

SI No. SWR/BLGR/25

**EAST COAST RAILWAY
SAMBALPUR DIVISION**

STATION WORKING RULES OF BALANGIR STATION (CODE: BLGR)

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

NOTE: -

The Station Working Rule (SWR) must be read in conjunction with General and Subsidiary Rules Block Working Manual and Accident 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-22031 Alt-'B'

1.2 **SIGNAL INTERLOCKING PLAN NO.:** - S.I – 22031, Alt – 'D'

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

2. DESCRIPTION OF STATION: -

BALANGIR is a four-line station situated in Titlagarh-Sambalpur section at KM 681.90 from Howrah via Jharsuguda. It is Standard – III (R) interlocked, Class 'B' station with Central Panel and block proving axle counters provided for last vehicle check.

2.1 GENERAL LOCATION:-

2.1.1 **NAME OF STATION** : BALANGIR (BLGR)

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

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

2.1.4 **ROUTE** : D Spl.

2.1.5 **LOCATION** : KM 681.90 from Howrah via Jharsuguda

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

- i) Titlagarh end - Deogaon Road (Code: DFR) inter distance 17.40 K.M.
- ii) Sambalpur end - Loisingha (Code: LSX) inter distance 19.10 K.M.
- iii) Passenger Halt: - BALANGIR ROAD (BNRD) at Km 679.0 in between BLGR & LSX.

- iv) Flag station : - Nil
- v) Outlying siding : - Nil
- vi) D.K. station : - Nil.
- vii) IBH : - NIL
- viii) IBS : - NIL

2.3 BLOCK SECTION LIMITS: -

Between stations	The point from which 'Block section' commences.	The point at which 'Block section' ends.
Between BLGR-DFR	UP Advanced starter signal No. 17 of BLGR	DN Advanced starter signal of DFR Station
Between BLGR - LSX	DN Advanced starter signal No. 18 of BLGR	UP Advanced Starter of Signal of LSX Station

2.3.1 STATION SECTION:

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

2.3.2 STATION LIMIT:

The portion between UP Gate signal cum UP Distant and DN Distant signals of BALANGIR Station.

2.4: GRADIENT: -

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

CHAINAGE IN METER		INTER DISTANCE	GRADIENT
FROM	TO		
0 m	793.35m	793.35m	1 in 400 R
793.35m	1467.0m	673.65m	LEVEL
1467.0m	2267.0m	800.0m	1 in 400 R
2267.0m	5733.0m	3466.0m	1 in 150 R
5733.0m	Block Section	---	1 in 200 R

(b) FROM THE CENTER OF STATION BUILDING TOWARDS LOISINGHA

CHAINAGE IN METER		INTER DISTANCE	GRADIENT
FROM	TO		
0 m	1490.03m	1490.03m	1 in 400 F
1490.03m	2900.0m	1409.97m	LEVEL
2900.0m	3233.0m	333.0m	1 in 150 F
3233.0m	4033.0m	800.0m	LEVEL
4033.0m	Block Section	---	1 in 500 F

2.5 LAY OUT: -

- i) No. of running lines :- 04 (Four)
- ii) No. of sidings :- 05 (Five)
- iii) No. of Passenger platform :- 03(Three)(One High level Platform beside Line No.-1 of length 565m and a High Level Island Platform between Line No.3 & 4 of dimension 558m X 11.00m)

- iv) No. of goods shed platform :- 02, Two PF with paved surface. one, beside line No.-5 (380x15m) and other beside goods siding (270x15M).

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

DESCRIPTION	CSL	ISOLATION PROVIDED	
		TOWARDS DFR	TOWARDS LSX
Line No.1	692.40 mtrs. (Str. To Str)	Derailing Switch	Over-run Line
Line No.2 (Main line)	693.40 mtrs. (Str. To Str)
Line No.3	750.90mtrs. (Str to Str)	Over-run Line	Derailing Switch
Line No. 4	739.90mtrs. (Str to Str)	Derailing Switch	Derailing Switch

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

- a. Trains arriving from Deogaon Road end are DN trains.
- b. Trains arriving from Loisingha end are UP trains.

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

Sl. No.	Description	CAL/CSL	Takes off	Exit	Operation
1.	Line No.5 (Goods Siding)	976.70 m (SH-SH)	Line No. 3 (TIG end)	Both way	Panel Operation
2	Goods Siding	287.00 m (DS-DE)	Line No. 5	One way	Key Transmission.
3.	Ballast Siding	206.05m (SB to DE)	Shunting Neck	One way	Hand Point
4	Ballast Siding	222.05m (SB to DE)	Shunting Neck	One way	Hand Point
5	Shunting neck	210m (SB to SH)	Line No.2	One way	Panel Operation.

- (1) **Line No.5 (Goods Siding):** The goods siding, line No-5 of CAL 976.70 meters with both side entry takes off from line No. 4. The entry points of the siding are motor operated controlled from SM Panel. For admitting a train on line No.5, SM has to pilot in a train and for dispatching the train from this line, SM has to pilot out the train. SM on duty shall work the train vide GR 5.11 and SRs thereto. For shunting at either end shunt signals shall be used. GR 5.23 and SR 5.23.01 shall be followed for securing of vehicles in the siding.
- (2) **GOODS SIDING:** A goods siding of CAL 287 meters has been provided on Line No. 5. Whenever, it is required to admit a train in the goods siding it's control button 32 (BLACK) is to be pressed along with Group Trans button (WHITE WITH BLACK DOT), which will enable the SM to extract the key 'S' from the RKT in goods siding location box. Key 'S' will unlock the Hand Plunger Lock. The siding point can be set to reverse position, clamped, padlocked and the train can be placed in the Goods siding. After completion of work the siding point shall be normalized and locked by means of Hand Plunger Lock. After extracting Key 'S' it is inserted in the RKT and transmitted to the panel. SM on seeing the key-in flashing indication on the panel shall press the button 32 and group release button (WHITE WITH BLACK

DOT), the key is thus transmitted to the panel showing the key-in (steady WHITE) indication on the panel. GR 5.23 and SR 5.23.01 shall be followed for securing of vehicles in the siding

- (3) **BALLAST SIDING:-** Two Nos. of ballast sidings have been provided, which take off from shunting neck at LSX end of the yard. The entry points in to the siding are hand operated. The shunt signal provided on shunting neck shall be used for shunting towards these sidings. GR 5.23 and SR 5.23.01 shall be followed for securing of vehicles in the siding.
- (4) **SHUNTING NECK: -** One Shunting neck of CSL 210 M is provided at LSX end of the yard and it takes off from Line No.2 to facilitate shunting from all the lines Shunt signals are provided on shunting neck for forward and backward shunt movement.

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

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

SL No	Location	K.M.& Class	Normal Position	Class	Type	Operation	Communication
1	Between Up Starter and UP Advanced starter signals.	681/11 (JT-98)	Open	'C'	Inter locked	Electrical Operated lifting barrier	Telephone Connection with SM/BLGR

2.6 (ii) **LEVEL CROSSINGS: (IN BLOCK SECTION)**

SL No.	Location	K.M.& No.	Normal Position	Class	Type	Operation	Communication
1.	Between UP Home and UP Distant Signal.	679/10-11 (JT-97)	Open	'B2'	Inter locked	Winch operated lifting barrier.	Telephone Connection with SM/BLGR
2	Between LC Gate at km 679/10-11 & 678/14.	679/3 (JT-96)	Un manned	'C'	---	----	-----
3.	Between UP Home and UP Distant Signal	678/14 (JT-95)	Open	'B1'	Inter locked	Winch operated lifting barrier.	Telephone with SM / BLGR & gate lodge
4.	Between BLGR-LSX	678/5 (JT-94)	Closed to road traffic	'C'	Non-Inter locked	Winch Operated lifting barrier.	Telephone with SM / BLGR & gate lodge
5.	Between BLGR-LSX	673/7 (JT-90)	Open to road traffic	'C'	Non - Inter locked	Winch Operated lifting barrier	Telephone with SM / LSX & gate lodge.
6.	Between LSX- BLGR	668/6-7 JT-87	Closed to road traffic	C	Non - Inter locked	Winch Operated Lifting barrier	Telephone with SM / LSX & gate lodge
7.	Between LSX- BLGR	670/5-6 JT-89	Open to road traffic	C	Non - Inter locked	Winch Operated Lifting barrier	Telephone with SM / LSX & gate lodge

8.	Between BLGR-DFR	693/13-14 JT-104	Closed to road traffic.	‘C’	Non Interlocked	Winch Operated lifting barrier	Telephone with SM/DFR & gate lodge.
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Train Actuated Warning Device has not been provided at above Level Crossing Gates.
(Working of Level Crossing Gate is detailed in appendix ‘A’)

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

(Rule No. Chapter XIV of GR & SR Absolute Block System No.8.01 (1) (a & c) 8.01(2) (b) 8.03 (2) (a, b & c (ii), Chapter III & V, Part-II of BWM)

- i) **System of working:** - Absolute Block system on single line.
- ii) **Type of block instrument:** -Token less Block Instrument (DIADO) with adjacent stations.
- iii) **Instrument:** - Co-operative type.
- iv) **Block Telephone:** - Provided with respective Block Instruments of section BLGR-LSX and DFR-BLGR Station.
- 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 III (R) interlocking, central panel with Multiple Aspect Colour Light Signalling and block proving Axle Counters. All the points are centrally operated from Central Panel by on duty Station Master. The Home signals and Advanced Starter signals are interlocked with respective single line token less Block Instruments. GR 3.08(4) (c) governs the aspect and indications of the signals respectively. The station has no end cabins.

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

4.1.2 **STATION MASTER’S CONTROL PANEL: -**

- (i) A push button type electrical control apparatus (operation cum indication panel) is provided in the Station Master’s office to operate electrically the UP and DOWN points and signals. The control apparatus is provided with a lock up key, which shall always remain in the personal custody of the Station Master on duty in terms of Subsidiary Rule 3.36.03(a) and GR 5.08. The position of all points, signals and running lines are available in the Station Master’s illuminated panel diagram. Reminder collars are provided for use on push buttons, which will be placed on point button, route button, signal button or on any other button to prevent operation of the button in case of concerned line is blocked or to prevent inadvertent operation of a particular button as and when required.
- (ii) **SEALING OF EMERGENCY OPERATION BUTTONS/KEYS:** All emergency operation buttons on the Station Master’s control panel shall be kept sealed in normal condition by S&T staff. Whenever any emergency operation is initiated. SM on duty shall break open the seal of the concerned button to make the button operative. Immediately after completion of emergency operation SM on duty shall inform concerned S&T staff for resealing of the concerned button.

4.1.3 **TRACK CIRCUIT: -**

All the lines including point zone between Home and Advanced starter signal on either direction is track circuited. The position of the running lines including point zones i.e. occupied/clear is indicated in the illuminated diagram at the Station Master’s office. Normally

there will be no indication of track circuits. It shows 'RED' when the line is occupied and 'WHITE' when the line is clear provided the route is set.

4.1.3.1 **AXLE COUNTER:**

Both side block sections are monitored by axle counter system, digital axle counters are provided at both end of the station just ahead of advanced starters. A pair of digital axle counter is provided between BALANGIR and DEOGAON ROAD, one in advance of DN advanced starter of DEOGAON ROAD and another in advance of UP advanced starter of BALANGIR station for counting the axles 'IN' and for counting the axles 'OUT' to indicate whether the block section is clear of trains as well as to verify the last vehicle of the incoming train. Similarly, a pair of axle counters is provided between BALANGIR and LOISINGHA, one in advance of UP Advanced Starter Signal of LOISINGHA and the other in advance of DN Advanced Starter Signal of BALANGIR Station for counting the axles 'OUT' to indicate whether the block section is clear of trains as well as to verify the last vehicle of the incoming train.

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

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

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

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

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

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

EKTs with crank handle keys are provided at both end locations for the operation of points in case of failure of point motors and also at the LC gate Goomty at KM 681/11 for opening and closing of the gate. The keys for the crank handles are transmitted electrically to the crank handle locations for operating the points by crank handles.

4.1.5.1 **IBS:** NIL

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

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

4.1.6 CALLING ON SIGNALS: -

'Calling on' signals have been provided below UP and DN Home Signals. It shows no light when 'ON' and 'YELLOW' Light when taken off.

4.1.7 SHUNT SIGNALS: -

Independent shunt signals are provided on top point at either end for back shunting movement Shunt signals are provided on goods siding line No.-5 and on shunting neck to facilitate shunting.

4.1.8 ANTI COLLOISION DEVICE: - NIL**4.1.9 L.C. GATE OPERATION: - Given in detail in Appendix-A****4.1.10 EMERGENCY CROSS OVER: - NIL****4.1.11 CRANK HANDLE**

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

The crank handle key in RKT in the end locations can be released from the RKT. The SM has to press concerned crank handle button and Trans button. This will enable SM/TP to extract crank handle key CH-1/CH-2/CH-3/CH-4/CH-5 from RKT at end location. SS/SM/TPM on duty after extracting the crank handle key from RKT at end-location, insert it in the space provided for it on the point machine and turn it to open up the slot for crank handle in the point machine. After inserting the crank handle in the point machine he shall operate it to set the point to desired position. After completion of point work the crank handle key is to be inserted in the RKT at end location and transmitted to station. Station Master on getting ' Key IN ' flashing indication that will appear on panel, shall press relevant CH button & Group Release button to get the steady key "IN" indication. SM on duty shall personally ensure clamping and padlocking all facing and trailing points en-route. The cases of failure of Motor operated points should be promptly reported to the concerned ESM/JE/SE (Signal) for immediate rectification. SM on duty as per OM 20.06 (d) shall maintain an emergency crank handle register. The procedure for use of crank handle for Motor operated points shall be followed in terms of operating Manual 20.06.

4.1.12 EMERGENCY POINT OPERATION (BLACK WITH RED DOT):

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

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

The panel interlocking is based on the principle of 'DEAD APPROACH LOCKING'. As such when a route is set and signal is taken 'OFF' on the route, the route gets locked. Normally the route is released by the passage of the train over the route. When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), the concerned signal must be put back to danger by simultaneously pressing the signal cancellation button and the concerned signal button. After this the emergency route release button (white with red dot) positioned at the top of panel to be pressed first by breaking the seal and subsequently the concerned signal button is to be pressed releasing the emergency route release button. A white flashing light will be lit indicating that the timer is working. After 120 seconds, the white flashing light along with the white strip of light will disappear suggesting the route has been released.

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

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

4.1.14 **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: -**

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

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

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

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

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

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

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

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

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

The SM now has to start the diesel generator for standby (Auxiliary) power supply. After stable run of the Diesel generator, the SM on duty has to operate the change over switch for connecting the auxiliary supply to the signalling installation. On resumption of power supply, the Diesel generator shall be stopped by SM on duty after isolating Diesel generator by change over switch. Each time the power supply goes OFF or ON, SM on duty shall

acknowledge. In case of any audible buzzer in SM's power panel, SM on duty should acknowledge the buzzer by pressing 'buzzer' stop button.

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

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

5.0 **TELECOMMUNICATION FACILITIES: -**

- (i) Telephone attached with single line token less Block Instruments for either side Block Section.
- (ii) Station to Station fixed telephone (Hot line) is provided
- (iii) Station has been provided with Auto telephone connected with Railway Exchange
- (iv) BSNL telephone is provided.
- (v) The station is connected to Balangir - Jharsuguda control circuit by a control telephone.
- (vi) Station to station 25 Watt VHF communication is provided.
- (vii) Telephone is provided between Station and both end crank handle locations & Goods siding location.
- (viii) L.C. gate control equipment using wired and wireless data communication and voice logging facility is provided connecting station and LC gates at KM 681/11, KM 679/10-11, KM 678/14 & KM 678/5.

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-5 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

5.1 **FAILURE OF COMMUNICATION: -**

- a. In the event of failure of communications between the adjacent block stations SR 6.02.06 shall be observed, for working the train.
- b. In the event of total failure of communications between the adjacent block stations SR 6.02.04 shall be observed, for working the train.

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

6.0 **SYSTEM OF TRAIN WORKING: -**

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

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

Details of duties of Operating Staff are mentioned in Appendix 'D' of the SWR.

6.1.1 TRAIN WORKING STAFF: -

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

SL No.	Designation	Roster	No. of staff in each shift	Hrs. of Duty
1.	Station Manager-I	Excluded	----	----
2.	Dy. SS/SM/ASM	Continuous	01	8 hrs.
3.	TP/Sr.TP/TPM-B/ TPM-A	Continuous	01	8 hrs.
5.	GK/Sr. GK	E.I	01	12 hrs.

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

6.1.2 RESPONSIBILITY OF ASCERTAINING CLEARANCE OF THE LINE: -

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

6.1.3 ASSURANCE OF STAFF IN ASSURANCE REGISTER: -

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

No Railway servant shall be entrusted with any duty involving safety of the public unless the station in-charge is satisfied that the concerned staff is competent for the post. No Railway servant unless duly examined and certified shall be allowed to work the points and signals. The SS is responsible to see that all the staff are conversant with the Station Working Rules and their signatures obtained in the Assurance register after he is satisfied that they have thoroughly understood the working rules of the station. In case of Group 'D' staff, their signature/thumb impression must be obtained after explaining fully about their duties and responsibilities.

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

The declaration shall be renewed in the following cases: -

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

6.2 CONDITIONS FOR GRANTING LINE CLEAR: -

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

- (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 the advanced starter of station nearest to expected train. (Up advanced starter signal No.17 for a DN train & DN advanced starter signal No.18 for an UP train).

NOTE:

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

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

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

6.2.1.1 SETTING OF POINTS AGAINST BLOCKED LINE: -

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

6.2.1.2 RECEPTION OF TRAIN ON BLOCKED LINE: -

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

6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE

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

6.2.1.4 DESPATCH OF TRAINS ON NON-SIGNALLED LINE

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

6.2.1.5 DESPATCH OF TRAINS FROM LINE PROVIDED WITH COMMON STARTER SIGNAL

N/A

6.2.1.6 SPECIAL RESTRICTIONS:

- (i) Shunting in face of an approaching train is prohibited.
- (ii) Hand shunting and fly shunting is not permitted at both end of the yard.
- (iii) The overrun line/sand hump shall not be obstructed for stabling vehicles or harboring an engine. If it is obstructed through any accident or for any cause it ceases to be a substitute for the adequate distance.
- (iv) Speed is raised to 30 KMPH 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 15 KMPH if it involves negotiating more than one crossover at a time.

6.2.1.7 SPECIAL INSTRUCTIONS:-

- (i) After a non-signal movement has taken place over a point, SM on duty shall operate the point to normal and reverse position for ensuring the correct setting and indication on the panel. Then after further signal movement may be permitted over the point.
- (ii) DN starter signal of Line No-4 has been placed on right side of the track.

6.3 CONDITIONS FOR TAKING ‘OFF’ APPROACH SIGNAL: -

Reception of trains is governed by General Rule 3.40(1)(b), (2)(b), 3 (b) and SR 3.40.01 and other relevant provisions of General and Subsidiary Rules, Block Working Manual and Station Working Rules of the station to be followed.

Adequate distances to be kept clear vide General Rule 3.40(3) (b) for reception of trains. (CRS’s dispensation obtained vide letter No.261, Dtd 23.03.2007 for reckoning adequate distance from foot of starter signals).

A. CLEARANCE OF ADEQUATE DISTANCE: -

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

Sl. No.	Line No.	UP TRAIN		DN TRAIN	
		FROM	TO	FROM	TO
1	Line No. 1	Foot of the UP Starter No.13	UP Advanced Starter No 17	Foot of the DN Starter Signal No. 8	DN Advanced Starter signal No.18 or up to the end of Overrun line
2	Line No. 2	Foot of the Up main line Starter No.15	UP Advanced Starter signal No.17	Foot of the DN main line Starter signal No.14	DN Advanced Starter Signal No.18
3	Line No. 3	Foot of the up Starter Signal No.11	UP Advanced Starter signal No.17 or up to the end of Over-run line.	Foot of the DN Starter Signal No.12	DN Advanced Starter Signal No.18
4.	Line No. 4	Foot of the up Starter Signal No.9	UP Advanced Starter Signal No.17 or up to the end of Over-run line.	Foot of the DN starter signal No.10	DN advanced starter signal No.18

Before admitting a train on any line, it must be ensured that the track indication for the respective line indicates ‘WHITE’ indication in the illuminated panel diagram. To receive a train, for which line clear is granted, the 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 panel or by physical verification of the nominated route in case of failure of track circuit. He shall suspend all non-isolated shunting and thereafter set the points of the nominated route by means of push button switch provided on the control panel. He shall then verify from the visual indication available in the panel that points are set to the desired route.

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

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

B. TAKING OFF CALLING ON SIGNAL

To take off Calling-on Signal, the train must come to a stop at the foot of the Home Signal, occupying track circuit in rear of the signal. When train occupies the track circuit, RED light strip will appear on the panel. The particular route on which the train is intended to be received shall be set by individual point operation by operating point button & point group buttons or by setting route by pressing route button & signal button or by crank handling in the event of failure of operation of point through panel. After the route is set, the Calling-on signal button C1 / C2 (Red with white dot), as the case may be, shall be pressed simultaneously along with concerned route button for 2-3 seconds and released. After a lapse of 120 sec., the Calling-on Signal clears and a yellow light indication appears on the panel for the concerned Calling-on Signal. No train can be made through by taking off the 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:**
(i) According to the existing interlocking at the station, the simultaneous reception and dispatch of trains is permitted as stipulated below: - (GR 3.47)

(i)	While receiving a DN train on Line No.1 setting overlap up to the end of overrun line.	Reception of an UP train on Line No.3 or 4 setting overlap to end of overrun line or dispatch of a DN train from the Line No.2 or 3 or 4.
(ii)	While receiving an UP train on Line No.3 setting overlap up to the end of overrun line.	Reception of a DN train on Line No.1 setting overlap up to the end of overrun line or dispatch of an UP train from the Line No.1 or 2.
(iii)	While receiving an UP train on Line No.4 setting overlap up to the end of overrun line.	Reception of a DN train on Line No.1 setting overlap up to the end of overrun line or dispatch of an UP train from the Line No.1 or 2.

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

6.5 **COMPLETE ARRIVAL OF TRAIN: -**
(Rule no. GR 4.16 & SR 4.17.01(a) (b) (c)(iii) (iv), GR 4.17.02, GR 14.10):
The entire block sections between BLGR-LSX and BLGR-DFR are monitored by axle counter system and the position of the block section whether 'Occupied' or 'Clear' is indicated on Panel at SM's office.

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

In case a train passes incomplete, action shall be taken as per SR.4.17.02, the "Train out of Block Section" report shall be withheld to the station in rear until complete arrival Certificate is received from the station in advance supported by a private number. On occasions when motor trolley follows a train the points shall not be operated until the following motor trolley is

admitted on the same line. In the event of motor trolley is delayed in the section the SM on duty shall take action in terms of SR.15.25.03 (b) (vi).

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

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

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

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

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

In case of failure of axle counter, the Station Master on duty shall obtain complete arrival certificate from the Guard of the train in the complete arrival register (T/1410) maintained at the station for stopping train. For through passing train the station master on duty shall satisfy himself about complete arrival of train by verification of the last vehicle indicator vide Subsidiary Rule 4.16.05 that the train is complete. In case a train arrives/passes incomplete, action shall be taken as per Subsidiary Rules 4.17.02. 'The train out of block section signal' shall be withheld to the station in rear until complete arrival certificate is received from the station in advance supported by a Private Number.

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

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

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

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

6.6 **DESPATCHING OF TRAINS: -**

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

To despatch a train, the SM on duty, having obtained line clear for that train, shall set the route for the out going train correctly and satisfy himself by observing the visual indication on the panel board. He shall suspend all shunting on non-isolated lines, ensure closure of LC Gates i.e. at KM 668/6-7, KM 670/6, KM 673/7, KM 678/5, KM 678/14, KM679/10-11 for dispatching trains to BLGR-LSX section and interlocked traffic L.C.gate at DFR end & L.C.Gate at KM 693/13-14 for dispatching trains to BLGR-DFR section. Then he shall take off the concerned route starter and Advanced Starter Signal by operating concerned push buttons. After observing the 'OFF' aspect of the route starter and Advanced Starter Signals the Loco Pilot shall start his train.

The Station Master on duty shall watch the safe passage of the train with its last vehicle indicator. After the train passes the Advanced Starter complete, he shall send the train entering block section signal to the station in advance.

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

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

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

6.7 TRAINS RUNNING THROUGH: -

The procedure detailed in Para 6.6, 6.6.1 above and General Rules 4.17, 4.42 and Subsidiary Rules 3.36.04(b)(i) 3.42.02(a)(iv), shall be observed.

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)(i) 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).

The Station Master on duty is responsible to see that a train passes complete with its last vehicle indicator. If a train passes without last vehicle indicator or its authorized substitute, action shall be taken as per General Rules 4.17 and Subsidiary Rules 4.17.02.

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

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

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

6.8.2 TRACK CIRCUIT

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

6.8.3 AXLE COUNTER

In the event of failure of axle counter of concerned block section SM on duty shall initiate resetting of axle counter after ensuring the complete arrival of the train by SM of other end Station under supported by private number. After resetting the first train will be piloted 'OUT' to the concerned Block section for normalising the system of working. Details of operations involved in resetting of axle counter is given in Appendix-'B'.

6.8.4 DEFECTIVE SIGNALS:

When signals become defective, the procedure laid down in GR & SR shall be followed. A signal in the OFF position is the final indication that the points are correctly set for the route for

which it applies 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 interruption/ failure of block instrument the concerned block instrument shall be suspended till its rectification and trains shall work as per GR. [Refer GR 6.02 .03, 6.02.04, SR 6.02.06 & BWM 5.43].

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

6.8.6 DEFECTIVE INTERLOCKING

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

6.8.7 DEFECTIVE/DAMAGED POINTS

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

NOTE: -

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

6.8.8 RECEPTION OF A TRAIN ON BLOCKED LINE

Whenever trains are to be admitted on an obstructed line the Calling-on signal may be taken –off. If calling-on signal failed then the SM on duty shall authorize the on duty TPM with form

T/509 indicating the reason for such admission the line number and the nature of obstruction on that line.

Before handing over the authority the SM on duty shall ensure the correct setting clamping and padlocking of both facing and trailing points of the concerned route vide SR 3.69.03. A stop hand signal shall be exhibited by the SM on duty at a distance of not less 45 mts. from the point of obstruction to indicate to the Driver as to where the train shall be brought to a stand.

6.8.9 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

However, before declaring a signal is defective, the setting of the point on the route to which it applies shall be inspected by the Station Superintendent/Station Master irrespective of the position of the switches 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

The following precautions must be taken:

- i) The section where axle counters are provided in lieu of track circuits, trolleys, motor trolleys, Lorries etc which are not insulated, shall not be allowed to run except on line clear.
- ii) Motor trolleys / tower wagons / material Lorries are not likely to actuate the axle counter correctly. When they are to run over the sections split by axle counters, the whole section to be treated as one and next train to be started after the first train has arrived complete.
- iii) In all other respects, the working of a light Motor trolley shall conform to the rules laid down for ordinary trolleys while running without block protection and to those laid down for motor trolleys while running under block protection or following another light motor trolley or a motor trolley.

7. BLOCKING OF LINES: -

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

7.1 USE OF REMINDER COLLARS: -

Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train even for a short while or during shunting

operations the reminder collars must be placed on concerned point push button, signal and route button(s) for the blocked lines on the operating panel by SS/SM on duty.

7.2 **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 a stabled load register is to be maintained shift wise.

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

- a) When a running line is blocked by stable load e.g, wagons, vehicles or by a train which is to cross or give precedence to another train or immediately after arrival of a train at the station etc. the points 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.

7.4 **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: -**

Shunting shall be performed in terms of General Rules 3.46, 3.52 to 3.56, 5.13, 5.14, 5.16, 5.17, 5.19, 5.20 to 5.23, 8.09, 8.14, 8.15 and Subsidiary Rules thereto. The Guard/Asst. Guard/SS/SM/ASM/TPM on duty is authorized to supervise shunting operation. The staff supervising shunting shall ensure correct setting of points, clamping and pad locking of points both in facing and trailing direction for non signal movement. Normally, back shunt signals and starter signals shall be used for shunting operation.

NOTE

For any non signaled movement physical verification of the clearance of the crossover points, clamping & padlocking of both facing and trailing points shall be ensured by the Guard/SM/TPM on duty for supervising shunting operations.

8.2 SHUNTING IN FACE OF AN APPROACHING TRAIN:

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

8.3 PROHIBITION OF SHUNTING ANY SPECIAL FEATURES IF ANY:

- (i) Hand shunting is prohibited at both ends of the yard.
- (ii) SR 4.48.01 is applicable for this station.

8.4 SHUNTING ON SINGLE LINE:

- (i) If the necessary signals are kept at 'ON' shunting may be carried on within the station section provided the block section is clear of approaching train and conditions of GR 8.09 are complied with.
- (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 shall not be obstructed unless line has been blocked back.

8.5 SHUNTING ON DUOBLE LINE:- N/A

8.6 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 G&SR.

8.7 SHUNTING IN THE SIDING TAKING OFF STATION YARD: -

When shunting in the goods siding and station yard proper shunting authority on T/806 to be issued to train staff with clear instruction and limit up to which shunting is to be performed. The staff supervising shunting shall ensure correct setting of points, clamping and pad locking of points both in facing and trailing direction. While performing shunting, relevant provisions of GR 5.14 and SRs thereto are to be followed.

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 single line token less Block Instrument and during partial failure of other available means of communications, trains will be worked in terms of Subsidiary Rule 6.02.06 and Chapter-III of Block Working Manual.

[II] THE AUTHORITY TO PROCEED IN THE OCCUPIED BLOCK SECTION IN CASE OF OBSTRUCTION OF LINE OR ACCIDEDNT: -

In case, it is necessary to allow a train into an obstructed block section due to engine failure, obstruction or accident, a block ticket shall be issued in terms of SR 6.02.05 Absolute Block System on the affected block section shall be suspended and concurrence of the SM at

other end shall be obtained and recorded in caution order register and train signal register SM's diary.

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

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

On arrival at the station the block ticket shall be collected with necessary endorsement from 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 SE/P.WAY concerned shall be obtained that the line is safe for movement of trains before resumption of normal working. When the obstruction is removed and assurance in writing is obtained from SE/P.WAY concerned or Guard/ Loco Pilot the SM on duty may resume normal working after exchanging proper messages supported by Private Number.

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

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

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

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

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

[VI] **FAILURE OF MTRC:-** NIL

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

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

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

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/SE/SSE (SIG) of the Section and others through a memo as per G & SR 3.68.04 and document all such transactions.

9.1 **TOTAL FAILURE OF COMMUNICATION: -**

In the event of total interruption of communication occurring between BLGR-DFR or BLGR-LSX 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 actions 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 a Authority 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 (T/B 602).
- (ii) A Caution Order restricting to speed of the train to 15 Kmph 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 (T/409).
- (iii) Paper Line Clear Ticket to pass the Last Stop Signal at 'ON' position.
- (iv) A "Line Clear" enquiry message (T/E602) asking "Line Clear" for the awaiting train.
- (v) A conditional "Line Clear" message for the light engine to return with or without a train attached, supported by a Private Number (T/F602).

On arrival of the engine at the next station the conditional line clear message and enquiry message shall be collected by the Station Master on duty who shall prepare a conditional line clear ticket (T/G 602 for UP & T/G 602 for DN) 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 trains 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 informed.

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

9.3 **DESDPATCHING OF TRAINS UNDER AUTHORITY TO PROCEED WITHOUT LINE CLEAR TO ASSIST THE CRIPPLED TRAIN:** -Refer Para no. 9.0(a)(ii).

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

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

12 **FOG SIGNAL MEN NOMINATED TO BE CALLED IN CASE OF FOG:** -
The station has been provided with double Distant signals which give adequate prewarning to the loco Pilot. Hence, placing of detonators in case of fog shall be dispensed with vide SR 3.61.01.

CERTIFICATE:-

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

APPENDICES

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

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 GATE WORKING INSTRUCTIONS OF ‘C’ CLASS LEVEL CROSSING GATE AT KM 681/11 (No-JT-98) LOCATED IN BETWEEN OUTERMOST FACING POINT AND UP ADVANCED STARTER SIGNAL OF BALANGIR:-

1.1. GENERAL:

1.1.1. DESCRIPTION OF THE LEVEL CROSSING GATE:-

1.	Number of level crossing gate	:	JT-98
2.	Engineering or Traffic Gate	:	Traffic
3.	Under control of Station Master or Permanent Way Inspector	:	SM/BLGR
4.	Location at KM	:	681/11
5.	At station	:	BALANGIR
6.	In between station	:	BLGR - DFR
7.	BG/MG/NG	:	BG
8.	Single line/Doubling Line/Multiple Line	:	Single line
9.	Normal position	:	Open to road traffic
10.	Interlocked/Non-interlocked	:	Interlocked
11.	Means of interlocking	:	R.K.T
12.	Provision of gate Signal at Kms	:	---
13.	Signalling arrangement	:	MACLS
14.	Means of communications Telephone/Bell etc.	:	Telephone connection with SM office/BLGR
15.	Width of Level Crossing Gate	:	7.5 Meters
16.	Type of Road	:	Others
17.	Name of Road	:	Khujenpali Road
18.	Metaled/Non Metaled	:	Metaled
19.	Approach Road	:	Level
20.	Width of the Road	:	5.5 MTRS.
21.	Angle of Road Crossing (incase 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) Noth/East side - Straight (b) South/Westside - Straight
24.	Provision of height gauge	:	Not Provided
25.	Type of Barrier	:	Electrical Operated Lifting Barrier
26.	Length of check Rail	:	9.50M
27.	Road surface in between level crossing gates	:	Leveled with hexagonal concrete Blocks
28.	Length of Rumble strip/speed breakers.	:	7.5m
29.	Road Signs	:	Provided
30.	Speed breakers indication board	:	Provided

31. TVU	:	25811 on 02/2013
32. Census next due on	:	02/2016
33. Demarcation for placement of detonators.	:	Provided
34. No. of gateman working	:	2 (Two)
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:**

<u>SL. NO.</u>	<u>ITEMS</u>	<u>QUANTITY</u>
1.	Hand signal lamp /Tri colour Torch	: 03
2.	Hand Signal Flag Green	: 01(Mounted on stick)
3.	Hand Signal Flag Red	: 03
4.	Banner Flag Red	: 03
5.	Posts for exhibiting red banner flag	: 02
6.	Spare chains with padlocks	: 02 (with stop mark)
7.	Detonators	: In tin case 10
8.	Gate lamps	: 02
9.	Tommy bar	: 01
10.	Motor pan	: 01
11.	Spade/Phowrah	: 01
12.	Rammer	: 01
13.	Pick axe	: 01
14.	Tin case for flag	: 01
15.	Cane for oil	: 01
16.	Water pot/Bucket	: 01
17.	Canister for Muster Roll	: 01
18.	Set of spare spectacles of gateman wearing glasses	: 01
19.	Board demarcating protection of level crossing Gate diagram in case of obstruction on gate	: 01
20.	Basket	: 01
21.	Whistle	: 01
22.	Wall clock	: 01
23.	Small size chains with padlocks to be used in case of failure of boom lock.	: 02

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

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

1.4 **DUTIES OF GATEMAN:**

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

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

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

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

3. **ROUTINE DUTIES OF GATEMAN:**

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

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN.

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

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

5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

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

The gateman shall protect the line as under: -

A) ON SINGLE LINE SECTION:

- i) Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the direction from which a train is expected to arrive first.
- ii) Then he will similarly plant the other red banner flag by day and red light by night towards the other direction 5 meters away from the site of obstruction.
- iii) Gateman shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction, which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v) Thereafter, he shall proceed towards the other direction, showing red hand signal, similarly place detonators as described in (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
- vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the driver of the approaching train.
- vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- viii) Thereafter, he shall warn the driver and stop the approaching train by waving his red flag by day, red hand signal lamp by night repeatedly.

(B) OTHER ACTIONS TO BE TAKEN BY GATEMAN:

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

1.5 SPECIAL INSTRUCTIONS:

1 MODE OF OPERATION:

- (A) This is a manned, interlocked L.C.Gate situated at the DFR end of the yard in between outermost facing point and UP advanced starter signal. This gate is interlocked with station stop signals. Telephone communication/ gate control equipment has been provided between the L C. gate lodge with SM office BLGR Station. The level crossing gate is of lifting barrier type and motor operated by means of HAND GENERATOR/MOTOR from panel provided at the gate lodge. The normal position of the gate is open to road traffic. The key “B” of the LC normally remains locked in the RKT-2 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 on gate control equipment to close and lock the gate.

- (B) Procedure for working of gate control equipment

Sequence of operation	
SM control unit by Station Master	LC gate control unit by the Gateman
1) On-duty SM/BLGR on Pressing " CLOSE " button, the word " CLOSE " will be displayed on the LCD panel. Thereafter, the Gate Number (GATE: 04), Private number(PVTN: 00), direction of train (UP/DN:--), Viz. for UP direction press the digit "1" & for DN direction, press the digit press "2" and then Train number (TRN:---), viz. concerned train number for coaching train, 1 for goods train, 2 for Trolley, 3 for RCV Van, 4 for saloon, 5 for Rail engine shall be inserted by key board and information to be sent to the gateman by pressing SEND button.	2) On receipt of 'Gate closing' instruction from SM, there will be Voice message as well as Glow of ' CLOSE ' LED. On pressing ' ACK ' button the voice message will be muted. Then Gateman will close the Gate duly following the extant provisions made under para (C) given below.
4) Message received with private number will be displayed on LCD panel as well as playing of Voice message on speaker. In addition to that, ' CLOSE ' LED will glow on SM control Equipment. On pressing ' ACK ' button the voice message will be muted.	3) After closing the gate the gateman will press ' CLOSE ' button. The word 'GATE CLOSE' will appear in the LCD panel. Inserting Private No as 00 , the message to be sent to SM Control Equipment by pressing ' SEND ' button.
6) Received message will be displayed on LCD panel as well as playing of Voice message on speaker. In addition to that,	5) After passage of train, the Gate man will open the gate duly obeying the extant provisions made under para (D). On pressing ' OPEN ' button the word 'GATE OPEN' shall appear in the LCD panel and message can be sent to the SM control equipment by pressing ' SEND ' button.

<p>'OPEN' LED will glow on SM control Equipment. On pressing 'ACK' button the voice message will be muted.</p>	
<p>Special Provision in the Equipment</p>	
<p>2) Voice message of LC gate problem will be played through speaker in the ASM control unit with display of private number in LED display panel and glowing of PROBLEM LED on equipment.</p>	<p>1) Inability for closing the gate for any unforeseen reason to be informed by the gate man to the ASM by pressing PROBLEM button with private number. 3) Immediately after, Gateman will talk to ASM / SM on duty by using Telephone provided on the equipment.</p>
<p>NOTE: 1) Each time SM control equipment/LC gate equipment sends the information by pressing SEND button, 'ACK' LED will glow. After reception of the message at destination, 'ACK' LED will go-off with Acknowledgement in LCD display. 2) Whenever it is required / felt to communicate over telephone attached with the instrument, the same can be made use of. 3) In case 2-wire physical line fault, the message will be automatically transmitted through wireless with an indication of 'RADIO' LED glow as well as display on LCD panel. 4) For interlocked L.C.gates, where exchange of Private number is not required the SM & gateman shall use Private number (PVTN:00). 5) In the event of failure of either of control equipment (ASM end / LC gate end) or both, ASM/Gateman shall make use of Emergency Telephone provided with the equipment and follow the normal working procedure given in para 1.5 under exchange of private number.</p>	

- (C) The gate man on duty shall sound the hooter and 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. Then key 'B' is to be extracted from the RKT-2 provided in the gate lodge. This Key 'B' shall then be inserted in RKT-1 and transmitted electrically to SM panel in conjunction with switch S reversed, to control concerned signals..
- (D) After passage of the Train, the SM on duty shall inform the gateman and press LC gate controlling button No.34 and group button (trans) and keep it pressed till such time the gate man extracts the control key 'B' from the RKT. After getting the Key 'B' the gate man will insert the key into RKT-2 and turn. Keeping the switch S in normal position, the gate man will get a gate free indication on the panel and subsequently the gate can be opened by pressing the GREEN push button till gate is fully opened. Switch 'S' is provided at the gate lodge to put back the concerned signal to danger in case of emergency.

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

2. INTIMATION TO GATEMAN: -

- i) Before taking off reception/departure signals SM/BLGR shall inform the gateman, the number, description, and direction of the train.
- ii) The gateman 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 gateman for closing the gate.
- v) When a train has to be piloted to and from the station yard or any shunting movement is to be done, the staff deputed to pilot the train to perform the shunting across the gate shall be personally responsible to ensure that the gate is closed against road traffic before allowing any movement across the gate.

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

- i) Station Master on duty/ BLGR shall send written advice to the gateman through the porter with full details of number, description and direction of the train.
- ii) Gateman on receipt of such advice shall close the gate and transmit the key to the Station Master/ BLGR, 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 gateman. If hand signal is not seen, driver should be prepared stop short of the gate and ensure that gate is closed following GR.3.73.
- vi) In case of an approaching DN train, the Station Master/ BLGR shall advise the Station Master/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 DN train into the block section from his end.
- viii) He should also advise S&T staff responsible for maintenance of the telephone rectify the defect at the earliest.
- ix) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection/ fit memo for the same.

4. FAILURE OF LIFTING BARRIERS OF GATE:

- i) When the gate cannot be closed due to failure of lifting barriers, the gateman will immediately inform, the Station Master on duty/ BLGR, under exchange of private number, and ensure the lifting barriers of gate do not foul the track.
- ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.
- iii) Gateman shall secure the gate against road traffic by means of safety chains and padlocks.
- iv) After securing the gate against road traffic, gateman shall show green hand signal flag by day and green light by night to the 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 despatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a DN 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 resumed only after maintenance staff repair the barrier and issue reconnection/fit memo for the same.

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

5. FAILURE OF THE GATE KEY WITH THE GATE IN CLOSED POSITION WHEN GATE KEY CANNOT BE EXTRACTED FOR OPENING THE GATE.

- i) If the gate key cannot be extracted from the gate Panel or the key transmitter, then gateman must immediately inform the Station Master / BLGR on duty on telephone, under exchange of private number.
- ii) Gateman will take the emergency key/handle out from the sealed box by breaking the seal and open the gate for road traffic.
- iii) The record of the date and time of breaking the sealed cover of Emergency Key/handle Box shall be recorded and signed with reasons
- iv) Thereafter, the gate must be treated as non – interlocked and procedure for reception/ despatch of trains as prescribed for non – interlocked gates, should be adopted.
- v) Station Master on duty/ 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 despatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before despatching a DN train into the block section from his end.
- vii) Station Master/ BLGR will advise S&T staff responsible for maintenance of gate to rectify the defect at the earliest.
- viii) Normal working will resume only after S&T staff repairs the key transmitter and issue reconnection/fit memo for the same.
- ix) After rectification, the Emergency Key/handle shall be replaced in the Emergency Key/handle Box and resealed by the S&T maintainer.

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

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

7. OBSTRUCTION AT THE GATE:

- i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.

- ii) Immediately after this, the gateman shall advise the Station Master/ BLGR on duty, regarding the defects/obstruction at the gate, under exchange of private number.
- iii) The Gateman will advise to Stationmaster/ BLGR on duty to put the reception/departure signals back to 'ON' position. He may also normalize the switch "S" to put back the concerned signal to "ON" if taken 'OFF' for a train.
- iv) If there is no response from the Station Master / BLGR after two or three attempts, he shall first protect the gate and then inform on phone.
- v) Gateman shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item No.1.4. (5).
- vi) Thereafter he shall protect the gate from the other direction also.
- vii) He shall note down the particulars of the road vehicle, name of the driver, owner and reply these details to the station Master/ BLGR who shall not start the trains unless he has been assured by the gateman that the road vehicle or the lifting barriers are not fouling the track.
- viii) The Station Master/ BLGR shall also inform the station Master/DFR at the despatching end, under exchange of private number, asking him not to despatch any train into the block section from his end, until the track has been cleared of all obstructions.
- ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master/ BLGR accordingly, under exchange of private number.
- x) Station Master/ BLGR and DFR shall then issue a caution order to Loco Pilots of all trains to proceed cautiously, and pass the gate signal at 'ON' position on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.
- xi) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and they're after exhibit green hand signal, if the gate is not obstructed.
- xii) Station Master/ BLGR shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- xiii) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers and issue reconnection/fit memo for the same.

8. OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master/ BLGR will adopt the procedure given under item No.7 above. If the obstruction fouls the level Crossing Gate, gateman must keep the gate closed against road traffic till the track is cleared of the obstruction.

2.0 WORKING INSTRUCTIONS OF 'B2' CLASS INTERLOCKED ENGG. LEVEL CROSSING GATE AT KM 679/10 (No.JT-97) LOCATED IN BETWEEN UP DISTANT AND UP HOME SIGNAL OF BALANGIR.

2.1 GENERAL INSTRUCTIONS:-

2.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE

1.	Number of Level Crossing Gate: -	JT-97.
2.	Engineering or Traffic Gate: -	Engg.
3.	Under control of Station Master/PWI:-	PWI/BLGR
4.	Location KM	679/10
5.	At. Station: -	BLGR
6.	In between Stations: -	BLGR- LSX.
7.	BG/MG/NG: -	BG.
8.	Single line/Double line/Multiple line: -	Single Line.
9.	Normal Position: -	Open to road traffic.
10.	Interlocked/Non Interlocked: -	Interlocked.
11.	Means of interlocking: -	Gate Home Signals
12.	Provision of Gate signal at Kms.	
		i) 679/13-14(UP Gate Home Signal)
		ii) 679/7-8(DN Gate Home Signal)
13.	Signaling arrangement: -	MACLS
14.	Means of Communication:	Telephone Connection from Gate Goomty with SM office/BLGR.
15.	Width of level crossing Gate: -	7.5 Meters.
16.	Type of road. (NH/SH/Others): -	Others
17.	Name of Road: -	The Aat Gaon Road
18.	Metaled/Non Metaled	Metaled
19.	Approach Road: -	Level (Bituminous).
20.	Width of the road: -	6.0 m.
21.	Angle of road crossing (In case of the skew Gates) ---	
22.	Road gradient (If any)	
		i) North/East side. 1 in 20.
		ii) South/West side 1 in 20.
23.	Road alignment (Straight/Curve): -	
		i) North/East side- Straight
		ii) South/West side- Curve
24.	Provision of height gauges: -	Not Provided.
25.	Type of Barriers: -	Winch Operated lifting barriers.
26.	Length of checkrails: -	9.5 Meter.
27.	Road surface in between Level Xings Gates: -	CCB.
28.	Length of speed breakers: -	8.0 M.
29.	Road signs: -	Available.
30.	Speed breaker indication board: -	Provided.
31.	TVU: -	31796 on 02/2013.
32.	Census next due on: -	02/2016.
33.	Demarcation for placement of Detonators: -	Available.
34.	No of the Gateman working: -	02.
35.	Nearest Railway Medical Assistance: -	Bolangir.
36.	Nearest Private Medical Assistance available (if any)	Bolangir.
37.	List of equipment available Yes//No: -	Yes.

2.2 EQUIPMENTS TO BE AVAILABLE AT THE GATE:

SL.NO	ITEMS	QUANTITY
1	Hand signal lamp/ Tri Colour Torch	: 03 (5 on Quadruple Line or twin single line)
2	Hand Signal Flag Green	: 01 (Mounted on sticks)
3	Hand Signal Flag Red	: 03 (6 on Quadruple line or Twin single line and 7 in case Hexable section mounted on sticks)
4	Banner Flag Red	: 03 (6 on Quadruple Line or twin single line)
5	Posts for exhibiting red banner flag	: 02 (4 on Q/Twin single line and 5 on Hexable section.
6	Spare chains with padlocks	: 02 (with stop mark)
7	Detonators	: 10 In tin case
8.	Gate lamps	: 02
9	Tommy bar	: 01
10	Motor pan	: 01
11	Spade/Fowrah	: 01
12	Rammer	: 01(in case of asphalted road this may not be provided)
13	Pick axe	: 01(in case of asphalted road this may not be provided)
14	Tin case for flag	: 01
15	Cane for oil	: 01
16	Water pot/Bucket	: 01
17	Canister for Muster Roll	: 01
18	Set of spare spectacles of gateman wearing glasses	: 01
19	Board demarcating protection of level crossing Gate diagram in case of obstruction on gate	: 01
20	Basket	: 01
21	Whistle	: 01
22	Wall clock	: 01
23	Small size chains with padlocks to be used in case of failure of gate boom lock.	02

2.3 RECORDS TO BE KEPT AT GATE LODGE:

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

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

2.4 **DUTIES OF GATE MAN:**

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

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

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

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

3. **ROUTINE DUTIES OF GATEMAN:**

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

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

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

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

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

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

The gateman shall protect the line as under: -

a) **ON SINGLE LINE SECTION:**

- i) Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the direction from which a train is expected to arrive first.
- ii) Then he will similarly plant the other red banner flag by day and red light by night towards the other direction 5 meters away from the site of obstruction.
- iii) Gateman shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction, which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v) Thereafter, he shall proceed towards the other direction, showing red hand signal, similarly place detonators as described in (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
- vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
- vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day, red hand signal lamp by night repeatedly.

b) OTHER ACTIONS TO BE TAKEN BY GATEMAN:

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

2.5 SPECIAL INSTRUCTIONS-

1. MODE OF OPERATION:

(A) This is an engineering, interlocked L.C. Gate situated in between UP Home signal and UP Distant Signal of BLGR station at Km 679/10. This gate is interlocked with Gate stop signals. The DN Gate Distant signal is combined with DN Advanced Starter signal of BLGR. Telephone communication is provided between the L C. gate lodge with SM on duty of BLGR Station. The level crossing gate is of lifting barrier type operated by means of winch provided at the gate lodge. The normal position of the gate is open to road traffic. A Four-lever ground frame is provided at the gate lodge. The key of the LC remains in the winch when the gate is opened condition. When it is necessary to close the gate, for taking OFF signals or for train passing or shunting operations, the SM on duty shall inform the gate man through gate control equipment to close and lock the gate.

(B) Procedure for working of gate control equipment.

Sequence of operation	
On SM control unit by Station Master	On LC gate control unit by the Gateman
<p>1) On-duty SM/BLGR on Pressing "CLOSE" button, the word "CLOSE" will be displayed on the LCD panel. Thereafter, the Gate Number (GATE:03), Private number(PVTN: 00), Direction of train (UP/DN:--) Viz. for UP direction press the digit "1" & for DN direction, press the digit "2" and then Train number (TRN:---), viz. concerned train number for coaching train, 1 for goods train, 2 for Trolley, 3 for RCV Van, 4 for saloon, 5 for Rail engine shall be inserted by key board and information to be sent to the gateman by pressing SEND button.</p> <p>4) Message received including private number will be displayed on LCD panel as well as playing of Voice message on speaker. In addition to that, 'CLOSE' LED will glow on SM control Equipment. On pressing 'ACK' button the voice message will be muted.</p> <p>5) For sending group message through equipment SM to press message button</p>	<p>2) On receipt of 'Gate closing' advice from SM, there will be Voice message as well as Glow of 'CLOSE' LED. On pressing 'ACK' button the voice message will be muted. Then Gateman will close the Gate duly following the extant provisions made under para (C) below.</p> <p>3) After closing the gate the gateman will press 'CLOSE' button. The word 'GATE CLOSE' will appear in the LCD panel. Inserting Private No as 00, the message to be sent to SM Control Equipment by pressing 'SEND' button.</p> <p>6) On receipt of message, gateman to acknowledge by pressing ACK. Button.</p>

<p>which will display Gate 1/2/3 for individual gate or □ left corner for covering UP side gates. Message- Press 1 for status relay Press 2 for do not open gate Press 3 for invalid message Press 4 for previous message cancelled Press 5 for synchronization RTC.</p> <p>7) Group messaging through microphone. SM is to press 1) Call button 2) Direction of gate 3) Send After 10 seconds red LED of microphone will glow which will remain for 30 seconds for sending voice message. To disconnect voice message, if required SM is to press 'Call' button again. Then the LCD screen will show "Disconnecting in Progress"</p>	<p>8) a) Gateman to acknowledge by pressing acknowledge button. b) Gateman concerned will act accordingly as per message, if 'Close' gateman to follow para 2&3 as above.</p>
<p>Special Provision in the Equipment</p>	
<p>2) Voice message of LC gate problem will be played through speaker in the SM control unit with display of private number in LED display panel and glowing of PROBLEM LED on equipment.</p>	<p>1) Inability for closing the gate for any unforeseen reason to be informed by the gate man to the SM by pressing PROBLEM button with private number. 3) Immediately after, Gateman will talk to SM on duty by using Telephone provided on the equipment.</p>
<p>NOTE: 1) Each time SM control equipment/LC gate equipment sends the information by pressing SEND button, 'ACK' LED will glow. After reception of the message at destination, 'ACK' LED will go-off with Acknowledgement in LCD display. 2) Whenever it is required / felt to communicate over telephone attached with the instrument, the same can be made use of. 3) In case 2-wire physical line faults, the message will be automatically transmitted through wireless with an indication of 'RADIO' LED glow as well as display on LCD panel. 4) For interlocked L.C.gates, where exchange of Private number is not required the SM & gateman shall use Private number (PVTN: 00). 5) In the event of failure of either of control equipment (SM end / LC gate end) or both, ASM/Gateman shall make use of Emergency Telephone provided with the equipment and follow the normal working procedure given in para 2.5 under exchange of private number.</p>	

(C)The gate man on duty shall close the barriers of the LC gate by operating winch. Then key 'N' is to be extracted from the winch, which will be inserted in the lever of GF-2. When GF-2 is reversed it locks the booms of the gate and releases GF-3 or GF- 4. The Gateman shall reverse the GF-3 or GF-4 for taking OFF concerned UP or DN Gate stop signals respectively. GF-3 or 4 can be used to put back the concerned Gate stop signal in case of emergency. Lever No. GF-1 is spare lever.

(D)After passage of the Train or completion of shunting, the SM on duty shall inform the gateman, the gate man shall normalize the concerned GF-3 or GF4 and normalize lever GF-2 which will release key 'N'. The gate man shall extract the control key 'N' from the GF-2 and he will open the gate by inserting the Key 'N' into the winch for normal passage of road traffic.

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). Once the LC gate closed should not be opened by the gateman till such time the train for which the gate was closed has passed the LC gate completely. In case of emergency the LC gate may be opened with the specific permission of the SM/BLGR under exchange of PN if there is no train in the section.

2. **INTIMATION TO GATEMAN: -:**

- (i) Immediately after departure of the train, Station Master/BLGR shall advise the gateman through telephone connected at his end, the number, description, direction and expected time of passage of the train at the gate.
- (ii) This advice shall be given by the Station Master/ BLGR to the gateman as soon as he receives train entering section advice from SM/LSX station.
- (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 gateman before obtaining/granting line clear.
- (iv) It should be the duty of the gateman to ensure that the gate is closed in time, so that there is no detention to the train or excessive detention to road traffic.

3. **FAILURE OF TELEPHONIC COMMUNICATION :**

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

- (i) If the telephone fails at the gate connected with the station at the dispatching end, Station Master shall issue a caution order to the Loco Pilot of the departing train.
- (ii) Station Master shall advise the driver to whistle continuously and proceed cautiously while approaching the gate.
- (iii) In case the gate signal is 'ON' he should stop of the gate signal and follow the procedure laid down under GR 3.73.
- (iv) In case of an approaching train, the Station Master / BLGR shall advise the Station Master/LSX at the dispatching end, under exchange of private number that the telephone at the gate has failed.
- (i) The Station Master/LSX at the dispatching end shall then issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (ii) Station Master/BLGR will also advise the gateman through Gangman /Patrolman/ Loco Pilot of the first train that the telephone has become defective.
- (iii) Station Master/ BLGR should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.
- (iv) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection/fit memo for the same.

4 **FAILURE OF LIFTING BARRIERS :**

- (i) When the gate cannot be closed due to failure of lifting barriers, the gateman shall immediately inform the Station Master on duty under exchange of private number, and ensure that lifting barriers of do not foul the track.
- (ii) He shall immediately fix red banner flag by day and red light by night on the post that end first from which the train is approaching and then at the other end.

- (iii) Gateman shall secure the gate against road traffic by means of safety chains and padlocks.
- (v) After securing the gate against road traffic, gateman shall show green hand signal flag by day and green light to the Loco Pilot of the approaching train.
- (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.
- (VI) Station Master/ BLGR shall advise maintenance staff responsible for maintaining the lifting barrier to rectify the same at the earliest.
- (VII) Normal working will be resumed only after maintenance staff repair the lifting barrier and issue reconnection/fit memo for the same.

5. 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 gateman 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) Station Master on duty/ BLGR shall issue caution order to the Loco Pilot of a departing train.
- iv) 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 in the block section his end.
- v) Station Master / BLGR shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
- vi) Normal working will be resumed only after S&T staff repair the key transmitter and issue reconnection/fit memo for the same.

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

- i) If the gate key cannot be extracted from the winch, gate signal lever or key transmitter then gateman must immediately inform the Station Master/ 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 gateman shall secure the gate against road traffic by means of chains and padlocks and pass trains on hand signals.
- iv) Station Master on duty/ BLGR shall issue a 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 in the block section from his end.
- vi) Station Master/ BLGR shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
- i) Normal working will be resumed only after S&T staff repair the key transmitter and issue reconnection/fit memo for the same.

7. DEFECTIVE GATE SIGNAL :

- i) The gateman shall treat the gate signal as defective and must not take off 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 lever when the gate home signal lever is in reversed condition
- ii) If the Gate or the Gate Signal or Distant Signal becomes defective in 'OFF' position, the gateman will make all efforts to put it at 'ON' position even by cutting signal wires, if necessary.
- iii) The gateman will immediately advise the Station Master on duty/ 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) SM on duty / BLGR will issue a caution order to the Loco Pilot of departing train.
- i) 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 despatching train into the block section from his end.
- ii) Station Master / BLGR shall advise S&T staff responsible for maintaining the gate signal to repair the same at the earliest.
- iii) Normal working will be resumed only after S&T staff rectify the defective gate signal and issue reconnection/fit memo for the same.

8 OBSTRUCTION AT THE GATE:

- i) If the gate is broken by a road vehicle, which is fouling the track, or if lifting barrier or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately put back gate signals to 'ON' position.
- ii) He shall fix red banner flag by day and red lamp by night on posts provided at both ends of the gate.
- iii) Immediately after this, the gateman shall advise the station Master/ BLGR on duty regarding the defects /obstructions at the gate, under exchange of private number.
- 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) Gateman shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instructions for duties of gateman under item No.2.4. (5).
- vi) Thereafter he shall protect the gate from the other direction also.
- vii) He shall note down the particulars of the road vehicle, name of the driver, owner and reply these details to the station Master who shall not start the trains unless he has been assured by the gateman that the road vehicle or the lifting barriers/leaf gate are not fouling the track.
- viii) The Station Master/ BLGR shall also inform the station Master/LSX at the despatching end, under exchange of private number, asking him not to despatch any train in the block section from his end, until the track has been clear of all obstruction.
- ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.

- x) Station Master / 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 gateman, if the gate is broken, but is clear of any obstruction.
- i) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and there after exhibit green hand signal, if the gate is not obstructed.
- ii) Station Master/ BLGR shall advise maintenance staff responsible for maintaining the lifting barriers gates to repair the same at the earliest.
- iii) Normally working will be resumed only after maintenance staffs rectify the defective lifting barriers and issue reconnection/fit memo for the same.

9. **OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:**

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No, 8 above, If the obstruction fouls the level Crossing Gate, gateman must keep the gates closed against road traffic till the track is cleared of the obstruction.

3.0 GATE WORKING INSTRUCTIONS OF “B1” CLASS ENGINEERING INTERLOCKED LEVEL CROSSING GATE AT KM 678/ 14 (JT-95) BETWEEN LSX- BLGR STATION.

3.1 GENERAL DESCRIPTION-

3.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE

1.	Number of Level Crossing Gate: -	JT-95.
2.	Engineering or Traffic Gate: -	Engg.
3.	Under control of Station Master/Permanent Way Inspector: PWI/BLGR	
4.	Location KM	678/14
5.	At. Station: -	BLGR
6.	In between Stations: -	LSX-BLGR.
7.	BG/MG/NG: -	BG.
8.	Single line/Double line/Multiple line: -	Single Line.
9.	Normal Position: -	Open to road traffic.
10.	Interlocked/Non Interlocked: -	Interlocked.
11.	Means of interlocking: -	SM Panel
12.	Provision of Gate signal at Kms.	(i) 678/11(UP Gate Home Signal) (ii) 679/2-3(DN Gate Home Signal)
13.	Signalling arrangement: -	NIL.
14.	Means of Communication:	Telephone communication from Gate Goomty to SM office/BLGR.
15.	Width of level crossing Gate: -	7.5 Meters.
16.	Type of road. (NH/SH/Others): -	Others
17.	Name of Road: -	The Sonepur Road
18.	Metaled/Non Metaled	Metaled
19.	Approach Road: -	Level (Bituminous).
20.	Width of the road: -	5.5 m.
21.	Angle of road crossing (In case of the skew Gates)	---
22.	Road gradient (If any)	
	i)	North/East side.- Level.
	ii)	South/West side.- Level.
23.	Road alignment (Straight/Curve): -	
	i)	North/East side.- straight.
	ii)	South/West side.- straight
24.	Provision of height gauges: -	Not Provided.
25.	Type of Barriers: -	Winch Operated Lifting Barriers
26.	Length of checkrails: -	9.5 Meter.
27.	Road surface in between Level Xings Gates: -	CCB
28.	Length of speed breakers: -	7.5 M.
29.	Road signs: -	Available.
30.	Speed breaker indication board: -	Provided.
31.	TVU: -	34564 on 02/2013.
32.	Census next due on: -	02/2016.
33.	Demarcation for placement of Detonators: -	Displayed.
34.	No of the Gateman working: -	02.
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:**

SL. NO	ITEMS	QUANTITY
1	Hand signal lamp/ Tri Colour Torch.	: 03 (5 on Quadruple Line or twin single line)
2	Hand Signal Flag Green	: 01 (Mounted on sticks)
3	Hand Signal Flag Red	: 03 (6 on Quadruple line or Twin single line and 7 in case Hexable section mounted on sticks)
4	Banner Flag Red	: 03 (6 on Quadruple Line or twin single line)
5	Posts for exhibiting red banner flag	: 02 (4 on Q/Twin single line and 5 on Hexable section.
6	Spare chains with padlocks	: 02 (with stop mark)
7	Detonators	: 10 In tin case
8	Gate lamps	: 02
9..	Tommy bar	: 01
10.	Motor pan	: 01
11.	Spade/Fowrah	: 01
12.	Rammer	: 01(in case of asphalted road this may not be provided)
13.	Pick axe	: 01(in case of asphalted road this may not be provided)
14.	Tin case for flag	: 01
15.	Cane for oil	: 01
16.	Water pot/Bucket	: 01
17.	Canister for Muster Roll	: 01
18	Set of spare spectacles of gateman wearing glasses	: 01
19.	Board demarcating protection of level crossing Gate diagram in case of obstruction on gate	: 01
20	Basket	: 01
21	Whistle	: 01
22	Wall clock	: 01
23.	Small size chains with padlocks to be used in case of failure of gate boom lock	02

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

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

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

3.4 **DUTIES OF GATE MAN:**

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

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

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

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

3. **ROUTINE DUTIES OF GATEMAN:**

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

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN.

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

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

5. ACTION IN EMERGENCY AT THE LEVEL CROSSING:

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

The gateman shall protect the line as under: -

a) ON SINGLE LINE SECTION:

- i) Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the direction from which a train is expected to arrive first.
- ii) Then he will similarly plant the other red banner flag by day and red light by night towards the other direction 5 meters away from the site of obstruction.
- iii) Gateman shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction, which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v) Thereafter, he shall proceed towards the other direction, showing red hand signal, similarly place detonators as described in (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
- vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the driver of the approaching train.
- vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day, red hand signal lamp by night repeatedly.

b) OTHER ACTIONS TO BE TAKEN BY GATEMAN:

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

3.5 SPECIAL INSTRUCTIONS-

1. MODE OF OPERATION:

(A) This is an Engineering, interlocked L.C. Gate situated in between UP Home signal and UP Distant Signal of BLGR station at Km 678/14. This gate is interlocked with Gate stop signals. The UP Gate Home signal of this gate is combined with UP Distant Signal of BLGR. Telephone communication is provided between the L C. gate lodge with SM on duty of BLGR Station. The level crossing gate is of lifting barrier type operated by means of winch provided at the gate lodge. The normal position of the gate is open to road traffic. A Four-lever ground frame is provided at the gate lodge. The key of the LC remains in the winch when the gate is opened condition. When it is necessary to close the gate, for taking OFF signals or for train passing or shunting operations, the SM on duty shall inform the gate man through gate control equipment to close and lock the gate.

(B) Operational procedure for working of gate control equipment.

Sequence of operation	
On SM control unit by Station Master	On LC gate control unit by the Gateman
<p>(1) Whenever it is required to close the gate, on-duty SM/BLGR on Pressing "Close" button, the word "Close" will be displayed on the LCD panel. Thereafter, the Gate Number (GATE:02), Private number(PVTN: 00), Direction of train (UP/DN:--) and Viz. for UP direction press the digit "1" & for DN direction, press the digit "2" and then Train number (TRN:--), viz. concerned train number for coaching train, 1 for goods train, 2 for Trolley, 3 for RCV Van, 4 for saloon, 5 for Rail engine shall be inserted by key board and information to be sent to the gateman by pressing SEND button.</p> <p>4) Message received including private number will be displayed on LCD panel as well as playing of Voice message on speaker. In addition to that, 'CLOSE' LED will glow on SM control Equipment. On pressing 'ACK' button the voice message will be muted.</p> <p>5) For sending group message through equipment SM is to press message button which will display Gate 1/2/3 for individual</p>	<p>2) On receipt of 'Gate closing' instruction from SM, there will be Voice message as well as Glow of 'CLOSE' LED. On pressing 'ACK' button the voice message will be muted. Then Gateman will close the Gate duly following the extant provisions made under para © below.</p> <p>3) After closing the gate the gateman will press 'CLOSE' button. The word 'GATE CLOSE' will appear in the LCD panel. Inserting Private No as 00, the message to be sent to SM Control Equipment by pressing 'SEND' button.</p> <p>6) On receipt of message, gateman to acknowledge by pressing ACK. Button.</p>

<p>gate or □ left corner for covering UP side gates. Message- Press 1 for status relay Press 2 for do not open gate Press 3 for invalid message Press 4 for previous message cancelled Press 5 for synchronization RTC 7) Group messaging through microphone. SM's to press 1) Call button 2) Direction of gate 3) Send After 10 seconds red LED of microphone will glow which will remain for 30 seconds for sending voice message. To disconnect voice message, if required SM is to press 'Call' button again. Then the LCD screen will show "Disconnecting in Progress"</p>	<p>8) a) Gateman to acknowledge by pressing acknowledge button. b) Gateman concerned will act accordingly as per message, if 'Close' gateman to follow para 2&3 as above.</p>
<p>Special Provision in the Equipment</p>	
<p>2) Voice message of LC gate problem will be played through speaker in the SM control unit with display of private number in LED display panel and glowing of PROBLEM LED on equipment.</p>	<p>1) Inability for closing the gate for any unforeseen reason to be informed by the gate man to the SM by pressing PROBLEM button with private number. 3) Immediately after, Gateman will talk to SM on duty by using Telephone provided on the equipment.</p>
<p><u>NOTE:</u> 1) Each time SM control equipment/LC gate equipment sends the information by pressing SEND button, 'ACK' LED will glow. After reception of the message at destination, 'ACK' LED will go-off with Acknowledgement in LCD display. 2) Whenever it is required / felt to communicate over telephone attached with the instrument, the same can be made use of. 3) In case 2-wire physical line fault, the message will be automatically transmitted through wireless with an indication of 'RADIO' LED glow as well as display on LCD panel. 4) For interlocked L.C.gates, where exchange of Private number is not required the SM & gateman shall use Private number (PVTN:00). 5) In the event of failure of either of control equipment (SM end / LC gate end) or both, SM/Gateman shall make use of Emergency Telephone provided with the equipment and follow the normal working procedure given in para 3.5 under exchange of private number.</p>	

(C)The gate man on duty shall close the barriers of the LC gate by operating winch. Then key 'M' is to be extracted from the winch, which will be inserted in the lever of GF-2. When GF-2 is reversed it locks the booms of the gates, releases GF-3 & GF4. The Gateman shall reverse the GF-3 or GF4 for taking OFF concerned UP and DN Gate Home signals respectively. GF-3 or GF4 can be used to put back the concerned Gate home signal in case of emergency. Lever No. GF-1 is spare lever.

(D) After passage of the Train or completion of shunting, the SM on duty shall inform the gateman, the gate man shall normalize the concerned GF-3 or 4 then GF-2 which will release key 'M'. The gate man shall extract the control key 'M' from the GF-2 and open the gate by inserting the Key 'M' into the winch for normal passage of road traffic. 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).

Once the LC gate is closed should not be opened by the gateman till such time the train for which the gate was closed has passed the LC gate completely. In case of emergency the LC gate may be opened with the specific permission of the SM/BLGR, under exchange of PN if there is no train in the section.

2. INTIMATION TO GATEMAN: -:

- i) Immediately after departure of the train, Station Master/BLGR shall advise the gateman through telephone connected at his end, the number, description, direction and expected time of passage of the train at the gate.
- ii) This advice shall be given by the Station Master/ BLGR to the gateman as soon as he receives train entering section advice from SM/LSX station.
- 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 gateman before obtaining/granting line clear.
- iv) It should be the duty of the gateman to ensure that the gate is closed in time, so that there is no detention to the train or excessive detention to road traffic.

3. FAILURE OF TELEPHONIC COMMUNICATION :

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

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

4. FAILURE OF LIFTING BARRIERS :

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

- (vii) Station Master/ BLGR shall advise maintenance staff responsible for maintaining the lifting barrier to rectify the same at the earliest.
- (viii) Normal working will be resumed only after maintenance staff repair the lifting barriers and issue reconnection/fit memo for the same.

5. 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 gateman 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) Station Master on duty/ BLGR shall issue caution order to the Loco Pilot of a departing train.
- (iv) 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.
- (v) Station Master / BLGR shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
- (vi) Normal working will be resumed only after S&T staff repair the key transmitter and issue reconnection/fit memo for the same.

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

- (i) If the gate key cannot be extracted from the winch, gate signal lever or key transmitter then gateman must immediately inform the Station Master/ 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 gateman shall secure the gate against road traffic by means of chains and padlocks and pass trains on hand signals.
- (iv) Station Master on duty/ BLGR shall issue a 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 from his end.
- (vi) Station Master/ BLGR shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
- (vii) Normal working will be resumed only after S&T staff repair the key transmitter and issue reconnection/fit memo for the same.

7. DEFECTIVE GATE SIGNAL :

- (i) The gateman shall treat the gate signal as defective and must not take off 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 winch/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 gateman will make all efforts to put it at 'ON' position even by cutting signal wires/power, if necessary.

- (iii) The gateman 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) S M on duty / BLGR will issue a caution order to the Loco Pilot of 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 despatching a train into 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.

8. **OBSTRUCTION AT THE GATE:**

- i) If the gate is broken by a road vehicle, which is fouling the track or if lifting barrier or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately put back gate signals to 'ON' position.
- ii) He shall fix red banner flag by day and red lamp by night on posts provided at both ends of the gate.
- iii) Immediately after this, the gateman shall advise the station Master/ BLGR on duty regarding the defects /obstructions at the gate, under exchange of private number.
- 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) Gateman shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item No.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 who shall not start the trains unless he has been assured by the gateman that the road vehicle or the lifting barriers are not fouling the track.
- viii) The Station Master/ BLGR shall also inform the station Master/LSX at the despatching end, under exchange of private number, asking him not to despatch any train in the block section from his end, until the track has been clear of all obstructions.
- ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- x) Station Master / 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 gateman, if the gate is broken, but is clear of any obstruction.
- xi) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and there after exhibit green hand signal, if the gate is not obstructed.
- xii) Station Master/ BLGR shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- xiii) Normally working will be resumed only after maintenance staffs rectify the defective lifting barriers and issue reconnection/fit memo for the same.

9. **OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:**

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No, 8 above, If the obstruction fouls the level Crossing Gate, gateman must keep the gates closed against road traffic till the track is cleared of the obstruction.

4.0 GATE WORKING RULES OF “C” CLASS ENGINEERING LEVEL CROSSING GATE AT KM 678/ 5 (JT-94) BETWEEN LSX- BLGR STATION.

4.1 GENERAL INSTRUCTIONS-

4.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

1.	Number of Level Crossing Gate: -	JT-94.
2.	Engineering or Traffic Gate: -	Engg.
3.	Under control of Station Master/PWI:-	PWI/BLGR
4.	Location KM	678/5
5.	At. Station: -	---
6.	In between Stations: -	LSX-BLGR.
7.	BG/MG/NG: -	BG.
8.	Single line/Double line/Multiple line: -	Single Line.
9.	Normal Position: -	Closed to road traffic.
10.	Interlocked/Non Interlocked: -	Non-interlocked.
11.	Means of interlocking: -	Not applicable.
12.	Provision of Gate signal at Kms.	
		i) Up line NIL
		ii) Dn line NIL
13.	Signalling arrangement: -	NIL.
14.	Means of Communication:	Telephone Communication from Gate Goomty to SM/BLGR.
15.	Width of level crossing Gate: -	7.5 Meters.
16.	Type of road. (NH/SH/Others): -	Others
17.	Name of Road: -	The Sonpur Road
18.	Metaled/Non Metaled	Metaled
19.	Approach Road: -	Level (Bituminous).
20.	Width of the road: -	6.0 m.
21.	Angle of road crossing (In case of the skew Gates) ---	
22.	Road gradient (If any)	
		i) North/East side-1 in 30.
		ii) SouthWest side-1 in 30.
23.	Road alignment (Straight/Curve): -	
		i) North/East side-Straight.
		ii) South/West side-Straight
24.	Provision of height gauges: -	Not Provided.
25.	Type of Barriers: -	Winch Operated Lifting Barriers
26.	Length of checkrails: -	9.5 Meter.
27.	Road surface in between Level Xings Gates: -	CCB.
28.	Length of speed breakers: -	8.0 M.
29.	Road signs: -	Available.
30.	Speed breaker indication board: -	Provided.
31.	TVU: -	26893 on 02/2013.
32.	Census next due on: -	02/2016.
33.	Demarcation for placement of Detonators: -	Displayed.
34.	No of the Gateman working: -	02
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. **EQUIPMENT:**

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

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

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

4.4 **DUTIES OF GATE MAN:**

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

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

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

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

3. **ROUTINE DUTIES OF GATEMAN:**

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

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

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

- i) He shall take prompt action to warn the Loco Pilot/guard of the passing train by showing red flag by day and red light by night.
- ii) He shall simultaneously try to draw the attention of the Loco Pilot /guard by whistling continuously, shouting, gesticulating, and throwing ballast on the brake van or by any

- other means.
- iii) If Loco Pilot /guard fails to take notice, Gateman shall immediately inform the SM on duty to take appropriate action, under exchange of private number.
- iv) In case of train parting, Gateman shall not show stop hand signal but shall show prescribed signal for train parting.
- v) He shall endeavor to attract the attention of the Loco Pilot /Guard by whistling continuously, shouting, gesticulating, and by raising both hands vertically above, quickly parting them and bringing them together in repeated Up and Down motion as high and as low as possible.
- vi) In case the train does not stop, Gateman shall immediately inform the SM to take appropriate action, under exchange of private number.

7. ACTION IN EMERGENCY AT THE LEVEL CROSSING:

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

The gateman shall protect the line as under: -

a) ON SINGLE LINE SECTION:

- i) Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the direction from which a train is expected to arrive first.
- ii) Then he will similarly plant the other red banner flag by day and red light by night towards the other direction 5 meters away from the site of obstruction.
- iii) Gateman shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction, which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v) Thereafter, he shall proceed towards the other direction, showing red hand signal, similarly place detonators as described in (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
- vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
- vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day, red hand signal lamp by night repeatedly.

b) OTHER ACTIONS TO BE TAKEN BY GATEMAN:

- i) At night Gateman shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub paras (a) and (b) above.
- ii) If the gate is broken by a road vehicle, which is fouling the track or if lifting barriers or any other part of the gate fouls the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.

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

4.5 **SPECIAL INSTRUCTIONS-**

1. (A) **MODE OF OPERATION:**

This is a Manned & Non-interlocked Engineering L.C.Gate situated at Km 678/5 in between BLGR- LSX Stations. This gate is provided with winch operated coupled lifting barriers and the gate is closed/opened by the gateman 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 gateman supported by exchange of private number. When the gateman 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 gateman 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.

(B). **Procedure for working of gate control equipment.**

Sequence of operation	
On SM control unit by SM	On LC gate unit by Gateman
<p>1) Whenever it is required to close the gate on-duty SM, on Pressing "Close" button, the word "Close" will be displayed on the LCD panel. Thereafter the Gate Number (GATE:--), Private number(PVTN:--), Expected Time (ET:--),Direction of train(UP/DN:--) Viz. for UP direction press the digit "1" & for DN direction, press the digit "2" and then Train number (TRN:---), viz. concerned train number for coaching train, 1 for goods train, 2 for Trolley, 3 for RCV Van, 4 for saloon, 5 for Rail engine shall be inserted by key board and information to be sent to the gateman by pressing SEND button.</p> <p>4) Received message will be displayed on LCD panel as well as playing of Voice message on speaker. In addition to that, 'CLOSE' LED will glow on SM control Equipment. Besides, PN will be displayed in the LED panel fixed above the equipment. On pressing 'ACK' button the voice message will be muted.</p> <p>5) For sending group message through equipment SM is to press message button which will display Gate 1/2/3 for individual gate or <input type="checkbox"/> left corner for covering UP side gates. Message- Press 1 for status relay</p>	<p>2) On receipt of advice from SM, there will be Voice message. On pressing 'ACK' button the voice message will be muted. Then Gateman will close the Gate (if the same has not been closed and locked) duly following the extant provisions made under para 4.5 (2).</p> <p>3) Thereafter, on pressing 'CLOSE' button the word 'GATE CLOSE' will appear in the LCD panel. Inserting valid Private No --, the message to be sent to SM Control Equipment by pressing 'SEND' button.</p> <p>6) On receipt of message, gateman to acknowledge by pressing ACK. Button.</p>

<p>Press 2 for do not open gate Press 3 for invalid message Press 4 for previous message cancelled Press 5 for synchronization RTC 7) Group messaging through microphone. SM's to press 1) Call button 2) Direction of gate 3) Send After 10 seconds red LED of microphone will glow which will remain for 30 seconds for sending voice message. To disconnect voice message, if required SM is to press 'Call' button again. Then the LCD screen will show "Disconnecting in Progress"</p>	<p>8) a) Gateman to acknowledge by pressing acknowledge button. b) Gateman concerned will act accordingly as per message, if 'Close' gateman to follow para 2&3 as above.</p>
<p>Special Provision in the Equipment</p>	
<p>2) Voice message of LC gate problem will be played through speaker in the SM control unit with display of private number in LED display panel and glowing of PROBLEM LED on equipment.</p>	<p>1) Inability for closing the gate for any unforeseen reason to be informed by the gate man to the SM by pressing PROBLEM button with private number. 3) Immediately after, Gateman will talk to SM on duty by using Telephone provided on the equipment.</p>
<p>NOTE:1) Each time SM control equipment/LC gate equipment sends the information by pressing SEND button, 'ACK' LED will glow. After reception of the message at destination, 'ACK' LED will go-off with Acknowledgement in LCD display. 2) Whenever it is required / felt to communicate over telephone attached with the instrument, the same can be made use of. 3) In case 2-wire physical line fault, the message will be automatically transmitted through wireless with an indication of 'RADIO' LED glow as well as display on LCD panel. 4) In the event of failure of either of control equipment (SM end / LC gate end) or both, SM/Gateman shall make use of Emergency Telephone provided with the equipment and follow the normal working procedure given in para 4.5 (2) under exchange of private number.</p>	

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 Gateman on the telephone by giving a Private Number whether, gate is closed against road traffic for the passage of train. The Gateman 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 gateman supported by exchange of private number.

- (iv) When the gateman 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 SM/ BLGR, the whole of the train with last vehicle indicator has passed over the level crossing gate and SM / BLGR has not exchanged PN 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 Gateman 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 gateman 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. **FAILURE OF TELEPHONIC COMMUNICATION:**

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

- i) SM/ BLGR shall serve a caution order to the Loco pilot and the Guard of every train proceeding into the affected section giving the number and kilometrage of the level crossing and directing the loco pilot:-
 - a) To whistle frequently to attract the attention of the gateman,
 - b) To proceed cautiously, and stop 30M. short of the level crossing and be guided by hand signal.
- ii) a) The Loco Pilot after stopping, if the gateman is available and apparently in a fit condition to continue his duty and the gates are closed, shall arrange to advise the station master / BLGR as the case may be of the fact using the telephone provided at the gate. The SM/ BLGR on receipt of such an advice from the Loco Pilot shall discontinue issue of caution order to the following trains provided the acknowledgement of the gateman is available over the telephone.
 - b) In the above circumstance, the Loco Pilot should not stop his train at the next station to advise the Station Master.
- iii) a) If the loco Pilot does not find the gateman at the level crossing or if the gateman is apparently unfit for duty and the gates are not closed, he shall depute his Assistant, the Loco Pilot shall seek assistance of the Assistant Guard or Guard of the train. The same should be informed to the Station Master/ BLGR on gate telephone.
 - b) The Loco Pilot, after being hand signaled, shall pass the level crossing and stop clear of it by at least 2 bogie lengths to pick up the Assistant or Assistant Guard / Guard, as the case may be. The Railway servant deputed for closing the gate shall reopen it for road traffic after the passage of the last vehicle of the train.
 - c) If, however, the telephone is out of order or the gateman is not available or is apparently unfit to continue his duty and intimation of the fact could not be given to the station/ BLGR from the gate, the Loco Pilot shall stop his train at the next station (even if it is through passing station) and give a memo to the Station Master/ BLGR indicating the condition of the gateman, gate and telephone.

- d) The Station Master/ BLGR on receipt of the Loco Pilot's report regarding absence or unfitness of the gateman, shall advise the station Master/ LSX, the Notice Station, the Section Controller, JE/SE/SSE (P.Way) and AEN concerned and the Gangmate of the nearest gang for immediate posting of a gateman. He shall also inform the maintenance staff to attend and repair the telephone, if required. Issue of caution order should continue till normal working condition is restored.
- iv) Before giving line clear to a train, the Station Master/ BLGR shall advise the Station Master/ LSX of the facts by message supported by a Private Number, and obtain his acknowledgement with a Private Number. The latter shall issue a caution order to the Loco Pilot as detailed in Para (i).
- v) Necessary entries shall be made in the Caution Order Register, Station Diary or Signal Failure Register as the case may be by Station Masters at either end of the affected station. The Section Controller shall also keep a note in his chart indicating the action taken by him.

4. FAILURE OF LIFTING BARRIERS:

- i) When the gate cannot be closed due to failure of lifting barriers, the gateman will immediately inform the station Master on duty/ BLGR, under exchange of Private number, and ensure that lifting barriers of gate do not foul the track.
- ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.
- iii) Gateman shall secure the gate against road traffic by means of safety chains and padlocks.
- iv) After securing the gate against road traffic, he shall show green hand signal flag by day and green light by night to the driver of an approaching train.
- v) Station Master on duty/ BLGR shall issue caution order to the Loco Pilot of departing train.
- vi) 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 into the block section from his end.
- vii) He should also advise maintenance staff responsible for maintenance of the lifting barriers to rectify the defect at the earliest.
- ix) Normal working will be resumed only after maintenance staff rectify the lifting barriers and issue reconnection/fit memo for the same.

5. OBSTRUCTION AT THE GATE:

- i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall Immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- ii) Immediately after this, the gateman shall advise the Station Master/ BLGR on duty, regarding the defects/obstruction at the gate, under exchange of private number.
- iii) Stationmaster/ 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) Gateman shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instructions for duties of gateman under item No.4.5. (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 gateman 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 despatching end, under exchange of private number, asking him not to despatch any train into the block section from his end, until the track has been clear of all obstruction.
- ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- x) Station Master / 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 gateman, if the gate is broken, but is clear of any obstruction.
- xi) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and thereafter exhibit green hand signal, if the gate is not obstructed.
- xii) Station Master / BLGR shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- xiii) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers and issue reconnection/fit memo for the same.

6. OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment, which is visible to the gateman, the gateman and Station Master/ BLGR will adopt the procedure given under item No.5. above. If the obstruction fouls the level Crossing Gate, gateman must keep the gates closed against road traffic till the track is cleared of the obstruction.

APPENDIX – ‘B’**SYSTEM OF SIGNALLING & INTERLOCKING AT BALANGIR STATION**

Details of signalling and interlocking installations, instructions for working them normally and Emergencies etc., including the power supply arrangements.

BRIEF DESCRIPTION OF THE SIGNALLING & INTERLOCKING INSTALLATIONS:

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

1.0 DESCRIPTION OF PANEL:

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

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

SL. NO.	POINT NO.	COLOUR OF BUTTON	DESCRIPTION
1	21	BLACK	Cross over Point between Main line and shunting neck at LSX end.
2	22	BLACK	Cross-over point between Main line and line no.3 at DFR end.
3	23	BLACK	Cross-over point between Main line and line no. 5 at LSX end.
4	24	BLACK	Cross-over point between Main line and line no. 1 at DFR end.
5	25	BLACK	Cross-over point between Main line and line no. 5 at LSX end.
6	26	BLACK	Cross-over point between line no.3 and line no. 5 at DFR end.
7	27	BLACK	Point taking off from main line towards line no. 3 at LSX end
8	28	BLACK	Cross-over point between line no.3 and line no. 4 at DFR end.
9	29	BLACK	Cross-over point between line no.3 and line no. 4 at LSX end.
10	31	BLACK	Cross-over point between Main line and line no. 1 at LSX end.
11	33	BLACK	DS point on line No 3 at LSX end

1.1.2 DESCRIPTION OF POINT GROUP BUTTON: -

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

1.1.3 OPERATION OF POINTS BY POINT PUSH BUTTONS: -

Points are operated for NORMAL to REVERSE or vice versa by operating concerned point push button along with common point group button for normal or reverse operation. When the points are required to set from normal to reverse, the concerned point push button along

with common point group button for reverse operation are to be pressed simultaneously. As soon as the operation is initiated the WHITE indication will start flashing till the point is correctly set to reverse at site and steady WHITE indication glows. Similar operation shall be done when the points are required to set from reverse to normal. Only one point can be operated individually at a time.

1.2.0 **POINT INDICATIONS:** -

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

1.2.1. When a point is set and locked in Normal position, a horizontal 'WHITE' indication appears suggesting that the point is set in NORMAL position.

1.2.2 When a point is set and locked in REVERSE position, a diagonal 'WHITE' indication appears suggesting that the point is set in REVERSE position.

1.2.3 When the points of any route have been correctly set and relevant signal taken 'OFF', RED indication near the point on the panel appears indicating that the concerned points are locked either in NORMAL or REVERSE position as the case may be.

1.2.4 When the points are not set or locked either in NORMAL or in REVERSE correctly, the normal and reverse steady indication will not be there but the WHITE indication will start flashing till such time the point is housed & locked properly in one of the positions. In such case points are to be set both ways by crank handle and clamped and padlocked. This WHITE indication will flash during operation of point also. After completion operation of point during crank handle operation, NORMAL or REVERSE indication appears on panel

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

1.2.4 **NON SETTING OF POINTS:** -

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

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

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

SL NO.	CRANK HANDLE	COLOUR OF BUTTON	CONTROL POINTS
1	CH1	BLUE	21A & B
2	CH2	BLUE	22A & B
3	CH3	BLUE	24A & B, 31A & B

4	CH4	BLUE	26A & B, 28A & B
5	CH5	BLUE	23A & B, 25A & B, 27, 29A & B and 33

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

1.3.0 **SIGNAL PUSH BUTTON:**

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

1.3.1 **DESCRIPTION OF SIGNAL BUTTONS:**

SL. NO.	BUTTON NO.	COLOUR	DESCRIPTION
1	S1	RED	UP Home Signal for Line No. 1, 2, 3 & 4
2	C-1	RED with WHITE DOT	UP calling on Signal for line No. 1, 2, 3 & 4
3	S2	RED	DN Home Signal for Line No. 1, 2, 3 & 4
4	C-2	RED with WHITE DOT	DN calling on Signal for line No. 1, 2, 3 & 4
5	SH-3	YELLOW	Shunting towards line no. 1, 2, 3, 4 & 5
6	SH-4	YELLOW	Shunting towards line no. 1, 2, 3, 4 & 5
7	SH-5	YELLOW	Shunting towards line no. 1, 2, 3, 4, 5 & ballast siding from shunting neck.
8	SH-6	YELLOW	Shunting towards shunting neck and main line up to DN advanced starter from line no. 5.
9	SH-7	YELLOW	Shunting towards main line up to UP advanced starter from line no. 5.
10	S8	RED	DN starter from line No.1
11	SH-8	YELLOW	Shunting towards shunting neck from line no. 1.
12	S9	RED	UP Starter on line No.4
13	S10	RED	DN starter from line No.4
14	SH-10	YELLOW	Shunting towards shunting neck from line no. 4.
15	S11	RED	UP starter from line No. 3.
16	S12	RED	DN starter from line No. 3.

17	SH-12	YELLOW	Shunting towards shunting neck from line no. 3.
18	S13	RED	UP starter from line No. 1.
19	S14	RED	DN starter from line No. 2.
20	SH-14	YELLOW	Shunting towards shunting neck from line no. 2.
21	S15	RED	UP starter from line No. 2.
22	SH-16	YELLOW	Shunting towards shunting neck from ballast siding.
23	S17	RED	UP Advanced Starter signal towards DFR
24	S18	RED	DN Advanced Starter signal towards LSX

1.3.2. **SIGNAL INDICATIONS:** -

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

1.4 **ROUTE BUTTONS:** -

Route buttons are provided separately on each running line on the panel for initiation of route (viz. L1UN, L1UN1, L2UN, L3UN, L3UN1, L4UN, L4UN1, L5UN). Common route buttons are also provided for taking off starters (viz.: 17AT UN, 18 AT UN). An individual route button is provided for taking off Advanced starter (Viz.: 17UN, 18UN). In addition to it route buttons i.e. SD UN and SD UN1 are provided for setting of the route to shunting neck and ballast siding respectively. For clearing the signals it is necessary to operate the signal buttons and the concerned route button concurrently. In the panel, the routes are set automatically by operation of entry and exit button.

1.4.2 **DESCRIPTION OF ROUTE BUTTONS**

SL. NO.	BUTTON NO.	COLOUR	DESCRIPTION
1	L1 UN	WHITE	Common route button for UP or DN Home, for line No.1 setting overlap Up to advanced starters.
2	L1 UN1	WHITE with BLACK dot	Common route button for DN Home setting overlap to over run line and for UP/DN Calling-On & shunt signals (SH-3, SH-4 & SH-5) for Line No.1
3	L2 UN	WHITE	Common route button for UP or DN Home/Calling-on and shunt signals (SH3, SH4 & SH5) for line No.2 (Main line).
4	L3 UN	WHITE	Common route button for UP or DN Home, for line No.3 setting overlap up to advanced starter signal.

5	L3 UN1	WHITE with BLACK dot	Common route button for UP and DN Home, setting overlap up to end of overrun line and for UP/DN Calling on & shunt signals (SH-3, SH-4 & SH5) for line No.3
6	L4 UN	WHITE	Common route button for UP or DN Home, for line No.4 setting overlap up to advanced starters.
7	L4 UN1	WHITE with BLACK dot	Common route button for UP and DN Home, setting overlap up to end of overrun line and for UP/DN Calling on & shunt signals (SH-3, SH-4 & SH5) for line No.4
8	L5 UN	WHITE with BLACK dot	Common route button for shunt signals (SH-3, SH-4 & SH 5) for line No.5
9	SD UN	WHITE with BLACK dot	Common route button for shunt signals (SH-6, SH-8, SH-10, SH-12, SH-14 & SH-16) for shunting neck.
10	SD UN1	WHITE with BLACK dot	Route button for shunt signals (SH-5) for setting to ballast siding.
11	17AT UN	WHITE	Common route button for UP starter signal No. 9 or 11 or 13 or 15 or SH-7.
12	17 UN	WHITE	Route button for UP advance starter signal No. 17.
13	18AT UN	WHITE	Common Route button for DN starter signal No. 8 or 10 or 12 or 14 or SH-6.
14	18 UN	WHITE	Route button of DN advanced starter signal No.18.

3.0 **TRAIN ARRIVAL INDICATION THROUGH AXLE COUNTER:**

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

4.0 **POWER FAILURE:**

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

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

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

- 4.1 Inverters are provided to prevent possibility of blank signals in case of SEB power supply failure. Whenever SEB power supply fails inverter will immediately extend power supply to signals thereby preventing blank signals.
- 4.2 Based on the indication shown in the SM's Power Panel SM on duty should start DG for avoiding any case of shut down of power sub system of integrated Power Supply system.
- 4.3 Solar Power supply is provided in the station as standby, power supply. If there is any indication on SM's power panel regarding deviation in IPS system call S&T staff.

5.0 **EMERGENCY ROUTE RELEASE COUNTER**

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

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

This panel interlocking is based on the principle of 'DEAD APPROCH LOCKING'. As such when a route is set and signal is taken off on the route, the route gets locked. Normally the route is released by the passage of the train over the route. When it becomes necessary to alter the route after the signal has been taken off vide SR 3.36.02 (a), the concerned signal must be put back to Danger by pressing the Signal cancellation button and the concerned signal button. Then the emergency route release button (white with red dot) positioned in the top of panel to be pressed after breaking the seal and subsequently the concerned signal button pertaining to the route is to be pressed. A white light will flash (Up or Down) indicating that the timer is working. After 120 seconds, the white light along with the white strip of light will disappear suggesting the route has been released. In case the route illumination (a white strip of lights) does not disappear, it suggests that the route is not released/cancelled. In such case the emergency cancellation of route has to be resorted to. The concerned S&T staff should be advised immediately to get the emergency route release button sealed after rectification of fault if any. Each operation of emergency cancellation of route is recorded in the emergency route release counter by registering the next higher number. All such operations and the new number should be recorded in the station diary and in the train signal register.

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

Emergency point operation facility is provided to operate point in the event of failure of track circuit controlling the point. A push button (BLACK WITH RED DOT) is provided on the top of panel. If such operation is necessary, the SM on duty, after ensuring that no vehicle is standing on the concerned point zone track circuit and SM's emergency point key is 'IN' shall press emergency point operation button by breaking the seal along with relevant point button simultaneously. An indication will appear above the emergency point operation key, indicating that emergency point operation has initiated. Then retaining the point button pressed, emergency point operation button to be released and the point group button normal / reverse button is to be pressed for operating the point to 'NORMAL' or 'REVERSE'. All such operations will be registered in the emergency point operation counter and counter number will increase by next number. Each operation of emergency point operation shall be recorded in the station diary and in the register meant for this purpose. Before initiating emergency

point operation when the concerned point zone track circuit is showing occupied SM on duty must carry out physical verification at site to ascertain that the said track circuit is clear of vehicles. The concerned S&T staff should be advised immediately to get the emergency point operation button resealed after rectification of fault if any.

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

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

9.0 **OVERLAP TIME RELEASE INDICATION (WHITE LIGHT): -**

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

10.0 **TRACK CIRCUITS: -**

The station yard is fully track circuited from Home signal to Home signal and also for 7 rail lengths in rear of the Home signals on either side. Track circuits 1AT and 2AT are calling-on track circuits. 21AT, 21BT, 23AT, 23BT, 25AT, 25BT, 27/29/33T, 31AT, 31BT, 22/24T, 22BT, 26/28T are Point zone track circuits. L1T1, L1T2, L1T3, L2T1, L2T2, L2T3, L3T1, L3T2, L3T3, L4T1, L4T2, L4T3 are berthing track circuits. Other track circuits namely 1T, 2T, 17AT & 18AT are for signal replacement, route holding and trolley suppression. Indications for all track circuits are indicated on the panel. Normally these are not lit when the track circuits are clear. And RED light appears when the track circuit is occupied/failed. White lights for the track indications appear when the relevant route is set. In case of failure of any track circuit, the controlled signals or points are to be treated as non-interlocked and trains shall be worked as per relevant rules.

11.0 **STATION MASTER'S PANEL CONTROL KEY: -**

The panel is fitted with Station Master's lock up key to prevent any unauthorized operation of the Panel. The SM/SS on duty is the only authorised person to operate the panel and the panel Key must always remain in his personal custody vide SR 3.36.03 & GR 5.08. The key locks the panel board and no operations are possible. In case of emergency, signals can be put back to danger by operating concerned signal button and Signal cancel button without releasing the panel locks also. However, the provisions of SR 3.36.02 shall be followed while replacing the signals to 'ON'.

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

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

button. This will enable SM/TP to extract crank handle key CH-1/CH-2/CH3/CH4/CH5 from RKT at end location. SS/SM/TPM on duty after extracting the crank handle key from RKT at end-location, insert it in the space provided for it on the point machine and turn it to open up the slot for crank handle in the point machine. After inserting the crank handle in the point machine he shall operate it to set the point in desired position. After completion of point work the crank handle key is to be inserted in the RKT at end location and transmitted to station. Station Master on getting ' Key IN ' flashing indication that will appear on panel, shall press relevant CH button & Group Release button to get the steady key "IN" indication. SM on duty shall personally ensure clamping and padlocking all facing and trailing points en-route. The cases of failure of Motor operated points should be promptly reported to the concerned ESM/Signal Inspector for immediate rectification. SM on duty as per OM 20.06 (d) shall maintain an emergency crank handle register. The procedure for use of crank handle for Motor operated points shall be followed in terms of operating Manual 20.06.

13.0 **SETTING OF ROUTE AND TAKING OFF RECEPTION SIGNALS:** -

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

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

For setting a particular route for departure of a train, all the concerned points must be set by operation of point button and point group button one at a time in the desired position or by operating signal button and route button. To take off advanced starter, line clear must be obtained from the concerned block station in advance. Then the concerned advanced starter signal button shall be pressed along with the advanced starter route button to be pressed for two to three seconds and released. This will clear the advanced starter signal.

14.1.1 To take off the starter signal the concerned signal button to be pressed and at the same time common Route button to be pressed for two to three seconds and released. This will clear starter signal and a white Strip of light will appear on the route from the concerned Starter to the Advanced starter signal.

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

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

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

14.3.0 **RELEASE / CANCELLATION OF ROUTE:**

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

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

Signals are replaced to 'ON' automatically by the passage of a train past the signal. It will not be possible to re-clear the signal again unless the due process for clearing the signal is repeated again. For replacement of any signal to 'ON' position manually, the respective signal button and the signal cancellation button (RED) to be pressed simultaneously.

14.5.0 **INTERLOCKING OF SIGNALS/POINTS:**

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

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

14.5.2 Signals once taken 'OFF' can be put back to danger in case of emergency by pressing concerned signal button and signal cancellation button even when the panel is locked up with Station Master's key.

14.6 **PILOTING OF TRAINS: -**

In the event of failure of both Home signal and Calling ON signal simultaneously, it is inevitable to pilot the train 'IN'. For piloting the train, the setting of route must be ensured by SM/SS on duty personally and the points en-route must be clamped & padlocked at both facing & trailing end by Operating staff. Same procedure shall be adopted when route illumination fail to disappear. Facing and trailing ends of the all-motor operated points must be clamped and padlocked while piloting 'IN' or 'OUT' and during non-signalled move.

14.7 **SHUNTING:**

For shunting in UP direction OFF aspect of UP starter signals shall be used and for shunting in DN direction from berthing lines shunt signals provided below the starter signals. For back shunting, shunt signals provided at either end of the yard shall be used. For shunting into and out of the shunting neck shunt signals provided shall be used.

15.0 **TOKEN LESS BLOCK INSTRUMENT:**

15.1 **KEYS & BUTTONS**

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

OCC Key- Authority for loco Pilot of a train to shunt upto the first stop signal. This key remains normally inserted in the instrument and can be taken out only if block handle is in either line closed or TGT position.

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

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

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

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

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

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

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

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

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

Buzzer BZ2- Audible indication at the receiving station when the whole of the train passes within Home signal.

15.2 OPERATIONS OF TLBI (DIADO) INSTRUMENT:

SM shall follow the para Nos. 5.33 for line clear transaction, 5.34 for cancellation of line obtained, 5.35 for normalising block instrument when train returns to the despatching block section, 5.36 for shunting between last stop signal & the first stop signal from the opposite direction, 5.37 for shunting between the last stop signal & opposite first stop signal behind departing train, 5.38 for shunting outside first stop signal, 5.39 for working of Motor trolley, 5.40 for working of material trolley, 5.43 for failure of electrical instrument, 5.45 for resumption of normal working and 5.46 for recording counter No. of S-1 & S-2 in TSR vide BWM Chapter-V, Part-II.

15.3 INTERLOCKING BETWEEN SIGNALS AND BLOCK INSTRUMENTS:

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

	Section	Type of Block Instrument
1.	BLGR-LSX	Daido Type Single line Token-less Block Instrument.
2.	BLGR-DFR	Daido Type Single line Token-less Block Instrument.

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

- a) The block working of the section BLGR-LSX & BLGR-DFR is controlled with the provision of Token-less Block Instrument (Diado type),
- b) The Advanced starter signals are interlocked with the respective Block Instrument in such a way that the any Advanced starter signal can not be taken off unless the Line Clear is obtained from the block station in advance and the handle of the Token-less Block Instrument is turned to "TGT" position.
- c) The concerned Advanced starter signal aspect will be changed its "OFF" aspect to "ON" aspect as soon as the leading pair of the train wheels occupies the concerned Advanced starter signal replacement track circuit provided ahead of the respective signal.

3) **BLOCK RELEASE:-**

- [a] The Block Instruments are restored to normal (Line Closed condition) only after the complete arrival of the train past the block overlap ahead of the respective Home signal on either side of the Station yard.
- [b] All the power signaling installations in the Station yard are centrally controlled from the panel and it is explicit in this arrangement that the complete arrival of a train into the yard from the block section can not be ensured by the operating personnel in the centrally located panel hence, to ensure complete arrival of the incoming train, Axle Counters are provided between BLGR-LSX & BLGR-DFR sections.
Thus the Axle Counters provided at the end of the Block Overlap ahead of the respective Home signal to ensure complete arrival of the incoming trains at Station yard.

- [c] In the event of failure of Axle Counter, block working of the section concerned is to be suspended, Line clear Station Master shall not normalize the commutator of the concerned Block Instrument to “Line Closed” position and shall not despatch “Train out of block section” report to the station in rear until he is satisfied by seeing the Last Vehicle Indicator on the last vehicle of the incoming train (after arrival) of which Axle Counters failed or obtaining the complete arrival certificate from the Guard of the train. Then station master shall resort to resetting procedure of the axle counter of concerned block section.

16.0 **VERIFICATION OF LINE CLEARANCE BY STATION MASTER ON DUTY FOR RECEPTION OF TRAIN INTO STATION YARD: -**

In the Station yard, a route on the running line comprises of entrance, berthing and dispatch portion of the yard and this portion of the yard should be clear of any obstruction for the passages of any train or for any other movements. The clearance of the route including overlap must be ensured by the SM on duty personally through panel indications of track before any movement of trains are permitted on the concerned route subject to the other conditions such as locking of the point's etc.

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

Crank handle keys are interlocked with the signalling and interlocking system at this station. Crank handles which are normally locked inside the RKT instrument at the station, can be taken out only when all the signals are in the ‘normal’ position and the route is not locked for whatever reasons. Crank handle key can be released by operating common ‘TRANS’ push button and concerned crank handle button simultaneously. When this key is taken out, no signal of the concerned route can be taken off in the yard. This key can be electrically transmitted at both ends of the yard.

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

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

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

When a train is stabled on a running line for a duration exceeding ten hours, the use of the said running line for passing the trains ‘IN’, ‘THROUGH’ or ‘OUT’ at the station shall be done with a lot of care and diligence. SM on duty shall meticulously observe the proper functioning of the relevant track circuits (occupancy/clearance) while admitting a train. Such observance should continue for a minimum of four to five trains thereafter. If SM on duty is not satisfied with the proper functioning of the track circuits on which the train was earlier stabled, the signals leading on the line shall be suspended and the S & T maintenance staff be informed for attending to this.

19.0 **EMERGENCY OPERATIONS:**

The following are the instructions for emergency operations.

- 20.1 **EMERGENCY ROUTE CANCELLATION BUTTON AND VEEDER COUNTER: -**
For the purpose of emergency operations there is an emergency 'Route cancellation'. There is a 'VEEDER COUNTER' for counting emergency operations involving operation of the emergency route cancellation button (provided at the top of the panel). The SM on duty must press the emergency route cancellation button after breaking the seal and the signal button conforming to the section for which emergency route release is desired. A flashing indication will appear indicating that the cancellation operation has been initiated and after lapse of 120 seconds, the desired route will release provided all other conditions are favorable for route release.
- 20.2 The Veeder counter registers the number of such emergency cancellation operations. SM on duty should specify the cause for its usage giving the particulars of causes and the time of operation as related to a particular train etc. in the train signal register as well as in a separate register meant for this purpose. The detailed operational instructions are as follows:
- 20.3 **EMERGENCY OPERATIONS – CANCELLATION OF THE LOCKING OF POINTS NOT RELEASED AFTER THE PASSAGE OF THE TRAIN FOR WHATEVER REASON: -**
If the locking of the route does not get released for one reason or the other after passage of the train, it is necessary to take recourse to the following emergency operations.
- a) Firstly it must be ensured that the Signal is in the normal position.
 - b) Operation as detailed in Para 7.0 of Appendix-B to be followed. In case route is not released even after emergency route cancellation, facility of crank handling of points shall be used. For releasing the crank handle even when lock indication of crank handle appears on the panel, press Group Trans button and crank handle button. After two minutes key from RKT can be extracted. For further operation 17.0 of Appendix 'B' shall be followed.
- 20.4 **EMERGENCY GATE RELEASE OPERATION:**
Emergency gate release operation facility is provided in the panel when the route gets locked out of some failure. For emergency release of gate, the SM on duty shall press emergency gate release button after breaking the seal and gate button no.34. After a lapse of 120 secs, a red light will glow over the emergency gate release button indicating that the operation is matured. The SM on duty shall then operate push button no.34 and group Trans button to release the key from RKT on gate. All such operation will be registered in the emergency gate operation counter. SM shall record this and all such operations in the station diary & in the register meant for it. Normally the emergency gate release button is in sealed condition. The concerned S&T staff should be advised immediately to get the emergency gate release button sealed after rectification of fault if any.
- 21.0 **LOCKING OF RELAY ROOM: -**
Refer para No.4.2 of main SWR.
- 22.0 **MAINTENANCE OF S&T INSTALLATION & ADHERENCE TO MAINTENANCE SCHEDULES:**
Regular maintenance of the S&T installations, adherence to schedules of maintenance, testing of points, track circuits, ground frames, level crossing gates, associated interlocking apparatus, cables and the interlocking functional tests is must for safe and satisfactory working of these installations at this station.
The tests, checks and replacements etc., including overhauling shall conform to the schedules of Maintenance as indicated in the Signal Engineering Manual as also as per the current and extant instructions/circulars on the subject. During checking/ testing or during day-to-day as well as regular maintenance of S&T gears, SM on duty shall co-operate with S&T staff for safe and satisfactory maintenance.

- 22.1 **PROCEDURE TO BE FOLLOWED INCASE OF FAILURE OF A SIGNAL INTERLOCKING INSTALLATION: -**
In case of failure of any interlocking gear at the station, the failure report should be communicated by the SM on duty to the sectional Maintainer, the JE/SE/SSE (SIG) of the Section and others through a memo as per G & SR 3.51.04 and 3.68.04 and document all such transactions.
- 22.2 **INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:-**
However, before declaring a signal or any other S&T gear as defective SS/SM on duty shall verify them and setting of points on the route and overlap for a signal to which it applies shall be inspected by the /SM on duty irrespective of the position of buttons and indications on the panel and will work vide GR 3.68.
- 22.3 **RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING: -**
After receipt of this information the sectional Maintainer shall attend to the failure after giving a Disconnection Memo. After rectification of the fault, the Sectional Maintainer shall give a Reconnection Memo detailing the rectification. Thereafter the SS/SM on duty shall personally check the defective apparatus. After satisfying himself that the gear is in good and proper working order, he shall resume the normal working of the said defective apparatus in terms of SR 3.68.04 (c), (d), (e) & (f).
- 22.4 **PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORK: -**
Whenever any normal maintenance or special works for major renewals etc., are involved, the signal & Telecom should pre plan these works. Field staff and the JE/SE/SSE (SIG) should give 'Advance Intimation' to the SS/SM in writing about this work in terms of GR & SR 15.08.01.
- 22.5 **EMERGENCIES: -**
Notwithstanding anything contained in the aforesaid paras when equipment is found to be defective and unsafe for passage of trains, the Signal & telecom. Staff must at once suspend the working of the equipment and associated installations and issue 'Suspension Memo' explaining the seriousness of defect or damage to the interlocking installation to the SM on duty and take the Station Master's acknowledgement. After this, the usual practice of exchange of disconnection memo and reconnection memo can follow. The SS/SM on duty must act promptly on such messages and take adequate precaution treating the S&T installation as defective and pass trains over the affected interlocking equipment according to extant instructions as contained in G & SR 3.77.
- 23 **PROCEDURE TO BE FOLLOWED IN THE CASE OF FAILURE OF SIGNALS AND POINTS AND USE OF EMERGENCY CRANK HANDLE: -**
Whenever a signal or a point becomes defective, any movement over the points on the running lines shall be made after clamping and padlocking of both facing and trailing points supervised by SS/SM on duty personally for all trains at this station.
- 23.1 In case of failure of a signal or a point and in case the point can not be operated from the panel, emergency crank handle, which is interlocked with system is to be extracted and the following procedure is to be adopted.
- 23.2 Emergency crank handle is provided for all motor operated points. This is mechanically attached to the key on RKT and can be released by pressing Crank Handle control push button CH1/CH2/CH3/CH4/CH5 and Group Trans button simultaneously. All signals will be locked in normal position as soon as the key is released. SM on duty shall transmit the key to required end of the yard and operate the point manually.

- 23.3 When the crank handle key is removed from RKT for operation of the defective motor operated points, the responsibility for its safe custody vests with the Station Master on duty, till it is replaced back in RKT.
- 23.4 The case of failure of motor operated points should be promptly reported to the concerned Signal maintainer/JE/SE/SSE for rectification.
- 23.5 Whenever a Crank Handle is required to be used by a signal official for maintenance work or attending to failure, the signal official will give a disconnection memo to the SM on duty and after making necessary entries in the Crank Handle Register. The SM on duty will obtain the acknowledgement of the signal official in the Crank Handle Register and then hand over to him the Crank Handle. The points will be treated as defective till the Crank Handle is returned back to the SM on duty.
- 23.6 Before parting with the Crank Handle either for attending failures or for maintenance work by Signal maintenance officials, the SM on duty will ensure that the reception and departure signals are put back to 'ON' position. The points for the affected lines should be treated as non-interlocked. The SM on duty is responsible for introduction of non-interlocked working and the trains will be piloted 'IN' and 'OUT' duly clamping and padlocking both facing and trailing points over which the train is to pass, as per GR 3.69 and 3.70 with relevant SRs. The SM on duty will be personally responsible for setting and locking of points for reception or despatch of all trains.
- 23.7 The Emergency Crank Handle Register is to be maintained vide OM 20.06 note (d) by the SM on duty wherein the particulars of the usage of the Emergency Crank Handle must be recorded.
- 24.0 **SUSPENSION OF LAST STOP SIGNALS:** -
When the Block instrument is suspended with its handle in 'TRAIN COMING FROM' position or "TRAIN GOING TO" position as the case may be for whatever reason, the concerned last stop signal controlled by the Block Instruments must be treated as suspended and trains shall be worked on PLCT.
- 24.1 The SM on duty shall not grant 'LINE CLEAR' unless he has ensured that the lamps of fixed signals, which apply, to the train are burning. If the signal lights can not be kept burning, the SS/SM on duty before giving 'LINE CLEAR' shall initiate action in accordance with the procedure prescribed in GR 3.61 to 3.71 & relevant SRs vide GR 3.49 (4).
- 24.2 The SM on duty shall not grant or ask 'LINE CLEAR', if the Axle Counter Section indicates section occupied and will treat the Block Instrument as suspended.
25. **SIGNAL LIGHTS:** -
The SM on duty must also ensure from panel board that all the signal lights are burning properly and brightly. This fact must be recorded in the Diary under a separate entry and confirm to the Section Controller on duty.
26. **CORRECTING TIME IN STATION CLOCK:** -
The SM shall set the time in his clock according to the time signal given by the Section Controller on duty at 16.00 hours every day according to G & SR 4.01.01 and 4.01.02.
- 27.0. **NORMAL POWER SUPPLY:** -
The Station works on 230 volts AC single-phase power supply. The normal power supply is from the SEB. Stand-by power is supplied by the diesel generator one in number. Solar power supply is also provided in this station.

27.1 POWER FAILURE AND REPORTING SUCH FAILURES: -

Normal power supply to the Signalling and Interlocking installations at this station is drawn from the SEB Power supply source (at 230 V, 50 Hz). In SM's Office there is SM power panel, which represents the voltage of the integrated power supply system.

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

Whenever SEB (Main) power supply fails, a buzzer on the panel will buzz on. SM on duty has to press the power acknowledgement button. The SM on duty shall start the Diesel Generator for stand by (Auxiliary) power supply. After run of the Diesel generator and on resumption of power supply, SM shall acknowledge the same by pressing the power acknowledgement button.

27.2 The SM on duty must maintain record of power failure and he must promptly report the failure to the section controller and the concerned electrical and S&T maintenance staff.

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

- (a) Axle Counter as LVCD has been provided for the section BLGR-LSX and BLGR-DFR as last vehicle checking device. The axle counter will also have control over the UP/DN last stop signals and block instrument of respective direction of BLGR station.
- (b) The occupation and clearance of the axle counter section is indicated by RED and GREEN indication respectively provided on the panel.
- (c) UP last stop signal of BLGR cannot be taken OFF if axle counter of block section BLGR-DFR fails. Similarly DN last stop signal of BLGR cannot be taken OFF if axle counter of block section

BLGR-LSX fails. On the other hand on arrival of a train at station if the axle counter continues to show occupied the block instruments of concerned block section cannot be turned to line closed position

28.1 NORMALISATION OF AXLE COUNTER AND BLOCK WORKING BY RESETTING OF AXLE COUNTER

- (A) After the train has been received by the receiving station or after a block back operation or when no train has entered into the block section and the axle counter displays RED, then the following procedure shall be adopted to reset the axle counter.
 - (B) **VERIFY THE BLOCK SECTION IS CLEAR OF ANY VEHICLES**
 - (i) Procedure laid down in GR 4.17 & relevant SRs thereto shall be followed for the purpose.
 - (ii) By checking the train register, the detail of the train passed through the block section and finding out from the station at other end of the concerned block section or from Controller that last train has passed and arrived complete. SM on duty shall exchange private number with the SM at other end of the concerned block section or with the Controller or from whom the complete arrival has been confirmed.
 - (iii) If the failure has occurred after arrival of a train, SM on duty shall also obtain intact position from the guard of stopping train or by exchanging all right signal with the guard of through train, so that he can ensure that the train has arrived completely before resorting the reset of LVCD axle counter.
 - (C) **RESETTING PROCEDURE:-**

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

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

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

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

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

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

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

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

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

29. **TELECOMMUNICATIONS:**

- (i) Telephone attached with single line token less Block Instruments for either side Block Section.
- (ii) Station to Station fixed telephone (hot line) is provided
- (iii) Station is provided with Auto telephone connected with Railway Exchange
- (iv) BSNL telephone is provided.
- (v) The station is connected to Balangir - Jharsuguda control circuit by a control telephone.
- (vi) Station to station 25 Watt VHF communication is provided.
- (vii) Telephone is provided between Station and both end crank handle locations & Goods siding location.
- (viii) L.C. gate control equipment using wired and wireless data communication and voice logging facility is provided connecting station and four LC gates at KM 681/11, KM 679/10-11, KM 678/14 & KM 678/5.

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 Drivers, Guards or any other staff.
- iii) The on duty SM shall use the above electrical communication instruments stated in Para-29 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

30. FAILURE OF COMMUNICATION / FAILURE OF BLOCK INSTRUMENTS:

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

APPENDIX - 'C'

ANTI COLLISION DEVICE (RAKSHA KAVACH)

NIL

APPENDIX - 'D'

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

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

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

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

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

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

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

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

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

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

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

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

His special attention is drawn to chapter No.II of G & SR (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.

1.1.0 **ASSURANCE REGISTER:**

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

1.1.1 No Railway servant shall be entrusted with any duty involving safety of the public unless the station in-charge is satisfied that the concerned staff is competent for the post. No Railway servant unless duly examined and certified shall be allowed to work the points and signals. The SMR is responsible to see that all the staff are conversant with the Station Working Rules and their signature obtained in the Assurance register after he is satisfied that they have thoroughly understood the working rules of the station. In case of Group 'D' staff, their signature/thumb impression must be obtained after explaining fully about their duties and responsibilities.

1.1.2 The Station Manager 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 Manager.

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

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

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

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

3. **ACCIDENTS:**

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

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

The Station Master on duty 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 **Dy.SS/STATION MASTER/ASSISTANT STATION MASTER:**

He shall work in 8 hrs. shift for train passing and booking of traffic, coaching returns and other statements shall be prepared and submitted by him in time under the direction of the

Station Manager in charge. He shall assist the Station Manager in charge for the up keep of the station in all aspects.

- 5.1 Station Master on duty who makes an entry in the train signal register must continue on duty till all the entries pertaining to the trains are completed vide Subsidiary Rule 14.07.01.
- 5.2 He is responsible for working beyond this period when called upon to do so in the exigencies of services. He will follow SR 3.68.01© & (d), SR 14.07.01. Their special attention is drawn to chapter No. II of G & SR (Revised) 2012 and GR 5.01 to 5.08 with relevant SRs. As an Assistant to the SMR, he shall follow the instructions given to him by the Station Manager.

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

The Dy.SS /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 Dy.SS/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. **TRAFFIC POINTSMAN:**

- (i) Delivery of authority to proceed, other authorities and caution order etc. to the driver of train.
- (ii) Setting and locking of points under the supervision of Station Master.
- (iii) To couple and uncouple vehicles under the supervision of Station Master/Guard when shunting operation is in progress.
- (iv) Piloting and hand signalling of trains when necessary.
- (v) Knowledge of hand signals, detonators and their use.
- (vi) Protection of line in emergency and fog signalling.
- (vii) Exchange of signals with the Driver and Guard of passing trains as directed by the Station Master.
- (viii) Cleaning, Oiling and lighting of lamps.
- (ix) Loading/unloading of parcels, luggage and packages to and from the train and watching the packages and other materials by properly stacking in the station premises.
- (x) Dusting of station office.
- (xi) Any other duties entrusted to them by the SS/SM from time to time.
- (xii) Use of emergency crank handle for setting of points.
- (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 (Revised) 2012 also.
- (xv) When necessary, they will work in the Goomties for observing and reporting the complete/incomplete arrival/departure of trains as per the order of the SM on duty in case of failure of Axle Counter/Track Circuit.

8. **TRAFFIC GATE KEEPER:**

In addition to duties mentioned in gate working instructions of LC gates in Appendix-A, the Gateman of traffic L.C gate shall obey the rules in chapter No. II of G & SR (Revised) 2012.

APPENDIX - 'E'**ESSENTIAL EQUIPMENT OF THE STATION**

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

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

APPENDIX - 'F'**RULES FOR WORKING OF DK STATIONS , HALTS, IBH, IBS AND OUTLYING SIDINGS**

PASSENGER HALT: - There is a passenger halt named as **BALANGIR ROAD (BNRD)** at Km 679.0 from HWH between BLGR -LSX. Passenger trains are having scheduled stoppages at this passenger halt.

APPENDIX - 'G'**RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS**

NIL.