiving Station shall not turn the block instrument handle to line clear position and SM at sending station shall not take any action to dispatch the third train unless the second train which passed the IB signal at 'ON' position has actually arrived complete and is verified by the receiving station.

II] Every case of a train passing IB signal at 'ON' position without strictly following the provision of GR 3.75 should be treated as a breach of block rule by the driver and action to be taken accordingly.

III] When train run away indication appears at the dispatching Station without any train in the section, then SMs should resort to train run away resetting procedure. If the same could not be reset the IBS system should be treated as failed and Signal Maintainer should be advised. All the subsequent trains shall be Piloted OUT after taking line clear and treating entire section as one Block section as per GR 3.75(4).

IV] Whenever a train after having obtained line clear passes IBS at "ON" position the train run away indication appears at the dispatching station and also at receiving station. Under such circumstances no further train shall be allowed in the section till the said train arrives completely at the receiving station and its complete arrival report has been received at the receiving station supported by Private Number treating the entire block section as single section.

V] If any train passes IB Signal at 'ON' position when there is a train in the Section between IBS and the receiving station, the train run away indication will appear at both receiving and dispatching station. Under such circumstances the SM in the receiving station shall not turn the Block instrument to Line Clear position and SM at sending station shall not dispatch the (3^{rd}) train, unless the 2^{nd} train which passes the IBS at 'ON' position has actually arrived and its complete arrival is verified by the receiving station.

VI] Resetting procedure is to be followed as detailed in para G(iv) after verifying that the last vehicle of the runaway train has arrived intact and ensured by exchange of private number with the SM of the receiving station.

VII] Whenever a train run away indication appears when there is a train in the section, no further train should be allowed in the section till resetting is done.

VIII] Before any resetting operation is done, the Dispatching station should advise the receiving station giving details of the last train that has entered the section and should ensure by exchange of private number that the last train has arrived complete at the receiving station.

Every Case of re-setting shall be entered in a register in the following proforma.

Date and time	Train No. Last entered the block section	Private No. of station ahead for Complete Arrival of the train Under Col.2	Veeder Counter No Before resetting operation completed	Train No. Entering Block section Immediately after the resetting operation	Remarks	Signature of SS/SM
1	2	3	4	5	6	7

IX] If resetting is not possible under item as mentioned above, the system should be treated as failed and train will work treating the entire section up to the Block Station immediately ahead of the IBS Post as one block section as per GR 3.75(4).

K] **ACTION TO BE TAKEN WHEN A TRAIN PASSES INTERMEDIATE BLOCK STOP SIGNAL AT 'ON'**

a**) By SM of receiving Station.**

I] Shall not turn the Block Instrument commutator to "Line Closed" Position Unless the complete arrival of the train which passed IBS at "ON" position is ensured, without any exception even for such a train which leaves the rear station after obtaining line clear and passes IBS at "ON" position, since there is a chance of leaving a vehicle or vehicles in the Axle Counter area where the function of Axle Counter also fail.

II] In case the bottom needle of the SGE type block instrument is in its 'Line closed' position, action should be taken to turn the block instrument commutator to 'TOL' Position vide BWM 5.16(2)(iv) and must not turn to "Line closed" and then to "Line clear" position unless the train which had passed the "Intermediate Block Stop Signal" at 'ON' position arrives complete and its complete arrival is verified.

b] **By the SM of both the block stations in rear and in advance of the intermediate Block Stop Signal**.

I] After the complete arrival of the last train, according to the information received vide sub-para (a) above, the SM of the receiving station shall communicate the same to the SM of the sending station supported by a Private Number which shall be acknowledged by the later by issuing Private Number. Thereafter the SM of the dispatching station and the SM of the receiving station shall resort to Resetting procedure. This simultaneous operation will cause the 'counter' to increase by one count at both the stations and SM shall record the next higher number in the register mentioned for the purpose and details of it.

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II] After completion of resetting procedure and normalization of IBS the SM of the Block Station in rear shall then take steps or authorize Station master of the receiving station supported by a Private Number to normalize the block instrument.

III] In the event of failure of IBS signal in the "OFF" position or fails to go to "ON" position immediately after passage of train, the station master controlling the signal shall take steps to put back the IBS signal to "ON" position and treat IBS signal failed and train shall be dispatched treating entire section between his station and station in advance as one Block section.

L] **RUNNING OF MOTOR TROLLEYS ON IBS ZONE**:

i) While allowing motor trolley/4 wheeler tower wagon/material trolley etc., entire section between BLGR-DFR shall be treated as one block section and shall be issued T-369 [3B] for passing IBS at "ON" position.

ii) After the complete arrival of the said Motor Trolley/4 wheeler tower wagon/material trolley etc., at the station ahead, Station Master at adjacent station shall exchange Private Number in token of complete arrival and then shall resume normal working by resetting the Axle Counter as stated in the SWR.

iii) Motor Trolleys shall not be allowed on following line clear.
NOTE:- Backing of train on the portion of line after passing the intermediate Block Stop signal normally shall not be allowed, However, if it becomes inevitable to back, such backing may be done with great caution as mentioned in SR 3.75.04.

M**] SIGNAL POST TELEPHONE:**

A voice logger telephone with a Press button at the bottom is provided at the foot of IB stop signal post and is meant for driver to contact the SS/SM in rear by pressing the button. The driver of the train encountering the IB signal at 'ON' position shall contact the station in rear to find out the occupancy or otherwise of the block section ahead.

N] NORMAL POWER SUPPLY TO IBS GOOMTIES :

Power signaling and interlocking installations and the ancillary field units are fed from the following sources of power supply.

i) Normal power supply from UP AT/DN AT connected to OHE traction distribution [230V-50Hz].
ii) Stand by supply from Odisha State Electricity Board (OSEB) [Single phase 230V 50 Hz] .
iii) Normal power supply [Single phase 230V 50Hz] to the signaling and Interlocking Installation at the IB is drawn from the traction power sources. Whenever traction power supply fails the power supply switched over through Auto change over switch provided in the CLS panel at IBS Goomty connecting the power supply from the healthy sources to the installation.

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APPENDIX - 'G'

RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS

STATION WORKING RULES FOR 25KV AC ELECTRIC TRACTION

BALANGIR STATION

1. **GENERAL & SUBSIDIARY RULES:**

a) The rules applicable to electrified section have been given in chapter-XVII of the General Rules and in the subsidiary Rules made here under for electric traction. The General principles governing operation and maintenance of Traction Overhead Equipment, Electric locomotives, Signal & Telecommunications installations have been given in the A.C. traction manual. These rule books and an extract of the relevant paras of A.C.Traction Manual, shall be kept with the concerned staff shall make themselves thoroughly familiar with the same (GR. 17.01).

b) Brief reference to important rules required to be followed by Station/ Yard staff in their day-to-day work has been given in this Appendix. These are, however, illustrative and not exhaustive.

2. **GENERAL SAFETY PRECAUTIONS:**

a) All staff are warned that contact with or very near (within 2 meters, unless protected by a screen as per rules) to live portion of the 25 KV Traction Overhead Equipment is dangerous and shall be strictly avoided.

b) No work on overhead lines or in the zones within 2 meters of any live equipment shall be carried out unless a regular 'PERMIT TO WORK' has been obtained from the authorized Traction staff and the line has been made dead and earthed as per rules (GR 17.04) and ACTM para No.20600 to 20619 Vol.II Part. I.

3. **SECTIONING DIAGRAM (Station Working Rules Diagram for Electric Traction)**

a) A sectioning diagram No. RVNL/WAT/SWR/BLGR/21/1 indicating schematically the lines, which have been equipped with, for electric traction is exhibited. The diagram also indicates different electrical sections (Elementary Sections) the Controlling Switches (Isolators switches or interrupters), insulated overlaps and section insulators where the overhead equipment is electrically separated. The limits of an electrical section (Sub-Sector or Elementary section) are indicated by the relevant section. A copy of this diagram is also enclosed with these special working rules and will form part of the same.

b) For all-purpose connected with Train movements and Power Blocks, this diagram is the only authorized document to be referred to the normal position of various switches is indicating on the diagram.

4. **UNWIRED TRACKS:**

No electric locomotive with pantograph raised shall under any circumstances be taken to an unwired sections.

5. **OPERATING OF SWITCHES:**

a) All switching operations shall be carried out in accordance with the instructions of the Traction Power Controller except in respect of switching operations for local blocks, which may be carried out by authorized traction staff, after they have been granted local blocks by the Station Master in accordance with S.R. 17.04.09 and ACTM para No. 20600,20601 of Vol.II, Part.I.

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b) In case of emergency, authorized and trained station staff may open Isolator switches under specific instructions of the Traction Power Controller (G.R. 17.04 14-B) with exchanging of Private Nos. to perform the operations of the following isolator switches as well as any other isolators within the station limit. Hence every station master shall be fully aware of the location of the isolator switches provided for the control of power supply of the OHE at or near the station and shall be conversant with correct method of operating and closing the same (Competency certificate is provided after getting assurance)

Sl. No.	Isolator No.	Loc. No.	Sl. No.	Isolator No.	Loc. No.
1.	SM-86	681/26	7.	SS-178	BLGR/1014
2.	SM-87	380/35	8.	SS-179	BLGR/1067
3.	SM-88	380/30	9.	SS-179A	BLGR/XO-2
4.	SM-89	287/13(BHPI)	10.	SS-180	680/26
5.	SS-177	BLGR/2001	11.	SS-182	BLGR/1010
6.	SS-177A	681/21	12.	SS-182A	SD/2
			13.	SS-182B	TMS/1

6. **POSITION OF SWITCH HANDLES (ISOLATORS):**
When a switch is in the closed position, the operating handle of the switch is at the top.

7. LOCATION OF KEYS OF SWITCHES AND OHE KEY REGISTER:
The keys for the padlocks of various isolator Switches are kept in the ASM's Office in a box with a glass mounted cover (17.04.13). The Station Master shall daily check the keys of switches of the isolators and report any defects or deficiency to the Traction Power Controller. In the event of breaking of glass box the procedure stipulated in SR 17.04.13 (b) has to be strictly followed. If operation (open/close) of isolators is required for the purpose of loading/unloading, the opening time & closing time of isolators with its purpose is to be clearly mentioned in this register.

8. **PROCEDURE AND PRECAUTIONS FOR OPERATING ISOLATORS:**
The procedure for operation of isolator switches have been given in G .R. 17.04.15 and S.R 17.04.14 (b).Isolator switches shall not be opened when carrying any load. Before opening/closing, on duty SM will get confirmation from TPC supported by Private number. The procedure stipulated in SR 17.04.15(c) must be followed.

9. **POWER BLOCK:**
a) The detailed procedure for obtaining power block has been given in G.R. 17.04.02, 17.03.03 & 17.04.04) and ACTM Para 20603,20604,20611,20612 & 20613 which must be rigidly followed except in case of emergency.
b) The sequence of switching operations for granting and cancelling the Power Block for a particular section, are included in the Annexure. These shall be strictly followed by all staff. Failure to follow the sequence indicated is likely to lead to dangerous consequences. The protection od dead section is achieved by blocking the Concerned line in the VDU and placing red button collars on concerned buttons operating points and /or signals.

10. **PROTECTION AT THE TIME OF POWER BLOCK:**
a) All sections over which the Power Block has been granted shall be protected against entry of Electric Locomotive with pantograph raised from either end during the period of the Power Block (G.R. 17.04) and ACTM 20620, 20621 to 20627 of Vol.II, Part.I strict enforcement of longitudinal and transverse protection as per the Annexure attached shall be ensured before imposing power block. If there is/are locomotive/s on the section over which the power block to be given, the Loco Pilot of such locomotives shall be given a memo by the Station Master on duty to lower the pantograph and not to raise it until further instructions and acknowledgement shall be obtained. The Loco Pilots shall not be given instructions to raise the pantograph till the power block is cancelled.

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b) Station Master or station staff conducting shunting operation with electric locomotive shall ensure that under no circumstances, any electric locomotive approaches near the traction structure limiting elementary sections over which the power block has been granted. Limits of each electrical section at a station are shown in the Station Sectioning Diagram.

11. **SECTION INSULATORS:**

In order to isolate main and loop lines on different grids in the yard. Crossover/Turn-out connecting main and loop lines of different grids of the yard, are provided with section insulators, So that, when one line/or grid is made electrically dead and there be any fault on the same, the other line/grid is not affected. The speed of the electric locomotives with pantograph raised over such section insulators shall not exceed 50 KMPH subject to other speed restriction which may be in force. When one of the two sections separated by a Section Insulator is dead, the pantograph of the electric locomotive on the live section shall not proceed closer than 30 Ft. (10 Meters) towards the section insulator marking the end of the dead section.

12. **BREAKDOWN OF TRACTION OVERHEAD EQUIPMENT:**

All breakdown or defects noted or reported on the Traction overhead equipment or any other traction equipment including bonding shall immediately be reported to the Traction Power controller (G.R. 17.03.02) and ACTM Para 20605 of Vol.II Part I. Necessary Caution Order should be issued to the Loco Pilot concerned as directed by the Traction Power Controller observing the existing rules regarding issue of caution orders.

13. **REGISTER OF MESSAGES:**

All message relating to faults on the traction Overhead equipment, operation of switches custody of keys of out-door switches and other important communication in connection with the operation and maintenance of Traction Overhead equipment shall be recorded serially in a register by both the sender and the receiver indicating the time at which the message are received or exchanged (G R. 17.04.12) and ACTM Para 20610, Vol II Part I.

14. **MOVEMENT OF DIESEL ENGINES OR TRAINS HAULED BY SUCH ENGINES:**

Goods or passenger trains hauled by other than electric locomotives may be allowed to pass through the dead section subject to the following conditions :-

a) This has not been prohibited specifically in the power block message.

b) Other than Electric trains hauled by such engines shall be brought to a stand at the station preceding the station/section at which power block is granted and the Station Master of this station shall satisfy himself by personal inspection that there is no electric locomotive in the train.

c) He shall also give a Caution Order to the Loco pilot of such engine or train, warning him of the power block ahead and instructing him to watch for hand signals and observe them.

d) No Station Master shall give line clear or lower signals for a train to run over a section under power block unless he has received an assurance (supported by Private Number) from the Station Master of the preceding station that there is no electric

locomotive or Inspection Car with pantograph raised in the train (ACTM 20627, Vol.II, Pt.I).
Note: For purpose of this Rule a Dead Engine dispatched as a vehicle shall not be considered as an Electric locomotives.

15. **ELECTRIC LOCOMOTIVES :**
Provisions included in A.C. traction Manual must be completed with in case of double heading or banking by electric locomotive and precautions indicated therein must be complied with when dispatching locomotive(ACTM 30636, Vol III.).

16. **ESM :**
Any direct contact or close proximity to 25 KV line conductors is dangerous, the station ESM climbing up the Signal post for removing or fixing or cleaning the signal should not carry any long article which may accidentally touch or come in close proximity to live conductors. The ESM shall also be warned against bringing any part or body near live conductors.

17. **CRANES :**
No crane shall be worked on or near Traction Overhead equipment, unless such equipment is first made dead and earthed and an authorized representative of the OHE section is present (S.R. 17.04.17 (a) & (b)).

18. **WORK ON ROOF OF ROLLING STOCK:**
No person shall climb on the top of the Engine or Tenders or on the roofs of carriages, or wagons, when those vehicles are located beneath Overhead equipment except, when a regular 'Permit to work' has been obtained from authorized Traction Staff and the overhead equipment has been made dead and earthed (GR 17.05(02)) and ACTM Para 10402 & 10403 of Vol.I.

19. **BLOCK INSTRUMENT OR ANY OTHER ELECTRICAL SIGNALLING EQUIPMENT:**
The Station Master/Cabin master on duty must always watch for any unusual working in the Block instrument or any other signaling equipment, which may arise due to voltage, induced from traction system. The Block instrument or the signaling Equipment must be suspended whenever there is any signs of unusual working and the nearest signal and Telecom, maintenance Inspector may be contacted to inspect and certify the same. In the event of a break of the OHE, the Station Master Master must immediately check up whether all Block and signaling equipment are working normal before permitting any train movement.

20. **TELECOMMUNICATION CIRCUITS:**
Refer Para 5.0 of main body and Appendix "B" of this SWR.
The details of the Telecommunication facilities available on the electrified sections and the use of the same have been given at ACTM Para 10213, 10429 of Vol. I and Para 20703 of Vol. II part I.

21. **ELECTRIC SHOCK:**
The Station Master shall exhibit prominently the instructions issued regarding the treatment to persons suffering from electric shock in the Station/Yard Office and shall ensure that all Class-III staff are familiar with those instructions (shock treatment)

chart provided in SM's office..

22. **FIRE:**

Regarding fire on or adjacent to any electrical equipment refer G R (6:10) and SR there to..

23. Nothing in these rules amends or supersedes any General or subsidiary rules or instructions included in AC Traction Manual. These working rules shall be read as supplement to the aforesaid Rules Books and also to the existing Station Working Rules of the Station.

24. **AMENDMENTS OR SUPPLEMENTARY CORRECTION SLIPS:**

Any amendment to these Working Rules or any of the Annexure will be notified by a correction slip to the Station Working Rules. The correction slips will be serially numbered and it is the responsibility of SM in charge of a station to bring the contents to the notice of all staff concerned and take their acknowledgement.

25. **CONTINUOUS WATCH BY INSPECTING STAFF:**

The Inspecting staff of Operating, telecommunication and Traction Departments shall make regular checks at all points to which these special working rules are supplied to ensure that the rules are corrected up-to-date and the staff concerned are fully conversant with the rules and abide by them.

NOTE: Whenever the codes 'GR' & 'SR' appear in these special working rules, please refer to the General and Subsidiary Rules for 25 KV AC Electric Traction, chapter- XVII.

S.MOHAPATRA
DEE(TRD)/SBP

LINGARAJ GARTIA
DOM(G)/SBP